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# ANIMAL KEEPERS' FORUM



The Journal of the American  
Association of Zoo Keepers, Inc.  
**JANUARY 1999**

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**AAZK PUBLICATIONS - CONTINUING DATA COLLECTION**

Zoo Infant Development Project - Jennifer Hackshaw, Lowry Park Zoo and G. Suzanne Chacon, Zoo Aves (Birds/Passerines); Jeanne Walsh, Newark Museum Mini-Zoo (Reptiles); Linelle Smith, Denver Zoo (Amphibians)

Crisis Management Resource Notebook - Susan Chan, AAZK; William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX; and Diana L. Guerrero, Ark Animals, Inc., Escondido, CA.





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## ***About the Cover.....***

*This month's cover art features Bonnie, a Southern white rhinoceros (*Ceratotherium simum simum*), born 24 August 1998 at Lion Country Safari, West Palm Beach, FL. An F2 calf, she is the 27th white rhino to be born at Lion Country since its inception in 1967. The largest of the four existing rhino species (black, Indian, Sumatran and white), with exceptional specimens exceeding 3,600kg (approx. 8,000lbs.), it is, ironically, the most "common". The same cannot be said, however, for the Northern subspecies (*C. s. cottoni*), whose numbers are best represented in captivity. Though protected diligently by international law, rhino continue to be poached extensively for their "valuable" horn. Artist for this month's cover is Dean Simonson, a Keeper at Lion Country Safari. Thanks, Dean!*

## **Information for Contributors**

*Animal Keepers' Forum* publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration. Articles should be typed or hand-printed and double-spaced. Authors are encouraged to submit their manuscripts on a disk as well as in hard copy form. Acceptable formats include: for Macintosh users - Microsoft Word or Works; IBM users - Word for Windows, WordPerfect or Wordstar. All illustrations, graphs, charts and tables should be clearly marked, in final form and should fit in a page size **no greater than** 5.5" x 8.5" (14cm x 22cm). Literature used should be cited in the text (Brown, 1986) and alphabetically in the final bibliography. Avoid footnotes. Include scientific name (as per ISIS) the first time an animal name is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Glossy finish black and white photos **only are accepted**. Color slides should be converted to black and white prints (minimum size 3" x 5" [8cm x 14cm] ) before submission. Clearly marked captions should accompany photos. Please list photo credit on back of photo.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone and FAX contributions of late-breaking news or last-minute insertions are accepted as space allows. However, long articles must be sent by U.S. mail. Phone 1-800-242-4519 (US); 1-800-468-1966 (Canada); FAX (785) 273-1980.

**Deadline for each regular issue is the 10th of the preceding month.  
Dedicated issues may have separate deadline dates  
and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. Reprints of material appearing in this journal may be ordered from the editor. Back issues are available for \$3.00 each.

# Scoops & Scuttlebutt



## Research Grants in Zoology Available

The American Association of Zoo Keepers, Inc. announces the availability of Grants for Zoo Keepers In Zoology. Two \$750.00 grants are available to assist zoo keepers in noninvasive zoological research projects. For further details and grant applications contact: David Luce, Research Grants Committee, Oklahoma City Zoo, 2101 N.E. 50th St., Oklahoma City, OK 73111 or via e-mail: [lucemonkey@earthlink.net](mailto:lucemonkey@earthlink.net).

## Giraffe Genetics Project Commencing

The Oakland Zoo, in conjunction with Chris Baysdorfer in the Biological Sciences Department at California State University, Hayward, has begun genetic analysis on giraffes (*Giraffa camelopardalis*) utilizing hair samples. In the future stages of the project, institutions currently holding giraffes of all subspecies, including hybrids, will be contacted for possible hair samples. Any inquiries regarding this project may be directed to: Amy Burgess, Lead Keeper, Oakland Zoo, P. O. Box 5938, Oakland, CA 94605.

## AAZK Offers Grants for Conservation Projects

The American Association of Zoo Keepers, Inc. announces the availability of conservation grants for the benefit of local or global conservation efforts. AAZK members in good standing should direct their inquiries to: Jan Reed-Smith, Chair, AAZK Conservation, Preservation and Restoration Committee, John Ball Zoo, 1300 W. Fulton, Grand Rapids, MI 49504 or e-mail: [jrsotter@iserv.net](mailto:jrsotter@iserv.net). Deadline for applications is 28 February 1999.

## Bylaws Committee Seeks New Member

Due to the resignation of Jeff Phillips (Walt Disney's Animal Kingdom) from his position as Bylaws Committee Chair, and Gisela Wiggins (North Carolina Zoological Park) assuming the Chair position, there is now a vacant Bylaws Committee position. Any AAZK members interested in becoming more involved on a national level, this is a great place to start. Send inquiries to: Gisela Wiggins, NC Zoological Park, 4401 Zoo Parkway, Asheboro, NC 27203. You may also reach her by phone: (336) 879-7636; Fax - (336) 879-7637; e-mail -[GiselaWiggins@mail.enr.state.nc.us](mailto:GiselaWiggins@mail.enr.state.nc.us).

Currently serving on the Bylaws Committee are: Diane Callaway (Omaha's Henry Doorly Zoo) as Board Oversight; Gisela Wiggins as Chair; Jane Franklin (Louisville Zoological Gardens) and Lucy Segerson (N.C. Zoological Park) as Committee members.

Please be advised that Jeff Phillips is now serving a Program Chair for AAZK Conferences.

## From the AKF Editor

Due to a emergency family medical situation, it was necessary to close out the December issue of *AKF* quite a bit earlier than usual as I had to be away from the office. This early deadline meant that some regular features, including the *Reactions* column were not included. The column scheduled to appear in December does however appear in this month's issue.

I would like to take this opportunity to thank all those who have contributed to the pages of *AKF* during 1998. Special thanks to Gretchen Ziegler, Kayla Grams, Georgeann Johnston, Dianna Guerrero and William K. Baker, Jr. for their continuing contributions. Thanks also to those individuals who have reviewed books or submitted articles and/or artwork for this journal. I would encourage you all to consider submitting material in 1999. *AKF* is an open forum and we encourage you all to share your experiences and knowledge with your peers. Nineteen-ninety-nine marks the 25th full year of continuous publication for *Animal Keepers' Forum*. Make this your year to contribute!

### **Recharter Packets Have Been Mailed**

All AAZK Chapters are reminded that rechartering with the Association on an annual basis is a requirement of being an AAZK Chapter. Such rechartering allows Chapters to function under the nonprofit 501(c)(3) Group Exemption tax umbrella. Recharter packets, which include financial reporting forms, will be mailed from the Administrative Offices the first week in January.

They will be due back in AAZK Administrative Offices **by 15 February 1999**. Chapters failing to return their recharter materials **by 1 March 1999** will be assessed a late fee of \$75.00 in addition to their regular recharter fee.

The Recharter Packets are sent to the attention of the Chapter President. If you need assistance in filling out the forms or have questions about the recharter process, please feel free to contact Barbara Manspeaker at Administrative Offices in Topeka. Call at 1-800-242-4519 (U.S.) or 1-800-468-1966 (Canada).

### **Final Board Nomination Opportunity Is Here**

The deadline for Board of Director nominations is **31 January 1999**. There are four positions which will be open at the close of the 1999 National Conference in Portland, OR. Those positions are currently held by Diane Callaway (Omaha's Henry Doorly Zoo), Lucy Segerson (North Carolina Zoological Park), David Luce (Oklahoma City Zoo), and Jan Reed-Smith (John Ball Zoo). New Board members will serve a four-year term, beginning at the close of the 1999 National Conference and running until the close of the 2003 National Conference. Please take the time to consider nominating one of your peers, or considering running yourself for a Board of Directors position. Nominator and Nominee Biographical Forms are found in the blue insert sections of the July, September or December 1998 issues of *AKF*. Send completed forms to: Sheri Leavitt, NEC Chair, Houston Zoological Gardens, Children's Zoo, 1513 N. MacGregor Way, Houston, TX 77030; Fax (713) 284-1329.

### **PJC Zoo Animal Technology Program Accepting Applications**

The Pensacola Junior College Zoo Animal Technology Program is now accepting applications for entry in August 1999. This is a two-year associate of science degree program offered as a cooperative effort of PJC and The ZOO in Gulf Breeze. The program includes general education, a comprehensive series of academic courses in animal biology, specialized zoo topic courses (including the use of ARKS), and practical animal care, medical husbandry, and exhibit repair skills courses. Application/information packets may be obtained from the BJC Biology Dept. secretary after 15 January 1999 by calling (850) 484-1168. Deadline for applications and all supporting materials is **29 March 1999**. For more information, contact Joyce Kaplan, PJC Zootech Director by e-mail at [kjaplan@pjc.cc.fl.us](mailto:kjaplan@pjc.cc.fl.us).

# ***From the Executive Director***

I hope that you all had a happy and safe holiday season.

One year to go until 2000. Time moves quickly, too quickly for some of us. There are a couple of messages that I have to relay to the membership and Chapters, so here it goes.

This is the month for re-charter packets. This is a necessary evil for all Chapters to complete and file. The IRS mandates the completion of this paperwork and we all know what may happen if the IRS gets angry, so please complete and file your paperwork by the deadline. It is very time-consuming to have to hunt various officers down in the pursuit of paperwork, so please get this done on time and we promise not to send the IRS to your house.

As we are mailing reams of paper to each Chapter in January, we will also include various other mailings and updates on the Association. These papers should be of interest to Chapters and discussed at various Chapter meetings in the name of positive communication. The paperwork is not intended to be fuel for your fireplace.

During the 1998 Indianapolis Conference, Ian Craig of the Lewa Wildlife Conservancy discussed the ongoing rhino conservation programs with the membership. In meetings with the Board of Directors, he also emphasized the devastating effect that El Nino weather had upon the Sanctuary and the species under their care. Monies earmarked for animal conservation and maintenance of equipment had to be funneled into road repair and emergency repairs to damaged equipment. As a result, they are in desperate need of additional financial help, above and beyond assistance so generously provided by the Bowling for Rhinos Program. In your packet, you have been provided with the annual report for the Conservancy and a list of programs that might be sponsored by interested Chapters. These are small dollar items, but essential to the operation of the Sanctuary, that will have to wait until funds become available due to the catastrophic rains of 1998. Take a look and see what you can do.

And finally, congratulations to Ric and Ann Urban on the addition of a new AAZK member to the family. Teresa, your dad is certainly one of a kind. Please send Ric a congratulatory letter. He'd like to take your call, but I'm sure he's in the middle of a diaper change.

Ed Hansen  
AAZK Executive Director



# ***Message From the President***

Greetings from the Lone Star State!

Nineteen-ninety-nine is here and we look towards entering the next millenium. We look back at 1998 to count our blessings and console our losses.

November was an unfortunate month that many of us will never forget. Within three weeks, three keepers, from Indianapolis Zoo, Oklahoma City Zoo and Dallas Zoo, were injured by animals at their respective institutions. As professionals, we work with animals that can be unpredictable. We work hard to unlock the mysteries to captive husbandry and propagation. Meanwhile, the zoo visitors often believe that the animals in our care are soft and cuddly and will respond to the call of their name. Then, in the blink of an eye, we are quickly reminded of their wild behaviors and instincts for survival.

Unexpected things happen in our lives time and again. It is our instincts as care givers to want to reach out and console. In some cases, as individuals, we want to reach out financially to help. As individuals, AAZK members may contribute to special funds established to assist injured keepers. However, Chapters may not. AAZK, Inc. is a non-profit 501(c)(3) entity and, as subsidiaries of the parent organization, Chapters may only contribute Chapter-raised funds to other organizations/programs which fall with the scope of AAZK's Statement of Purpose.

If individuals wish to send get-well cards or letters of encouragement, please do so by contacting the institutions and they will graciously provide the necessary address information.

It is difficult to look back and not remember those whom we have lost through death who have contributed to our organization and to the profession. Then there are the lucky ones who have retired and return to the zoo for the occasional visit just to taunt us while we are working. Thank you for the memories.

Nineteen-ninety-nine offers AAZK and its members the opportunity to "Make a Difference" and contribute to the future of zoos and aquariums. AAZK members have been asked to participate in animal management programs set by AZA as institutional representatives or keeper advisors. Programs such as species studbooks, SSPs, TAGs, FIGs and others are establishing steering committees and request keeper participation. If you are interested in a particular program, contact the individual species or program coordinator or contact myself and I will put you in touch with the right folks.

Please remember to think about your co-workers and yourself while working each day. Never assume anything, take anything for granted or become complacent. I want to see all of you in Portland in September for the next AAZK National Conference.

Be safe and take care,



Ric Urban, AAZK President  
Houston Zoological Gardens

# Coming Events



**7th Annual Conference of the International Association of Avian Trainers and Educators** - February 12-15, 1999 in Sitka, Alaska and hosted by the Alaska Raptor Rehabilitation Center. For more information contact: Kevin Hils, Columbus Zoo, 9990 Riverside Dr., P. O. Box 400, Powell, OH 43065; phone (614) 645-0558; email - khils@colzoo.org.

**Keeping, Care and Breeding of Otters In Captivity** - February 17-19, 1999. This seminar on the care of *L. lutra*, *L. canadensis*, and *A. cinerea* will be held (in English and German) at OTTER-ZENTUM, in Hankensbuttel, Germany. For additional information contact: Jan Reed-Smith, John Ball Zoo (616) 336-4301 or e-mail at jrsotter@iserv.net.

**National Wildlife Rehabilitators Association 17th Annual Symposium** - March 9-13, 1999 in Greensboro, NC. CE hours available; sessions and workshops cover many native animal care topics. For more information contact the National Wildlife Rehabilitators Association 14 North 7th Ave., St. Cloud, MN 56303. Phone - (320) 259-4086; e-mail nwra@cloudnet.com or you can visit the NWRA website at [www.nwrawildlife.org](http://www.nwrawildlife.org).

**ABWAK 25th Celebration: Then, Now & the Future** - April 17-18, 1999 at Marwell Zoological Park, UK. For more details please e-mail: lgdb@pinnipedia.demon.co.uk

**The Annual Regional Aquarists Workshop (RAW) Conference** - May 13-15, 1999 at UnderWater World at the Mall of America in Bloomington, MN. For registration and further info contact Craig Atkins (612) 853-0615 or Jeff Krenner (612) 853-0619, UnderWater World at MOA, 120 E. Broadway, Bloomington, MN 55425.

**7th World Conference on Breeding Endangered Species** - May 22-26, 1999 at the Cincinnati Zoo. For more details contact: Grace Retig (Fax - 1-513-559-7791).

**Society for Tropical Veterinary Medicine** - June 12-16, 1999 in Key West, FL. This is the Fifth Biennial Conference and the theme is "Tropical Diseases: Control and Prevention in the Context of The New World Order. For further information contact: Beth Miller-Tipton, University of Florida, Office of Conferences & Institutes, P. O. Box 110750, Gainesville, FL 32611, USA; phone: (352) 392-5930; fax: (352) 392-9734; e-mail: BAMT@GNV.IFAS.UFL.EDU

**Animal Behavior Society Annual Meeting** - June 26-July 1, 1999 at Bucknell University in Lewisburg, PA. Plenary speakers include Gail Michener, Lynne Houck and Steve Nowicki. Symposia include "Educating About Animal Behavior: A Broader Perspective". For further information see <http://www.cisab.indiana.edu/ABS/index.html> or contact the local host, Michael Pereira (e-mail: mpereira@bucknell.edu or phone (717) 524-1430).

**Fourth International Enrichment Conference** - August 29, 1999 in Edinburgh, Scotland. Details as and when available from the *Shape of Enrichment* website: <http://www.enrichment.org>

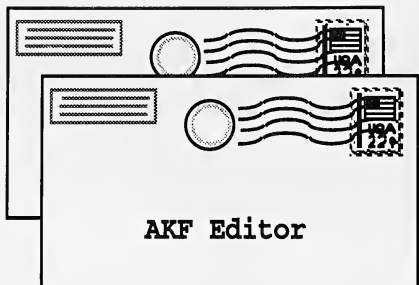


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## Letters to the Editor

23rd October 1998

Indianapolis AAZK Chapter  
c/o Patty Pearthree

Dear Members

We would both like to thank the Members for their kindness in hosting us during the AAZK Conference last month. I am afraid we did not manage to meet as many members as we would have like to have done as the time just went too fast. However, the time was very constructive for us in being able to meet your Board and to listen to the presentations.

We got back to Lewa to find six new baby rhino all fit and well. We look forward to seeing Patty in February and if any of your members are passing through Kenya we certainly expect, and hope, you will make contact with us.

Best regards and thank you.

Ian & Jane Craig  
Lewa Wildlife Conservancy



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# New & Renewing AAZK Professional, Institutional, and Contributing Members

Bunny Wilson, **Museum of Science (MA)**; Anna Halko, **Baltimore Zoo (MD)**; Theresa M. Andrews, **Greenville Zoo (SC)**; Curt Snider, **Pine Mountain Wild Animal Park (GA)**; Nicholas Soricelli, Jr., Brian Lamkin, Donna Evernham, and Rick Yakey, **Disney's Animal Kingdom (FL)**; Robin Dumcum, **Sea World of Florida (FL)**; Patricia L. Young, **Cleveland Metroparks Zoo (OH)**; Rick Wendt, **Detroit Zoological Park (MI)**; Carrie Ryan, **Kansas City Zoological Gardens (MO)**; Paul Caster, **Little Rock Zoo (AR)**; Sophia Palin, **Oklahoma City Zoo (OK)**; Brian Werner, **Tiger Missing Link (TX)**; J. David Geurkink, **Kerrville Camera Safari (TX)**; Rachelle Heyveld, **Los Angeles Zoo (CA)**; Julie Hanna and Dan Ross, **Toronto Zoo, (Ontario)**.

## New Contributing Members

Henry R. Bireline, Instructor  
Santa Fe Community College  
Teaching Zoo, Gainesville, FL

## Renewing Contributing Members

Gerald W. Murrie  
San Diego, CA

## Renewing Institutional Members

Fort Wayne Children's Zoo  
Fort Wayne, IN

John G. Shedd Aquarium Library  
Chicago, IL

## Need to Reach AAZK?

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**1-800-468-1966 (Canada)**

**FAX: (785) 273-1980**

or write

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**635 S. W. Gage Blvd.**

**Topeka, KS 66606-2066**

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*Barbara Manspeaker -  
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*Susan Chan -  
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*Orca -  
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*Office Hours: 9:00 a.m. - 3:00 p.m. CDT*



# REACTIONS

*A Question and Answer Forum for the Zoo Professional on Crisis Management*

*By William K. Baker, Jr., Zoo Curator  
Frank Buck Zoo, Gainesville, TX*

## **Question**

How does exhibit design effect zoological safety?

## **Comments**

New exhibits can be a time of great excitement among the animal staff, docents, and administration of a zoological facility. Still, it's important to remember to slow down and consider the consequences if the safety issue is lost in the shuffle. At each stage of development safety should be the primary consideration.

The best place to start is during the design phase with the architect or master planner before the construction even starts. It's infinitely easier to address a problem on paper than at the construction site. The most common mistakes I have seen would be:

1. Blind corners in exhibits, holdovers, and corridors.
2. Design flaws in doors and guillotines.
3. Inadequate lighting in Keeper Work Areas.
4. Trip hazards in Keeper Work Areas.
5. Electrical hazards (i.e. inadequate waterproofing).
6. Inadequate power to hydraulic doors.
7. Poorly designed and installed hot-wire systems.
8. Poorly designed observation and check windows.
9. Inadequate alarm systems (i.e. animal, fire, and smoke).
10. Inadequate secondary and tertiary containment.

Also, it's a good idea to involve the animal management staff in the design phase. It's all well and good to emphasize the marketing angle and public appeal, but it should **never** overshadow the needs of the animals or the staff.

The construction phase can be challenging if the exhibit is renovated while the animals are kept in a holdover or night house, but with careful consideration of animal welfare, safety, and accessibility, a compromise can be found. Once the exhibit is ready for use it's a good idea to have the Zoo Keepers check the area

for flaws before the construction crew finally vacates. It is infinitely better to catch a flaw and correct it before the animals discover it and exploit it.

1. Always insure that the exhibit design is appropriate for the species that will be housed there.
2. If the species have special environmental needs, then they should be addressed.
3. The animal loading of an exhibit should be in direct proportion to the exhibit size. Also, the social dynamics of the species should be a consideration.
4. Environmental enrichment should be a factor in the design. Animals which are occupied tend to exhibit less stress and are less likely to spend their time looking for a weak point in the exhibit design.
5. Always assume that the animals will spend the first six months in the new exhibit exploring their new world, and this is when exhibit design flaws and escape routes that have been overlooked will materialize.
6. Zoo Keepers should inspect every square foot of a new or renovated exhibit for design flaws, construction errors, and possible escape routes. Also, special attention should be paid to construction materials that could be hidden in the grass or vegetation such as nails and scrap metal. A metal detector or large magnet can be a real time saver.
7. When renovating an exhibit pay special attention to fence lines as they can sometimes be damaged accidentally by heavy equipment when moving substrate or vegetation into an exhibit.
8. If the animals are placed off-exhibit in a holding area during in-house renovations, then enrichment should be provided to decrease conspecific aggression and regular checks should be conducted to determine status.
9. Staff members who will be working a new or renovated exhibit in their area should be briefed and trained on the features or modifications before daily animal care begins.
10. Exhibits shouldn't be occupied by animals for the first time at a media event. It stresses the animals and places members of the public at unnecessary risk. Also, serious consideration should be given to an armed response when dangerous animals are first placed in a new exhibit.

Also, remember that each type of exhibit design has its own associated pluses and minuses (i.e. immersion, perimeter, and vantage point). And, if you prepare for the worst, you'll be ready. Never forget, Murphy was an optimist and zoo designers are just that, designers, not animal managers. Never let the designer talk you into something questionable and never cut corners when it comes to design safety.

**NEXT MONTH:** Are there any general guidelines on what could set an animal off and how does primary signs of aggression fit into this kind of situation?

**If you would like to submit a question for this column or have comments on previously published material, please send them to: Reactions/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.**

*(About the Author: Since 1985 Bill has been active in the fields of science, zoology and wildlife management. His education and experience include a B. S. in wildlife management and post-graduate work in zoology; Lab and Museum Assistant; Shoot Team leader, ERT Member, and Senior Keeper and Large Mammal Keeper at various AZA facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR / First Aid Instructor.)*

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## Information Please

Tim Husband, Operations Manager at Blue Gum Zoo in Sydney, Australia is working on a book of aberrant behavior in captive animals. He is hoping to put together a compilation of "case scenarios". He would greatly appreciate input from as many people as possible. What he is looking for is a full description of the problem, i.e. stereotypies or other abnormal behaviors and, and this is the important part, how it was solved. He hopes that a book of this nature would be of help to people working with captive animals everywhere. Contact Tim on : husband@internet-australia.com

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I am interested in finding out about "Handleable Animals". The information I seek is as follows: 1) What animals are used? Who determines what is a handleable animal? Where do your animals come from? 2) Who takes care of your handleable animals? 3) Where are these animals taken for programs? 4) What part, if any, do your Docents play in use of handleable animals? 5) Is there any special training required to handle these animals? Please send any information to: Maria Browning, Children's Zoo, San Antonio Zoo, 3903 N. St. Mary's St., San Antonio, TX 78212.

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I work with a nearly four-year-old Plains Zebra (*Equus burchelli boehmi*) stallion that self-mutilates. As of February of this year, he has started biting himself on his back legs. He shares an enclosure with a two-year-old female zebra of the same species. He has become dangerous to himself as well as the other zebras and the keepers. Could this problem be psychological, dietary, or just a matter of lack of enrichment? Anyone with a similar problem or possible solutions can send replies to: Donna Doms, Washington Park Zoo, Lakefront, Michigan City, IN 46360.

# United States Takes Innovative Action To Save Imperiled Rhinos and Tigers

Imperiled wild rhinoceros and tigers now have a brighter future thanks to innovative legislation enacted by the U. S. Congress and signed into law by President Clinton on 30 October, 1998. The Rhinoceros and Tiger Conservation Act of 1998, which reauthorizes and amends the Rhinoceros and Tiger Conservation Act of 1994, includes an important new product labeling provision with the goal of stemming the sale of items labeled as containing rhino or tiger parts.

The new provision says that, "A person shall not sell, import, or export, or attempt to sell, import, or export, any product, item, or substance intended for human consumption containing, or labeled or advertised as containing, any substance derived from any species of rhinoceros or tiger."

"Continued commercial exploitation undermines all our best conservation efforts by putting a bounty on the heads of rhinos and tigers," Clark said. "Congress and the President have given us a forceful weapon to shut down this illegal trade once and for all."

The legislation supports other ongoing conservation measures such as the U. S. Endangered Species Act and the Convention on International Trade in Endangered Species (CITES).

At latest count, there were no more than 5,000 to 7,000 tigers left in the wild. The total population of all three Asian rhino species is less than half the number of tigers and the African black rhino has suffered a 90% reduction since the 1960s.

The reauthorization of the Rhino and Tiger Conservation Act and its funding through FY 2002 ensures that the U. S. Department of the Interior's Fish and Wildlife Service can continue to award grants to on-the-ground projects in countries where wild rhinos and tigers are found. Grants, which are matched with contributions from partners in those African and Asian countries, provide financial support to help them build the capacity to conserve the species and their essential habitats.

Congressional appropriations to the fund went from \$200,000 in FY 1996 to \$500,000 in FY 1999. Thus far, 56 projects in 12 nations have received \$970,000 in funding. This money has been tripled by matching funds, provided in most cases by the grant recipients, bringing the total to almost \$2.7 million.

"These grants, though small, make a big difference to our partners in other countries," Clark said. "The simple act of providing boots, raincoats, radios, and basic training not only enhances the ability of rangers in India or Tanzania

to undertake effective monitoring and anti-poaching patrols, but also boosts their morale.”

The new product labeling provision of the Act gives Service law enforcement officers an important new tool for protecting rhinos and tigers against commercial exploitation. Although the U. S. has tried to stem the market for products purported to be made from rhino or tiger parts, these products are still available for sale in this country. If the accompanying label or advertisement says the package contains “rhino” or “tiger,” law enforcement officers can now seize it at the port of entry or pull it from the store shelf. The prohibition also makes it easier to enforce existing laws that ban trafficking in endangered species and helps discourage the use of rhino or tiger parts in medicinal trade.

In the past, under the U.S. Endangered Species Act, the Service had to prove that the items actually contained parts or products from these species, a time-consuming and costly process involving laboratory analysis. Furthermore, the Endangered Species Act only prohibits the import, export, or interstate commerce in these products but does not specifically prohibit their sale.

Clark praised many members of Congress for their work in enacting this legislation. “In particular, I commend Senators Jeffords, Chafee, and Baucus and Congressmen Young, Saxton, and Miller for crafting such important legislation and for their steadfast leadership,” Clark said.

The Service will emphasize educational outreach in its early implementation of the law in order to get the word out to shopkeepers and give them a chance to voluntarily remove these products from the marketplace. The Service will also be working with the United Kingdom and other CITES member countries at upcoming CITES meetings to encourage implementation of similar programs worldwide.

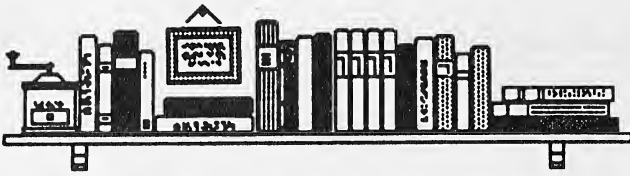


### **1999 AZA Regional Conferences**

AZA Central Regional - March 17-20, 1999 in Indianapolis, IN. For information contact Jodie Baker, Indianapolis Zoo, P. O. Box 22309, Indianapolis, IN 46222; phone (317) 630-5167.

AZA Eastern Regional - April 14-17, 1999 in Pittsburgh, PA. For information contact Terry DeJulis, Pittsburgh Zoo, One Wild Place, Pittsburgh, PA 15206; phone (412) 365-2500.

AZA Western Regional - April 28 - May 1, 1999 in San Jose, CA. For information contact Dr. Anthony Smith, Zoo Director, Happy Hollow Park & Zoo, 1300 Senter Rd., San Jose, CA 95112; phone (408) 998-5172; fax (408) 279-8021.



# Book Review

## **Gorillas in Our Midst, The Story of the Columbus Zoo Gorillas**

By Jeff Lyttle, 1998

Ohio State University Press

180 Pressey Hall - 1070 Carmack Rd.

Columbus, OH 43210-1002

199 pgs., Hardbound \$19.95

*Review by Beth A. Moore, Keeper  
Kansas City Zoological Gardens  
Kansas City, MO*

In his book, Jeff Lyttle chronicles the history of the Columbus Zoo gorillas from the first gorilla captured in the wild through the first successful captive birth to the present well-respected program.

Although the accounts of capturing gorillas in the wild in the 1950's are horrifying to us now, the rest of the book is written in a friendly style that will make it appealing to audiences both inside and outside the zoo field. The book's major appeal from a keeper's perspective is that Lyttle emphasizes the roles that the keepers have played in shaping the present Columbus Zoo gorilla program. He relates stories such as how keeper Warren Thomas allowed the first gorilla pair to breed despite explicit orders to separate them, and how keepers Dianna Frisch, Charlene Jendry and Beth Armstrong recognized the stress put on animals kept in sterile environments and made revolutionary changes.

Lyttle also sheds light on the thought processes of different zoo personnel during the early decades of this century. The ideas of enriched environments may have been years away, and economics have always been an issue. However, the people who care for and made decisions about zoo animals were motivated by the same desires for long-term species survival that many of us are today. Animal lovers outside the zoo field as well as personnel newer to this field may find the ideological challenges these people faced enlightening and revealing.

The book includes a gorilla family tree, a portrait gallery, and photographs that depict the many changes in the Columbus Zoo gorilla program since the 1940's. In addition, the index makes referring back to specific incidences or one of the many personalities featured in the book an easy task.

All in all, most individuals will find this very readable book entertaining, and ape keepers in particular may be hard pressed to set it down.



# Legislative Update

Compiled by Georgann Johnston  
Legislative Advisor  
Sacramento, CA



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## Short-Tailed Albatross Endangered Species Status Pending

The short-tailed albatross (*Phoebastria albatrus*) is already listed as an endangered species throughout its range except in the United States. The U. S. Fish and Wildlife Service (USFWS) is now attempting to correct that error and extend protection to this species within the boundaries of the U. S. as well. Therefore, a proposal to amend the listing is now pending and a final decision should be reached by late March 1999.

The short-tailed albatrosses range throughout the North Pacific Ocean and north into the Bearing Sea during their non-breeding season. While millions of these birds once existed, the current worldwide population of breeding-age birds is approximately 500 individuals and the total population approximately 1000 birds. Historically, the birds' primary breeding colonies were located in Taiwan, but in recent years, observers have seen individual birds on Midway Atoll in the Northwestern Hawaiian Islands during the breeding season.

The primary threats to this species include destruction of habitat by volcanic eruption, mudslides caused by monsoon rains, and genetic vulnerability due to low population size. Longline fisheries, plastics ingestion, contaminants, and airplane strikes may also be factors affecting the species' conservation.

A complete copy of the proposal to amend the listing, or comments regarding the proposal should be directed to Greg Balogh, Endangered Species Biologist, USFWS, Anchorage Field Office, 605 West 4th Ave. Room G-62, Anchorage, AK 99501, (907) 271-2778.

Source: *Federal Register Online*, 2 November 1998, vol. 63, no. 211

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## Botswana Baby Elephants Turned Over to National SPCA

In an earlier column, we reported that the government of Botswana allowed 30 young elephants from the Tuli Reserve to be captured and sold to an animal trader in South Africa. An enormous amount of public objection, coupled with evidence of injuries to some of the young elephants, has recently caused a South African court to order that the elephants be turned over to the National SPCA.

After the elephants were taken from the Tuli Park and given to animal dealer

Riccardo Ghiazza, investigators discovered that he did not have the financial nor physical resources to properly house and care for the elephants while attempting to sell them on the wild animal market. Investigations spearheaded by various groups including The Worldwide Fund for Nature, the Endangered Wildlife Trust, and the Wildlife and Environment Society of Southern Africa said that the animals were not being fed properly and that Ghiazza was threatening to “put down” the animals rather than part with them. A magistrate in Brits, South Africa, issued an order on 3 December 1998, finding that the animals were being mistreated and that they would have to be turned over to the NSPCA within 24 hours. A spokesperson for the NSPCA stated that they hoped to start moving the animals to the Sable Ranch near Brits and eventually to the Mosdene Game Reserve in Nylstroom and the Pumela Game Reserve in KwaZulu-Natal.

The magistrate stated that he based his decision on the fact that the animals had been “neglected” and that “with more care” the injuries that some of them had received could have been prevented. Mr. Ghiazza responded to the court’s ruling by stating that he was “very chuffed” about the outcome.

*Source: Pretoria News, 3 December 1998; South African Star, 3 December 1998*

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## **Western Cape Gov’t Plans Bird Conservation-Tourist Project**

The government of Western Cape, South Africa has entered into an agreement with a number of private organizations to jointly undertake a bird conservation project they hope will attract thousands of local and overseas tourists to the small fishing town. The tourist business could even create up to 750 jobs for the town’s unemployed residents.

Cape Nature Conservation, one of the private groups involved in the undertaking, has recently built the Gannet Observatory, where tourists can view gannet birds, Hartrlaub’s gulls, penguins, whitebreasted cormorants and Cape fur seals. Currently, over 40,000 bird-watchers per year visit the area but with improved facilities proposed by the local government, that number is likely to double.

*Source: African Eye News Service 17 November 1998*

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## **New Condors Flying High in Arizona**

The Arizona Daily Star reported in late November that eight California condors were released into the wild just north of the Grand Canyon. The latest release raises the population in Arizona to 22, with 20 in California. Biologists supply carrion to the newly released birds until they can find food on their own. Jeff Humphrey, of the U. S. Fish and Wildlife Service, is “thrilled with the success of the...program.” This month, seven more condors will be released into California.

*Source: GREENlines Issue#763 11/25/98*

# Two International Zoo Meetings Held Recently in Japan

*By Yoshi. Yonetani*

*ZooDEL - Zoo Design & Education Lab*

*KOBE, JAPAN*

For the first time ever, the Conservation Breeding Specialist Group (CBSG) held its Annual Meeting in Yokohama, Japan from 8-10 October 1998. Some 192 delegates (132 of which were Japanese) from 21 countries were in attendance. Countries represented included: Australia, Belgium, China, Columbia, Costa Rica, the Czech Republic, Denmark, France, Germany, Guinea, India, Nepal, the Netherlands, Singapore, Taiwan, United Arab Emirates, Uganda, United Kingdom, United States, Venezuela and Japan. Delegates represented many organizations including ARAZPA in Australia, the Chinese Association of Zoological Gardens, CBSG Mesoamerica/AMAZOO, the Jersey Wildlife Preservation Trust, CBSG/India-Zoo Outreach Organization, EEP of Europe, FUNDZA of Venezuela, AZA and SOS Rhino of the U.S., SEAZA of Southeast Asia, and JAZGA of Japan. Delegates included members of SSC-J (Species Survival Committee-Japan) which is similar to the SSP in the U.S. and EEP in Europe.

The progress of the conference was very successfully executed by Dr. Ulysses Seal, Chairman of the CBSG Office in Minnesota. Included in the program were some regional reports; useful sectional meetings on each animal category such as ungulates, primates, carnivores, marine mammals, invertebrates, birds and reptiles, etc.; and sessions on reintroduction of species to the wild, enrichment in captivity and educational topics. In a separate session, the ISIS system in Japanese Zoo World was also discussed.

Prior to the opening ceremony of the CBSG Conference, delegates had a sneak preview tour of the Yokohama Zoological Gardens (to be known as Zoorasia) currently under construction at a hill-side location about 10km (6.2 mi.) northwest of Yokohama. This facility will cover about 53ha (131 acres) and will feature about 1500 specimens of 150 species. It will be the newest and largest public zoo in Japan. In April of 1999 the Zoo will open some of its areas with 300 specimens of 60 species. Included will be the first exhibition of Okapi and Indian lion in Japan. There will also be a unique, full-scaled Animal Propagation Center which will be off-exhibit to the visiting public.

The Zoorasia will be divided into the following different zones: Asian Tropical Forest, Arctic Conifer Forest, Temperate, Amazon Jungle, and at least two more zones (African Savannah and Tropical Bird/Reptile Complex) in a future phase of the facility's masterplan. They have an Internet home-page, so if you would like to know more up-to-date information you can take a virtual visit to the zoo by accessing <http://www.city.-yokohama.jp/me/cplan/green/zoorasia/index.htm>.

Following the CBSG meeting in Yokohama, the International Union of Directors of Zoological Gardens (IUDZG/World Zoo Organization) held its 53rd Annual Meeting in Nagoya, Japan from 12-16 October 1998. Many of the delegates from the CBSG Meeting traveled to Nagoya for this gathering, as well as newly arrived delegates for this particular meeting. Most of the delegates were directors of zoos and aquariums around the world, however it surprised me that few directors from Japanese zoos were in attendance, especially aquarium directors despite the fact that this meeting was hosted by the Nagoya Port Aquarium. Besides IUDZG/WZO members (both active and emeritus), other zoo-concerned individuals, such as myself, were in attendance.

This was the second time the IUDZG/WZO has held their conference in Japan, although it had been 25 years since the first one was held here. There were 139 registered delegates (52 Japanese) representing Australia, Belgium, the Czech Republic, Denmark, Germany, Hungary, India, Israel, Italy, New Zealand, Pakistan, Poland, Singapore, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, the Netherlands, United Arab Emirates, United Kingdom (+Channel Islands), United States, Venezuela and Japan. I was fortunate to be able to see some good acquaintances like Dr. Fradrich, Director of Zoo Berlin; Professor Dr. Nogge, Director of Zoo Koln; Dr. Michael Hutchins, Conservation Director AZA; Charles Hoessle, Director of the St. Louis Zoo, Dr. James Dolan, Collections Director/Zoological Society of San Diego; and Mr. Harrison, Chief Executive of the Singapore Zoo, to name a few.

During the Conference we had a tour of the Nagoya-Higashitama Zoo & Botanical Gardens (a sister zoo of the Los Angeles Zoo), and the Nagoya Port Aquarium (a sister aquarium to the Vancouver Public Aquarium in British Columbia, Canada). The pre-conference tour was held in Tokyo (visiting Japan's oldest Zoo, Ueno Zoo; Tama Zoological Park on its 40th anniversary, Tokyo Sea Life Park for a welcoming reception, and other sightseeing). The post-conference tour went forward to Kansai areas - Osaka, Kyoto and Nara as the ancient cities of Japan. The delegates visited at Osaka Aquarium and Osaka Municipal Zoo (whose symbol-logo mark is of this author's design), and also had the opportunity to experience some traditional Japanese culture.

The next CBSG and IUDZG/WZO meetings will be in Pretoria, South Africa in 1999. At that time, the National Zoological Gardens there will be celebrating its Centennial Year. It shall be one of the premier events which I certainly hope to be able to attend.



# A Science Education Opportunity with Same Taxon Species

By Jeff Gerencser, Aviculturist  
International Crane Foundation, Baraboo, WI

This summer at the International Crane Foundation (ICF), we held our second annual Crane Ambassador Camp. This program affords kids from inner-city Chicago youth centers a week in the rural setting of southern Wisconsin. While here, these junior high school-aged youth experience first-time activities such as listening to song birds and insects, camping, canoeing, and learning about caring for captive animals. The effect on their attitudes by the end of the week is evident. On the final day they proudly exhibit projects, discuss their research and findings, and relate their personal experiences to an enthusiastic staff.

As an aviculturist, I created a project for the campers involving crane behavior. After completing the activity, I was struck by the impact it seemed to have on the campers and the relative ease with which it was carried out. Furthermore, it was a great way to foster interdepartmental cooperation at ICF (between the Education and Crane Conservation Departments). I have outlined the basics of the activity in the hope that other keepers or educators can make use of our ideas. Having at our disposal multiple pairs of species from the same genus greatly facilitated the cohesion of this activity.

As this year's camp theme was "scientific discovery", I prepared a simple behavior study. I wanted to demonstrate how, why and when we record behavioral data, to get the kids to associate behaviors with probable mental states, and to show them that anyone can study behavior; it's a matter of methodology, attention to a subject and its environment, analysis, and final interpretation. After hearing some of their stories about life in inner-city Chicago, it dawned on me that these kids probably had already done quite a bit of (human) behavioral study as a matter of survival.

The activity was simple. Working with 12 kids, I had them split up into three teams of behavior researchers. Each team monitored a different species including Red-crowned (*Grus japonensis*), Sandhill (*Grus canadensis*), and Eurasian cranes (*Grus grus*). I prefaced the study with the definition of the term "hypothesis." Next, I told them that in order to test my hypothesis that cranes exhibit increasingly dramatic behavioral displays in relation to increasing disturbance near their territory, I needed their help. We then discussed the idea of "bias" to explain why I wanted to study all three pairs under the same conditions at the same time. These explanations went over with minimal enthusiasm since it really was pretty dry stuff for a group of kids beginning to fade after lunch. They were roused only slightly more by the data sheets I had prepared for them with pictures of crane behaviors next to rows and columns (see fig. a). I inspired more interest when I performed the behaviors personally to give them an idea

of what they would soon see in the cranes. My plan was to station these researchers in front of the public exhibits disguised as tourists. Without being present, I would give them a signal to begin the first block of observations. During this first five-minute period, the cranes basically maintained their normal afternoon routines of loafing, foraging, and preening.

Then, I signaled for my researchers to begin the second phase of observation. This time I walked slowly past each of the three pens. As caretaker to the cranes, it's my job to tread into their pens for servicing or to capture them from time to time. Understandably, they are very wary of my presence. They'll pick me out of a crowd and respond angrily. Since I was only walking by slowly during this second scoring period, the cranes stood in alert posture and slowly moved to the front of the pen while giving occasional low-intensity threats like the intimidating "threat walk" or even a "guard call". The kids quickly caught onto this subtle yet clear behavioral transformation and began scribbling hurriedly on their data forms. They were coalescing into smoothly functioning teams, ensuring that no important data went unrecorded. I could sense their growing excitement as the cranes got down to the business of making their presence known on their territories.

During the third time period, I proceeded to increase the conspicuousness of my presence by talking loudly and walking back and forth in an unpredictable manner. I touched the fence of their enclosure and even stepped into empty pens adjacent to their own. The researchers stared incredulously, partly due to the quantum leap in crane behaviors and partly due to the less than ideal behavior I exhibited to incite the cranes. This produced a series of booming unison calls, crouch and stomp threats, ruffle threats and growls, preen and drop wing threats, mock charges, and in the Red-crowned cranes, majestic arch threats.

The researchers were viewing so many new postures and calls that they turned giddy with excitement. If I saw a particular threat developing that they didn't seem to catch I would say excitedly, "Oooh, what's that?" This sent my researchers scanning frantically up and down the data sheet in search of the proper behavior term. "It's a crouch threat!" one would reply, with more confidence and authority in her voice as she checked off yet another behavior on her tally sheet. Part of the fun here was that I could not associate myself directly with the students per our discussion on "bias"; this meant that they had to try extra hard to figure out what they were looking at without much help. As I approached the pens I could sense their excitement by the size of the smiles on their faces. By now the researchers well understood how the cranes were communicating their feelings to this "yahoo" of a person disturbing them on their territories. The kids eagerly anticipated new and awesome threats by these birds.

We wrapped up and reconvened elsewhere to discuss what we had experienced through our exercise. We talked about what species did what threats and how many times each display occurred. This led to discussion about species-specific differences and threat preferences. We covered threat intensity in relation to

# Figure A - Crane Behavior Observation Sheet

Sand Hill Cranes




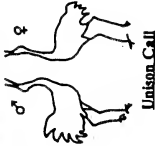














## CRANE BEHAVIOR OBSERVATION SHEET

Date 7-28-99 Observer M.V.E.O., S.M.

Species (C) Sandhill Crane (S) *Grus canadensis*

Weather Sunny

Temp 85°

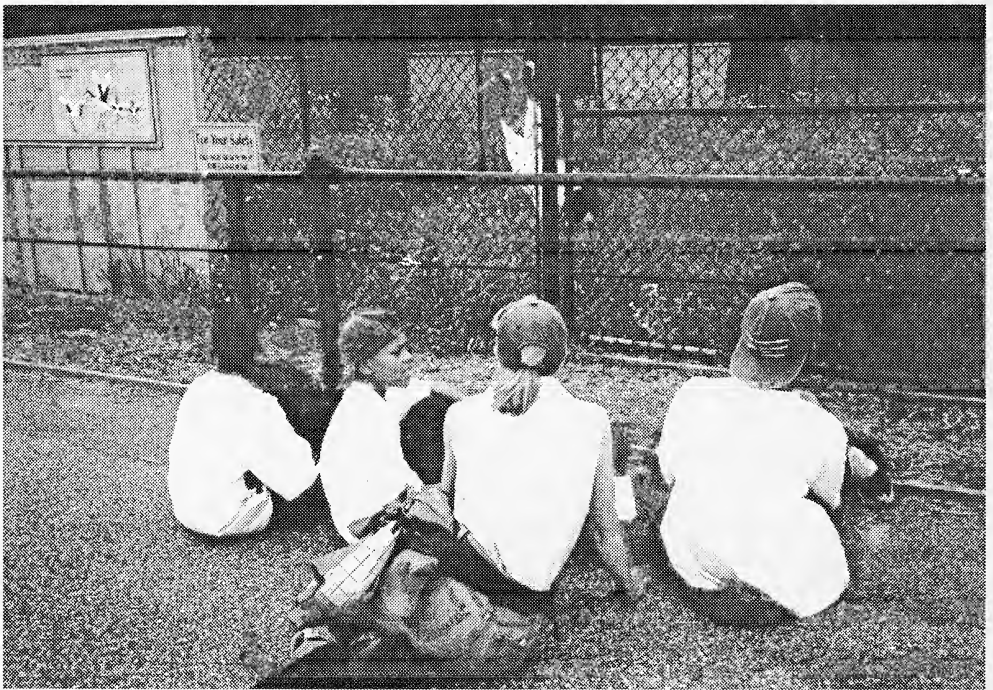
Time #1	Time #2	Time #3
 Ruffle Threat	 Drop Wing Threat	 Guard Call
 Unison Call	 Crouch Threat	 Alert Position
 Charge Threat	 Hissing	 Stamp Threat
		
		
		

① - ⑧ - ⑭

my increasing intrusion into the cranes' territories—my original hypothesis. We even spoke about the value of being able to observe and interpret behavior in our own lives, from the joy of watching the family cat to getting out of a sticky situation on the playground back home.

As I have experienced before with environmental education, the most rewarding aspect of this activity for me came after it was already completed. On the last day, after the final camp picture-taking session, some of the boys in the group began horsing around in the grass. One of them, then another, and yet another began incorporating into their horseplay various crane behaviors which they had observed during our exercise. I smiled at the realization that they had come to understand the varying levels of intent behind each particular behavior. Who knows how our experience will affect the way these “junior scientists for a day” view the concept of behavior in the future?

(As a side note, I held a lengthy discussion with the kids about the importance of not harassing wildlife and explained that keepers do not normally incite their animals to display threat behaviors. Furthermore, the campers were earlier able to spend quality time interacting with the cranes in a less “empirical” environment unrelated to this study.)



Students and staff involved in the Crane Ambassador Camp held at the International Crane Foundation, Baraboo, WI, discuss their observations while viewing one of the many crane species housed at the facility. *(Photo provided by the author)*



# Chapter News Notes

## Northern Lights Chapter

The Northern Lights AAZK Chapter (Lake Superior Zoo/Duluth, MN) held their officer election meeting on 17 November 1998. Elected for the 1999-2000 term are:

President.....Leslie Gibson  
Vice President.....Jill Oswald  
Secretary/Liaison...Wendy Buczynski  
Treasurer.....Nancy Butler

Our Fourth Annual Photo Opportunity at "Boo at the Zoo" netted a profit of

over \$400.00. We all looked swell in our new pumpkin costumes. The green face make-up and hair color was just the right accent!

In the "hard-to-get-easy-to-go" category, the Chapter supported Nancy Butler financially as she trekked to the National Conference this September. We also responded to a request from the Madagascar Fauna Group for funds to provide salaries (and jobs!) to keepers at the Madagascar Zoo.

Congratulations to all our new and returning officers. It will be a great new year for Northern Lights.

---Wendy Buczynski, Secretary

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## AAZV Call for Papers

The American Association of Zoo Veterinarians will hold its annual conference in Columbus, OH from 9-14 October, 1999. Program sessions include avian medicine, primates, small mammals/carnivore, nutrition, large mammals/hoofstock, reptilian and amphibian medicine, infectious diseases, reproductive technologies/contraception, ethics, imaging, gerontology and case reports. Papers are being solicited for these topic areas.

There will also be a poster session, veterinary student and resident/graduate student paper competitions, and workshops/wet labs. A new feature this year will be the presentation of three master classes.

For information regarding session chairpersons, please contact Michael Barrie, DVM, at the Oklahoma City Zoo, 2101 NE 50th, Oklahoma City, OK 73013; phone is (405) 425-0249; fax is (405) 425-0207; or e-mail at - mbarrie@okczoo.com.

In addition, The Association of Reptilian and Amphibian Veterinarians (ARAV) will be meeting in the same location just prior (5-9 Oct.) to the AAZV meeting. For additional information on either conference, please contact Wilbur Amand, VMD, Executive Director/AAZV, 6 North Pennell Rd., Media, PA 19063; phone is (610) 892-4812; fax is (610) 892-4813; or e-mail at - 75634.235@compuserve.com.



*By Kayla Grams, Arizona-Sonora Desert Museum  
and Gretchen Ziegler, Sequoia Park Zoo*

**PRIMATES:** An enrichment that I have found to be easy to prepare and to clean up requires a bed sheet and food items such as peanut butter, Karo® syrup, raisins, baby food, baby cereal, and/or mashed fruits. Simply spread the food items on the sheet and hang it in the enclosure. This enrichment was a success with both the spider monkeys and the keepers. Clean-up involved placing the sheet in the laundry.

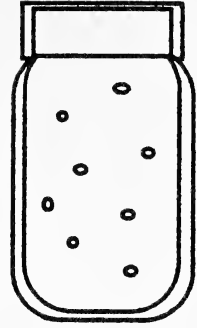
**NEW GUINEA SINGING DOG:** We found that our singing dog enjoys scrambled eggs as a treat. To incorporate this into an enrichment, the keepers developed an egg puzzle feeder. Using a plastic Kool-aid® container, cut small holes in the side and fill with scrambled eggs. When the container is rolled, pieces of the egg will fall out of the holes. Other enrichments that our singing dog enjoys are browse and empty boxes and/or bags.

**COATIS:** Egg Shell Surprise - remove the contents of a duck or goose egg by cutting small holes in the end and using a syringe, pull out the contents. Wash out the inside of the egg and refill with food items (i.e. peanut butter, Karo® syrup, raisins, beemoths, crickets, etc.) Another enrichment that our coatias seem to enjoy is providing them with catnip, spices, and/or baby powder. They tend to roll in it and rub it throughout their coats.

**PARROTS:** Produce Feeders - hollow out fruits and vegetables such as oranges, grapefruit, eggplant, etc., and fill them with food items (i.e. peanut butter, peanuts, fruit pieces) and hang it in their enclosure.

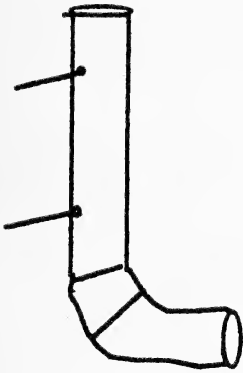
*--Melissa Johnson, Zookeeper  
Columbian Park Zoo, Lafayette, IN*

**SEED SHAKER for Primates:** Clean out a plastic container that has a lid (dry Koolaid® or Tang® mix containers). Punch holes in the sides only large enough to allow seeds to come out. Fill with small seed size food items and screw lid on very tight. The animals must shake the container to get the seeds to fall out.



**PVC ELBOW FEEDER for Primates or Squirrels:**

Use any PVC pipe cut from 3 to 12 inches long with corresponding sized PVC elbow joint. Attach elbow joint to length of pipe with PVC cement. Drill small holes in the back side on the top and bottom to pass wire through and attach to a tree. Food items are then placed in the top and the animals must reach in to retrieve them.



*--Kelley Bollen, Small Mammal Keeper  
Burnet Park Zoo, Syracuse, NY*

*(Ideas appearing in this column have not necessarily been tested by the editors for safety considerations. Always think ahead and use good judgement when trying new ideas. Eds.)*

*You are invited to submit material for the Enrichment Options Column these might include recipes, toys, puzzle feeders, olfactory enrichment ideas, etc. Drawings and photos of enrichments are encouraged. Send to: AKF/Enrichment Options, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.*

**Visit the new AAZK Enrichment Website - [www.enrich.org/aazk](http://www.enrich.org/aazk) or  
join the Enrichment Listserve by emailing - [jackbell@humboldt1.com](mailto:jackbell@humboldt1.com)**

# Birth of Three Rare Cape Mountain Zebra: A Conservation Success Story

Bushmans Kloof Wilderness Reserve announced the recent birth of three Cape Mountain Zebra in the reserve, which is located at the foothills of the Cederberg Mountains in the Western-Cape. In conservation terms, the three foals are a significant addition to the surviving herds of the species, current recorded numbers totalling approximately 1200 worldwide. In genetic terms this still represents a small population, but is a vast improvement on the just over 400 recorded in 1984.

The conservation status of the Cape Mountain Zebra (*Equus zebra zebra*), a rare and endangered mammal, was even worse than that of the Bontebok, when in 1950, the estimated total number of Cape Mountain Zebra dropped as low as 91. It is considered the largest mammal in South Africa to have come so close to extinction, a fate which sadly, awaited the Quagga.

The Cape Mountain Zebra has however become a conservation success story. But according to Peter Lloyd of the Scientific Services section of Cape Nature Conservation, the animal is not out of the woods yet. "There are currently about 13 formally conserved populations (i.e. in state conservation departments) of Cape Mountain Zebra left - too small a number to guarantee survival of the species. Conservation efforts by the private sector, like those of Bill and Mark McAdam at Bushmans Kloof, are therefore essential towards assisting Nature Conservation with this major challenge."

Bill McAdam, the owner of Bushmans Kloof Wilderness Reserve, has recently purchased another 20 Cape Mountain Zebra from a private seller in the Eastern Cape. He said: "This is an important addition to our herd for the purpose of broadening the gene pool. The animals were relocated to the reserve at the end of October, making Bushmans Kloof the owner of over 30 of these animals, probably the largest privately owned herd of Cape Mountain Zebra in the world."

Historically, Cape Mountain Zebra occurred throughout the Cape Fold Belt Mountains and the edge of the Great Escarpment of the Cape Province, its fast-growing hooves an adaptation to the type of rocky terrain inhabited. Although Cape Mountain Zebra probably were never very numerous, numbers started dwindling as herds had to compete against sheep and cattle for grazing. Farmers began developing more land, establishing wheat production and other crops in areas which traditionally were home to Cape Mountain Zebra and the extinct Quagga.

Hunting was uncontrolled, and the Cape Mountain Zebra, with the Quagga, were popular victims, its hide allegedly much sought after for the manufacturing of "grain bags". Within 30 years, from the 20's to the 50's, the population of

more than 400 animals had dropped to the all-time low of 91, when conservation efforts started showing a positive effect.

The Cape Mountain Zebra exists in strong family groups. A breeding herd usually consisting of a stallion with anything from one to five mares, and their foals. Very strong family bonds and long-term "relationships" exist within these herds, with a stallion staying with the same mares for periods as long as 20 years - unusual behavior amongst wild grazing animals. If a herd stallion is displaced, the herd is generally taken over as a unit by a new stallion. But, the stallion may need to go through a courtship of up to three years, before the mares in the herd will accept their new stud. Breeding is further delayed by a gestation period of a full year, which together with the animal's social and mating behavior, result in numbers growing very slowly.

Natural populations survived in three conservation areas: the Mountain Zebra National Park at Cradock, and the Gamkaberg Nature Reserve and Kamanassie Nature Reserve in the Oudtshoorn district. Herds were subsequently established in a number of other locations, including the privately owned Bushmans Kloof Wilderness Reserve. Bushmans Kloof has become a sanctuary for 34 species of mammals, as well as 140 bird species and 755 plant species which have been identified in the reserve. It is operated as an exclusive five-star guest lodge with conference facilities, and the world's largest open-air art gallery - providing access to more than 125 pristine rock art sites dating back some 10,000 years.

\*For further information on the Cape Mountain Zebra, please call Peter Lloyd at Cape Nature Conservation at tel (021) 889-1560.

--*Courtesy of WildNet Africa  
Wildlife News Service  
26 October 1998*

Elfriede van Wijk  
E-mail: [elfriede@wildnetafrica.com](mailto:elfriede@wildnetafrica.com)



#### **Internet Websites on African Wildlife:**

AFRICA'S DESTINATIONS ON THE MAP - <http://www.wildnetafrica.com/themap>

YOUR LINK WITH AFRICA'S WILDLIFE - <http://www.wildnetafrica.com>

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*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the **10th of each month** to: Opportunity Knocks / AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Please include closing date for positions available and when setting these dates keep in mind that because of bulk-mail, most readers do not receive the AKF until the middle of the month or later. There is no charge for this service and fax listings of positions which become available close to deadline are accepted. Our fax is (785) 273-1980.*

**ZOOKEEPER**...the City of Hutchinson has an opening for a full-time zookeeper at the Hutchinson Zoo. Keepers work rotations in all areas of this AZA-accredited, largely native animal zoo. One to three years experience with college degree in related field desired. High School diploma and valid KS driver's license required. Subject to Hutchinson residency requirement within one year of employment. Resumés may be sent or faxed to: Charlotte Poepperling, City of Hutchison, Box 1567, Hutchinson, KS 67504. Fax (316) 694-2676.

**ANIMAL KEEPER/SMALL MAMMALS**...non-profit, educational live animal center of a natural history museum seeking dedicated, professional individual for permanent position. Requires Bachelor's degree or at least four (4) years experience with exotic animals excluding pets. This position is primarily responsible for mammals but will also work with other staff to ensure the care and well being of the entire collection of over 100 small mammals, birds and reptiles. Responsibilities include (under the supervision of Head Keeper) daily husbandry, record keeping, training and supervising volunteers, providing medical and special treatment for animals, and performing daily educational programs for the general public. This is a 35 hour work week, including one weekend day and some holidays. Salary is \$20,000.00 plus benefits. Send letter and resumé to: J. Genovesi, Director Living Exhibits, The Academy of Natural Sciences of Philadelphia, 1900 Ben. Frank. Pkwy., Philadelphia, PA 19103-1195. **Closing date is 1 February 1999.**

**KEEPER**...this is a full-time permanent position caring for a diverse collection of exotic and domesticated species with an emphasis on birds. Involves daily husbandry, diet preparation, exhibit maintenance, behavioral enrichment techniques, experience with operant conditioning techniques helpful. Would be involved in working with youth and the zoo's education department. Must be able and willing to work independently. Salary \$16,000.00 plus benefits. Send letter and resumé to: Randy Scheer, Folsom Children's Zoo and Botanical Garden, 1222 S. 27th St., Lincoln, NE 68502. **Position open until filled.**

**The following three (3) positions are available at Cougar Mountain Zoo, Issaquah, WA. For any of the positions send/fax resumé and three (3) references to: Cougar Mountain Zoo, Administrator's Office, 19525 SE 54th, Issaquah, WA 98027; Fax (425) 392-1076.**

**VETERINARY TECHNICIAN**...requires veterinary technician license or eligibility and commitment to acquire in first year. Needs to have experience in exotic animal husbandry, computer literacy, strong observation/communication skills, record keeping, and the ability to work in a harmonious manner with veterinary/keeper/supervisory staff. Duties include animal record keeping,, limited animal husbandry, general treatments, critical care, assisting in immobilizations, surgeries, parasitology, laboratory testing, animal clinic maintenance and related duties. Must be willing to work on any of the seven days of the week. Salary commensurate with experience, starting range \$20,000.00 to \$24,000.00 plus excellent benefits.

**ZOOKEEPER**...prefer AS//BS degree in biology/zoology related field and minimum of one (1) year full-time paid experience in zoological institution. Ability to work in a harmonious manner with staff, volunteers and supervisors, and work any of the seven

days of the week. Responsible for daily routine animal husbandry, maintenance of exhibit and off-exhibit areas, record keeping, and assisting in veterinary practices. Day to day management of mammals may include cougar, cheetah, Siberian reindeer, lemurs, nyalas, and others. Salary commensurate with experience, starting range \$20,000.00 to \$24,000.00 plus excellent benefits.

**EXHIBIT FABRICATOR**...requires three (3) years of experience in zoo-related construction. Concrete finishing, form setting, welding, masonry, knowledge of construction materials and other construction-oriented experience desirable. Needs to have some experience operating backhoes and loaders. Will be part of in-house construction department. Salary commensurate with experience, starting salary \$25,000.00 plus excellent benefits.

**ASSISTANT DIRECTOR/GENERAL CURATOR**...requires Bachelor's degree in zoology/biology or related field from an accredited college/university, six (6) years' experience in a zoo, including three (3) years' in a supervisory position. Responsible for animal care, exhibit/grounds maintenance, record keeping, and employee supervision. Starting salary range is \$25,000.00 to \$29,000.00. Applications may be obtained by contacting the Springfield Park District Office of Personnel, 2500 South 11th St., Springfield, IL 62703 or calling (217) 753-6200. Resumés will be accepted, but will not be considered without a signed application. **Application deadline is Friday, 29 January 1999.** EOE.

**The following four (4) positions are available at Six Flags Marine World. New hourly pay rates and improved benefits package. All interested applicants may submit an application or resumé directly to the Human Resources Office, Marine World Theme Park, Marine World Parkway, Vallejo, CA 94589. Applicants may also fax their resumé to (707) 557-3832. Please specify which position you are applying for in any correspondence/fax communication. All positions are open until filled.**

**TRAINER/Elephant Encounter/Land Animals Dept.**...regular, full-time position. Minimum qualifications include two (2) years previous experience handling and training elephants; excellent public speaking skills and ability to speak before large groups; must speak and understand English; must be willing to work extremely flexible work hours, including some evenings, weekends and holidays; willing to work in all types of weather conditions; must possess quick reflexes and have ability to react quickly to changing animal situations; must understand concepts used in animal training; must be able to perform physical labor and lift up to 75 lbs. Job duties include cleaning, feeding and maintenance of animals and enclosures; handling animals in-park reinforcing existing behaviors and training new behaviors; perform elephant shows; assist with Elephant Rides; answer guest questions concerning elephants; use microphone in public shows; other duties as assigned.

**APPRENTICE TRAINER/Wildlife Theater/Land Animals Dept.**...regular, full-time position. Minimum qualifications include one (1) year previous experience handling a wide variety of animal species, preferably exotics; must be willing to work outdoors in all weather conditions; must be available weekends, evenings and holidays; must be in excellent physical condition, have quick reflexes, and be mentally alert and able to pay attention to all daily duties; must be able to react quickly to changing animal situations; must be able to lift and carry up to 50 lbs. Job duties include cleaning and maintenance of animals and their enclosures; assisting in food prep; check on health and appearance of animals daily and report any problems to supervisor; handle assigned, trained animals under supervision; learn entry-level training techniques; back up other trainers on in-park appearances and exercise walks; perform in Wildlife Theater as assigned; other duties as assigned.

**APPRENTICE TRAINER/Bird Theater/Land Animals Dept.**...regular full-time



position. Minimum qualifications include one (1) year experience in handling a variety of bird species; previous experience in public speaking required; must be articulate and able to speak and understand English; must be mentally alert, possess quick reflexes, and have ability to react quickly to changing animal situations; must be able to work weekends, evenings and holidays outdoors in all weather conditions; must possess physical dexterity to hold and maneuver equipment; must be able to lift up to 50 lbs; must be able to move quickly between bird areas; must possess good vision and hearing. Job duties include daily care, feeding, watering of birds; exhibit maintenance; handling assigned birds; set up show props and other duties to facilitate Bird Show; take out assigned birds for in-park appearances; learn entry-level training techniques under supervision; learn all essential commands and related behaviors; other duties as assigned.

**APPRENTICE TRAINER/Tiger Island/Land Animals Dept...**regular, full-time position. Minimum qualifications include one (1) year previous experience handling or keeping exotic animals; quick reflexes and ability to react to changing animal situations; must possess strong common sense and be mentally alert and able to pay attention to all daily duties; must be willing to work outdoors in all weather conditions and be available weekends, evenings and holidays; be in excellent physical condition and able to lift animals and equipment up to 75 lbs. Job duties include cleaning animal enclosures daily; assisting in food prep; make daily check on health and appearance of animals and report problems to supervisor; learn entry-level training techniques; back up other trainers on in-park appearances and exercise walks; learn show script and perform in shows as assigned; clean and maintain Tiger Island area, including pool as needed; clean all equipment after use; other duties as assigned.

**REGISTRAR...**maintain ISIS data on animal collection. Tracks Animal Confirmation Transaction process including confirmations, vendor profiles, invoices, loan agreements, etc. Maintains hardcopy and computer records through use of ARKS. Acts as liaison to local, state, and federal regulatory agencies and produces reports, permit applications, and licensing documentation. Salary \$28,000.00 plus excellent benefits. Send letter and resumé to: Richard "Red" Bayer, Assistant General Manager, Houston Zoological Gardens, 1513 N. MacGregor, Houston, TX 77030, or e-mail, with attachments - redbayer@socrates.hern.org.

**ZOO KEEPERS...**Happy Hollow Zoo is recruiting for Zoo Keeper positions. Prefer AS/BS degree in biology/zoology or related field and one (1) year full-time paid experience in a zoological institution. Salary: \$25,000.00 to \$30,000.00 annually plus excellent benefits. Call Gregg Owens (408) 279-2206 for more information. Fax resumé to (408) 277-4470 or send resumé to: Gregg Owens, Happy Hollow Zoo, 1300 Senter Rd., San Jose, CA 95112. **Positions open until filled.**

**AVIARY MANAGER...**immediate opening at Red Tail Express, Inc. in Dunnellon, FL. Full-time, live on position includes apartment and health insurance. Must have strong references. Fax resumé to (352) 465-4333.

**WILDLIFE LECTURER/HANDLER...**educational organization has immediate openings for highly motivated individuals capable of animal handling and speaking for stage presentations across the country. Exciting travel with a wide variety of cat species. Salary based on experience. Send a resumé, references and a video if available to: Center for Endangered Cats, P.O. Box 1052, Forest Lake, MN 55025 or Fax (612) 433-5089.

**ANIMAL ENCOUNTER TRAINER...**requires one (1) year of animal care experience in a zoo environment and a strong interest in educating the public using natural animal behavior. Basic knowledge of operant conditioning, good communication skills, and willingness to participate in a team management approach preferred. Will assist in presenting animal shows/encounters and be responsible for the care/conditioning of its animals. Entry-level, salary commensurate with experience, plus benefits. Send letter/resumé **by 15 February 1999** to: Denise Ball, Human Resources, Jacksonville Zoological Gardens, 8605 Zoo Parkway, Jacksonville, FL 32218.

**ZOO ANIMAL KEEPER SUPERVISOR (Dallas Zoo Bird & Mammal Depts.)**...requires academic degree in the Life Sciences, and a strong knowledge/background in biology. Additional experience and education are strongly recommended. Responsibilities include personnel actions, supervising animal care and exhibit activities, and participating in research and veterinary procedures. Will supervise 5-10 animal care personnel. Starting salary \$31,504.00 annually. All positions are subject to drug and alcohol testing. Please call (214) 670-6833 for an application. Your completed original application must reach the Human Resources Department **by 29 January 1999**. Send application to: City of Dallas, Human Resources, Staffing Manager, City Hall, Room 6AN, 1500 Marilla, Dallas, TX 75201. Also, if possible, please send a copy of your application (with resumé) to: Wanda Weaver, Dallas Zoo, 650 South R. L. Thornton Freeway, Dallas, TX 75203.

**BIRD KEEPER**...requires four-year degree in zoology or related field and one (1) year previous experience in a zoological park. Send resumé **by 15 February 1999** to: Human Resources Coordinator, Jacksonville Zoological Garden, 8605 Zoo Parkway, Jacksonville, FL 32218.

**BUIRD KEEPER**...the Fort Worth Zoo is now accepting applications and/or resúmes for a Bird Keeper position. This position requires a high school diploma or equivalent, minimum of one (1) year's zoo keeping experience with birds, good communication and organizational skills, and ability to work well with others in a team environment. Responsibilities include providing animal care, monitoring animal health, maintaining cleanliness of animal areas, animal behavior modification and exhibit modification. Starting salary is \$10.49/hourly plus benefits. Send letter and resumé **by 31 January 1999** to: City of Fort Worth, Human Resources Dept., 1000 Throckmorton St., Fort Worth, TX 76102. EOE.

**BIRD KEEPER**...The Department of Natural and Environmental Resources of Puerto Rico is accepting resúmes for an opening at its captive propagation facilities for endangered Amazon parrots. A degree in animal science/biology/zoology or related field, with two (2) years paid experience preferred. Primary duties include daily feeding and care of Amazon flock, including cage maintenance, cleaning and disinfection. General facilities maintenance also included. Applicant must be able to assist the project leader, veterinary assistant and other staff members as a team player, and be flexible, creative, organized and demonstrate a good work attitude. Experience in developing diets, disease control, record keeping, ARKS and SPARKS desirable. Residence, including water and electricity, provided. Applicant must live on site. **Position open until filled**. Send cover letter, resumé, including references, and CV to: Project Leader, P.O. Box 439, Arcibo PR 00613-0439.

**ZOO KEEPER**...position is responsible for providing care to zoo animals at the Topeka Zoo. Duties include preparing diets, observing and correcting animal behavior, providing assistance in administering veterinary care and maintaining area facilities and equipment. Cleans cages, holding pens and other confinement areas, makes repairs as necessary. Prepares special project reports, researches and gather information for these projects and reports information to management. Includes evening, weekend and holiday work. Requires Associate degree in zoo Keeping or an Associate's degree in biology, zoology or a closely related field plus one (1) year of experience caring for animals in a zoological park setting. Starting salary \$9.33/hr (plus 45¢ per hour shift differential) and benefits. **Position open until filled**. Send resumé to: City of Topeka, Human Resources, 214 SE 7th St., Room 170, Topeka, KS 66603-3914; phone (785) 368-3867; fax (785) 368-3605.

**SUPERINTENDENT OF EDUCATION**...a curatorial position that requires a Bachelor's Degree (Master's preferred) in a field of natural sciences; strong background in science education, supervision and management in a aquarium, museum or zoo. Three (3) years of supervisory experience is required along with exceptional written and oral

communication and organizational skills. Will lead and supervise education department; develop, implement, and evaluate education programs and oversee a large volunteer program. Salary \$38,800.00 with excellent benefits. Send letter/resumé to: Mike Gaskin, Operations Manager, Houston Zoological Gardens, 1513 N. MacGregor, Houston, TX 77030.

**ASSISTANT KEEPER/Birds**...requires a degree in zoology/biology or related field and previous experience with a wide variety of birds in a zoological facility. Will work with a staff of eight in the care, diet preparation, cleaning, observation/record keeping of a large diverse collection. Starting rate is \$10.55 per hour with an attractive benefit package. For consideration submit resumé **by 31 January 1999** to: Nancy Foley, Director of Human Resources, The Toledo Zoo, P. O. Box 4010, Toledo, OH 43609.

**KEEPER I or II**...the Wildlife Preserve at Stone Mountain Park is accepting applications for current and future position openings. Requires degree in biology/zoology/psychology/related field and previous keeping experience. Responsible for care of diverse collection of North American animals. Additional responsibilities in diet preparation, exhibit maintenance, veterinary assistance, record keeping, informal research and education, and guest relations. Experience with birds, snakes, behavioral husbandry, and training a plus. Facility located within the Atlanta metropolitan area. Competitive salary and excellent benefits. Send letter/resumé/references to: Gail Allen, Human Resources Dept., Zoo Atlanta, 800 Cherokee Ave. S.E., Atlanta, GA 30315. Fax (404) 627-7514. EOE.

**KEEPERS I, II and III**...requires high school diploma and one (1) year paid experience in a recognized zoo. Experienced personnel required for elephants/rhinos/lions, hoofstock, birds and reptile positions. College degree in animal science preferred. A registry of qualified keepers is being formed for present and future considerations. Salary commensurate with education/experience; excellent training program with full benefits. Send resumé and two (2) work references to: Cathey Toomey, Personnel, Lion Country Safari, Inc., 2003 Lion Country Safari Rd., Loxahatchee, FL 33470-3976.

*Check our AZA Member Institution job position listings  
on the AZA Home Page: <http://www.aza.org>*

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Postage costs for mailing *AKF* are continuing to rise and we anticipate a 5-9% increase in this expense over the next year. Each time we receive an *AKF* back from the Post Office due to an **unreported** change-of-address, it costs the Association **78 cents**. Help keep this cost down by reporting your change-of-address as soon as you know it. Turning in a change-of-address card to the Post Office **does not** guarantee that the address change will be sent to our office. *AKF* is sent bulk-mail rate and is **not** automatically forwarded, so you may miss issues if you do not advise AO of address changes. These missed issues will not be sent gratis anymore, but may be purchased for the regular \$3.00 per issue price.

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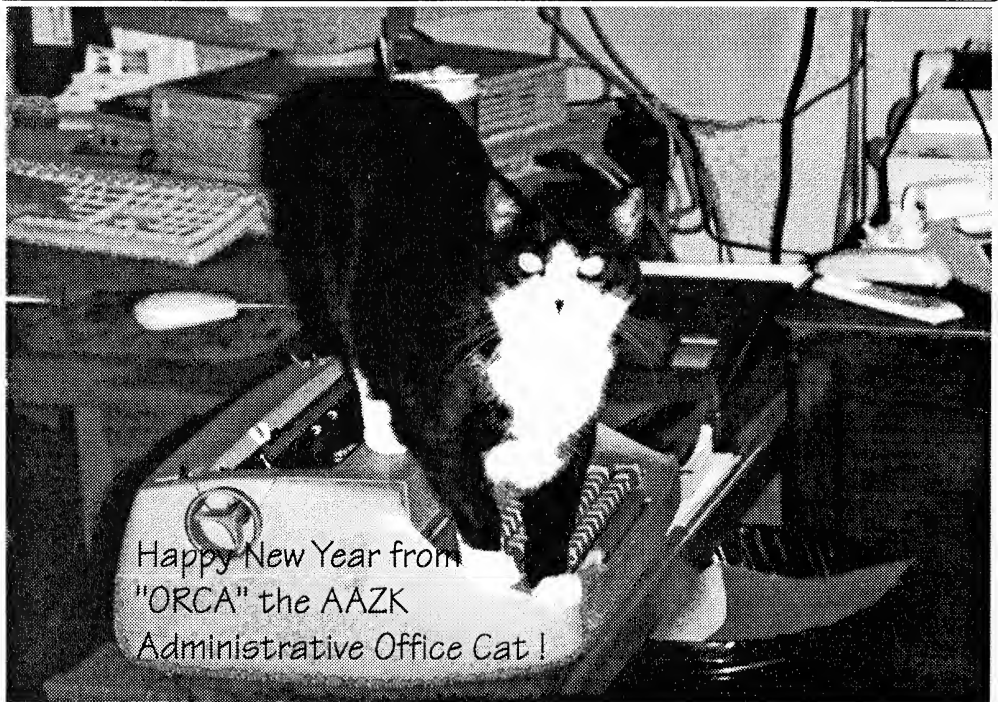
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*A special "Thank You" to the following individuals for their efforts in putting together the 1998 Animal Keepers' Forum Index: Kayla Grams, Arizona-Sonora Desert Museum, Tucson, AZ; Jeff Phillips, Disney's Animal Kingdom, Orlando, FL; and Gretchen Ziegler, Sequoia Park Zoo, Eureka, CA.*





# AAZK Membership Application

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# ANIMAL KEEPERS' FORUM



The Journal of the American  
Association of Zoo Keepers, Inc.

**FEBRUARY 1999**

**Managing Editor:** Susan D. Chan • **Associate Editors/Enrichment Options**

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### **AAZK PUBLICATIONS - CONTINUING DATA COLLECTION**

**Zoo Infant Development Project** - Jennifer Hackshaw, Lowry Park Zoo and G. Suzanne Chacon, Zoo Aves (Birds/Passerines); Jeanne Walsh, Newark Museum Mini-Zoo (Reptiles); Linelle Smith, Denver Zoo (Amphibians)

**Crisis Management Resource Notebook** - Susan Chan, AAZK; William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX; and Diana L. Guerrero, Ark Animals, Inc., Escondido, CA.



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## **About the Cover.....**

*This month's cover features a young Chimpanzee (*Pan troglodytes*) enjoying some corn stalks as part of the behavioral enrichment program at the Los Angeles Zoo. Chimps are native to Equatorial Africa and live in family groups which have a highly structured social order. Mating is a casual affair with all males, even the adolescents, sometimes mating with a female in heat. The young are born after a gestation period of eight months and births are usually single, although twins have been reported. Chimps are omnivores eating fruits, leaves, roots, insects and eggs. Flesh-eating, even cannibalism, has been reported among some chimp groups, but is thought to be aberrant behavior not necessarily common to the species as a whole. Our thanks to Mary Deckert, a Docent at the Los Angeles Zoo for this month's cover art.*

## **Information for Contributors**

*Animal Keepers' Forum* publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration. Articles should be typed or hand-printed and double-spaced. Authors are encouraged to submit their manuscripts on a disk as well as in hard copy form. Acceptable formats include: for Macintosh users - Microsoft Word or Works; IBM users - Word for Windows, WordPerfect or Wordstar. All illustrations, graphs, charts and tables should be clearly marked, in final form and should fit in a page size **no greater than 5.5" x 8.5"** (14cm x 22cm). Literature used should be cited in the text (Brown, 1986) and alphabetically in the final bibliography. Avoid footnotes. Include scientific name (as per ISIS) the first time an animal name is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Glossy finish black and white photos **only are accepted**. Color slides should be converted to black and white prints (minimum size 3" x 5" [8cm x 14cm] ) before submission. Clearly marked captions should accompany photos. Please list photo credit on back of photo.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone and FAX contributions of late-breaking news or last-minute insertions are accepted as space allows. However, long articles must be sent by U.S. mail. Phone 1-800-242-4519 (US); 1-800-468-1966 (Canada); FAX (785) 273-1980.

**Deadline for each regular issue is the 10th of the preceding month.  
Dedicated issues may have separate deadline dates  
and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. Reprints of material appearing in this journal may be ordered from the editor. Back issues are available for \$3.00 each.

# Scoops & Scuttlebutt



## Otter Listserve Established

An otter keeper/curator listserv has been established to share information, get answers to questions, etc. To join, contact Jan Reed Smith at e-mail - [jrsotter@iserv.net](mailto:jrsotter@iserv.net).

## AAZK Offers Conservation Grants /Deadline Extended

The American Association of Zoo Keepers, Inc. announces the availability of conservation grants for the benefit of local or global conservation efforts. AAZK members in good standing should direct their inquiries to: Jan Reed-Smith, Chair, AAZK Conservation, Preservation and Restoration Committee, John Ball Zoo, 1300 W. Fulton, Grand Rapids, MI 49504 or e-mail: [jrsotter@iserv.net](mailto:jrsotter@iserv.net). Deadline for applications is **31 March 1999**. Please note deadline extension from date previously published.

## New Contact Information for Bowling for Rhinos Chair

Effective immediately the following is new contact information for Patty Pearthree, Chair of the Bowling for Rhinos project: 318 Montibello Dr., Cary, NC 27513-2479; e-mail is [ppear3@aazk.org](mailto:ppear3@aazk.org); phone - (919) 678-0449. All correspondence/inquiries for Bowling for Rhinos should now be directed to this new address/phone/email. This includes requests for sponsorship forms, questions needing answers, etc.

## Update on Injured Keepers

The two keepers injured in November in separate zoo-related incidents are now both out of the hospital and recovering at home. Updates on Lisa Morehead, Oklahoma City Zoo, may be found by going to <http://www.tapirback.com/tapirgal/lisa.htm>. Jennifer McClurg, Dallas Zoo, can now receive get well wishes via e-mail at [jmclclurg@home.com](mailto:jmclclurg@home.com). AAZK sends its best wishes for speedy recoveries to these two professional zoo keepers.

## Filmmakers Seek Keeper Stories for "Wisdom of the Wild"

For as long as humans have walked the earth, their lives have been inexorably linked to those of animals. "Wisdom of the Wild" is a one-hour television documentary for WNET/Nature. The film will explore the primal contract between creature and human, offering a surprising glimpse into the lessons learned.

This film is a celebration of the wisdom of animals, told by those who have meaningful and unique relationships with them. We would like to explore the unique bond which keepers have with the animals they care for, and more importantly, reveal the lessons or wisdom they may have learned from that animal. These can be lessons in life, love, resilience, hope, or a life-transforming experience. If you would like to share your story with us, we would love to hear it. You may contact us via e-mail at [WILDWISDOM@aol.com](mailto:WILDWISDOM@aol.com) or by calling us at (202) 333-1153.

Filmmaker Allison Argo has also produced "The Urban Gorilla" and "The Keepers of the Wild", a one-hour National Geographic special offering an intimate look at the complex relationship between keepers and the animals for which they care. More recently Allison produced "The Last Frog" and "The Secret Life of Cats". "Wisdom of the Wild" is being co-produced by Malvina Anderson Martin.

### **Research Grants in Zoology Available**

The American Association of Zoo Keepers, Inc. announces the availability of Grants for Zoo Keepers In Zoology. Two \$750.00 grants are available to assist zoo keepers in noninvasive zoological research projects. For further details and grant applications contact: David Luce, Research Grants Committee, Oklahoma City Zoo, 2101 N.E. 50th St., Oklahoma City, OK 73311 or via e-mail: lucemonkey@earthlink.net.

### **Chapter Recharter Deadline Almost Here**

Chapters are reminded that the deadline for return of your Recharter Packet and payment of recharter fees is **15 February 1999**. Chapters failing to return their packet/fees by **1 March 1999** will be assessed a \$75.00 late fee in addition to their regularly assessed recharter fee. We encourage all Chapters to quickly complete and return their materials in order to avoid this penalty fee. If you need help filling out the forms or have questions, contact Barbara Manspeaker at 1-800-242-4519 (U.S.) or 1-800-468-1966 (Canada).

### **FIGs Become CAPs - Alphabet Soup Thickens**

The Fauna Interest Group concept was established in 1991 to help facilitate and coordinate the growing cooperative efforts of AZA-member institutions in field conservation, international training and technology transfer in various geographical regions of the world. Nine programs currently exist: Brazil, East Africa, Madagascar, Meso-America, North America, Paraguay, Southeast Asia, Venezuela, and West Indies. The chairs of these committees have felt a need to change the name to better reflect their continually evolving mission.

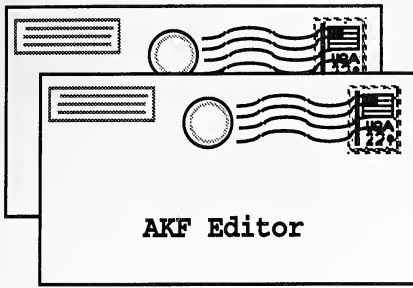
These programs will now be called Conservation Action Partnerships or CAPs. Thus, the AZA Brazil FIG will now be known as the AZA Conservation Action Partnership: Brazil; the AZA North American FIG as the AZA Conservation Action Partnership: North America and so forth. The abbreviated names will be BCAP and NACAP and so forth. Members are requested to use the new terminology in all correspondence, publications, logos and reports. --from AZA *Communiqué* 12/98.

### **PJC Zoo Animal Technology Program Accepting Applications**

The Pensacola Junior College zoo animal technology program is now accepting applications for entry in August 1999. This is a two-year associate of science degree program offered as a cooperative effort of PJC and The ZOO in Gulf Breeze. The program includes general education, a comprehensive series of academic courses in animal biology, specialized zoo topic courses (including the use of ARKS), and practical animal care, medical husbandry, and exhibit repair skills courses. Application/information packets may be obtained from the PJC Biology Department secretary by calling (850) 484-1168. Deadline for applications and all supporting materials is **29 March 1999**. For more information, contact Joyce Kaplan, PJC Zootech Director by e-mail at jkaplan@pjc.cc.fl.us.

1999 is AKF's 25th Anniversary  
Make this your year to contribute an article  
to AAZK's monthly professional journal.





To The Members of AAZK,

First, a belated but most sincere Thank You to all of you for awarding me the AAZK Lifetime Achievement Award. There can be no better way to end a career in Zoo Keeping than receiving recognition of one's peers.

When I became a Zoo Keeper in 1975 my goal was to make a difference. It was a very proud moment when Jan McCoy presented me with the award at the AAZK Conference in Indianapolis. Your recognition was very much appreciated and the plaque hangs on the wall where I see it every day. You have said that I achieved my goal...again, my most sincere Thank You.

It was so nice to see many familiar faces at the Conference, but I was also struck by the number of new faces. It is encouraging to see the many new up and coming keepers ready to pick-up and carry on as some of us retire.

I've been asked what my plans for retirement are.....I'd like to wrote a book on what I learned during my 20+ years of being a Zoo Keeper.....The success I achieved as a Keeper was largely because many good Keepers shared their knowledge and taught me skills all along the way. A book would be a way to share those lessons. I've always believed that one of the most important aspects of Zoo Keeping was sharing what we learned with our co-workers.....the mistakes as well as our successes.

One of the achievements I'm most proud of is that the *Animal Keepers' Forum* is still going strong 25 years after we started it. During 1999 I hope to keep in touch with AAZK through the *Forum*.

May 1999 be a successful year for all of us.....carry on.

Judie Steenberg  
Maplewood, MN

# Coming Events



**7th Annual Conference of the International Association of Avian Trainers and Educators** - February 12-15, 1999 in Sitka, Alaska and hosted by the Alaska Raptor Rehabilitation Center. For more information contact: Kevin Hils, Columbus Zoo, 9990 Riverside Dr., P. O. Box 400, Powell, OH 43065; phone (614) 645-0558; email - khils@colzoo.org.

**Keeping, Care and Breeding of Otters In Captivity** - February 17-19, 1999. This seminar on the care of *L. lutra*, *L. canadensis*, and *A. cinerea* will be held (in English and German) at OTTER-ZENTUM, in Hankensbuttel, Germany. For additional information contact: Jan Reed-Smith, John Ball Zoo (616) 336-4301 or e-mail at jrserter@iserv.net.

**National Wildlife Rehabilitators Association 17th Annual Symposium** - March 9-13, 1999 in Greensboro, NC. Continuing Education hours available; sessions and workshops cover many native animal care topics. For more information contact the National Wildlife Rehabilitators Association 14 North 7th Ave., St. Cloud, MN 56303. Phone - (320) 259-4086; e-mail nwra@cloudnet.com or you can visit the NWRA website at [www.nwrawildlife.org](http://www.nwrawildlife.org).

**ABWAK 25th Celebration: Then, Now & the Future** - April 17-18, 1999 at Marwell Zoological Park, UK. For more details please e-mail: lgdb@pinnipedia.demon.co.uk

**The Annual Regional Aquarists Workshop (RAW) Conference** - May 13-15, 1999 at UnderWater World at the Mall of America in Bloomington, MN. For registration and further info contact Craig Atkins (612) 853-0615 or Jeff Krenner (612) 853-0619, UnderWater World at MOA, 120 E. Broadway, Bloomington, MN 55425.

**7th World Conference on Breeding Endangered Species** - May 22-26, 1999 at the Cincinnati Zoo. For more details contact: Grace Retig (Fax - 1-513-559-7791).

**Society for Tropical Veterinary Medicine** - June 12-16, 1999 in Key West, FL. This is the Fifth Biennial Conference and the theme is "Tropical Diseases: Control and Prevention in the Context of The New World Order. For further information contact: Beth Miller-Tipton, University of Florida, Office of Conferences & Institutes, P. O. Box 110750, Gainesville, FL 32611, USA; phone: (352) 392-5930; fax: (352) 392-9734; e-mail: [BAMT@GNV.IFAS.UFL.EDU](mailto:BAMT@GNV.IFAS.UFL.EDU)

**Animal Behavior Society Annual Meeting** - June 26-July 1, 1999 at Bucknell University in Lewisburg, PA. Plenary speakers include Gail Michener, Lynne Houck and Steve Nowicki. Symposia include "Educating About Animal Behavior: A Broader Perspective". For further information see <http://www.cisab.indiana.edu/ABS/index.html> or contact the local host, Michael Pereira (e-mail: [mpereira@bucknell.edu](mailto:mpereira@bucknell.edu) or phone (717) 524-1430).

**Fourth International Enrichment Conference** - August 29, 1999 in Edinburgh, Scotland. Details as and when available from the *Shape of Enrichment* website: <http://www.enrichment.org>

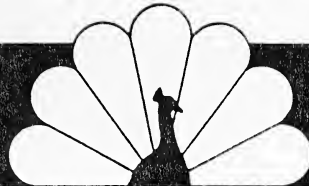


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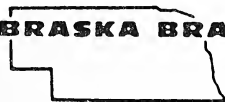
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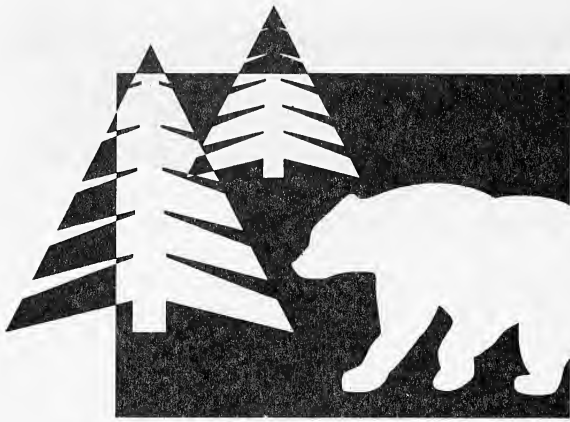
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# 1999 AAZK National Conference

The Portland Chapter invites you to attend the National AAZK Conference, "Northwest Passages - Frontiers in Zoo Keeping", to be held September 12-16, 1999 at the Holiday Inn Portland Downtown. Hotel rates are: \$89.00 single, \$99.00 2-3 persons, \$10 additional for the fourth person per room. Hotel tax is 9%. Conference hotel rates apply from Friday, Sept. 10 through Saturday, Sept. 18. The Conference Registration Fee is \$135.00, \$35.00 of which goes to the National Association to help support its programs.

The Pre-Conference Day Trip on Saturday, Sept. 11, will be at the Oregon Coast Aquarium. Sea otters, tufted puffins, seals, sea lions and Pacific octopus play in yawning caves, rocky pools, and rolling waves in the outdoor area. Indoors the mysteries from the deeper depths of the Pacific Ocean are shown. Lunch is provided along with behind-the-scenes tours.

The Post-Conference Tour will be on Friday, Sept. 17 - Saturday, Sept. 18. At the Mount St. Helens Visitor Center you will learn what happened when the volcano erupted and sent more than 1,300 feet of the mountain's top cascading into the Toutle River Valley below and how nature is rebounding. Then prepare yourself to view a sampling of the majestic Great Northwest wildlife as we venture into Northwest Trek Wildlife Park. Enjoy a tram ride through 435 acres of free-roaming wildlife, lunch, nature trails and behind-the-scenes tours. The evening will be spent in Seattle. The Puget Sound Chapter will be your host for tours and lunch at the Woodland Park Zoo which has won awards for several naturalistic exhibits on its lush grounds. The afternoon will find us at the Seattle Aquarium where you will see a variety of sealife native to the waters of Puget Sound and visit behind the scenes. Late evening will find you back in Portland.

Topics for Conference papers are as follows:

Keeper Tools: skills and techniques needed for the job

Expanding Keepers' Roles: our job description has greatly expanded over the years.

Innovation: success or failure

Research: the Keeper's role in institutional or field research

Local Conservation: conservation projects that are within your region

# New & Renewing AAZK Professional, Institutional, and Contributing Members

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# 1998 Conference Proceedings Order Information

If you are interested in obtaining a copy of the Proceedings containing the papers presented at the joint National Conference between AAZK, Inc., The Elephant Managers Association and the Association of Zoological Horticulture which was held in Indianapolis, IN, you will need to fill out and return the form on the next page. This is a unique opportunity to purchase a publication with papers from three separate organizations included. All orders **must** be prepaid in U.S. Funds ONLY. Allow 2-4 weeks following order for receipt of publication within U.S. Overseas orders will take longer by surface post. Prices are as follows: AAZK Member **\$25.00** Non Member **\$40.00** Postage for U.S. orders is included. Canadian and overseas orders should add \$5.00 for air mail postage to Canada and surface postage elsewhere. Overseas orders wishing air mail service should add \$10.00. Make checks or money orders payable to AAZK, Inc.

**Note:** Because of a one-time grant secured by the Indianapolis Conference Committee, all full-registration delegates will be receiving a copy of this Proceedings gratis. Day registrants or those who did not attend the Conference but wish a copy of the Proceedings, will need to order one.

**The following papers are included in the Proceedings:** If I Ran the Zoo, I'd Get Into In-situ; Savanna Flora of Kenya and Tanzania; Uganda Wildlife Education Centre Exhibit Design and Objectives; **AAZK Sessions:** Rhino Conservation Programs in S.E. Asia – IRF & Partners; 1998 Bowling for Rhinos – A Million Dollars Later; A Conservation Masterplan for the Kansas City Chapter of the American Association of Zoo Keepers; Developing a Hippo Skin Tissue Biopsy Dart; When Things Go as Planned: Introducing an Unrelated Ten Month Old Hippo to an Established Pair of Over Forty Years; It's Great to be a Keeper; Review of Fine Avian Abodes; Environmental Enrichment on a Seasonal Basis for Sub-antarctic and Sub-arctic Seabirds at SeaWorld, San Antonio; Conservation at Moody Gardens: Exhibiting Two Fragile Ecosystems; The Forgotten Wallabies of New Zealand; The Ramsey Canyon Leopard Frog: Working Together to Help Preserve an Endangered Species; Breeding Rhinoceros Hornbills; Chilean Flamingo Breeding....A Natural Progression; Treatment of Severe Contracture of the Flexor Tendons in a Reticulated Giraffe (*Giraffa camelopardalis reticulata*) or "Reconstructing Sudi"; Principles of Animal Training Workshop; Giraffe Training Program at Milwaukee County Zoo; Target Training Malayan Flying Foxes (*Pteropus vampyrus*): A Beginners Perspective; Enrichment Is for Everyone in Detroit; Training for the Trunk Wash at the Indianapolis Zoo; **EMA Sessions:** T.B. Training at The North Carolina Zoo; Managing a *Mycobacterium tuberculosis* Positive Elephant at the San Francisco Zoo: "A Pain in the Butt for Her and Us!"; Emmett Exits; The Transport of "Kiba Mampe" from the Houston Zoo to the Berlin Zoo or "Jumbo in the Jumbo" (When Elephants Fly); Loading and Unloading Elephants at Knoxville Zoo; A Global Elephant Network; Five Years of Teaching and Learning at our Elephant School; Elephant Management at Disney's Animal Kingdom: Turning Challenges into Successes; Manual Collection of Semen from Elephants; Ganesh: "King of the Queen City"; Birth of African Elephant Breeding Facility; *Salmonella typhimurium* in 0.3 African Elephants at the Oakland Zoo; Pack Your Trunk for Africa; One Thousand Years of Military Elephants; **AZH Sessions:** Horticultural Options for Fruit Bat Enrichment; Take a Butterfly to Lunch; Vegetation Management Study and Guidelines for the Ravine Garden at the Indianapolis Museum of Art; Northern Temperate Forest Planting Project for the Kids Kingdom; Tree Care & Holiday Lighting Program; Siting and Managing Bamboos in a Zoo Environment; Dangerous Animal Response Team at the Cheyenne Mountain Zoo; Plants, Iguanas and Islands: A Zoo Horticulturist Visits Hispaniola; Cheyenne Mountain Zoo 1998 AZH Internship; Growth Chamber for Rare and Endangered Plants at Henry Doorly Zoo; Bring Back the Natives; **Workshops/Video Sessions:** AAZK Enrichment Video Session Synopsis; Browse/Enrichment Device Workshop Summary; Enrichment Discussion Group Synopsis; Mineral Composition of Selected Temperate Browsers Fed in Zoos; Listing of 1998 Conference Participants.

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Once 1999 Proceeding copies are sold out, photocopies of individual papers will be available for \$3.00 each by contacting the AAZK Administrative Offices.

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# GINGER

By Belinda Galvin, Zookeeper  
Folsom Children's Zoo and Botanical Gardens  
Lincoln, NE

Today I said goodbye to Ginger. It was sad, tearful, and a relief. Ginger the Geoffroy cat (*Felis geoffroyi*) was 22 years old and in end-stage renal failure. I knew she would not suffer anymore. A small comfort.

Except for the four and a half years spent on loan in Toronto, Canada, Ginger spent her entire life here at the Folsom Children's Zoo. She shared space with her brother Jeff for most of that time, until his death from prostate cancer two years ago. Of course, being a cat, she just stretched out in her log and enjoyed the extra room.

Despite being hand-raised for a short time, Ginger was always a wild cat, never wanting the company of humans and hating to be touched. In her youth, when bothered, she would try to jump on your back and bite your neck. As she got older, the target area got lower until finally she settled for attacking your knees. She never stopped growling at the vet, and always seemed to know who that was even when a new one came in!

She was a favorite of children and adults alike. When she hid in her log they would wait patiently for a chance to see her face. They were amazed at her small size and even more amazed when they found out that no, she was not a kitten, but a full grown cat! The keepers enjoyed giving her treats and making fun enrichment items for her. Watching her rip apart a feather toy I had given her was great enrichment for me, too!

Ginger was the oldest living Geoffroy cat in the U. S. and Canada. Until today. She will be missed by all who knew her. I know there are keepers out there who will read this and sigh just a little when they remember her. I know I will never forget that feisty little cat.

Ginger (*Felis geoffroyi*), Studbook #1099

b. 1 January, 1976  
d. 1 October, 1998



## **AAZK Award Nominations Are Now Being Accepted for 1999!**

The AAZK Awards Committee is accepting nominations for the **Jean M. Hromadka Excellence in Zookeeping Award (EZ)** to be presented at the 1999 AAZK Conference in Portland, OR. Information concerning the qualifications, nomination procedure, selection procedure and an explanation of the awards may be obtained by contacting Janet McCoy, Chair, AAZK Awards Committee, The Oregon Zoo, 4001 S.W. Canyon Rd., Portland, OR 97221.

### **Jean M. Hromadka AAZK Excellence in Zookeeping (EZ) Award**

The American Association of Zoo Keepers, Inc. (AAZK) is the administering organization of the Jean M. Hromadka Excellence in Zookeeping Award presented by the AAZK Awards Committee. The purpose of the award is to recognize achievement and determination of an individual in the zookeeping field and in fostering professionalism. Zookeeping is a science combining zoology, biology, animal management, behavioral observation and daily record keeping on the collection of species in their care. This is essential knowledge for maintaining a species effectively in captivity. The excellent zookeeper must excel in one or more of these areas, but not be lacking in any of them.

The Excellence in Zookeeping Award was founded by John Siegel, 1974-1975 CHAIR, in 1974. The original name of the award was the Marlin Perkins Award, named after the famed zoologist who started his career as a zookeeper. The name was changed in 1978 to the EZ award. In 1990, the name was changed to the Jean M. Hromadka Excellence in Zookeeping Award in memory of her outstanding contributions to the furtherance of AAZK through committee work and as President. The award is presented at the annual AAZK National Conference.

### **Qualifications:**

1. The nominee **must** be a full-time animal keeper, employed in any North American zoological institution, aquarium or related facility for at least five years.
2. The nominee **must** have been employed at least two years on permanent status at the same zoo, aquarium or related facility.
3. The nominee **must** be nominated by his or her peers who have also been employed at that same zoo, aquarium or related facility. Supporting nominations may be submitted by management personnel from the same institution.

### **Nomination Procedure:**

1. List name, position, institution's name, address, phone and Director, years of service in the field and the recommendation of peers or colleagues.
2. List and **document** commitment to the profession, outstanding achievements, practical/outstanding application of knowledge and experience,

and keeper skills, etc. **Verification** of these facts must be signed by the zoo director, curator, or immediate supervisor of the individual being nominated.

3. List any extra activities outside of zoo, aquarium or related facility work: working with conservation groups, youth, wildlife officials, etc.

4. Deadline for nominations is **JUNE 1st** of each year.

**Selection Procedure:** The Awards Committee, consisting of five keepers, will independently review each nominee.

**LIFETIME ACHIEVEMENT (LA) Award** - This award is to be given at the end (retirement) of a keeper's career. The purpose of the award is to recognize outstanding commitment to professionalism as a zoo keeper over a long period of time, and significant contributions to the community.

The Lifetime Achievement Award was established by the 1993 Awards Committee, Janet McCoy, Chair. Rachél Rogers proposed the award to the AAZK Board of Directors. The award is presented at the annual AAZK National Conference.

### **Qualifications:**

1. The nominee **must** be a full-time keeper retiring from a career of zoo keeping and employed in any North American zoological institution, aquarium or related facility.

2. The nominee must have been employed at least twenty years on permanent status at a zoo, aquarium or related facility.

3. The nominee **must** be nominated by **two** of his or her peers who have also been employed at that same zoo, aquarium or related facility. Supporting nominations may be submitted by management personnel from the same institution.

### **Nomination Procedure:**

1. List name, position, institution's name, address, phone and Director, years of service in the field and the recommendation of peers or colleagues.

2. List and **document** outstanding achievements: exhibits, breeding, education, project participation, papers, etc. **Verification** of these facts must be signed by the zoo director, curator, or immediate supervisor of the individual being nominated.

3. Describe extra activities outside of zoo, aquarium or related facility work: working with conservation groups, animal related youth groups, rehabilitation wildlife officials, etc.

4. Paragraph of why the nominee fits the criteria.

5. Provide 3 - 5 references.

6. Deadline for nominations is **JUNE 1st** of each year.

### **Selection Procedure:**

The Awards Committee, consisting of five keepers, will independently review each nominee.

The American Association of Zoo Keepers, Inc. (AAZK) is the administering organization of the Jean M. Hromadka Excellence in Zookeeping Award and the AAZK Lifetime Achievement Award presented by the AAZK Awards Committee. The character of these awards includes a plaque, letter of notification to the institution's director and national recognition by professional journals. Such journals include: The American Zoo and Aquarium Association (AZA) and the Canadian Association of Zoological Parks and Aquariums (CAZPA) newsletters, Animal Keepers' Forum (AAZK), Awards, Honors and Prizes: Vol. I; United States and Canada. The latter is published by Gale Research Company based in Wheaton, MD and found in medium to large sized libraries across the U.S. and Canada.

Award nominations should be submitted to: Janet McCoy, Awards Chair, The Oregon Zoo, 4001 S.W. Canyon Rd., Portland, OR 97221.

Next month we will include information on making nominations for the Meritorious Achievement, Certificate of Merit for Zoo Keeper Education, and the Certificate of Excellence in Exhibit Renovation Awards.

**Award Nomination Submission  
Deadline is 1 June 1999**

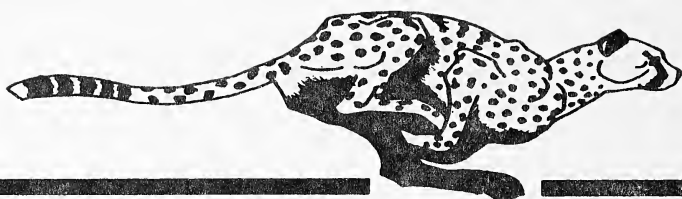


### **1999 AZA Regional Conference Schedule**

**AZA Central Regional** - March 17-20, 1999 in Indianapolis, IN. For information contact Jodie Baker, Indianapolis Zoo, P. O. Box 22309, Indianapolis, IN 46222; phone (317) 630-5167.

**AZA Eastern Regional** - April 14-17, 1999 in Pittsburgh, PA. For information contact Terry DeJulis, Pittsburgh Zoo, One Wild Place, Pittsburgh, PA 15206; phone (412) 365-2500.

**AZA Western Regional** - April 28 - May 1, 1999 in San Jose, CA. For information contact Dr. Anthony Smith, Zoo Director, Happy Hollow Park & Zoo, 1300 Senter Rd., San Jose, CA 95112; phone (408) 998-5172; fax (408) 279-8021.



# REACTIONS

## *A Question and Answer Forum for the Zoo Professional on Crisis Management*

By William K. Baker, Jr., Zoo Curator  
Frank Buck Zoo, Gainesville, TX

### **Question**

Are there any general guidelines on what could set an animal off and how do primary signs of aggression fit into this kind of situation?

### **Comments**

Generally speaking, in my experience there are numerous factors that could set an animal off in a captive management situation. Examples of this would be:

1. Environmental factors - Examples of this would be construction and fabrication noise, landscaping equipment noise, harrassment from the public, unusual activity in adjacent exhibits, and conspecific aggression.
2. Zoo Keeper activity - Examples of this would be unusual or sharp noises in keeper work areas, unfamiliar staff members, perfumes or colognes, and individuals who lack "animal sense", in other words they simply don't interact well with animals. This is usually conveyed through body language.
3. Physiological distress - Animals that are ill, aged, or have an existing medical condition are more likely to be sensitive to normal activity and may react to it.
4. Training inconsistencies - Animals that receive inconsistent training and cues from substandard trainers can become easily confused and frustrated. In their frustration they can easily choose this time to transfer the frustration into aggression and strike out at their trainer. This would be especially true of training styles that place the trainer in direct physical proximity to the animal.

As to the question of primary signs of aggression and how they figure into this type of situation, that's a little more difficult. Every individual species exhibits different types of primary signs of aggression. As a result, I consider it an imperative that zoological managers and trainers be familiar with the established behavior patterns of each species in their area. Once a baseline of species behavior is understood then this can be modified with individual personality traits of a specimen.

There are some basic guidelines of behaviors to watch for that would transcend species boundaries:

1. Erratic body movements
2. Unusual or low vocalizations
3. Subtle, focused body movements, especially in predators
4. Gradual noticeable muscle tension
5. Exposed teeth
6. Pawing
7. Biting
8. Lunging

There are no established guidelines, the best method is to know your animals. For a more detailed read on the training environment, I recommend Karen Pryor's book "Don't Shoot the Dog", and for species-specific indicators I would recommend the classic texts on animal behavior.

**NEXT MONTH:** Can individual personalities among staff members make a difference in a crisis situation?

*(About the Author: Since 1985 Bill has been active in the fields of science, zoology and wildlife management. His education and experience include a B. S. in wildlife management and post-graduate work in zoology; Lab and Museum Assistant; Shoot Team leader, ERT Member, and Senior Keeper and Large Mammal Keeper at various AZA facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR/ First Aid Instructor.)*

**If you would like to submit a question for this column or have comments on previously published material, please send them to: Reactions/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.**

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## Information Please

Mark Ferguson is currently working on an article for an "Encyclopedia of World Zoos". The article he has been assigned is on farm animal exhibits. He has been able to get quite a lot of information from folks in the United States, but is trying to get more from other countries. He is looking for zoos that display domestic breeds (farm animals), what breeds they display, how long they have been displaying farm animals, and their goal for displaying these breeds (do they want animals for contact, or are they pushing the minor breed conservation message). Any help would be gratefully appreciated. Please contact Mark direct at: Mark Ferguson, Farm Manager, Memphis Zoo and Aquarium on [mferguson@memphiszoo.org](mailto:mferguson@memphiszoo.org)

# Invitation to Japan Serow Center

By Yoshi. Yonetani, Special Advisor, Japan Serow Center  
ZooDEL - Zoo Design & Education Lab, Kobe, Japan

The Japan Serow Center, made up of the Gozaisho Alpine Zoo and the Gozaisho Natural Museum, is one of the most unique zoological institutions in the world. The Alpine Zoo is the only specially themed facility for serows in Japan and specializes in the conservation of and research into breeding and animal behavior of *Capricornis* and related species; especially for Japanese serow. This serow is considered a special natural monument in our country and we call them "the philosopher of the mountain". The native species live on rocky mountain sides and are excellent rock climbers.

In our area, wild serows can be seen in the valley under the ropeway "Dream Skyway" at the Gozaisho-dake. The ride takes about 12 minutes from the base to the top of the mountain covering some 2200m (7200 ft.). Its summit is 1212m (approx. 3900 ft.) above sea level. The Alpine Zoo is the highest zoological garden in Japan.

There are many different kinds of native plants and insects in the Suzuka Mountains which have an average altitude of 1000m (approx. 3300 ft.) More than 40 different varieties of azaleas grow here. The Komono chrysanthemum (*Aster komonoensis Makino*) was discovered in this range in 1887, and at the moment has become a rare flower in Japan.

The area surrounding the Center is a real nature park as this mountainous site has been designated as Suzuka Quasi National Park. The Park offers many activities including spa baths, hiking, skiing and rock climbing throughout the year.

The Natural Museum, which opened in 1980, offers helpful exhibitions for the visitors right next door to the Alpine Zoo. It provides tours and educational activities to visitors under the direction of Museum staff. Open year-round, the Museum was enlarged and renovated in 1994 and features a fine lecture room.

In its brief history, the Serow Center has several worthy accomplishments which should be noted. Its former organization had the first successful birth of a Japanese serow in captivity in August of 1965. Prior to this birth, breeding this species in captivity had proven very difficult. After promotion and recognition of this achievement, the Serow Center was formally founded in 1973. In 1986 the Center hosted the International Serow Symposium. The Center has continued to develop and carry on day-to-day studies of this species and have been fortunate to have many babies born there each year.

Future plans for the Center include not only expanding the facility's enclosures,

but also their collection. An important part of this planning calls for the preservation of the natural habitat around the Center. In pressing forward on their conservation efforts, the Center will be introducing new species, like Takin and other rare species. They also plan to promote breeding loan exchanges with other facilities in order to increase their gene pool and bring in new blood lines. We seek close cooperation with zoos worldwide to accomplish these goals for the preservation of the rare species within the serow family.

We certainly want to take the responsibility of settlement for a real breeding center of various foreign species as well as Japanese serow and other of the Asia region. At the present, we have lost some species and specimens due to old age and accidents of their pairings, etc. For example, we currently have no stock of Saiga, but we hope to be able to acquire a breeding group of this unique animal.

Our zoo is small, but we have big dreams and big challenges which we hope to meet with the expertise and technical skill of those involved in the current serow research studies.

We would like to hear from others on information about possible acquisitions or breeding exchange proposals. Aside from birds and small mammals, the collection at the Japan Serow Center includes the following species:

- Rocky Mt. goat (*Oreamnos americanus*)
- Goral (*Nemorhaedus goral*)
- Chamois (*Rupicapra rupicapra*)
- Saiga (*Saiga tatarica*)
- Formosan serow (*Capricornis swinhoei*)
- Sumatran serow (*Capricornis sumatrensis*)
- Musk Ox (*Ovibos moschatus*)
- Japanese serow (*Capricornis crispus*)

The Japan Serow Center has been a member of the Japanese Association of Zoological Gardens and Aquariums (JAZGA) since 1985. The first Japanese serow in the U.S. and Europe came from the Center. In fact, most species of serow found in other zoos, at one time lived at the Serow Center. The environment of the Japan Serow Center is characteristic of alpine flora and fauna. We try to make the best use we can of these elements in our successful conservation and breeding program for the Japanese serow.

# Legislative Update

Compiled by Georgann Johnston  
Legislative Advisor  
Sacramento, CA



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## South African Gov't Finds Rhino Poaching on Increase

The Endangered Species Protection Unit (ESPU) of the South African Police Service has issued a declaration that anti-poaching measures for rhinos should be amplified due to a serious increase in rhino poaching. Between October and December 1998, the ESPU recovered 13 rhino horns and reported additional six rhinos killed. In the same three-month period of 1997 the ESPU recovered only three horns.

Calling upon all rhino owners and game reserves to intensify their patrols, the ESPU stated in a press release that governmental financial constraints limit its ability to help with anti-poaching operations.

Source: *Wild Net Africa News* 4 January 1999

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## New Zealand Program Seeks to Boost Kaka Numbers

The Kaka (*Neotor meridionalis septentrionalis*), a parrot-like bird (not to be confused with the kakapo) found only in New Zealand, is the subject of a new captive breeding program funded by the government. Conservation Minister Nick Smith announced the new program which will occur in the Nelson Lakes National Park. A total of ten female birds were to be moved to the park to pair up with resident males. Once they lay eggs and the chicks are fledged, the offspring will be released into the wild. The population of female Kakas has plummeted in recent years and the Conservation Ministry hopes that this program will reestablish the balance of males to females in the wild.

Source: *PsittaScene*, Publication of *The World Parrot Trust* November 1998 vol. 10 no. 4

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## Bangkok Unable to Control Elephants/Mahouts in City Limits

Nearly 3000 domesticated elephants in Thailand are suffering from unemployment and have come to Bangkok in search of money. The elephants' handlers, called mahouts, have lost their jobs logging in the rain forests because most of the trees have disappeared. In violation of a ban on all elephants within the city limits, mahouts still bring their elephants into the city to earn money from tourist's photographs.

The situation is hard on the elephants that are suffering from lung disease because of air pollution and deafness because of all the traffic noise. Many elephants have been hit by cars at night due to their poor night vision.



The Thai SPCA is trying to round up the elephants and relocate them to preserves but the mohouts steal the elephants back and return them to the city. The police refuse to step in and enforce the elephant ban. "What are we supposed to do?" one of the officers asks. "We can't put the elephant in the police station."

*Source: Sacramento Bee Newspaper 13 December 1998*

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## **Update on "Tuli Elephants"**

In an earlier column, we reported that a number of young elephants taken from Botswana's Tuli Reserve had been seized by the South African NSPCA from a wildlife dealer. That seizure resulted in much debate and discussion between various animal interest groups and governmental agencies regarding the elephants' fate. Some organizations felt that the NSPCA did not have the facilities nor the experience to handle the animals and that they should be left where they were until a plan could be developed to return them to their home in Botswana. The Botswana government, however, was not interested in welcoming the elephants back, since it claimed that the country is already suffering from an elephant overpopulation problem. The African Game Commission, a private organization, asserted that it was the only entity that had a legal right to determine the elephants' fate.

By mid-December, some harmony among the various factions was reached. The Minister for Agriculture and Land Affairs of South Africa announced that seven of the elephants would be transported to zoos in Germany and Switzerland. The Minister also acknowledged that most suitable sites for relocation in South Africa already have an overabundance of elephants and, with the moratorium on culling, adding these juvenile elephants would only worsen the problem. Finally, the group of interested parties decided that transporting any of the elephants to the Far East was not appropriate at this time.

The latest news out of South Africa is that the remaining elephants are being cared for by the NSPCA. However, the NSPCA is under attack by the Rhino and Elephant Foundation (REF) which claims that the elephants are not being provided with adequate housing, food, or medical care. The matter has come before South African courts at least three times in the past two months, but the REF has not been able to make its case for transfer of the elephants to them.

Further updates on this story will appear in future columns.

*Sources: Rhino & Elephant Foundation Press Releases 4, 6, 7, and 9 December 1998, Ministry for Agriculture & Land Affairs Press Release 9 December 1998; Elephant Managers & Owners Association Press Release 7 December 1998*

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## **Britain Bans Cosmetic Testing on Animals**

Effective 16 November 1998, the testing of cosmetic products on animals has been banned in Great Britain. Proponents of the new law hope that it will be followed by other member countries of the European Union. Home Office Secretary George Horwath said the Labour government would continue to seek reduction of animal use in laboratories in other types of testing as well. Horwath also pointed out that

the Labour Party has already caused increased funding for investigation of alternatives to animal research; banned animal use in testing alcohol and tobacco products; banned the use of gorillas, orangutans, chimpanzees, and bonobos in research; and increased the Home Office laboratory inspection staff.

*Source: Animal People: News for People Who Care About Animals December 1998*

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## **Malaysia Steps Up Protection of Dwindling Animal Species**

Some of the individual states in the country of Malaysia are undertaking efforts to protect the wildlife within their borders, many using unique and creative measures to thwart poachers and the over-hunting of large species. An example is the state of Sarwak which has developed one of the largest anti-poaching forces in the world while working with a budget that is close to nothing. Over 4,500 volunteer deputy wildlife rangers, with another 1,000 in training, are patrolling the forests of the state, trying to protect a wide variety of wildlife. Additionally, the state assembly passed a law that would allow the immediate confiscation of a firearm from any person caught hunting illegally in a national park. Moreover, the hunter's permit to own any firearm would be permanently revoked.

Likewise, in the state of Terengganu, the National Parks Department has issued a regulation that states that when a hunter is discovered to have exceeded his quota for mouse deer or barking deer, or who kills a deer out of season, he will lose his hunting privileges for life.

The Malaysian government has also gotten into the act by creating the Malaysian National Animal Welfare Foundation (MNAWF) to oversee such problems as the trade in animal parts for souvenirs, for medicines, or for trophies. Animals of particular interest to zookeepers that will benefit from these measures include the barking deer (muntjac), the sloth bear (also called moon bear), the Asian wild cow, and various species of fruit bats.

Some commentators in the United States see the enforcement of these measures as an uphill battle, given the fact that the Malaysian economy is at an all-time low and the population is primarily Islamic or of Chinese descent. Representatives of the new MAWF respond to this by pointing out that education of the population will be a part of their goal and that the growing middle class is generally more informed about the importance of biodiversity than in years past.

*Source: Animal People: News for People Who Care About Animals December 1998*

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## **Monarch's Winter Kingdom Shrinking**

Reuters 12/2 reported illegal logging in the wintering sites of the monarch butterfly threatens to disrupt the species' migration patterns. Each year millions of butterflies fly into Mexico seeking warmer temperatures in the forest reserves of Michoacan. The amount of forested land has been reduced from 50% to 25% in some areas due to logging and fires. Nobel laureate Octavio Paz and leading Mexican intellectuals called on the government to end the illegal logging.

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## Refugees Plunder Turtle Eggs

A recent story in the Christian Science Monitor reported 80 percent of Southeast Asia's green turtle population is being threatened by refugees fleeing into the Philippine islands. The refugees can legally collect the eggs, but the recent influx of refugees has led to 70 percent of the eggs being collected for sale as delicacies in neighboring Malaysia. Egg production in the area has dropped almost 90 percent since the 1950s.

*Source: GREENlines #772 Dec. 9, 1998*

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## U. S. Proposes to List The Koala as Threatened

The U.S. Fish and Wildlife Service is proposing to classify the koala, a bearlike tree-dwelling mammal indigenous to Australia, as threatened under the U.S. Endangered Species Act. Citing habitat destruction as the primary threat to the survival of koalas in the wild, the Service is seeking additional information and invites public comment on the proposal, which was based on a petition submitted by Australian and U.S. conservation groups.

Listing a foreign animal or plant under the Endangered Species Act raises public awareness of the species' plight and of the need for conservation measures. The proposed listing of the koala, if made final, would prohibit U.S. importation, exportation, and interstate or foreign commerce by anyone subject to U.S. law except under permits issued in advance by the Service. Such permits would be issued only for purposes that would contribute to the conservation of the species. In addition, the United States would assist in conservation programs for koalas.

Beloved worldwide because of its cuddly appearance, the koala was first put at risk due to intensive market hunting for its fur up through the 1920s. By the 1930s, in response to global protests, Australia took steps to stem direct killing. Conservation programs by Australian government agencies contributed to the species' recovery in some areas, with populations estimated to range from 40,000 to 400,000. Today, however, human encroachment and ensuing changes in the koala's habitat are responsible for population decline.

Nearly two-thirds of the koala's eucalyptus forest and woodland ecosystem has already been lost, with the rest rapidly disappearing due to logging, agriculture, and urbanization. In addition, the koala is threatened by widespread fires, domestic dogs, and disease.

In a May 1994 petition to the Service, Australians for Animals and the U.S. Fund for Animals requested listing of the koala. Since that time, the Service has been gathering information and has now found the proposed listing to be warranted. If this proposed listing is made final, the koala would join the African elephant and the southern African leopard as foreign species listed as threatened under the U.S. Endangered Species Act.

*Source: USFWS News Release, Dept. of the Interior 10/98*

# Successful Rearing of a 10 1/2 Week Old Orphaned Giraffe (*Giraffa camelopardalis*) Calf at Brookfield Zoo

By Roger Reason, Senior Keeper  
Brookfield Zoo, Brookfield IL

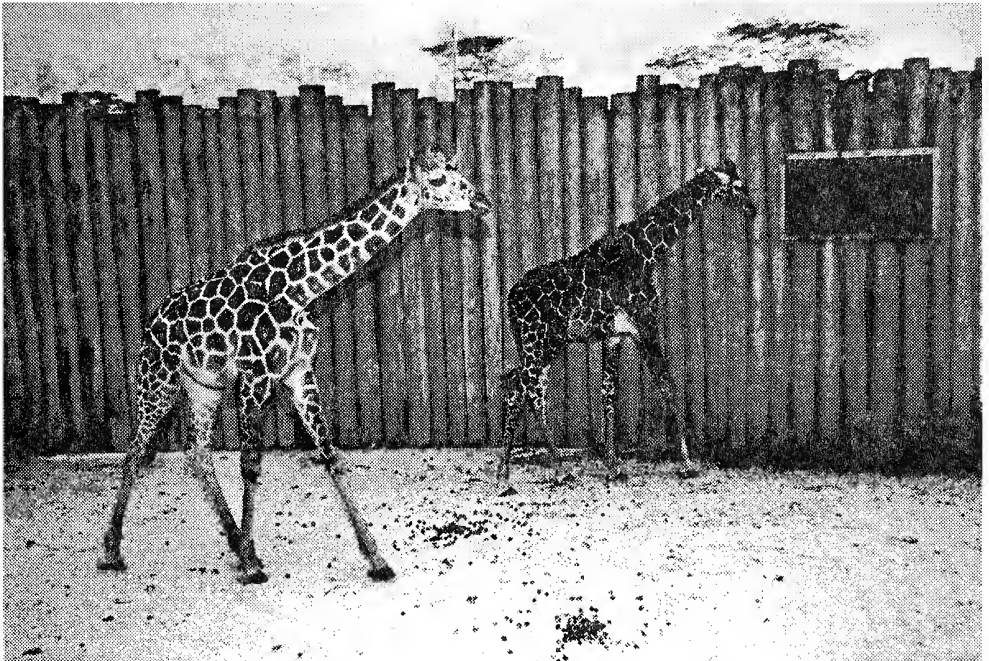
Accounts from numerous zoos have established the feasibility of hand-rearing neonate giraffe (*Giraffa camelopardalis*) calves which have been rejected by the mother or not allowed to nurse (Zellmer 1960; Savoy 1966; Clevenger 1980; Burgess and Blyde 1991; Givhan no date; Schmitt and Solder no date). However, these have all been very young animals (less than one week old), and the situation becomes more difficult with older, orphaned calves which will not readily accept a bottle. Brookfield Zoo recently successfully raised an individual whose mother died when it was 10 1/2 weeks old and a literature search indicates that this is the youngest surviving giraffe calf on record which was not hand-reared.

The mother in this case was a 24-year-old animal with seven previous calves to her credit. Her pregnancy and delivery on 16 July 1997 were unremarkable, but three days after giving birth she developed an edema between the mandibles which proved to be an *Actinomyces* infection, commonly known as lumpy jaw. On 30 September she succumbed to complications involved with treating this condition leaving her 10 1/2 week old calf orphaned. Despite the illness of its mother the male calf was strong and healthy and appeared to be developing normally. Prior to her death the pair had been housed with two adult females and an adult male when on exhibit and after her death the calf remained with these animals. Initially he showed some signs of distress including pacing and vocalizing, but these subsided within 2-3 weeks. Unfortunately, as might be expected, he showed no interest in taking formula from a bottle or drinking it from a container, so providing adequate nutrition in a different form was the next concern.

The calf had been observed ingesting solid food items as early as six days of age and ate hay regularly, so a diet consisting totally of solid food seemed to be a reasonable option. He was given a choice of various pelleted feeds and produce items to determine any favorites and stimulate his appetite while still maintaining a good nutritional balance. The preferred pelleted feed was rationed at 3 1/2 - 4 pounds/day but he never finished even close to this amount so he had in effect free choice. The preferred produce (a mixture of shredded apples, carrots and sweet potatoes) was rationed at one pound/day. He had as much access to the pelleted feed and produce as was feasible so he could eat at his own pace. In order to prevent the adult giraffes from consuming these more desirable food items they were provided in a creeped stall with the door open only wide enough to allow the calf to enter. He also had access to alfalfa hay and trace mineral

salt block free choice along with the other giraffes. These procedures were continued until the calf was about 10 months old at which time he was sent to another zoo. While we had no actual numbers for weight and height, the consensus of opinion among zoo staff was that he was marginally undersized for his age.

The day after the calf's mother died a third female gave birth to another male calf and these two were introduced to the rest of the group when the second calf was six weeks old. The two calves appeared to bond closely and the presence of the second calf may have helped the orphaned calf through this difficult period.



Orphaned calf at approximately eight months of age. Younger calf can be seen in the background. (Photo by Jim Schulz ©Chicago Zoological Society Audiovisual Services)

Our experiences with this animal indicated the general applicability and value of the following techniques when dealing with orphaned giraffe calves which are too old to take formula from a bottle:

- 1) Provide a variety of food items for selection, any combination of which will be nutritionally acceptable.
- 2) Provide as much time access to the preferred food items as possible or necessary.
- 3) Eliminate competition from other animals for those food items.

This case, along with a similar one at the Calgary Zoo involving a 14 1/2 week old orphaned calf (Keith 1994) demonstrate the viability and hardiness of young

giraffe calves under difficult circumstances and the practicality of raising them without bottle feeding when this is necessary.

Acknowledgments: Thanks are due to all members of the Hoofstock Department and Zoo Nutrition Services who participated in this project and to Nancy Bent, Ann Petric and Nancy Saunders who provided comments on an earlier version of the manuscript.

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SCIENCE UNDER SIEGE: A new book by Todd Wilkinson studies eight government scientists and the suppression brought down on them by government agencies. The book, *Science Under Siege: The Politician's War on Nature and Truth* is destined to have a profound impact on the way federal agencies manage wildlife and wildlands. From Dave Mattson's challenge to the federal government's desire to remove the Yellowstone grizzly from ESA protection to Ron Kerbo's fight to create a system of protected cave wilderness areas, Wilkinson's book shows courage under fire that should be an inspiration to all. Every conservationist should read this book, published by Johnson Books (303) 443-9766.

---GREENlines Issue #741 10/28/9

# Chapter News Notes

## South Florida AAZK

Greetings from Sunny South Florida! Nineteen-ninety-eight was a successful year for our Chapter. In May we had a joint camp-out with the Central Florida Chapter at Lion Country Safari in West Palm Beach, FL. The next day an extensive behind-the-scenes tour was given to all who attended. Thank you, Lion Country Safari.

In August we organized the most successful Bowling for Rhinos event in our Chapter's history, raising over \$4,000.00.

Our final fundraiser for the year was our 18th Annual Keeper Banquet, Raffle & Auction. Congratulations to this year's winners:

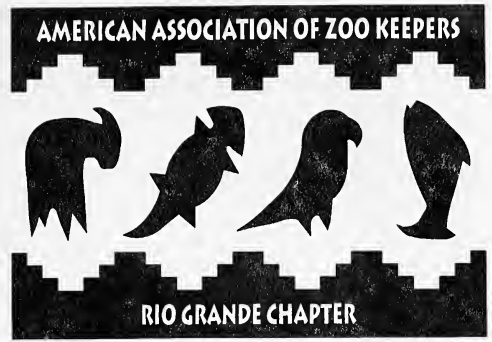
"Keeper of the Year" -  
Chico Vasquez  
The "Barty" Most Congenial Keeper  
- Jacky Shaw  
The "Broken Wheelbarrow"  
- Linda Cunningham

Our officers for 1999 are:

President.....David Hill  
Vice President.....Michelle Klumb  
Secretary.....Kresimir Golenja  
Treasurer.....Susan Kong  
Chapter Liaison.....Patty Leon  
Singer

We look forward to 1999 and new programs and projects. Happy New Year to all!

—South Florida AAZK



## Rio Grande AAZK Chapter

Congratulations to our 1999 Rio Grande officers:

President..... Stacey Sekscienski  
Vice President.....Grechen Hauer  
Treasurer.....Vicki Lenderman  
Secretary.....Catalina Parker  
Liaison.....Shelly Lindsay

Greetings from New Mexico! We've had a busy and successful 1998. Along with a successful second annual Bowling for Rhinos, we had our first Swing Dance fundraiser. It was an all-ages event which got younger people involved. We had an informational booth set up at the dance. We had many fundraisers including rummage sales and flower sales.

Additionally, we had fundraising help from a regional health food chain through its wooden Nickel program. Once accepted by the store into the program, a box with information about our Chapter along with two other non-profits was displayed in the store for three months. Every shopper who brings his/her own bags can either choose three cents per bag off the bill or donate a wooden nickel for every bag. The shopper then places the wooden nickel in the non-profit box of his/her choice. Then the store

donates five cents for every wooden nickel to that non-profit. We hope to continue this program on a yearly basis.

In the year ahead we will begin an outreach program using the CES Biodiversity package. We are committed to getting our local children involved in conservation. We are looking forward to the Conference in Portland and hope to have many of our members there.

—*Stacey Sekscienski,*  
*Chapter Liaison*

### **Sacramento Zoo AAZK Chapter**

Our nine-member Chapter is proud to report a very active and successful first year. Funds were raised through the sales of T-shirts, Endangered Species candy bars, "Day With A Keeper" drawings, a honor-system snack box, and donations. This enabled us to establish a fund for reimbursing members' conference expenses, sponsor a public informational "Career Night", host a "Bowling for Rhinos" event (which raised \$1,856.00), purchase a keeper rain gear rack, , and make donations to the Sacramento Zoological Society and AAZK, Inc.

Chapter projects included helping to renovate an otter exhibit; cleaning up and planting an unsightly, overgrown former bird exhibit; providing an educational craft table on bats during the Halloween season; and helping to remove fire damage from a barn at the Nature Conservancy's Cosumnes River Preserve.

We are looking forward to our second year as an AAZK Chapter and already planning for our next Bowling for Rhinos event.

—*Sacramento Zoo AAZK Chapter*



### **Burnet Park Zoo AAZK Chapter**

Newly elected officers for this Chapter, located in Syracuse, NY are:

President.....Chanda Lindsay  
Vice President.....Sara Rounseville  
Treasurer.....Peg Louer  
Liaison.....Bernie Feldman

## **Attention Chapters !**

*Editor's Note: Due to other AAZK commitments, the Chapter Logo Registry is behind schedule on getting finished. Therefore, if you have not sent in your updated logo information, please do so now. Include a clean copy of logo, date adopted and artist / designer name and any particular significance of design used. We will try and have the Registry out by Spring 1999 and a copy will be sent to all current AAZK Chapters.*



# Kentucky Zoo Agrees to House Confiscated Cobras - Assistance Sought



A few days before Christmas, Jim Harrison, Director of the Kentucky Reptile Zoo, received an e-mail from Dan Badgley of the Columbus Zoo. Dan had received word that about 260 Asian cobras (*Naja kaouthis*) had been confiscated in Singapore. The snakes were on their way to Canada and Hong Kong where they would have been killed and eaten as a delicacy. However, the Singapore authorities were unable to properly care for the snakes and they needed a place to go. Presently they are being kept in snake bags and offered water daily, but this is hardly a way to maintain them. After some debate, Jim decided that the Kentucky Reptile Zoo would take the snakes. The zoo is a nonprofit organization (tax ID #61-1237279) that has an exhibit open to the public and also houses one of the few venom extraction labs in the country. Venom from many species of venomous snakes, including *N. kaouthis*, is being used in medical research worldwide. These venoms are being used in research on AIDS, Parkinson's disease, high blood pressure, cancer and strokes. The zoo supplies these venoms to various researchers.

The Kentucky Reptile Zoo is in need of help to house and care for these snakes and is therefore reaching out to the zoo and herp community. Used cages or other supplies would be most welcome donations to assist with this project. If you would like more information or want to know how you may offer assistance, contact the Kentucky Reptile Zoo, 1275 Natural Bridge Rd., Slade, KY 40376; phone - (606) 663-0907; fax - (606) 663-6917; e-mail - kyreptil@pop.mis.net.

--submitted by Kristen Wiley, Kentucky Reptile Zoo

## MOVING ?

Postage costs for mailing *AKF* are continuing to rise and we anticipate a 5-9% increase in this expense over the next year. Each time we receive an *AKF* back from the Post Office due to an **unreported** change-of-address, it costs the Association **78 cents**. Help keep this cost down by reporting your change-of-address as soon as you know it. Turning in a change-of-address card to the Post Office **does not** guarantee that the address change will be sent to our office. *AKF* is sent bulk-mail rate and is **not** automatically forwarded, so you may miss issues if you do not advise AO of address changes. These missed issues will not be sent gratis anymore, but may be purchased for the regular \$3.00 per issue price.

To report a change of address, call 1-800-242-4519 (U.S.) or 1-800- 468-1966 (Canada); or fax (785) 273-1980.



*By Kayla Grams, Arizona-Sonora Desert Museum  
and Gretchen Ziegler, Sequoia Park Zoo*

### **CARNIVORES:** Enrichment Bucket

Our snow leopards (*Panthera uncia*) show an interest in spices, animal hair, and small food items on exhibit or in holding but only for a short period of time. Once these items are investigated they no longer show interest in these items and become inactive, as if bored.

Once the exhibit is cleaned and the snow leopards are on exhibit, we use a five-gallon bucket to pour water into their exhibit through the fencing. They show a lot of curiosity in the presence of this bucket and so I came up with this enrichment idea.

**Construction:** Take an empty five-gallon bucket and remove the handle. Be sure to remove any labels from the exterior so they are not consumed. Drill numerous amounts of 1/2 inch holes on every surface of the bucket. This container can be used to hold a variety of items that might stimulate the senses of the animal such as spices, animal hair, or food items. The spices that our snow leopards show the most interest in are allspice, nutmeg, and cinnamon. The animals are able to smell the items inside the bucket but are only able to interact with the bucket. As the bucket is moved the chance that some of its contents might fall out increases. By changing the contents of the bucket it is constantly a source of enrichment.

**Response:** Once put to the test with our snow leopards, this item proved to be a lot of fun for them that lasts throughout the day. This extended enrichment reduces the amount of pacing seen during the day, prolonged inactivity, or any neurotic behaviors.

**Precautions:** Before placing this item in with your animal of choice, be sure to evaluate the animal's ability to destroy the bucket and possibly consume the plastic. Also you may want to vary the size of the bucket depending on the size of your animal species.

*---Ryan Philip, Zookeeper  
Binder Park Zoo, Battle Creek, MI*



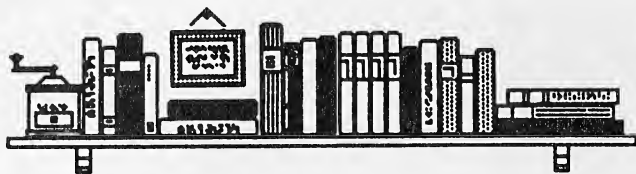
*Photos provided  
by the author*



*(Ideas appearing in this column have not necessarily been tested by the editors for safety considerations. Always think ahead and use good judgement when trying new ideas. Eds.)*

*You are invited to submit material for the Enrichment Options Column. This might include recipes, toys, puzzle feeders, olfactory enrichment ideas, etc. Drawings and photos of enrichments are encouraged. Send to: AKF/Enrichment Options, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.*

**Visit the new AAZK Enrichment Website - [www.enrich.org/aazk](http://www.enrich.org/aazk) or  
join the Enrichment Listserve by emailing - [jackbell@humboldt1.com](mailto:jackbell@humboldt1.com)**



# Book Review

## The Arctic Wolf

By L. David Mech

Voyageur Press, 1997

123 North Second St., Stillwater, MN 55082-5002

144 pgs., hardcover price: \$35.00

*Review by Nell Bekiaries  
Graduate Student  
Southern Illinois, University  
Carbondale, IL*

Like Mowat's *Never Cry Wolf*, Mech's book details his many years of study of wolves of the high arctic. The introductory pages are written by Mech's colleagues in support of his work, first as a graduate student and later as a scientist with *National Geographic* support. Many short chapters form the bulk of the book. The book closes with an epilogue, sources of further information, and an index.

In the introductions and forwards, we learn about Mech's background. Early on, his interest in wolves was heightened by his involvement in a study of the moose and wolf relationship on Isle Royale, although the book did not cover data from those years. Mech appears to be very highly regarded by his colleagues.

Perhaps the single most important thing about the book is not highly scientific data, for the book does not contain that, but a collection of anecdotal stories told by a man who loves his job. The book is a celebration of Mech's work to date.

Mech's first chapter is entitled "Lifetime Dream". That sentiment is carried through the following chapters and it is obvious that Mech is a man who is very passionate about his work.

The book becomes truly engaging once you begin reading about his first summer in the high arctic. Mech is a very talented writer who has the ability to make the reader experience through the medium of words what he has experienced through his senses. Consider the following passage as an example: "It was mid-April 1986, but the photographer and I quickly left spring behind in Montreal. Below us, the dark boreal forest blended increasingly with whiteness...great portions of the Arctic Ocean stretched out on each side. Long rents in the ice exposed the coldest blue water I had ever seen (3)."

Mech's progress in achieving acceptance by the wolves was exceedingly fast. This might have been due to the fact that the wolves had little experience with humans and had not learned to fear them. I think it is important to keep this in mind as you view the photographs and read descriptions written from only a few meters away. Because Mech was not regarded as a threat, much of his work is valuable in that it was recorded from practically within the pack.

"White Wolves of the Ice" is a chapter that falls out of place. It contains some background information about the climate, geography, and life of the high arctic and should have been placed earlier in the book.

There is a family tree on page 71 that was fun to flip back to as I continued reading. The relationships between members of the pack changed over the decade in which they were studied.

Although this book was not highly scientific, I enjoyed it immensely and found it to be well worth my time. The quality and volume of photographs (1 or 2 per page) was outstanding. Keepers might find this book of value in the detailed descriptions of pack composition, denning behavior, and hunting behavior. This would be a nice addition to a zoo or personal library, and is well worth the price.

### **Cats of Africa**

By Paul Bosman and Anthony Hall-Martin

Smithsonian Institution Press, 1997

470 L'Enfant Plaza, Suite 7100

Washington, DC 20560

152 pgs., hardcover price: \$45.00

*Review by Pamela Colburn  
Area Supervisor*

*Cheyenne Mountain Zoo  
Colorado Springs, CO*

Cats of Africa is an artistic and scientific look into the habits and habitats of the felids of the African continent. The knowledge and experience of Dr. Anthony Hall-Martin is complimented by the beautiful artwork of Paul Bosman. This combination has produced a well-developed book of reference as well as a nice piece of art.

Paul Bosman's paintings depict the cats and their prey up close in familiar postures as well as in grand landscape settings. His black and white drawings give the reader a feel for the animal's natural movements: stretching, drinking, stalking, chasing and capturing their prey.

Dr. Anthony Hall-Martin includes descriptions of the cats along with other inhabitants of the African ecosystems. While narrating an account of their daily life, he succeeds in representing the need for conservation and how that might be accomplished.

The book begins with an interesting forward describing the course of events that brought about this book. The introduction follows, providing the reader with some background into the diversity of African ecosystems and an overview of the animals that are found there. The chapters that follow portray the lives of the well-known African cats - the lion, leopard and cheetah. In the ensuing chapters the reader is introduced to eight less well known felids - the caracal, serval, black-footed cat, African wild cat, swamp cat, sand cat and African golden cat.

Following the chapters portraying the felids is a summary of biological data. Included in this section are distribution maps with summaries of habitat, size, diet, reproduction, behavior and conservation status of the respective species. This section is useful as a quick reference guide to the basic biology of cats.

The final section includes a glossary of terms, a list of acronyms used in the text and a directory of related international organizations. In addition to the conservation information presented throughout the book, this final section provides the reader with an opportunity to participate in the conservation of these species as well as their habitats.

# *An Amazing Rescue of a Matschie's Tree Kangaroo Joey*

*By Roz Sealy; Relief Keeper*

*Woodland Park Zoological Gardens, Seattle, WA*

On the 12 June, 1998, when I entered the exhibit for my final check of Jirrah, our adult, female, Matschie's tree kangaroo (*Dendrolagus matschiei*) I observed Jirrah in the birthing process. She is seven years old and this would be her third joey. She has successfully raised both previous joeys. She was due to give birth the following day which would have been day 45 of the gestation period. The mean gestation period for the Matschie's tree kangaroo, established at the National Zoological Parks' Conservation and Research Center (CRC), is  $44 + 1.1$  days. (Heath, et. al. 1990)

Jirrah was on the ground; the exhibit substrate consists of loose gravel about six inches deep. She was in a semi-curved position with her tail curved under a small log, that was approximately five feet long and three inches in diameter. Her feet were positioned on the log and she was pushing with her feet and pulling the log close to her body with her tail. She was breathing rapidly between contractions and during the contractions she would open her mouth wide but no sound could be heard.

Within a minute, I observed a small, pink, wiggling joey moving up towards the opening of the pouch. Jirrah remained in the curled position periodically licking her cloaca and pouch area near the joey. I left the exhibit and continued to observe with binoculars through the viewing window.

The actual birthing process usually last two to five minutes, (Tree Kangaroo Husbandry Notebook - Steenberg / Smith, 1990). I was beginning to be concerned because 20-30 minutes had passed before she moved from the original position. She continued to tuck in an almost somersault position and lick her cloaca, but she seemed to be looking around on the ground. In fact, the joey was on the ground near her original position.

I immediately called for help. After consulting with the primary keeper, it was decided to try to put the joey back into the pouch. Dr. Janis Joslin, our Senior Veterinarian, advised me to pick up the joey and keep it warm and dry. The joey's survival depended on it not becoming hypothermic. The joey was carefully retrieved and placed it in a small cloth bag and held close to my body.

It took about 30 minutes for the assisting staff to assemble at the unit. Jirrah was captured and restrained on her back and pouch checked. We first checked for other joeys and then carefully placed the neonate joey inside. The joey was strong and active. It was agreed not to pry the joey's mouth open to attach it to the teat, but to let it attach on its own. At this point, the joey had been away from Jirrah about one hour.

We closed the pouch and waited about a minute or so, then peeked inside to see if the joey was nursing. It was not, though it was, still very active. We returned Jirrah and her joey back in her exhibit.

Dr. Joslin had advised us that the joey sometimes did not find the teat immediately, as well as the fact that if Jirrah was going to reject the joey, we should expect she would do it almost instantly. We did not observe her rejecting her joey. Instead, she promptly climbed her favorite tree and rested. She seemed exhausted, some nasal discharge was observed but she remained still. We observed her for the next

hour or so. By the following morning, Jirrah was considerably calmer and she came down for her morning treats. We observed pouch cleaning during the day.

The following months were filled with anticipation; did she still have the joey or not? Jirrah continued to pouch clean regularly for the first month or so, then not so frequently. It was thought she might have lost the joey. The Matschie's tree kangaroo estrus cycle has been documented at 55-56 days, (Dabek.1994) so we would know, in about 55 days from when she gave birth, if she cycled again. Tree kangaroos' estrus cycle can be very difficult to observe. We just keep an eye on our male to see when and if he is becoming aggressive toward keepers, as an indicator of Jirrah's cycle. The male had been removed from Jirrah's exhibit prior to her giving birth. In this case, he did not become aggression, which was a good sign.

At 14 weeks, I noticed movement coming from the pouch and the pouch seemed a little fuller than it had been. At 22 weeks, the joey had poked out its nose and other body parts. The joey continues to be strong and active. Now at 26 weeks, the joey's head is out a good part of the day. The joey's eyes are open and is starting to smell food and browse, which the dam is eating. According to the developmental milestones reported by Dabek, 1988, the joey is right on schedule.

I wanted to share this information in order to alert others in the hopes that, if this situation happens again here or elsewhere, the keepers involved will know amazing rescues can happen if you act quickly.

The success of this rescue was due to the accurate records at this unit, good communication between relief and primary keeper, prompt response to the pager call from our vet and the dedication and assistance from my senior keeper and the keeper staff responding to my call for help.

## References

- Dabek, L., 1994. Reproductive Biology and Behavior of Captive Female Matschie's Tree Kangaroos, *Dendrolagus matschiei*. ARAZPA/ASZK Conference Proceedings, p. 196-208.
- Dabek, L., Mother-Young Relations and Behavioral Development of the Young in Captive Matschie's Tree Kangaroos, *Dendrolagus matschiei*. Animal Behavior Programs, University of Washington, Seattle, WA.
- Heath, Angelica, Benner, Kathryn S., and Jones, John Watson, 1990. A Case study of Tree Kangaroo Husbandry at CRC. NZP Conservation and Research Center, Front Royal, VA
- Steenberg, J., 1987. The Management of Matschie's Tree Kangaroo, *Dendrolagus matschiei*, at the Woodland Park Zoo. Unpublished report. Woodland Park Zoological Gardens, Seattle, WA.
- Steenberg, J. and Smith, Russell, 1990. Tree Kangaroo Husbandry Notebook.

If you have assisted or you know of anyone who has assisted with marsupial births could you let me know? I am aware there have been a few instances. I would like to learn more about how others proceeded in their assistance. Please send any information to:

Roz Sealy, Australasia relief keeper  
Woodland Park Zoo  
5500 Phinney Ave, N., Seattle, WA 98103  
(206) 684-4809  
email add: roz.sealy@zoo.org

*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the **10th of each month** to: Opportunity Knocks / AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Please include closing date for positions available and when setting these dates keep in mind that because of bulk-mail, most readers do not receive the AKF until the middle of the month or later. There is no charge for this service and fax listings of positions which become available close to deadline are accepted. Our fax is (785) 273-1980.*

**ZOOKEEPER/CARETAKER**...Primarily Primates, Inc., a non-profit animal sanctuary is accepting applications for Caregiver/Zookeeper. References and minimum two (2) years experience at an AZA-accredited zoo are required. A unique opportunity to work with a wide variety of primate species in a sanctuary setting. History of direct care with Callithichids or chimpanzees a plus. Good communication skills essential. Position ideal for independent, self-motivated mature individual. Position is outside in all weather with low pay and a sometimes difficult boss. Fax resumé to attn: William W. Swett, Primarily Primates, Inc. (830) 755-2435. **Position open until filled.**

**BIRD AND MAMMAL KEPER/SHOW STAFF**...public speaking experience, energetic attitude, good communication skills, and ability to work in a team environment in zoo setting. Animal training experience preferred. This position involved the daily care and training of birds and mammals and performance of public presentations. Mail or Fax resumé to: Bill Puckett, Director, St. Augustine alligator Farm, P. O. Box 9005, St. Augustine, FL 32085. Fax (904) 829-6677.

**The following two (2) positions are available at the Memphis Zoo, 2000 Galloway, Memphis, TN 38112. For either position send cover letter, resumé and three (3) references to Human Resources at the address above. No phone calls or e-mail accepted. EOE.**

**FARM MANAGER/MEMPHIS ZOO**...responsible for the daily functioning of the "Once Upon a Farm" area, including animal care with a focus on rare breeds, and continued development, design and implementation of farm exhibits and educational farm programs, including animals, crafts, and various farm products to encourage visitor interest and participation. Requires bachelor's degree in zoology, biology, education or related field plus three (3) years of experience working with animals, one (1) year of supervisory experience with either paid or volunteer staff, and one (1) year of experience in a nature center, zoo, natural history museum or other institution developing and presenting programs. Prefer some experience or knowledge of farm life and animal care.

**INTERPRETER/Part-time/Memphis Zoo**...requires one (1) year of experience handling a variety of animals, good communication skills, and a flexible schedule. Will assist in the care of the Education Department animal collection and development and presentation of outreach programs. High school graduate or the equivalent required. College courses in biology, zoology or a related field preferred. Must possess a valid drivers license and clean driving record. This position is grant-funded and ineligible for benefits.

**EDUCATOR/TRAINER**...part time/full time available. Must have zookeeping and/or training experience. Must have excellent public speaking skills. Responsible for daily care, training, maintenance of diverse species including small carnivores, primates, macropods, reptiles and procyonids. Applicant also responsible for



presenting entertaining educational programs to the public. Looking for flexible, self-motivator to work mainly with children in a small, relaxed zoo setting. Must have valid drivers license, clean driving record and good referrals. Salary \$7.00 to \$8.00/hr plus commissions/bonuses. Please send resumé to: Wild Wonders Productions, P. O. Box 2771, Carlsbad, CA 92008.

**AQUARIST/WATER QUALITY CONTROL TECHNICIAN**...this is a full-time position (40hrs/wk with benefits). Position subject to the successful completion of a 90-day probationary period and the deduction of union dues. The ideal candidate will have demonstrated knowledge of fish, their diseases and treatment; knowledge of sophisticated filtration equipment and general maintenance trouble shooting experience. Principle responsibilities include, but are not limited to: the care and feeding of animals; the cleaning and maintenance of exhibits in the Manatee Springs Exhibit; communications with the veterinarian regarding animal health and status and other aquatic systems throughout the park. Requires expertise in exhibitry of marine mammals, fish, birds, reptiles, amphibians and invertebrates. Also design and operation of filtration and sterilization systems. Send resumé **by 28 February 1999** to: Human Resources, Cincinnati Zoo & Botanical Garden, 3400 Vine St., Cincinnati, OH 45220 or fax resumé to (513) 559-7776.

**ZOO KEEPER - WORLD FAMOUS TOPEKA ZOO**...seeking qualified applicants for Zoo Keeper positions. The position is responsible for providing care to zoo animals in the zoological park. Duties include preparing diets, observing and correcting animal behavior, providing assistance in administering veterinary care and maintaining area facilities and equipment. Cleans cages, holding pens and other confinement areas, makes repairs as necessary. Prepares special project reports, researches and gathers information for these projects and reports information to management. This position will work first shift, rotating days, primarily 8:00 a.m. - 5:00 p.m., hours subject to change during spring/summer months, dependent upon established zoo operating hours. Includes weekend and holiday work. Requirements: Associate degree in zoo keeping or an Associate degree in biology, zoology, or closely related field plus one (1) year of experience caring for animals in a zoological park setting. Starting salary is \$9.33 per hour, plus 45 cent per hour shift differential. **Applications accepted until positions are filled.** Send resumé to: Personnel Dept., City of Topeka, 215 SE 7th St., Rm 170, Topeka, KS 66603. Resumé may be faxed to (785) 368-3605.

**The following two (2) positions are available at the Austin Zoo in Texas. Salary is \$8.00/hr, plus benefits. For either position send resumé/letter of interest to: Austin Zoo, Director, P. O. Box 91808, Austin, TX 78709; Fax (512) 288-3972; Email - Austinzu@aol.com. Also looking for a Keeper Supervisor. For this position call for more details at 1-800-291-1490, ext. 10.**

**ANIMAL COMMISSARY WORKER**...entry level, full-time position that involves limited animal contact. Duties and responsibilities will revolve around meal preparation, kitchen maintenance and inventory control. Hours: 7:00-3:30 or 7:30-4:00 M-F. full-time may require overtime and work on weekends and holidays. Duties include keeping kitchen clean and in a well-ordered state which will involve sweeping, mopping, washing dishes, etc. Will require preparing diets and research for zoo animal (birds, reptiles, mammals) diets. Will order food & produce, chop and prepare diets, fix hot food as needed, and have plates available for keeper staff to distribute. Will stock feed, keep records and participate in some animal enrichment.

**ANIMAL KEEPER**...requires high school diploma or equivalent, Associate or Bachelor's degree in animal-related studies preferred. Should have one (1) year experience working in a zoo setting. Responsibilities include all aspects of daily animal care/maintenance. Public interaction is a component of this position. Daily duties include cleaning, feeding, watering, observing, animal management training and enrichment, record keeping, and maintaining exhibits. Prefer experience with primates, carnivores, hoofstock, reptiles and birds. Ability to work as part of a team and independently. Will assist veterinarians, volunteers and interns with tasks as required. Must be able to lift feed sacks and hay bales; work weekends, holidays and overtime.

**AVIARY MANAGER**...**immediate opening** -full-time, live-on position at Red Tail Express, Inc. in Dunnellon, FL. Position includes apartment and health insurance. Must have strong references. Fax resumé to (352) 465-4333.

**SENIOR KEEPER/HERPETOLOGY**...requires Associate's degree in the field of the natural sciences, two (2) years experience in the care of a variety of reptiles and amphibians. This is a supervisory position. Salary \$27,580.00. Send letter/resumé to: Stan Mays, Herpetology Curator, Houston Zoological Gardens, 1513 N. MacGregor, Houston, TX 77030 or e-mail smays@juno.com.

**VETERINARY TECHNICIAN**...requires veterinary technician certification and ability to obtain a Georgia license within a six-month probationary period. Zoo animal or wildlife experience a plus. Must be independent, self-motivated, and willing to set up and maintain a veterinary clinic. Responsibilities include daily medical treatments, record keeping, laboratory procedures, hospital keeper duties, and assisting and coordinating medical procedures with the veterinarian. Position is located at the zoo's Wildlife Preserve at Stone Mountain Park. Salary commensurate with experience, plus excellent benefits. Send letter/resumé/references/proof of ability to obtain Georgia license to: Gail Allen, Human Resources Dept., Zoo Atlanta, 800 Cherokee Ave. SE, Atlanta, GA 30315, Fax (404) 627-7514. EOE.

**SENIOR KEEPER**...requires five (5) years experience in the husbandry of various African plains species such as giraffe, zebra, warthog, hyena, cheetah and jackals. We are creating a multi-species African exhibit which will require special knowledge of these animals. The right person will have major input in the design, development, and maintenance of this area. Other responsibilities include the husbandry of animals such as bears, wolves, reptiles and birds. Prior experience in this area is helpful. Wages are dependent upon experience. Send resumé to: Dean Harrison, Out of Africa Park, P. O. Box 17928, Fountain Hills, AZ 85269. Phone (602) 837-6683; Fax (602) 837-7379.

**The following three (3) positions are open at the Chaffee Zoological Gardens. Applications may be obtained from City of Fresno Human Resources, 2600 Fresno St., Fresno, CA 93721; phone (559) 498-1575. Filing deadline is 5:00 p.m., 8 March 1999. Postmarks are not accepted. EOE.**

**ANIMAL CURATOR**...requires Bachelor's Degree in Zoology, Biology, Wildlife Management or related and five (5) years of paid experience in the care of birds, reptiles, amphibians and invertebrates at an AZA-accredited facility. Added experience may be substituted for up to two (2) years of the education. Salary range: \$3,143.00 to \$3,825.00 per month.

**SENIOR ZOO KEEPER**...requires 30 units of Animal Science, Zoology, Biology, Wildlife Management or related and two (2) years of journey level paid experience in the care, handling and feeding of animals in a zoo setting. Added experience may be substituted, a year for 15 units. Salary range: \$2,171.00 to \$2,641.00 per month.

**ZOO KEEPER**...requires one (1) year of experience in the care, handling and feeding of animals in a zoo setting. 12 units in Animal Science, Zoology, Biology, Wildlife Management or related may be substituted, a year for six (6) months of experience.

**The following two (2) positions are available at The Dayton Museum of Discovery, Dayton, OH. The Dayton Museum of Discovery is an AZA related organization that currently maintains a diverse collection of over 100 animals. The Museum is expanding its animal collection and exhibits. To apply send cover letter, resumé and the names of three (3) references to: Liz Cerny, Curator of Live Animals, Dayton Museum of Discovery, 2600 DeWeese Parkway, Dayton, OH 45414. Fax (937) 275-5811. Please specify which position you are applying for in all correspondence.**

**ANIMAL KEEPER (Wild Ohio)**...animal keepers are responsible for the daily care of the collection including cleaning, feeding, grooming, health management, record keeping and enrichment. Additional responsibilities include supervision and encouragement of volunteer and part-time keepers, exhibit maintenance, and presentation of education programs utilizing live animals. Applicants must have experience with animal care at a zoo or similar institution and be capable of performing basic animal care activities. The ability to deliver a wide variety of education programs is necessary. Basic computer skills are desired. Preference will be given to candidates with a bachelor's degree in a science-related field or equivalent experience. Salary mid-teens with benefits. **IMMEDIATE OPENING. MATERIALS MUST BE RECEIVED BY 15 FEBRUARY 1999.**

**ANIMAL KEEPER (EcoTrek)**...same requirements and responsibilities as listed above with additional experience desired in maintaining aquatic animals and exhibits. Salary mid-teens with benefits. New position begins 1 April, 1999. **MATERIALS MUST BE RECEIVED BY 1 MARCH 1999.**

**AVICULTURE INTERN**...will receive intensive, hands-on training in the care and maintenance of a large bird collection. Will experience all aspects of bird husbandry including general cleaning, handling, incubation, record keeping, public education, etc. Seeking college students or recent graduate with an interest in avian management biology. Interns will work with the aviculturists for a three-month period. This is a volunteer position with on-site housing provided. Internships available year-round. Send a letter and resumé with references to: Tracy Aviary, 589 East 1300 South, Salt Lake City, UT 84105. ATTN: Kristine McCue/Holly Seitz.

**INTERNSHIP**...the Grand Island Heritage Zoo is offering a Summer Internship in the Education Department. Prefer applicants to be juniors or seniors in an undergraduate program looking to explore non-formal educational opportunities in the sciences. The successful candidate must enjoy working with the public, able to work some weekends, be committed, hard-working and fun-loving. Bilingual skills (English/Spanish) considered a definite plus. The intern will assist with educational tours, outreach programs, children's workshops and classes, overnights, and other duties as assigned. The internship also will involve educational animal handling.

The internship is an unpaid position and housing is not provided. To apply, send a cover letter, resumé, and references postmarked no later than **2 April 1999** to: Keanna Leonard, Education Curator, Grand Island Heritage Zoo, Grand Island, NE 68801.

**INTERNSHIP (Kentucky Reptile Zoo)**...a nonprofit organization is seeking a student intern for the 1999 summer and fall seasons. The zoo is an educational exhibit, reptile breeding and venom research facility located near Kentucky's Red River Gorge and Natural Bridge State Park. The intern will assist in the captive maintenance of the zoo's reptile collection, collect admissions to the exhibit, give interpretive talks and interact with the public, assist with educational outreach programs, and perform other duties as assigned. In addition, the intern will be responsible for the completion of at least one research project related to the field of herpetology. The intern will **not be involved** in the handling of any venomous reptiles. Desirable qualifications include a willingness to handle snakes and other reptiles on a daily basis, ability to communicate effectively with people, writing skills, orientation to details, and self-motivation. Students majoring in the biological or natural sciences are preferred. Former interns have arranged for academic credit with their colleges and universities. Benefits include experience with the most extensive and diverse collection of snakes in the area, housing, and \$55/week to cover expenses. Personal transportation is recommended. Starting dates are flexible, but a minimum commitment of three months covering SUMMER (June-August) or FALL (September - November) is required. To apply send a cover letter and resumé to: Kristen Wiley, Internship Coordinator, Kentucky Reptile Zoo, 1275 Natural Bridge Road, Slade, KY 40376. Deadline for applications is: Summer - **1 March 1999**; Fall - **1 June 1999**.

**KEEPER (5 Union Positions)**...these positions will be responsible for the day to day management of animals. Requires animal husbandry knowledge. A bachelor's degree or equivalent experience in biology or a scientifically-related field from a recognized institution and/or one (1) year working in an accredited zoological facility is preferred. Experience in mixed species exhibits is highly desirable. The qualified candidate is expected to have a broad base background in mammal management; however, it is also expected that the candidate may have a special interest group of animals - primates, ungulates, carnivores, etc. There are five (5) positions available: three (3) positions are Regular with benefits, one (1) position is Regular without benefits, and one (1) position is Regular with benefits to last 12 months. Pay rate is \$14.05 per hour. Submit resumé to the San Diego Zoo Human Resources Office, Otto Center, (Attn: MAM#163002), P. O. Box 120551, San Diego, CA 92112-0511. **Deadline is 26 February 1999.**

*Check AZA Member Institution job position listings  
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Mail this application to: AAZK Administrative Offices, Topeka Zoo, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Make checks/money orders payable to AAZK, Inc. Must be in U.S. FUNDS ONLY. Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.



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# ANIMAL KEEPERS' FORUM

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**The Journal of the American  
Association of Zoo Keepers, Inc.  
March 1999**

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#### **AAZK PUBLICATIONS - CONTINUING DATA COLLECTION**

**Zoo Infant Development Project** - Jennifer Hackshaw, Lowry Park Zoo and G. Suzanne Chacon, Zoo Aves (Birds/Passerines); Jeanne Walsh, Newark Museum Mini-Zoo (Reptiles); Linelle Smith, Denver Zoo (Amphibians)

**Crisis Management Resource Notebook** - Susan Chan, AAZK; William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX; and Diana L. Guerrero, Ark Animals, Inc., Escondido, CA.





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## **About the Cover....**

*This month's cover features the Black Tree Monitor (*Varanus beccari*) drawn by Paul Kmiotek, a full-time keeper at the Queens Zoo (WCS) in New York City who also volunteers regularly at the Bronx Zoo (WCS). Sometimes considered a subspecies of the Green Tree Monitor (*V. prasinus*), the Black Tree Monitor is a relatively small, arboreal lizard (94.5 tl.). It is apparently found only on the Aru Islands off the southwest coast of New Guinea. Like all monitor lizards (including the Komodo Dragon, the largest known lizard) it is primarily carnivorous, feeding on insects, snails, and other small animals. The animal pictured was born at the Bronx Zoo in November of 1996, and was approximately seven months old at the time of the protrait. Thanks, Paul!*

## **Information for Contributors**

*Animal Keepers' Forum* publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration. Articles should be typed or hand-printed and double-spaced. Authors are encouraged to submit their manuscripts on a disk as well as in hard copy form. Acceptable formats include: for Macintosh users - Microsoft Word or Works; IBM users - Word for Windows, WordPerfect or Wordstar. All illustrations, graphs, charts and tables should be clearly marked, in final form and should fit in a page size **no greater than 5.5" x 8.5"** (14cm x 22cm). Literature used should be cited in the text (Brown, 1986) and alphabetically in the final bibliography. Avoid footnotes. Include scientific name (as per ISIS) the first time an animal name is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Glossy finish black and white photos **only are accepted**. Color slides should be converted to black and white prints (minimum size 3" x 5" [8cm x 14cm] ) before submission. Clearly marked captions should accompany photos. Please list photo credit on back of photo.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone and FAX contributions of late-breaking news or last-minute insertions are accepted as space allows. However, long articles must be sent by U.S. mail. Phone 1-800-242-4519 (US); 1-800-468-1966 (Canada); FAX (785) 273-1980.

**Deadline for each regular issue is the 10th of the preceding month.  
Dedicated issues may have separate deadline dates  
and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. Reprints of material appearing in this journal may be ordered from the editor. Back issues are available for \$3.00 each.

# ***Scoops & Scuttlebutt***



## **AAZK Historian Information Request of Chapters**

It is extremely important that AAZK have a record of the conservation work being done by its Chapters. Individual Chapters accomplish quite a lot by providing funding and/or volunteering time to a great many organizations. As Historian, I need to have a record of your Chapter's activities. Examples of the information I would like to receive include: Chapter funding provided to a local wildlife rehabilitation center, money contributed to The Nature Conservancy, or supplies provided to a foreign zoo. This information can be of use to demonstrate AAZK, Inc.'s and individual AAZK Chapters' dedication and involvement in conservation efforts if the national organization or Chapters apply for grants.

In addition, Susan Chan at the Administrative Office would like to have a brief description, photo, or a sample of any merchandise a Chapter produces, including any associated with Bowling for Rhinos fundraisers.

Please send conservation information, including amount of money raised/donated to me at: Mark Levin, AAZK Historian, 3038 Arrowhead Lane, Norristown, PA 19401 or via e-mail to: [fstzoo@aol.com](mailto:fstzoo@aol.com).

## **Correction Notice/Addition to Administrative Directory**

Please note the following corrections/additions which need to be made in the Administrative Directory which was sent to all AAZK Chapters and Committee/Project Chairs: 1) Jan-Reed Smith is the Chair of the Conservation, Propagation and Restoration (CPR) Granting Program **not** the Research Grants Program; 2) David Luce is Chair of the Research Grants Program **not** the CPR Granting program; E-mail address for AAZK Historian Mark Levin is: [fstzoo@aol.com](mailto:fstzoo@aol.com). Please make the necessary corrections/additions to your copy.

## **AAZK Grant Opportunities Available**

The American Association of Zoo Keepers, Inc. announces the availability of conservation grants for the benefit of local or global conservation efforts. AAZK members in good standing should direct their inquiries to: Jan Reed-Smith, Chair, AAZK Conservation, Preservation and Restoration Committee, John Ball Zoo, 1300 W. Fulton, Grand Rapids, MI 49504 or e-mail: [jrsotter@iserv.net](mailto:jrsotter@iserv.net). Deadline for applications is **31 March 1999**. Please note deadline extension from date previously published.

The American Association of Zoo Keepers, Inc. announces the availability of Grants for Zoo Keepers In Zoology. Two \$750.00 grants are available to assist zoo keepers in noninvasive zoological research projects. For further details and grant applications contact: David Luce, Research Grants Committee, Oklahoma City Zoo, 2101 N.E. 50th St., Oklahoma City, OK 73311 or via e-mail: [lucemonkey@earthlink.net](mailto:lucemonkey@earthlink.net).

## **Association Acknowledges Recent Donations**

The Board of Directors of AAZK, Inc. wishes to acknowledge and thank the Reid Park Zoo, Tucson, AZ, for its recent donation of \$2000.00 to help fund the International Outreach Committee's Mexican Zoo Keeper Workshop which will be held in Guadalajara, Mexico later this year.

The Board would also like to thank the members of the Cheyenne Mountain Zoo Chapter for their donation of \$100.00 to the general operating fund of the Association. Thanks also go to the Northern Lights AAZK Chapter at the Duluth Zoo for their contribution of \$75.00 to the general operating fund of AAZK. Continued support from its Chapters allows the Association to continue with its projects and programs to increase professionalism in the zookeeping profession and support deserving conservation projects.

## **Saving Wildlife in Nature Slide Set Available from ESC**

The Center for Ecosystem Survival has developed the Biodiversity Slide Set and Script to motivate and inspire school children to take direct action for saving wildlife in wild places. We would like to invite all keepers and AAZK Chapters to get involved with your local schools this year, and especially for Earth Day, by presenting this program of 40 brilliant slide images of rainforest and coral reef animals and their native habitats. Included is a slide script and a comprehensive conservation teacher guide set. Additionally, there are two conservation videos to accompany the slides and script. To receive an order form call (415) 338-3392 or e-mail - [ecosystm@sfsu.edu](mailto:ecosystm@sfsu.edu) or fax (415) 338-2295.

## **Tree Kangaroo SSP Distributes 2nd Husbandry Videotape**

A copy of the Tree Kangaroo SSP's (TK-SSP) husbandry training videotape entitled *Tree Kangaroo Husbandry - Part Two* was recently mailed to all TK-SSP Institution Representatives. This videotape covers the subjects of "Behavior and Reproduction" and includes "Joey Development". Runtime is approximately 40 minutes. The cover letter accompanying the videotape requested that it be viewed by everyone involved with the captive management of tree kangaroos.

**If you are involved with the management of tree kangaroos and have not yet seen this video, contact your TK-SSP Representative and ask to see it.**

If you want to have your own copy of Part Two, VHS copies are available for a cost of \$20.00 (U.S.). PAL versions are available for \$25.00(U.S.). Please make checks payable to the Philadelphia Zoo/TK-SSP ex-situ Fund, and mail to the attention of Heidi Jamieson, Tree Kangaroo SSP, Philadelphia Zoological Gardens, 3400 West Girard Ave., Philadelphia, PA 19104-1196.

1999 is AKF's 25th Anniversary. Make this your year to contribute an article to AAZK's monthly professional journal.

## ***From the Executive Director***

I have been an AAZK member in various categories since 1980. In that time, I have observed the Association evolve and struggle, simultaneously. As a person who works principally with birds, I can offer the following analogy; we've hatched, grown, fledged, crashed on numerous tentative flights, soared on occasion and come back to roost in our own comfortable tree. At this moment in time, we seem to be waiting for the world to discover us, because we're afraid to lose sight of the tree in our search for new treasures.

As I write this, for the first time in my history with AAZK, the Association may not be able to present a full slate of candidates for the membership to elect to the Board of Directors. Is this due to apathy, conflict, or disinterest? I really don't know, but I would like to find out.

As the Executive Director, my job is primarily to keep the Association firing on all cylinders. For the past couple of years, that has not been a difficult task, as there is not too much happening. Sometimes I feel my job is akin to an airline pilot, I make one or two important decisions every 30 days and reset the autopilot. It really shouldn't be like this.

Zoo Keepers by nature are focused upon their own world, which contains "their" own animals to nurture. It takes special individuals to lift their heads up from their own world and take in the horizon every once and awhile and look into the future. Chapters help expand the views of zoo keepers. We meet as a group and are educated by fellow staff members or guest speakers. Then we get down to the Chapter's business of setting goals, calmly and rationally voicing opinions, and setting forth to change the world in a united front. Right. Sounds just like the meeting you went to last week. Then, back to work.

I could ramble on. But let's focus on a few very important points that seriously affect the future of the Association;

The Topeka Zoo has served as a gracious host to the Association for longer than most of you have been alive. However, the zoo is in a period of transition and in the process of changing management and that change may impact AAZK. Regardless, the AAZK office is literally decomposing and suitable quarters will need to be found. (A building fund? Bowling for ... no that's been done). Staff has been with us for 20+ years, so changes there may well be in our future. If you wish for the Association to continue, with Chapters, bowling, *AKF* and conferences and whatnot, then step up to the plate.

Help.



Ed Hansen, AAZK Executive Director



## **AAZK Award Nominations Are Now Being Accepted for 1999!**

The AAZK Awards Committee is accepting nominations for the **Meritorious Achievement (MA)**, **Cerertificate of Merit for Zoo Keeper Education (CMZE)** and the **Certificate of Excellence in Exhibit Renovation (CEER)** awards to be presented at the 1999 AAZK Conference in Portland, OR. The deadline for all award nominations is **1 June 1999**. Qualifications and Nomination Procedures appear below. Further information concerning the qualifications, nomination procedure, selection procedure and an explanation of the awards may be obtained by contacting Janet McCoy, Chair, AAZK Awards Committee, The Oregon Zoo, 4001 S.W. Canyon Rd., Portland, OR 97221.

The American Association of Zoo Keepers, Inc. (AAZK) is the administering organization of these three awards. The character of the awards includes a certificate, letter of notification to the recipient's institution's director and national recognition by professional journals. Such journals include: the American Zoo and Aquarium Association (AZA) and the Canadian Association of Zoological Parks and Aquarium (CAZPA) Newsletters, Animal Keepers' Forum (AAZK), Awards, Honors and Prizes: Volume 1; United States and Canada. The latter is published by Gale Research Company based in Wheaton, MD and found in medium to large sized libraries across the U.S. and Canada.

### **Meritorious Achievement (MA) Award**

The purpose of the award is to recognize professional members of AAZK and AAZK Chapters, in good standing in the Association, for their extra work performed outside the keeper level of performance. This includes keeper participation in AAZPA Bean Award projects, dedicating time to other zoo related projects (conservation, wildlife education and individual breeding projects) and educating others in such programs as Scout Patch Programs.

The MA was established in 1982, by Mike Crocker, 1980-1985 CHAIR, as a means of recognizing work done outside of the scope of the Excellence in Zookeeping award. It is the only award presented by the Awards Committee which requires the recipient to be a member of the Association.

#### **Qualifications:**

- 1.** The nominee **must** be a full-time keeper and professional AAZK member employed in any North American zoo, aquarium, or related facility. In the case of an AAZK Chapter, it must be 'in good standing' having an up-to-date charter with the AAZK.
- 2.** The nominee **must** have been employed at least one year on a permanent basis at a zoo, aquaium or related facility. In the case of an AAZK Chapter, it must have been active for at least one year.

3. The nominee **must** be nominated by his/her peers or colleagues, while supporting nominations may be submitted by other zoo, aquarium or related facility personnel. The nominators need not be from the same institution.

#### **Nomination Procedure:**

1. List name, position, institution's name, address, phone and Director, years of service in the field and the recommendation of a peer or colleague.
2. List and **document** the outstanding achievements: AAZPA Bean Award project participation, exhibits, breeding, conservation, etc.
3. The deadline for nominations is JUNE 1st of each year.

**Selection Procedure:** The Awards Committee, consisting of five keepers, will independently review each nominee.

### **Certificate of Merit for Zookeeper Education (CMZE)**

The purpose of the award is to recognize individuals, institutions and organizations in the zoological community most actively promoting educational programs for zookeepers. Examples of such support are: reimbursements for formal education, keeper training courses and staff seminars. The CMZE was founded by Jeff Roberts, 1976-1978 CHAIR, in 1978, to compliment the work of the AAZK Education Committee that had been formed at that time.

#### **Qualifications:**

1. Any staff individual, institution or organization from a North American zoo, aquarium or related facility is eligible.
2. The keeper training program must have been in existence for at least one year.

#### **Nomination Procedure:**

1. If you feel that your institution, organization or a staff individual merits such an award, please submit a letter of nomination which mentions specifically the educational programs that are offered.
2. Claims made should be backed up with documentation for the committee to review.
3. List the institution or organization's name, address, phone and Director.
4. The deadline for nominations is JUNE 1st of each year.

**Selection Procedure:** The Awards Committee, consisting of five keepers, will independently review each nominee.

## **Certificate of Excellence in Exhibit Renovation (CEER)**

The purpose of the award is to recognize institutions or organizations in the zoological community for the design and renovation of existing animal facilities which involved active keeper participation in the process. The CEER was established by Janet McCoy, 1990 CHAIR.

### **Qualifications:**

1. Any North American zoological institution or organization is eligible.
2. The renovated exhibit must be in full operation for at least two years.
3. The exhibit must be nominated by a keeper at that same institution or organization. Supporting nominations may be submitted by management personnel from the same institution.

### **Nomination Procedure:**

1. List institution or organization's name, address, phone and Director.
2. **Document** local awards or commendations for exhibit, drawings, 8 X 10 color photos - no slides (2 before and 8 after), and renovated exhibit type: single or multispecies, and size.
3. **Document** keeper participation in the design and why the existing facility was renovated.
4. **Document** interface with other zoo divisions; and maintenance of exhibit after completion.
5. The deadline for nominations is **JUNE 1st** of each year.

**Note:** Materials will be returned only if accompanied by a self-addressed stamped, appropriately-sized envelope.

**Selection Procedure:** The Awards Committee, consisting of five keepers, will independently review each nominee.

### **Nominee Evaluation:**

The evaluation of each nomination is broken down into four categories based on the general guidelines outlined for the award. The four categories are: Keeper Involvement, Exhibit Functionality, Exhibit Management and Visitor Point of View/ Other Information. Items the committee is looking for are the following:



**A. KEEPER INVOLVEMENT:**

- a) degree of keeper involvement with conceptual development of exhibit
- b) degree of keeper involvement with facilitation of completion of exhibit, (fund raising, promotion, assist with construction)
- c) contribution to educational experience (graphics, conservation message)
- d) originality - is it something new and different, or has it been tried before

**B. EXHIBIT FUNCTIONALITY:**

- a) versatility - indoor/outdoor, four seasons, protection from elements
- b) accommodates and encourages animal's natural behavior - climbing structures, land area, height, water
- c) hard (gunite, concrete) vs soft (grass, dirt) environments - as to animal needs
- d) sight lines valuable to animal as well as visitor - important to some animals (polar bear, chimps)
- e) physical and visual barriers for animal's use, animal safety
- f) flexible entrance/exits (hoofstock - more than one entrance)
- g) ability to exhibit natural social grouping
- h) breeding success

**C. EXHIBIT MANAGEMENT:**

- a) how management of exhibit interfaces with other zoo divisions (grounds, maintenance - simple repair, paint)
- b) keeper serviceability, overall maintenance of exhibit and surroundings
- c) adequate drains and properly located
- d) quality and versatility of holding areas - ease of separating animals, moving, breeding, sick
- e) keeper sight lines - can you see animal when they come into holding or when shifting them between areas, keeper safety
- f) ease of providing time change items (browse, logs, feed, novel objects)
- g) environmental control (ease of seasonal adjustments - ventilation, heat)

**D. VISITOR POINT OF VIEW/OTHER INFORMATION:**

- a) educational experience (conservation message)
- b) immediate and sustained viewer interest
- c) sight lines - not see doors, drains, fencing - does it have esthetics
- d) bonus point - local awards, commendation, "wow" factor
- e) include anything else pertinent to the renovated exhibit that you think is important

**Award nominations should be submitted to: Janet McCoy, Awards Chair, The Oregon Zoo, 4001 S.W. Canyon Rd., Portland, OR 97221.**

**Award Nomination Submission  
Deadline is 1 June 1999**



# New & Renewing AAZK Professional, Institutional, and Contributing Members

## New Professional Members

Penny Krebs and Anne Barilla, **Roger Williams Park Zoo (RI)**; Ed Siemsen, **Capron Zoo (MA)**; Paul Kmietek, **Queens Zoo (NY)**; Jason B. Searle, **Bronx Zoo (NY)**; Dawn Drake, **Utica Zoo (NY)**; Peter Lawrie, **Cohanzick Zoo (NJ)**; Kimberly McMunn, **Claws 'N' Paws (PA)**; Jennifer Savage, **The Philadelphia Zoo (PA)**; Rebecca Singer, **National Zoo (DC)**; Amy L. McGuire, **North Carolina Zoo (NC)**; Renee Hodgden, Lisa Peterson, Marcie Diaz, Brenda Patton, David Adcock, and Tim Kurkowski, **Zoo Atlanta (GA)**; John M. Curton, **Jacksonville Zoo (FL)**; Kenn Harwood, **Tallahassee Museum of History and Natural Science (FL)**; Jane Moore Lefave, **The ZOO (FL)**; Shawn Austin Jacobs, **Santa Fe Community College Teaching Zoo (FL)**; Kelly Greer, **Lion Country Safari (FL)**; Michelle Rose Gunn, **The Florida Aquarium (FL)**; Randy Kessler, **Gatorland (FL)**; Amy Schulz and Gretchen Ackerman, **Disney's Animal Kingdom (FL)**; Dave Ackerman, **Columbus Zoo (OH)**; Helena Henderson and Angie Wilcox, **Akron Zoological Park**; Rebecca Cooley, **Indianapolis Zoo (IN)**; Vicki Duke, **Chicago Zoological Society (IL)**; Marie Perez, **Lincoln Park Zoo (IL)**; Julisne Murray, **Lee Richardson Zoo (KS)**; Elizabeth Ann

Rasgorshek, **Henry Doorly Zoo (NE)**; Ben Roberts, **Grand Island Heritage Zoo (NE)**; Steve Parker, Kimberly K. Beldin, **Little Rock Zoo (AR)**; Michael W. Glover and Randi Bolton, **Dallas Zoo (TX)**; Sonika Mitchell, **Cheyenne Mtn. Zoo (CO)**; Clint Carroll, **Willow Park Zoo (UT)**; Stacey Schell, **Primate Foundation of Arizona (AZ)**; Ann Grace Orn and Adam Rossiter, **Heritage Park Zoo (AZ)**; Nancy Bunn, **Los Angeles Zoo (CA)**; Patrick Schlemmer, **San Francisco Zoo (CA)**; Shimon Russo, **Cougar Mtn. Zoological Park (WA)**; Julie Miller, **Cat Tales (WA)**

## New Contributing Members

Brian Svehla  
La Grange Park, IL

## Renewing Contributing Members

National Zoological Park Library  
Washington, DC

Lane Theriac, Director  
Washington Park Zoo  
Michigan City, IN

## Renewing Institutional Members

Calgary Zoo Library  
Calgary, Alberta, Canada

## Need to Reach AAZK?

1-800-242-4519 (U. S.)

1-800-468-1966 (Canada)

FAX: (785) 273-1980

or write  
AAZK, Inc.

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*Barbara Manspeaker -  
Administrative Secretary  
Susan Chan -  
Managing Editor AKF*

*Orca -  
Office Cat*



*Office Hours: 9:00 a.m. - 3:00 p.m. CST*

# Coming Events

**ABWAK 25th Celebration: Then, Now & the Future** - April 17-18, 1999 at Marwell Zoological Park, UK. For more details please e-mail either: Luke Gates at [luke@pinnipedia.demon.co.uk](mailto:luke@pinnipedia.demon.co.uk) or Julie Croucher at [julie@chesterzoo.co.uk](mailto:julie@chesterzoo.co.uk)

**The 30th Annual Conference and Workshop of the International Association of Aquatic Animal Medicine** - May 2-5, 1999 in Boston, MA. For further information, contact Elizabeth Coleman, New England Aquarium, e-mail: [ecoleman@neaq.org](mailto:ecoleman@neaq.org)

**39th International Symposium on the Diseases of Zoo and Wild Animals** - May 12-16, 1999 in Vienna, Austria. For information contact: [office@zoovienna.at](mailto:office@zoovienna.at) or [froelich@izw-berlin.de](mailto:froelich@izw-berlin.de)

**The Annual Regional Aquarists Workshop (RAW) Conference** - May 13-15, 1999 at UnderWater World at the Mall of America in Bloomington, MN. For registration and further info contact Craig Atkins (612) 853-0615 or Jeff Krenner (612) 853-0619, UnderWater World at MOA, 120 E. Broadway, Bloomington, MN 55425.

**7th World Conference on Breeding Endangered Species** - May 22-26, 1999 at the Cincinnati Zoo. For more details contact: Grace Retig (Fax - 1-513-559-7791).

**Society for Tropical Veterinary Medicine** - June 12-16, 1999 in Key West, FL. This is the Fifth Biennial Conference and the theme is "Tropical Diseases: Control and Prevention in the Context of The New World Order. For further information contact: Beth Miller-Tipton, University of Florida, Office of Conferences & Institutes, P. O. Box 110750, Gainesville, FL 32611, USA; phone: (352) 392-5930; fax: (352) 392-9734; e-mail: [BAMT@GNV.IFAS.UFL.EDU](mailto:BAMT@GNV.IFAS.UFL.EDU)

**American Society of Mammalogists** - June 20-24, 1999 at University of Washington, Seattle, WA. For more information contact: Paul Anderson, Chair, ASM Marine Mammal Committee at: [pkanders@cadvision.com](mailto:pkanders@cadvision.com)

**Animal Behavior Society Annual Meeting** - June 26-July 1, 1999 at Bucknell University in



Lewisburg, PA. For further information see - <http://www.cisab.indiana.edu/> or call (717) 524-1430.

**American Federation of Aviculture 25th Annual Convention** - August 12-15, 1999. Denver, CO. For more information contact e-mail: [rmsa@altavista.net](mailto:rmsa@altavista.net); [doms4afa@aol.com](mailto:doms4afa@aol.com); or [stat@wizard.net](mailto:stat@wizard.net). Infor on web site at: <http://www.upatsix.com/afa>

**Fourth International Enrichment Conference** - August 29, 1999 in Edinburgh, Scotland. Details are now available from the *Shape of Enrichment* website: <http://www.enrichment.org>

**AAZK 1999 National Conference** - Sept. 12-16, 1999 in Portland, OR. Hosted by the Oregon Zoo and the Portland AAZK Chapter. Look for info in *AKF*.

**AZA 1999 National Conference** - Sept. 24-28, 1999. Minneapolis, MN. For information contact Lucinda McCandless via e-mail: [AZAconf@mail.mnzoo.state.mn.us](mailto:AZAconf@mail.mnzoo.state.mn.us)



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# AAZK BOOK SALE

*Sale price is 20% off the Suggested Price*

*Previous books may still be available, with some price increases*

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\$25.00	\$20.00	<u>The Safari Companion: A Guide to Watching African Mammals</u> - Richard D. Estes - Designed to be carried along on a wild life viewing safari, this guide allows the wildlife observer to understand the behavior of nearly 100 large mammals. 400 pgs. paperback
\$45.00	\$36.00	<u>Wetlands</u> - Michael Moser & Max Finlayson - Wetlands presents a comprehensive, continent by continent, overview. It surveys wetlands throughout the world, their key role in the world economy and their vital contributions to the quality of life on earth. 224 pgs. hardcover
\$75.00	\$60.00	<u>Mammals of Australia</u> - Ronald Straham, Editor - This book describes every species known to have existed in Australia in the last 200 years. The accompanying descriptions summarize habitat, behavior, diet, reproduction, growth & factors that lead to death. 756 pgs. hardcover
\$22.95	\$18.36	<u>The Wind Masters: The Lives of North American Birds of Prey</u> - Pete Dunne - In this book, Dunne shows what it is like to be a bird of prey. He takes us inside the lives and minds of all 34 species of day-flying raptors found in North America. 288 pgs. hardcover
\$21.95	\$17.56	<u>Landscaping with Wildflowers: An Environmental Approach to Gardening</u> - Jim Wilson - This book devotes a chapter to each major type of landscaping - woodland gardening, meadows, prairie style plantings and specialized landscapes suited to the west. 256 pgs. paperback
\$50.00	\$40.00	<u>Trees for American Gardens: The Definitive Guide to Identification &amp; Cultivation</u> - Donald Wyman - A standard reference work on landscape trees. 576 pgs. hardcover

**To Order:** List the items you are ordering along with your name and complete mailing address. Include a shipping fee of \$3 for the first item, and \$2 for each additional item. Checks payable to: "AAZK Book Sales" (**US FUNDS ONLY - NO CASH or CODs please.**) Call or fax for shipping fees when ordering from outside the continental United States **before** sending any money. We will help to find the best form of shipment.

**Mail requests to:** AAZK Beardsley Zoo Chapter, attn: Linda Tomas, 1875 Noble Ave., Bridgeport, CT 06610-1600. **Phone:** (203) 394-6563 **Fax:** (203) 394-6566

**E-mail:** beardsleyz@aol.com



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# 1998 Conference Proceedings Order Information

If you are interested in obtaining a copy of the Proceedings containing the papers presented at the joint National Conference between AAZK, Inc., The Elephamt Managers Association and the Association of Zoological Horticulture which was held in Indianapolis, IN, you will need to fill out and return the form on the next page. This is a unique opportunity to purchase a publication with papers from three separate organizations included. All orders **must** be prepaid in U.S. Funds ONLY. Allow 2-4 weeks following order for receipt of publication within U.S. Overseas orders will take longer by surface post. Prices are as follows: AAZK Member **\$25.00** Non Member **\$40.00** Postage for U.S. orders is included. Canadian and overseas orders should add \$5.00 for air mail postage to Canada and surface postage elsewhere. Overseas orders wishing air mail service should add \$10.00. Make checks or money orders payable to AAZK, Inc.

**Note:** Because of a one-time grant secured by the Indianapolis Conference Committee, all full-registration delegates will be receiving a copy of this Proceedings gratis. Day registrants or those who did not attend the Conference but wish a copy of the Proceedings, will need to order one.

**The following papers are included in the Proceedings:** If I Ran the Zoo, I'd Get Into In-situ; Savanna Flora of Kenya and Tanzania; Uganda Wildlife Education Centre Exhibit Design and Objectives; **AAZK Sessions:** Rhino Conservation Programs in S.E. Asia – IRF & Partners; 1998 Bowling for Rhinos – A Million Dollars Later; A Conservation Masterplan for the Kansas City Chapter of the American Association of Zoo Keepers; Developing a Hippo Skin Tissue Biopsy Dart; When Things Go as Planned: Introducing an Unrelated Ten Month Old Hippo to an Established Pair of Over Forty Years; It's Great to be a Keeper; Review of Fine Avian Abodes; Environmental Enrichment on a Seasonal Basis for Sub-antarctic and Sub-arctic Seabirds at SeaWorld, San Antonio; Conservation at Moody Gardens: Exhibiting Two Fragile Ecosystems; The Forgotten Wallabies of New Zealand; The Ramsey Canyon Leopard Frog: Working Together to Help Preserve an Endangered Species; Breeding Rhinoceros Hornbills; Chilean Flamingo Breeding....A Natural Progression; Treatment of Severe Contracture of the Flexor Tendons in a Reticulated Giraffe (*Giraffa camelopardalis reticulata*) or "Reconstructing Sudi"; Principles of Animal Training Workshop; Giraffe Training Program at Milwaukee County Zoo; Target Training Malayan Flying Foxes (*Pteropus vampyrus*): A Beginners Perspective; Enrichment Is for Everyone in Detroit; Training for the Trunk Wash at the Indianapolis Zoo; **EMA Sessions:** T.B. Training at The North Carolina Zoo; Managing a *Mycobacterium tuberculosis* Positive Elephant at the San Francisco Zoo: "A Pain in the Butt for Her and Us!"; Emmett Exits; The Transport of "Kiba Mampe" from the Houston Zoo to the Berlin Zoo or "Jumbo in the Jumbo" (When Elephants Fly); Loading and Unloading Elephants at Knoxville Zoo; A Global Elephant Network; Five Years of Teaching and Learning at our Elephant School; Elephant Management at Disney's Animal Kingdom: Turning Challenges into Successes; Manual Collection of Semen from Elephants; Ganesh: "King of the Queen City"; Birth of African Elephant Breeding Facility; *Salmonella typhimurium* in 0.3 African Elephants at the Oakland Zoo; Pack Your Trunk for Africa; One Thousand Years of Military Elephants; **AZH Sessions:** Horticultural Options for Fruit Bat Enrichment; Take a Butterfly to Lunch; Vegetation Management Study and Guidelines for the Ravine Garden at the Indianapolis Museum of Art; Northern Temperate Forest Planting Project for the Kids Kingdom; Tree Care & Holiday Lighting Program; Siting and Managing Bamboos in a Zoo Environment; Dangerous Animal Response Team at the Cheyenne Mountain Zoo; Plants, Iguanas and Islands: A Zoo Horticulturist Visits Hispaniola; Cheyenne Mountain Zoo 1998 AZH Internship; Growth Chamber for Rare and Endangered Plants at Henry Doorly Zoo; Bring Back the Natives; **Workshops/Video Sessions:** AAZK Enrichment Video Session Synopsis; Browse/Enrichment Device Workshop Summary; Enrichment Discussion Group Synopsis; Mineral Composition of Selected Temperate Browsers Fed in Zoos; Listing of 1998 Conference Participants.

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# REACTIONS

## *A Question and Answer Forum for the Zoo Professional on Crisis Management*

*By William K. Baker, Jr., Zoo Curator  
Frank Buck Zoo, Gainesville, TX*

### **Question**

Can individual personalities among staff members make a difference in a crisis situation?

### **Comments**

It has been said that every person is a function of their environment. In other words, every individual's personality has been shaped by their experiences and the environment as that person moved through life. As a result, everybody perceives life differently and responds as they believe is appropriate to the situation or circumstance. Needless to say, this can make for an interesting situation in a crisis.

As to the question of could this have an impact on an individual's performance in a crisis, I would have to say yes. The problem is how to ascertain this before a crisis actually occurs. It has often been observed in the military that you never really know how someone will react until they are actually under fire. Another more philosophical way of looking at this would be that each person responds according to their talents.

Rhetoric aside, the type of person that you would probably want by your side in a crisis should be calm, cool and collected. If somebody tends to over react to the slightest change in their daily schedule, has poor communication skills, and doesn't work well in a team environment, then more likely than not, you don't want to rely on this type of person.

The easiest way to practically test for how an individual or team may perform or react in a crisis is to have emergency preparedness drills. These fall into two categories: announced and unannounced. Announced drills are great for training purposes, but the staff is already aware that it is only a drill and the psychological edge is lost. In an unannounced drill, as far as the staff is concerned the crisis is real and an observer is more likely to note true behavior patterns. This is the time to decide on a final line-up for your emergency response team. If the



concern is in relation to staff members in an area that manages dangerous animals, then it may be necessary to reevaluate duty assignments.

It should be noted that most problems and concerns can be addressed through extensive training. Experience before a crisis can be one of the most invaluable assets at your disposal. Never underestimate the training experience.

**NEXT MONTH:** How can staff members contact each other in an emergency?

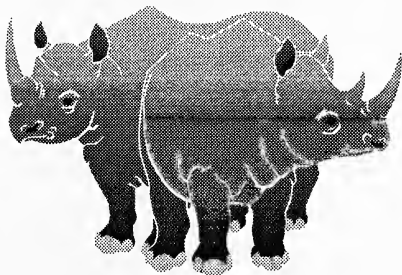
*(About the Author: Since 1985 Bill has been active in the fields of science, zoology and wildlife management. His education and experience include a B. S. in wildlife management and post-graduate work in zoology; Lab and Museum Assistant; Shoot Team leader, ERT Member, and Senior Keeper and Large Mammal Keeper at various AZA facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR / First Aid Instructor.)*

**If you would like to submit a question for this column or have comments on previously published material, please send them to: Reactions/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.**

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## New Contact Information for Bowling for Rhinos Chair

Effective immediately the following is new contact information for Patty Pearthree, Chair of the Bowling for Rhinos project: 318 Montibello Dr., Cary, NC 27513-2479; e-mail is ppear3@aazk.org; phone - (919) 678-0449. All correspondence/inquiries for Bowling for Rhinos should now be directed to this new address/phone/email. This includes requests for sponsorship forms, questions needing answers, etc.



# Legislative Update

Compiled by Georgann Johnston  
Legislative Advisor  
Sacramento, CA



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## Proposal Would Add Protection to Birds Under Animal Welfare Act

The U. S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) has announced a petition to add birds to the group of animals afforded protection under the Animal Welfare Act. Simultaneously, APHIS has stated its firm opposition to such a change in the status quo, claiming that the additional workload will be too burdensome for that agency. In general, the Animal Welfare Act provides for a minimum annual inspection of all facilities that raise, exhibit, deal in, trade, ship, or store live mammals.

All zoos, circuses, roadside attractions, and the like within the United States are purportedly subject to APHIS inspections and must demonstrate that the animals in their possession are receiving a certain level of care including appropriate food, shelter and medical attention. At this point, businesses or facilities that deal in birds are not subject to the APHIS requirements but this would change if the Act were amended as is being proposed. Likewise, over 6,000 research facilities around the country would also become subject to APHIS inspections if the proposed amendments to the Act are passed.

Under the Animal Welfare Act, APHIS has the power to assess fines or bring criminal charges against facilities that are not in compliance with the animal-care rules. APHIS claims, however, that the prospect of an increase in fines is not offset by the increased number of annual inspections that will have to be done if birds are added to the list of protected species. Instead, APHIS is proposing a significant schedule of "inspection fees" that will be imposed on all facilities (not just those with birds) to pay for the additional APHIS staff that will have to be hired and trained to perform the annual inspections.

Further information about the proposal and a copy of the entire amendatory documents can be obtained by contacting Dr. Jerry DePoyster, Sr. Veterinary Medical Officer, APHIS, 4700 River Road Unit 84, Riverdale, MD 20737-1228, (301) 734-7833.

*Source: Federal Register Online 28 January 1999, vol. 64, no. 18*

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## Group Seeks End to Shark-Cage Diving

A conservation organization with the name Save Our Swimmers and Sharks (SOSS) has petitioned the South African government to ban shark cage diving off the coast of the Cape of Good Hope. A spokesperson on behalf of SOSS says

that the situation has become akin to “classic conditioning, just like Pavlov’s dogs, with the sharks being rewarded to approach people underwater.” The result is nine shark attacks on humans, primarily spearfishermen and surfers, in the past four months - one of the attacks being fatal.

Shark cage diving has grown out of commercial shark fishing in which fishermen are allowed to bait the water with fish and oil (also called “chum”. This was viewed as an opening for a new tourist enterprise where tour operators now have permission to bait the water to attract sharks that are then viewed by an average number of 3,000 tourists per year. While most tourists view the sharks from aboard sightseeing boats, a number of people will also don wet suits and wait inside a steel mesh cage to view the sharks from a distinctly closer vantage point.

Conservationists are opposed to the activity, primarily on the basis that it fuels the “man eating” monster image for these animals that are now in need of protection. Likewise, because of the use of bait, sharks are venturing closer and closer to land, where they can come in contact with swimmers, divers, and surfers, and where they pose a hazard to all three. Additionally, the sharks are sustaining injuries when they attempt to fight one another for the bait and when they bang into the sides of the shark cages.

SOSS is calling for a voluntary moratorium on shark-cage diving while the government investigates whether the financial benefits of the tourist business is outweighed by the risk to people and sharks should the diving/baiting continue.

*Source: African Wildlife Update February 1999*

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### **Kumleben Report on Wildlife Ready for Review And Comment**

The Kumleben Report, issued by the Board of Investigation into the Institutional Arrangements for Nature Conservation in South Africa, is finally complete and available for public review and comment. The Board was appointed in early 1998 for the purpose of gathering data from all nine South African provinces, other statutory bodies and a number of non-governmental organizations involved in nature conservation.

The Report covers a wide range of conservation topics including the pros and cons of centralizing or localizing management of national and provincial parks and preserves, a proposal for acquiring local community involvement in nature conservation, the problems inherent in parks which encompass more than one provincial geographic area, and the legal implications of various recommendations made by the Committee.

The full Report may be viewed at [www.ewt.org.za](http://www.ewt.org.za) which is the website of the Endangered Wildlife Trust.

*Source: Wild Net Africa News 4 February 1999*

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## **Some Tuli Elephants Transferred to German Zoos**

In mid-January 1999, seven of the 30 Tuli elephants were flown to Germany from their temporary quarters in Brits, South Africa. Four elephants were set to go to the zoos in Dresden and Erfurt and three more were to travel on to a zoo in Basel, Switzerland. The elephants were originally part of a group taken from the Tuli Reserve in Botswana and moved to South Africa by African Game Services. The elephants were subsequently confiscated by the National SPCA when the owner of AGS was found to be neglecting the animals.

As of this writing, the remaining 23 elephants stayed behind in South Africa and their fate is uncertain. While certain animal interest groups advocate returning the young elephants to their native land, government officials for Botswana say they have an elephant overpopulation problem already and there is no room for these young creatures. Other alternative proposals include relocating the elephants to various national parks in South Africa, selling/giving more of them to zoos, or returning them to the custody of AGS.

*Source: South African Star Newspaper 15 January 1999*

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## **Reward Offered in Trumpeter Swan Killings in Southern Illinois**

The U. S. Fish and Wildlife Service, Trumpeter Swan Society and several Chapters of the Illinois Audubon Society have posted a \$2,000 reward for information leading to the arrest and conviction of those responsible for the slaughter of five federally-protected trumpeter swans found Sunday, January 24, at Carlyle Lake in Fayette County, Illinois.

Illinois conservation officers, acting on an anonymous tip, discovered the mutilated remains of the birds along a road near the Patoka boat landing on the east side of the lake. Four of the birds were decapitated and had their breasts cut out.

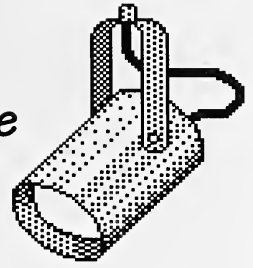
Special Agent Tim Santel, of the U.S. Fish and Wildlife Service's Springfield, Ill., law enforcement office, said the birds were likely mutilated to remove identification devices placed on the swans by researchers. "It's likely the swans were wearing leg bands and neck collars used to track the birds as part of trumpeter swan reintroduction programs in Wisconsin, Minnesota and Michigan. The breasts were likely removed to be cooked for food," Santel said.

Trumpeter swans have been mistakenly killed during waterfowl hunting season in Illinois, where they are confused with legal game species such as snow geese, Canada geese and other waterfowl. "But this case is different," Santel said. "The mutilated condition of these birds tells you that this was not the conduct of a hunter who made an honest mistake." Santel said. The swans' remains have been sent to the National Fish and Wildlife Forensics Lab in Oregon for further examination. Shooting a swan, even accidentally, is a misdemeanor violation of the Migratory Bird Treaty Act and carries a penalty of up to \$5,000 for individuals and \$10,000 for organizations and up to six months in prison.

*Source: U.S. Fish and Wildlife Dept. News Release 1-25-99*

# Spotlight on AAZK's International Outreach Committee

## Second Mexican Zoo Keeper Training Workshop Planned



The role of zoos has changed dramatically in the past several decades and it is increasingly evident that these facilities have taken on the status of "modern arks". Many animals depend upon conservation efforts of zoos to ensure the survival of their species and to help protect the habitats in which they live. Through conservation projects, public education, endangered species breeding and reintroduction programs lies the final hope for many critically threatened animals worldwide. The zoo keepers are the direct link for conservation programs to the animals within zoological institutions. It is of the utmost importance that keepers receive the proper training to enable them to best serve the animals and the efforts that are made to save species from extinction. Training workshops are an affordable solution that can provide the expertise to meet the challenge of modern conservation efforts.

In May of 1999 a zoo keeper training workshop will be held through the cooperative efforts of the American Association of Zoo Keepers, Inc. (AAZK) and the Asociacion De Zoologicos Y Acuarios De La Republica Mexicana (AZCARM). This is the third zoo keeper training workshop that AAZK has helped put on for Mexican and South American zookeepers. In 1977 a workshop was held at the Morelia Zoo, Morelia, Mexico; and in 1998 another was held at the Marikibo Zoo in Venezuela. AZCARM is responsible for the details of producing this class within Mexico. This includes the promotion of the workshop to Mexican zoos, providing a class site, registration of the students, student materials, organization of hotels and food for registrants, and a graduation ceremony with diplomas. AZCARM will also see to the needs of the instructors including airport transportation, in-country travel, and provision of materials for the "hands-on" sections of the class. The AAZK will be responsible for choosing qualified instructors, getting the instructors to the class site, and the development of curriculum and accompanying slide presentations. All the major aspects and details of the workshop will be overseen through the director of AZCARM, Francisco Rodriguez Herrejon, and the Chair of AAZK's International Outreach Committee, Jeannette Beranger.

The four-day workshop will cover pertinent subjects whose aim is to produce a lasting positive influence for work in a zoological institution. There will be a classroom time as well as hands-on demonstrations for the students. Printed materials such as a manual and pamphlets will accompany the curriculum. The American Zoo & Aquarium Association (AZA) has produced a training manual and the Zoo Conservation Outreach Group (ZCOG) has a nutrition manual. Both have been translated into Spanish and will be used as reference materials for the workshop. Each student will take home copies with them.

A slide presentation accompanies the curriculum to ensure that students can better comprehend the concepts presented in the class. A visual representation will help to give a clearer understanding of the more complicated issues to be discussed.

Hands-on portions of the workshop will give students a chance to practice some of the skills covered in the classroom sessions. Exhibit construction techniques are of particular interest to many students and is a popular presentation. Each student has a chance to get his or her hands dirty in creating cement-based replicas of naturalistic props to be used in exhibits. Materials used will be easily found throughout Mexico so there will be no difficulty for keepers to locate them. The students will also have the chance to construct environmental enrichment items that they may bring home to use at their own zoos. Instructors will demonstrate how to use the enrichment gadgets and improvise techniques for use with the animals at the host zoo.

An added extra this year will be a participation of a member of the Elephant Managers Association (EMA) who will teach a unit on elephant care. The Guadalajara Zoo (host institution) has two, 10-year-old African cows that provide the perfect opportunity to have hands-on practical demonstrations in elephant care.

Based on past participation, it is expected that 20 or more zoos throughout Mexico, ranging from the border of California to the border of Guatemala, will send representatives to attend the class. AZCARM will be officially inviting Central American zoos to have their keepers participate as well. We anticipate a strong turnout of students in 1999. The host zoo was chosen because of its central location, class accommodations, and availability of lodging for participants.

The goal of the AAZK and AZCARM is to accomplish a higher level of professionalism for the Mexican keepers through the cooperatively developed training programs. They hope to repeat the course in Mexico until such time as AZCARM, along with Mexican keepers, can take over the class and offer it on an annual basis themselves. This in turn serves to train and encourage many Mexican keepers to go beyond their daily routine and become useful and important parts of the international conservation community. They will learn how to become involved with public education and make significant contributions to conservation outreach through their careers as zoo keepers. The resulting benefits from this aid not only the zoo keepers, but reaches the animals, the entire zoological and conservation communities, and enriches the experience of the zoo guests.

Following each workshop, the AAZK will assess the success of the program through student questionnaires and interviews. Student opinion and those of participating institutions will be sought out to understand if the class worked out well or not. Together with AZCARM, the AAZK will discuss results from the surveys and interviews and adjust the curriculum to better suite the needs and goals of the zoological community. The AZA and EMA are also invited to comment and have input on the class topics and techniques. These steps are done in the hope that they will develop improvements for future workshops.

Each year brings a new challenge and through dedication and professional expertise, the zoo keepers of Mexico will become a part of the international zoo community. They will have the ability and knowledge to have a positive influence on conservation efforts, not only in Mexico, but throughout the world.

*--submitted by Jeannette Beranger, IOC Chair*



## **NORTHWEST PASSAGES**

**Frontiers in Zoo Keeping**

### **1999 AAZK National Conference • Portland, Oregon September 12-16, 1999**

The Portland Chapter of AAZK and the Oregon Zoo are proud to invite you to the City of Roses for the 26th National AAZK Conference. We will also be celebrating the 25th anniversary of the Animal Keepers' Forum. Full registration for the conference is \$135 for AAZK members and spouses.

The Conference Hotel is the Holiday, Inn Portland-Downtown. Conference rates are \$89 single, \$99 for 2-3 persons. These rates are in effect two days before and after the conference to allow you to see the sights of Portland or to attend the trips planned for you.

The hotel is located five blocks from the Lloyd Center Mall. There are many restaurants and fast food spots two to five blocks from the hotel. The Oregon Museum of Science and Industry is close by. The MAX rail line can whisk you across the river to the downtown area where you can visit the Weekend Market or Old Town with its many shops and restaurants. You can cruise down the river, tour the Columbia Gorge, or visit the serene Japanese Gardens or Pittock Mansion.

The Pre-Conference Day Trip on Saturday, September 11, will take you to the Oregon Coast Aquarium. The Post-Conference Tour will be Friday, September 17 and Saturday, September 18. Points of interest are the Mount St. Helens Visitor Center, Northwest Trek Wildlife Park, Woodland Park Zoo, and the Seattle Aquarium.

Oregon weather in September is usually sunny. Average temperatures range from the mid-70s during the day to the mid-50s at night. Bring a sweater or jacket for the cool evenings. Of course, there is always the chance of rain!

Come and explore the beauties of the great Northwest! The Conference Committee is dedicated to making your stay an enjoyable one. For further information, please call Jan McCoy at 503-226-1561, ext. 236, or email at [AAZK99@webtv.net](mailto:AAZK99@webtv.net).



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Frontiers in Zoo Keeping

1999 AAZK National Conference • Portland, Oregon  
September 12-16, 1999

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# NORTHWEST PASSAGES

Frontiers in Zoo Keeping

1999 AAZK National Conference • Portland, Oregon  
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**REGISTRATION FEES:** Registration deadline is August 1, 1999 - for all events.

AAZK Member	\$135*	_____
AAZK Member's spouse	\$135*	_____
Non-member	\$185	_____
Late fee (After August 1, 1999)	\$25	_____

### DAILY RATES:

Sun. Sept. 12 - Icebreaker	\$25	_____
Mon. Sept. 13 - Papers, multi-media night	\$35	_____
Tues. Sept. 14 - Papers, Sauvie Island trip, auction	\$35	_____
Wed. Sept. 15 - Zoo Day, Workshops	\$35	_____
Thurs. Sept. 16 - Papers, banquet	\$55	_____

**PRE-CONFERENCE TRIP:** Oregon Coast Aquarium Sept. 11 \$50 \_\_\_\_\_

**POST-CONFERENCE TRIP:** Northwest Trek, Woodland \$150 \_\_\_\_\_

Park Zoo, Seattle Aquarium, Friday-Saturday, Sept. 17-18

\* Fee includes a \$15.00 contribution to AAZK National. Fee does not include conference proceedings. A \$25 handling fee will be charged for refunds prior to September 1, 1999. NO REFUNDS will be given after September 1, 1999.

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## **FIRST CALL FOR PAPERS**

"Northwest Passages - Frontiers in Zoo Keeping" is the theme for the paper sessions and workshops at the 1999 National Conference.

### **KEY THEMES AND SUGGESTED TOPICS**

**Keepers' Tools:** Skills and techniques needed for the job.

**Expanding Keepers' Role:** As a zoo professional, our job description has greatly expanded over the years. Veterinary care, exhibit design, studbook/ TAG/SSP work, field work, keepers' role in visitor education.

**Innovations - Success or Failure:** Unique animal introductions, exhibit renovations.

**Research:** The keeper's role in institutional or field research.

**Local Conservation:** Most keepers do not have the opportunity to participate in international field projects. We are soliciting conservation projects that are within your geographical region.

### **Abstracts must include the following information:**

- Name of presenter and co-authors
- Zoological or aquarium affiliation
- Position / title
- Title of Paper / workshop
- Audiovisual equipment needs
- One or two line bio or "How you want to be introduced"

Abstracts should be limited to one to two paragraphs; describe in detail the significance of the presentation topic; briefly list the results, conclusion, or benefits of the work described. Abstracts that are poorly written, do not contain the proper submission information, or do not meet submission criteria, will be returned with a letter rejecting the abstract or suggesting the corrections required for acceptance.

**Abstracts will be accepted for review until July 1, 1999.**

**Deadline for papers is Sunday, September 19, 1999.**

### **Mail abstracts to:**

Anna Michel, Program Co-Chair, 1999 AAZK National Conference  
Oregon Zoo, 4001 SW Canyon Road, Portland, OR 97221-2799

**FAX abstracts to:** 503-226-0074

**E-mail abstracts to:** AAZKpapers@micheln.net

**CONFERENCE NOTE:** Auction items should be mailed to Louise Kent, Auction Chair at the above address for the Oregon Zoo.

# Nation Marks 25 Years of Endangered Species Protection

“Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed.” With these words, on December 28, 1973, President Richard Nixon signed the Endangered Species Act, a law which has proven to be one of the strongest and most foresighted efforts ever made to protect the delicate web of life.

“It is a law which has at various times challenged, inspired, angered, and above all made us ask hard questions about the impact of human activities on our environment and how they can be balanced with the need to protect the diversity of life,” says Secretary of the Interior Bruce Babbitt.

The law’s purpose is to conserve “the ecosystems upon which endangered and threatened species depend” and to conserve and recover listed species. It is a challenge which encompasses not only familiar and beloved mammals, birds, and fishes, but also little-known plants, amphibians, reptiles, insects, and crustaceans. But the worthiness of the law’s broad purpose has become more apparent over the years, as scientists have found the value of rare plants and animals as sources for new medicines and genetic reservoirs for new agricultural crops.

Earlier endangered species laws passed in 1966 and 1969 raised public awareness about the plight of rare animals. But it was the 1973 Endangered Species Act that provided the real tools to help wildlife and plants facing extinction.

“Over the years the Endangered Species Act has evolved greater flexibility and increased recognition for the contributions of partners across all sectors of our society. I believe the Act will help us assure wildlife and wild places as a birthright for generations of Americans to come,” Secretary Babbitt says.

The law has steadily built an impressive track record. By the time they are deemed to merit the special protection of the Endangered Species Act, many species have been declining for many years and face multiple threats to their continued existence. Often research is needed to determine the exact causes of their decline or the best means of restoring them. Yet in 25 years, the Endangered Species Act has proven remarkably effective at preventing extinctions and slowing the decline of imperiled species. Nearly half of all species listed for a decade or more are now either stable or improving in status. Only seven — less than one percent — have been found to be extinct. Preventing the extinction of the remaining 99 percent of listed species is one of the Act’s greatest successes.

But the Act’s first 25 years have not been without controversy — at times, intense controversy. Although protection of most species has gone without much public notice, a few — like the snail darter and the northern spotted owl — have been

lightning rods for controversy. Often, it is the decline of these species that has caused society to confront hard issues about how we should manage our rivers, forests, and other natural resources. In that sense, endangered species have been "Mother Nature's 911," signaling changes in the environment that require our attention.

"Has the Endangered Species Act generated controversy?" asks Jamie Rappaport Clark, director of the U. S. Fish and Wildlife Service. "Of course. But I believe most Americans now recognize that the Endangered Species Act is ultimately about our own future. The law doesn't protect just the famous and well-loved species. It seeks to assure healthy and balanced life systems for all species — ours included. The Act has sparked much debate over the years, and that's wholesome; that's how a public dialogue is encouraged and laws can be improved. But on the 25th anniversary, I think it's important to note that this law has given us a society far more on the plus side of the ledger than on the minus. There have been some tremendous restorations and some vitally important strides for scores of rare plants and animals."

One of the most remarkable events of 1998 was the announcement that the peregrine falcon is ready to graduate from the list of endangered and threatened species. The Peregrine Fund, the Raptor Center, the Santa Cruz Predatory Bird Research Group, states and many volunteers have worked with the Fish and Wildlife Service over the last two decades to successfully breed and release peregrines into the wild. Today their numbers have reached 1,593 breeding pairs, inhabiting skyscrapers, bridges, and cliffs in 40 states. Many more species will be following the peregrine on its road to recovery in the near future, including our national symbol, the bald eagle, the Aleutian Canada goose, and the Tinian monarch — a fitting tribute to the 25th anniversary of the Endangered Species Act.

Other highlights of 1998 included the captive breeding program for the endangered black-footed ferret, which experienced its most successful year to date. Managed by the Service and many partners (the Toronto Zoo, The Phoenix Zoo, Omaha's Henry Doorly Zoo, Louisville Zoological Garden, National Zoo, and the Cheyenne Mountain Zoological Park), the program produced 339 surviving kits from a total of 452 born in captivity this past spring. As a result, over 200 ferret kits were placed into reintroduction sites and field breeding programs this year. This success is even more impressive considering that the ferret was thought to be extinct until a Wyoming ranch dog brought one home in 1981.

The California condor reintroduction program continued this year as well, in partnership with the Peregrine Fund. Condors have been released in Arizona and California, increasing the population of free-flying condors from zero in 1987 to 44 today. The San Diego Zoo and the Los Angeles Zoo are cooperating partners in these efforts.

The Act's flagship species, the whooping crane, fell to less than 20 individuals

in the early 1940's. Today more than 200 whooping cranes exist in the wild, with 200 more in captive breeding populations. The greenback cutthroat trout was widely believed extinct until a remote population was discovered in the 1960's. Thanks to recovery actions under the Endangered Species Act, the greenback is on the verge of complete delisting.

But, despite its successes, need for the Act continues. During 1998, the Service has added 57 species to the endangered species list, bringing the list of endangered and threatened species to 1179. "Listing a species means that other conservation efforts have failed," says Service Director Clark. "Ideally we should be protecting more species earlier by addressing larger habitat issues. The Endangered Species Act at least gives us one last chance to do right by a creature."

Seventy percent of all endangered and threatened species make their homes on privately owned lands, so the involvement of landowners is critical to the management of these vulnerable species. The Clinton Administration has worked on ways for landowners to become more involved in the protection of endangered species on their lands while allowing for smart economic development to continue.

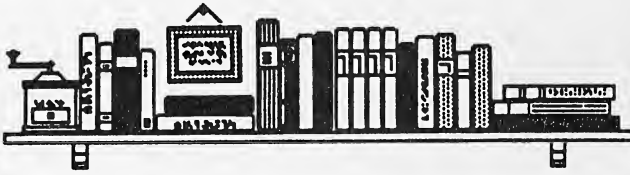
"These efforts have paid off," according to Director Clark. "In local communities all across the country, people are taking a real interest in saving species. All Americans owe tremendous gratitude to concerned groups and individual private citizens who have dedicated their efforts to saving species that were virtually on the brink of extinction."

Through habitat conservation plans (HCP's), the Service works with landowners to conserve species and their habitats while providing for economic growth. HCP's offer long-term planning for both landowners and for species. To date, 243 habitat conservation plan permits have been signed and about 200 more are being developed. These habitat conservation plans cover approximately 6.5 million acres.

One of the highlights of the HCP program was the completion of San Diego's Multi-Species Conservation Plan, covering 85 endangered and threatened species. "With the U.S. population expected to increase by 125 million in the next century, San Diego now offers a model to the nation for how to plan for and balance the needs of man and nature, demonstrating that the preservation of ecosystems and the unique plants and wildlife they support is compatible with growth and development. This is endangered species protection in the real world," says Secretary Babbitt.

"The basic message of the Endangered Species Act is something everybody understands: extinction is forever," Babbitt concludes. "Once a species and its habitat are lost, they can't be brought back. The Endangered Species Act gives us one last chance to intervene on behalf of a species, and to save some important living part of America for the future."

*Source: U.S.F.W.S. / Interior Dept..*



# Book Review

Second Nature: Environmental Enrichment for Captive Animals  
Edited by David J. Shepherdson, Jill D. Mellen, and Michael Hutchins  
Smithsonian Institution Press, Washington and London, 1998  
Hardback, 350 pgs., \$32.50

*Review by Kayla Grams, Animal Keeper  
Arizona-Sonora Desert Museum, Tucson, AZ*

*Second Nature* represents selected papers from the First Environmental Enrichment Conference held at the Metro Washington Park Zoo in Portland, OR. It is the second in a series written after *Ethics on the Ark: Zoos, Animal Welfare, and Wildlife Conservation* (Norton et al. 1995) which dealt with animal rights activists, captive animal managers and conservationists discussing the well-being of animals.

Having attended the First Enrichment Conference in Portland, OR, I can attest to the excitement and importance Environmental Enrichment has brought to the forefront of zoos around the world.

David Shepherdson starts out by introducing us to the path that enrichment has taken in zoos. Heini Hediger and Robert Yerkes discussed it long ago giving us the background of enrichment. Sheperdson suggests continuing research needs to be done and in order to implement some of these ideas, priorities, attitudes and how we work must change.

Part One authors discuss the Theoretical Bases of Environmental Enrichment. Understanding and knowing the natural history of an animal we can try to match the needs of the captive environment to the activity in the wild. Markowitz and Aday stress the importance of empowering an animal by giving choices allowing species to have some control over their lives. Complexity, not just space, needs consideration as well as foraging and exploratory behaviors. Trevor Poole discusses the basic principals of enrichment in meeting the psychological needs, including novelty, humans as a factor of importance, and the use of artificial objects to meet the animals' needs even in a natural environment. Hutchins, Kreger, and Fascione disagree and contend that a zoo visitor should see an animal naturally in its environment.

Part Two authors write about Environmental Enrichment in Animal Conservation and Welfare. Enrichment makes a difference when reintroducing species into the wild as determined by studies on the Black-footed ferret and Golden lion tamarins. The Animal Welfare Act dictates requirements for the well being of non-human primates. Studies have shown the cage size did not make a difference in diverting abnormal behaviors, and social tendencies can cause injury especially if an animal has been housed alone most of its life.

Crockett suggests that zoos can learn from primate laboratories. Stereotypic behaviors in zoo carnivores seem to be an ongoing struggle. Carlstead discusses the factors and prevention of this behavior. She shows that method and frequency of feeding can help to reduce these behaviors. Carcass food enhances the psychological well being of small felids. Mellen, Hayes, and Shepherdson suggest that dietary diversity, texture, presentation, schedule, novel objects, odors, and visual barriers are all important to the well being of small felids.

Part Three authors write about Environmental Enrichment in Captive Management, Husbandry, and Training. Authors write about amphibians and reptiles needing enrichment, marine mammal enrichment, the natural history of ungulates and their optimal care, and training as enrichment for husbandry and medical purposes. Animals choose to participate in training programs giving them choice and control over their own lives that itself is enriching. Lindburg discusses that food usually has a higher response for animals compared to inanimate objects and we need to think of ways to allow capture-like activities for carnivores. From a veterinary perspective, there are risks involved in all aspects of enrichment and these risks must be evaluated before implementation.

The book concludes with an epilogue by Mellen, Shepherdson, and Hutchins looking towards the future of enrichment. In the past 50 years there has been a lack of progress. But there is considerable hope with newsletters, journals, husbandry protocols, and enrichment techniques to daily care now available. Exhibits are being designed with enrichment in mind. We need to continue to refine methods of measuring the well being of the animals in our charges. It's still a challenge.

I felt that all of the authors did an excellent job. There is a wealth of information to gain here. It was good to see some different viewpoints on subjects as well. Although in the book they did not come off as too controversial, at the conference there was much discussion on various concepts such as carcass feeding, and artificial objects in a natural environment, as well as other subjects. Public perception, at least in U. S. zoos, seems to be a concern especially when it comes to carcass feeding. I think most agree that the need to effectively educate visitors is essential. What information do zoo visitors walk away with? Or are they there strictly for recreational purposes? How can we effectively teach about the natural history and behaviors of these captive animals? The need for continuing research exists.

After finding out about this book I was disappointed that there was not a conference proceedings. There were many good papers that I felt deserved recognition. Being an animal keeper I tend to enjoy reading about husbandry related subject matters, and at first it took me awhile to really get excited about this book. Theory is important and I feel that this book will be a good reference for that reason, along with the many references that went along with each paper. This book did a good job of describing the many principles and some practical uses of enrichment. Overall I feel that this book is an excellent one to have, especially if you are having problems convincing others at your institution that enrichment is important to the daily care of the animals and their psychological well being.

# Flight Demonstration Training of a Hooded Crane (*Grus monacha*)

By Sally Hanuszczak and Jeff Gerencser  
International Crane Foundation  
Baraboo, WI

Training a flight demonstration bird for the International Crane Foundation (ICF) proved to be a learning process not only for the hooded crane chick, "Belmont", but for the trainers as well. We realized throughout the process that the best training method was a flexible one, and that the driving force of each training session was Belmont. We continually adapted our approach in relation to her behavior. By paying attention to her needs and limitations, we were able to achieve our flight demonstration goals with a minimal number of setbacks.

Belmont hatched on 30 April 1998 and was hand-reared at ICF. During her first two months she and another hooded crane chick were raised in our public chick exercise yard and grew accustomed to the presence of people. After this time, both chicks were moved to an off-exhibit area, and a few weeks later Belmont was placed in her own enclosure. Training began a few days later.

The flight demonstration presently occurs on a dirt road surrounded by over 50 acres of restored tallgrass prairie. Belmont reliably flies a distance of approximately 260 yards (238m) between her two trainers and lands just five feet away from the tour groups. After she lands, the trainers answer questions about Belmont and the procedures used to train her while Belmont entertains the group by "fishing" for pebbles in her water bucket. Of the ten public flight demonstrations given this season, Belmont successfully flew to her second trainer each time, with only one instance in which she trotted alongside the first trainer for about half the flight path distance.

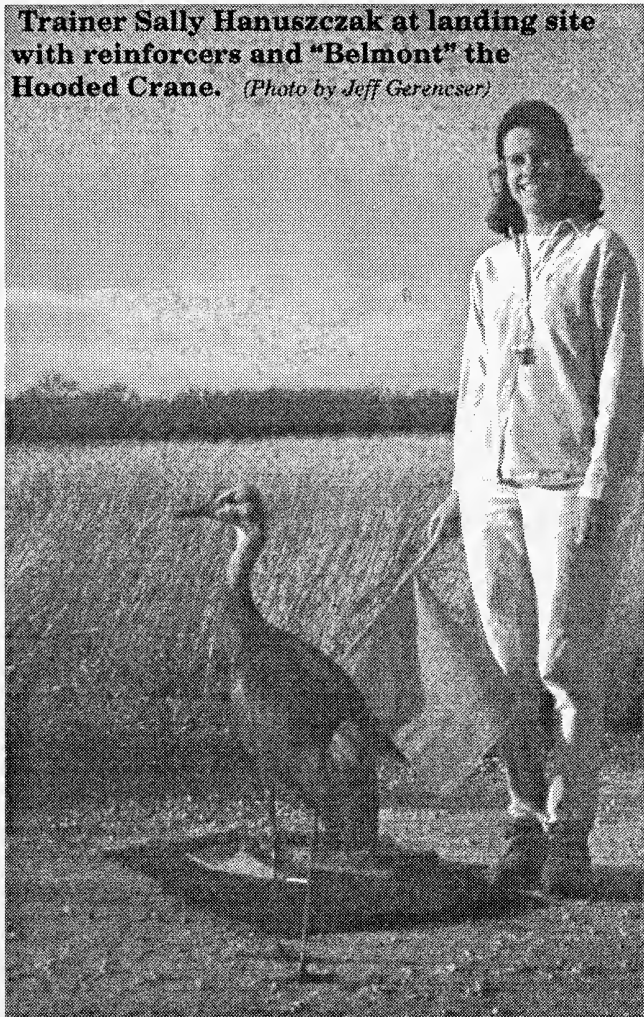
Getting Belmont to fly from one point to another, without being distracted by all of the enticing foraging opportunities of the prairie, was a major concern. Therefore, in training her we felt that clearly defining our goals was imperative. Our first, and probably most important, goal was to have Belmont be comfortable in our presence (Martin, 1994). In the short time she spent off-exhibit near adult hooded cranes she had become very wild. Consequently, we would individually spend anywhere from 20 minutes to an hour every day with Belmont, purring to her occasionally and sitting in her enclosure. During this time, we also wanted to determine which treats elicited the most excited response from her. In Belmont's case, waxworms were the answer. Once we discovered this, we began removing her food in the morning and returning it after training in the afternoon so that her attention span and response during training would be maximized. In just five days, we felt confident that Belmont was at ease around us and that we had found the right reinforcer to use during flight training.



Once we felt these two goals had been achieved, our next objective was to train Belmont in such a way that she would achieve successive milestones ranging from walking to trotting and flapping to flying. We began training Belmont in her enclosure by setting our two 2' x 2' (61cm x 61cm) mats approximately four feet (1.2m) apart, with one person at each mat. The mats were used to ensure that she would see the waxworms when they were dropped for reinforcement. At this point we simply wanted Belmont to learn the basic routine of observing a signal from one of us and coming over, whereupon she received the reward. The person at the other mat would make a quick shake of the hand when she looked in that direction, and then would drop the treat on the mat. Belmont was reinforced with one waxworm each time she walked the four feet from one mat to the other. She was then secondarily reinforced with praise by the trainer saying "Good!"

This procedure was repeated six times before purring was introduced to the hand gesture in order to better capture Belmont's attention. Within ten times during the very first training session Belmont was walking readily between the mats, apparently associating our cues with the ensuing waxworm treat. Once this occurred, the mats were moved to eight feet (2.4m) and then 12 feet (3.65m) apart, with the reward being dropped on the mat only once she had reached each mat. We also switched our hand gesture from a shake to a sweeping motion with an arm held out to the side which seemed to be a better visual cue for her. After a few days of training, however, Belmont was losing interest and was getting

distracted after the fourth or fifth trip to each of us. Consequently, we decided to change our approach and end our training sessions at her peak performance; that is, we stopped the training session while Belmont's response rate was still



good (Martin, 1994), rather than trying to fulfill an arbitrarily chosen number of repetitions.

As we kept increasing the distance between the mats to try to encourage Belmont to begin running between us. We knew we would have to find new visual and auditory cues that she could sense once we removed her from her pen and began training on the actual flight path. Since many crane species respond strongly to the color red (Kepler, 1978), we incorporated 1' x 1' (30cm x 30cm) red flags into the training regime. We also substituted whistles for purring, which differed from person to person and was not audible beyond several dozen yards. Therefore, we each began using a flag during our sweeping hand gesture after the whistle, and Belmont quickly became conditioned to these modified initial cues as well.

As Belmont's response time in walking or running between us grew shorter, we would keep increasing the distance between the mats until we ran out of room in her pen (the greatest distance being 70' (21m) if the mats were placed diagonally at opposite corners. We also increased the number of waxworms given as we increased the distance. Belmont's performance during many of these training sessions was not always good, however. Many times she would stop on her way over to forage or look at the sky, or she would not want to leave the person she happened to be near. It seemed as if there were only two types of training sessions: complete successes or poor performances.

Having reached the maximum possible distance between mats in the pen, we wondered whether Belmont was ready to be trained outside of her enclosure. She answered this question for us when she followed us out of the pen one day after a training session. But, with nine sessions outside of her pen, she never advanced to flying between us in response to flag waving and whistle blowing. She occasionally flapped and trotted, but even this was only sporadic in occurrence. It seemed as if she needed a catalyst of some sort to get her from trotting along the ground with occasional flapping to flying in the air. We knew that she could fly from her previous chick yard experience. We decided to spend time with her, running and flapping to see if she would follow. She did readily, as if she had been waiting for us to finally catch on!

It was then that we added running and flapping to our training sessions. We walked to the future flight demonstration area and paced off a distance of 100 yards (91m). We decided to imitate her natural pre-flight behavior to both indicate what we wanted her to do and to get her excited and ready to fly. We practiced blowing the whistle to sound like a pre-flight call and imitated the pre-flight posture (neck stretched out and arms held back). This caused her to do the same, at which point the trainer at mat A would run slowly at first and then sprint toward the trainer at mat B. All of these methods and modifications culminated in a magnificent first flight by Belmont. The trainer she flew to began waving the flags the moment she was in the air, blew the whistle when she was half-way there as a "bridge", and then stopped and waved the flags close to the mat to indicate the "landing site". She readily ate the five waxworms

on the mat. After Belmont seemed to be doing well flying the initial 100 yards, we increased the distance to approximately 260 yards (238m), which is the distance she now flies during each flight demonstration.

These additional methods worked wonderfully and, over time, we made several more observations that added to the quality and ease of her flight. For example, before doing the pre-flight call and posture, we noticed that playing with pebbles on the road, shuffling our feet, and dancing with arms outstretched made Belmont even more excited and ready to fly. We also noticed that when we stopped removing her food once she started flying longer distances, she stopped her persistent calling and pacing whenever people were near her pen. Giving her full access to her food did not negatively affect her performance at all. We also found that at the end of her flight she enjoyed a simple bucket of water as much as her waxworms. In addition, by the twelfth day of training on the flight path, the first trainer did not have to run more than ten feet before Belmont



**Belmont comes in for a landing following a practice flight demonstration.** *(Photo by Jeff Gerencser)*

was in full flight. The only thing we could not accomplish that we had initially hoped, however, was to have Belmont fly back to her take-off site. With few exceptions, she prefers to walk back to her pen with her trainers.

Training a hand-reared crane for a flight demonstration in the middle of a prairie was a challenge, not only because of the distractions involved, but also because we could not locate any articles written about this type of training. In the end the best training approach was the patient one. The methods we first employed were not sufficient. Paying more attention to Belmont and her needs gave us a

huge advantage. Imitating her pre-flight behavior and incorporating it into our initial protocol turned out to be the perfect approach. Now we have a bird that recognizes training reinforcers, vocally responds to the bridge (whistle) during flight, and lands within a few feet of her second trainer. If she overshoots her mark, she circles and tries again, all to the delight of the tour groups watching a crane flying over natural habitat!

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## Lynx Reintroduced to Colorado Wilderness

On 4 February, Colorado wildlife officials released four Canadian lynx (*Felis lynx canadensis*) in the Weminuche wilderness near the San Juan-Rio Grande National Forest. The releases were part of a five-year effort to restore the lynx in Colorado. The first two females released marked the return of a species that has not been seen in the state for 25 years. A male and a female were the next two animals released. They were among 11 lynx that were brought to Colorado on a 1700-mile truck ride from British Columbia.

The remaining seven were scheduled to be released the week of 15 February, with a goal of 50 animals being reintroduced this winter. Officials said they hope to have a total of 110 lynx reintroduced into this high mountain area within the next two years. The release site is on private land at an altitude of nearly 9200 feet. Four individuals have been hired to track the lynx and monitor the reintroduction - the lynx will wear radio collars. The project is estimated to cost \$1.4 million.

The reintroduction comes about three months after an environmental group said it set damaging fires at the Vail ski area to protect potential habitat. Ranchers and farmers had fought the reintroduction in court, but lost.

It was decided to re-establish the lynx in Colorado after the USFWS recommended in June 1998 that this species be added to the list of threatened species. The cats remain plentiful in Canada and Alaska, but it is believed that fewer than 200 survive in the lower 48 states.

Sources: USA TODAY, GREENlines, and the Associated Press



# Chapter News Notes

## Louisville Zoo AAZK

Since rechartering the Louisville Zoo AAZK Chapter one and a half years ago, the membership has been quite busy. We sponsored a break session at the AAZK Conference in Indianapolis and a training seminar breakfast held at the Louisville Zoo.

The Chapter supported conservation projects in Brazil, Indonesia and South America. Numerous fundraising events were held and several sub-committees were formed. Brown bag lunches featuring guest speakers and educational videos were held throughout the year.

Our Chapter logo was re-designed this year by Joyce Turner of our Zoo's Exhibit Design Dept. She took the original logo, which was designed many years ago when the first Louisville Chapter existed, and added the bird, reptile, state of Kentucky and triangular border. This new logo was adopted by the Chapter in the fall of 1998.

Election of officers for 1999 was held in December and the following were elected:

President.....Lisa Trusty  
Vice President.....Jane Herndon  
Secretary.....Tracy Williams  
Treasurer.....Eva Nordine

The Chapter would like to thank our 1998 officers for their service and we look forward to a great 1999!

*---Silvia Zirkelbach & Lisa Trusty*

## Milwaukee County Zoo Chapter

The Milwaukee County Zoo AAZK Chapter held their officer elections for the 1999-2000 term on 23 November 1998. The elected officers are:



President.....Tracey Dolphin  
Vice President.....Karen Rabideaux  
Secretary.....Mark Scheuber  
Liaison.....Earl Conteh-Morgan  
Treasurer.....Lisa Guglielmi

On 9 January 1999, a baby female Bonobo was born to 31-year-old Laura. This was her seventh baby. Before the birth Laura went through several ultrasound exams performed by our zoo keepers and Medical Care Specialists, Inc., a portable ultrasound firm. No name has been chosen yet. There are about 130-140 bonobos in captivity, ten of which are housed at the Great Apes facility at our zoo. All indications show that Laura is taking good care of her latest baby. Good job, Laura!

*--Earl Conteh-Morgan, Liaison*

## AAZK Welcomes New Chapter

AAZK's newest Chapter is the Palm Beach AAZK with members from both the Palm Beach Zoo at Dreher Park and Lion Country Safari in Loxahatchee, FL.

The Chapter's newly elected officers are:

President.....Brian Kohler  
Vice President.....Chantel O. Pelletier  
Secretary.....Michelle Dzama  
Treasurer.....Laura McCord  
Chapter Liaison.....Brian Kohler

We welcome them to the Association and wish them much success with their new Chapter!

## Southern Ontario AAZK Chapter

Newly elected officers for the Chapter are:

President.....Andrea Drost  
Vice President.....Eric Cole  
Vice President.....Kestra Self  
Secretary.....Lesya Wasylko  
Treasurer.....Lyndia Langville  
Liaison.....Dianne Morrison

Our Chapter is coming to grips with the reality of hosting the 2001 National AAZK Conference. Committees are formed and the hotel has been selected. Our members have come up with some innovative fund-raising ideas. One potentially lucrative scheme we are working on will enable members of the public to pay to accompany a keeper for a day. Has any other Chapters ever tried this?

Our regular Chapter business will continue as usual and events like Bowling for Rhinos will not be compromised just because we're gearing up for a conference in the next millennium.

--Eric Cole, Vice President

## Utah Chapter AAZK

New officers for 1999 are:

President.....Bethany Lutz  
Vice President.....Elizabeth Larsen  
Secretary.....Nicole Mantz  
Treasurer.....Susan Mahoney  
Liaison.....Bill Day

Ninety-eight was a great year for the Utah Chapter. We are now up to 16 active members and going stronger than ever!

Bowling for Rhinos was very successful (as usual) and we raised approximately \$4600.00 to help with rhino conservation efforts. We also raised almost \$1300.00 for the Cheetah Conservation Fund at our annual Cheetah Cha-Cha.

Norman Gershenz, the President of the

Center for Ecosystem Survival, attended the unveiling of our new Coral Reef Conservation Parking Meter which raised over \$900.00 last year. We also have a Rainforest Conservation Parking Meter which raised close to \$3000.00. Money raised by these two meters is sent to the Center for Ecosystem Survival for the Palua, Macronesian coral reef and the Pacaya/Samiria rainforest.

Our Chapter sponsored Utah's Hogle Zoo's first ever Ritz Gala event. As the valet parking attendants, we raised close to \$600.00 for our Chapter in just one evening. We are looking forward to a great 1999!

--Bill Day, Liaison

## Chesapeake Chapter AAZK

(located at Salisbury Zoo, Salisbury, MD)

Fundraising for conservation is the goal of the Chesapeake Chapter of AAZK. With over \$9,000.00 dispersed to several statewide and international organizations in January 1999, we feel we do a pretty respectable job.

Our Chapter has two fundraisers: "Critter Christmas" and "Night of the Living Zoo" which are shared with our Education Department. Both of these are very labor intensive in set-up and for the event itself.

There is one other major source of income for us, stuffed animal sales in the gift shop/visitors center which is run by volunteers.

What makes this amount of funding so extraordinary is our Chapter and zoo have only four Professional AAZK members. How do four keepers manage? We don't --at least not alone. Fortunately our director, curator, educators and groundskeeper pitch in and add their help. Still, this is only nine pairs of hands.

You may be asking yourself what the point is here. We just want everyone to know that none of this would be possible

without the help of our DOCENTS! And we would like to take this opportunity to publicly send them a huge THANK YOU! So, the next time one of your docents stops you in the middle of something to report an observation or ask a question, just remember that they can be great allies, a big help and that they love the zoo and the animals as much as you do.

Nineteen-ninety-nine began with our annual dispersement of funds. Once again, we are pleased with the amount of monies raised and all the hard work and dedication to conservation the Salisbury Zoo family has shown. With over \$12,000.00 raised during 1998, we are proud to share with you a list of our controbutions:

State of Maryland Black Bear Conservation -	\$1,000.00
Delmarva Birders Guide -	\$500.00
Nanticoke Watershed Alliance habitat preservation-	\$500.00
Belize Zoo -	\$250.00
Pronatura, Spider Monkey Preserve -	\$2,500.00
AAZK, Inc. -	\$1,000.00
Bowling for Rhinos -	\$1,000.00
Zoo Conservation Outreach Group (ZCOG), Nicaragua and Honduras -	\$2,000.00

Our Conservation Parking Meter is also bringing in money for Costa Rican rainforests. Unfortunately, it is currently located in the zoo's visitor center and only available on a limited basis. We are working on a new location and hope to increase our contributions to the Center for Ecosystem Survival in 1999.

Officers for 1999 will remain the same. The logo which was designed and drawn by former intern Mike Bowden, has been officially adopted and is in the process of becoming a patch.

--Ann Meyer-Kuntz, *President*



**The Dallas Chapter of AAZK**

The Dallas AAZK Chapter is proud to announce its 1999 officers:

- President.....Joseph Robertia
- Vice President.....Laurie McGivern
- Secretary.....Laura Krause
- Treasurer.....Jeanette Boylan

Our new officers will bring a lot of experience and energy to the Chapter. Our focus this year will be to increase opportunities for lectures and funding for keepers to attend conferences.

The first event of the year is a lecture by Adam Eyres from Fossil Rim Wildlife Center on rhino management. We look forward to having a great year.

--Sara Weller, *Chapter Liaison*

**Kansas City AAZK Chapter**

Congratulations to the 1999 Kansas City officers:

- President.....Beth Moore
- Vice President.....Jacque Blessington
- Treasurer.....Wendy Schaffstall
- Secretary.....Angie Higgins
- Liaison.....Tori Kaldenberg

Hello from K.S.! Ninteen-ninety-eight was a pretty successful year for our Chapter. In May we organized our 12th

Annual Bowling for Rhinos which raised \$3,500.00.

Another of our successful fundraisers was the first annual "pie toss at management". After our expenses, we brought in over \$350.00. We auctioned off the first two pies - one for our director and the other for one of our curators. Though the pies were meant for only management, it turned into a free-for-all. We all had a great time, and what a stress reliever!

Along with the previous two fundraisers, we raised money through our dog washes, book sales and can recycling.

We ended our 1998 activities with our annual Docent Chili Supper. We do this to show our appreciation for all the work our docents do.

For 1999 we have implemented our financial master plan into our budget. This master plan allocates finances designated as international, local, and in-house conservation projects. We have also allocated finances designated for AAZK National donation and Chapter monies to attend conferences, etc. Chapter members fill out an application for financial support of conservation projects. After the deadline, the Chapter will vote on which projects will be supported this year.

We also have shown the Center for Ecosystem Survival slides, which we purchased at the conference in Indianapolis, at the Kansas City Flower, Lawn and Garden Show. This will be one of the many presentations we will give in 1999.

Our 13th Annual Bowling for Rhinos will be held March 20th and our children's event will be held one week later.

We hope all of you and your Chapters have a very exciting and successful year.

--Tori Kalenberg, Chapter Liaison

## Fort Worth Zoo AAZK Chapter

Officers elected for 1999 are:

President.....Michelle Wiechec  
Vice President.....Monica Olivera  
Secretary.....Jessica Starkey  
Treasurer.....Valerie McCall  
Liaison.....Liz Hudson

We are excited to report a very successful 1998 and are looking forward to completing more projects in 1999. Last year we started a guest speaker program in which we invited the public to join us. Craig Sholley spoke about the conservation status of the Mountain Gorilla. Through donations we collected \$400.00 for the Mountain Gorilla Project. David Schleser taught us about the biodiversity of the Amazon rainforest. Matt Vaughn did a presentation on the care and handling of venomous reptiles. We already have more guest speakers scheduled for this year.

Nineteen-ninety-eight also brought our Second Annual Bowling for Rhinos event, which I am proud to report surpassed our goal and raised \$3206.00.

Our recycling program raised almost \$1200.00 last year and is still going strong. We are currently developing a protocol for donating funds for conservation projects.

--Michelle Wiechec, President





# Zoo Keepers As Naturalists

By David Sweetland

Charles Paddock Zoo, Atascadero, CA

(An Aleut man talking to a naturalist)...Foxes just *are*, he told me, and the only way to be with them, to experience anything similar to what they might experience, is to spend a great deal of time in their environment. "If you can do that long enough," he said, "the animal will teach you about his world..." (MacLeish)

We who work with exotic and indigenous wildlife in a zoo setting *are* naturalists. We *study nature* by watching our animals closely, observing life cycles, noting habits and charting changes in behavior, etc. How do we get this species-related information?

Many of us earn college degrees in the science realm. We learn on-the-job by doing zoo work. Talking with or working alongside colleagues who have 20 years zoo experience, or who have done field research is *de rigeur*. Perhaps we breed unique species. National Geographic films and reading Jane Goodall is good forage.

But wouldn't it be great if we could, on occasion, speak with authority because we, too, have gone to the wilder places to learn of animal natural history? By doing so we would practice a bit of the discovery trait biologists use to unearth their findings. We would, in a sense, follow in their footsteps, or at least see where they lead.

Charles Darwin was a naturalist. So was Aldo Leopold. Farley Mowat, Barry Lopez, George Schaller, Dian Fossey and...(pick your favorite) field biologist who can translate ecology, botany and zoology into commoners' terms are naturalists. These passionate scientists jumped into the bush, literally, to learn about the fauna and flora in an ecosystem. When they came out, they let us in on what they had found.

Charles Darwin first visited the Galapagos Islands and gave us the concept of natural selection; Aldo Leopold wrote the classic, Sand Country Almanac; Farley Mowat authored one of the first in-depth looks at cetacea, Whale for the Killing; Barry Lopez penned an outstanding text (Of Wolves and Men) on *Canis lupus* after spending years living in their tiaga or boreal forests and on the tundra; George Schaller's exploits and articles or books are too many to list (40 years of exploration!); intrepid Dian Fossey lived among and learned from the mountain gorilla in Africa.

These field biologists (bio=*life*, logos=*study of*) followed the animals in their natural setting (everything associated with the species habitat or ecosystem such as seasonality, macro and micro climates, soil, water, botany, competition, predators and prey, reproduction, population relationships, ecotones and niches, biogeographical or topographical considerations, environmental stress, human impact and more).

Field biologists are ecologists (eco=*home*; logos=*study of*). they look with detail interest into the life cycle of the animals they want to study. We who work in a zoo setting also must know ecology so as to give our wildlife collections the best care. And we must at times be naturalists to our guests, able to explain the natural history with species in the tropical jungle, in our wild animal parks or at our zoo exhibits.

As an example, a zoo colleague was standing by her alligator exhibit. A boy, astute and aware he was in the company of a keeper asked, "What do 'gators eat...in the swamp?" My friend gave an accurate - vivid - account of crocodilian ecology. She had studied *Alligator mississippiensis* on a research project in the Florida Everglades. Of course she would have been able to convey that data with her spiel, but now she had the practice of the wild to give graphic dimension to her *pedagogy* (to lead a child).

We cannot have this experiential knowledge for all our zoo animals outside the exhibit. But to improve in this regard, like Barry Lopez or my associate, we can go into the brush, get out of our creature comforts and see life from the view of wild animals.

As a college student I was fortunate to have zoology and ecology instructors who were also very keen naturalists. They often left the university classroom and lab to get science dirty as they did biotic research in some primitive locale. And they gave us the chance to go with them. I'll never forget one herpetologist teacher of my. We caught and measured crotalids one day in the chaparral foothills of southern California. After my senior year at the university I lived and worked in a mountain biome (7,000 ft. altitude) four miles away from the nearest residential road. Pine martins (*Martes americana*) occupied the top trophic level of the food pyramid. I spent hours each week noticing their numbers, range and whereabouts, and the status of the tree squirrel population, their primary food source, in this Jeffrey Pine-Red Fir forest.

In each region of the map where we reside there are zoological and ecological studies in progress. I recently drove over the Colorado Rockies on Highway 70 and talked with a team of students and their professor who were tracking mountain sheep. When I lived on the Gulf Coast of Florida, as I kayaked about I would see zoo-aquarium staff in the mangrove estuaries learning more about manatees. Across America there are ornithologists and Audubon groups who can't wait for the weekend to go into the field to observe or count various raptors or endangered birds. What species or ecosystem would you like to study in the outback if you had your druthers?

There are opportunities for us to learn about our zoo collection and their natural history or ecology by helping in field projects. I read each month in various eco and zoo journals or nature magazine advertisements about frontier research gigs.

These experiences could increase levels of knowledge in the realm of untamed animal care and conservation awareness. If nothing else, these assignments will give your employee continuing education credit, or perhaps a new entry on your own resumé. Maybe your zoo will help pay for such a post: endangered lemur work in Madagascar or...? With many zoo exhibits being built or renovated on a total ecosystem or *immersion* design, the more we can learn about species

natural history or habitat ecology, the better we will know our job. even a short exposure in rugged *terra incognita* (the unknown) close to home can be eye-opening, especially as it relates to our ability to communicate natural history to the public who visit our zoos.

“..the goal of such (scientific curiosity) is the marriage of action to thought. No (person) of science wants merely to know. (They) acquire knowledge to appease (their) passion for discovery.”

(Whitehead)

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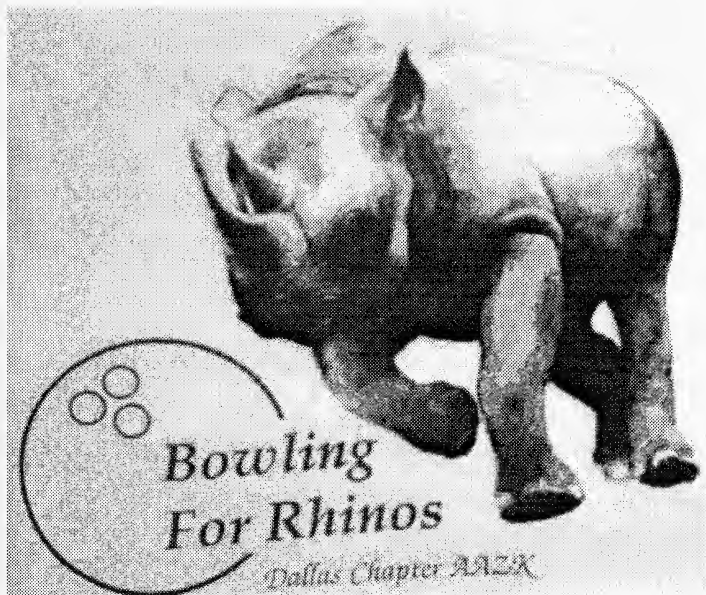
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## Dallas Chapter Offers BFR T-Shirts

The Dallas Chapter of AAZK is selling Bowling for Rhinos T-Shirts. They are white, Hanes Beefy-T® in sizes S, M, and Lg. Rhino emblem on front, sponsor's emblem on back. Cost is \$12.50, includes s&h. Contact Sara Weller, c/o Dallas Zoo, 650 So. R. L. Thornton Frwy., Dallas, TX 75203.



*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the **10th of each month** to: Opportunity Knocks / AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Please include closing date for positions available and when setting these dates keep in mind that because of bulk-mail, most readers do not receive the AKF until the middle of the month or later. There is no charge for this service and fax listings of positions which become available close to deadline are accepted. Our fax is (785) 273-1980.*

**ZOOKEEPER/CARETAKER...**Primarily Primates, Inc., a non-profit animal sanctuary is accepting applications for Caregiver/Zookeeper. References and minimum two (2) years experience at an AZA-accredited zoo are required. A unique opportunity to work with a wide variety of primate species in a sanctuary setting. History of direct care with Callithichids or chimpanzees a plus. Good communication skills essential. Position ideal for independent, self-motivated mature individual. Position is outside in all weather with low pay and a sometimes difficult boss. Fax resumé to attn: William W. Swett, Primarily Primates, Inc. (830) 755-2435. **Position open until filled.**

**ZOOKEEPER (BIRDS)**...one opening in the Bird Department at the Denver Zoo. Requires one of the following: 1) Baccalaureate Degree in an animal-related or animal behavior-related field plus completion of either an internship or docent/volunteer in the animal department of an AZA-accredited institution. 2) Associate Degree in an animal-related or animal behavior-related field plus two (2) years of experience in the care, feeding, and handling of a variety of exotic birds within the last seven (7) years. 3) Four (4) years of experience in the care, feeding and handling of exotic birds within the last seven (7) years. Possession of a valid Colorado Class "R" Driver's license at the end of probationary period. Salary \$24,000.000 - \$35,016.00. If you live outside the Denver Metro area, please call (303) 640-3946 to request an application through the mail. Submit a copy of college transcript & application **by 31 March 1999** to: Career Service Authority, 110 16th St., Denver, CO 80202-5206.

**VETERINARY TECHNICIAN/HOSPITAL KEEPER...**the Gladys Porter Zoo is seeking qualified applicants for a full-time veterinary technician/hospital keeper position anticipated to be available August 1999. Job responsibilities include weekday and relief hospital keeper duties (cleaning, feeding, treatments, etc.), weekend and relief technician duties (clinical pathology, assisting with all procedures, radiology, etc.). MedARKS data entry and maintenance of medical records. Prior technician/animal keeper and computer experience preferred. Wages in the mid-teens, plus benefits. Send resumé to: Teri Hermann, RVT, Gladys Porter Zoo, 500 Ringgold St., Brownsville, TX 78520.

**ZOOKEEPER. EOIII.**City of Marshfield, WI. Primary professional staff member at the Wildwood Park Zoo. Provides general care, maintenance and record keeping for the zoological collection and facilities. Assists with public relations and promotion by developing and implementing wildlife education programs, exhibits and tours. This position is an AFSCME represented position with a current wage rate of \$14.33 per hour. Qualifications: Bachelor's degree or equivalent education in captive wildlife, animal husbandry, wildlife or related field. Oral and written communication skills required. Valid Wisconsin Drivers License. Application Deadline: **Until filled.** For application materials, contact Human Resources Office, City of Marshfield, P. O. Box 727, Marshfield, WI 54449-0727. Phone (715) 387-6597. E-mail: hr@ci.marshfield.wi.us. EOE.

**KEEPER (Union Position)**...This position is for the San Clemente Island Loggerhead Shrike Project for the duration of the Navy contract, beginning in April

1999, with the possibility of contract renewal. Room and board will be included for the five-day work week on the island. Knowledge of artificial incubation and hand-rearing of baby birds is desirable. Aviculture experience, a Life Science degree or equivalent specialized training is preferred. Applicants must be available to work any of the seven days of the week. This is a grant position with benefits. Hourly pay rate is \$14.35. Send resumé to: San Diego Zoo/Human Resources Office/Otto Center, ATTN: SCI#182902), P. O. Box 120551, San Diego, CA 92112-0511. **Deadline is 26 March 1999.**

**KEEPER (Elephant/Koala/Camel Team)**...This position will be responsible for the day-to-day management of animals. Requires animal husbandry knowledge. A bachelor's degree or equivalent experience in biology or a scientifically-related field from a recognized institution and/or one (1) year working in an accredited zoological facility if preferred. Experience with marsupials and knowledge of behavior modification techniques is highly desirable. The qualified candidate is expected to have a broad base background in mammal management. This is a union position - Regular with benefits. Pay rate is \$14.35 per hour. Send resumé **by 31 March 1999** to: San Diego Zoo/Human Resources Office/Otto Center. (ATTN:EKC#163503), P. O. Box 120551, San Diego, CA 92112-0511.

**BIRD KEEPER**...the Department of Natural and Environmental Resources of Puerto Rico is accepting resúmes for an opening at its captive propagation facilities for an endangered Amazon parrot. A degree in animal science/biology/zoology or related field, with two (2) years paid experience preferred. Primary duties include daily feeding and care of Amazon flock, including cage maintenance, cleaning and disinfection. General facilities maintenance also included. Applicant must be able to assist the project leader, veterinary assistant and other staff members as a team player, and be flexible, creative, organized and demonstrate a good work attitude. Experience in developing diets, disease control, record keeping, ARKS and SPARKS desirable. Residence, including water and electricity, provided. Applicant must live on site. **Position open until filled.** Send cover letter, resumé, including references and CV to: Project Leader, P. O. Box 439, Arcibo PR 00613-0439.

**ELEPHANT SUPERVISOR**...Knoxville Zoological Gardens. The individual in this position is responsible for all aspects of the operation and management of the elephant department. Will implement the long-range plan for the KZG elephant breeding program, ensure staff compliance with department and zoo policies, oversee animal training and husbandry, direct barn maintenance and planning and foster a positive, safe working environment. The Elephant Supervisor is a working supervisory position. Should have the following minimum qualifications: 1) Associate or Undergraduate degree in zoology or related field and/or a minimum of three (3) years paid experience working with elephants/mammals in a zoological or related institution.; 2) minimum of two (2) years experience in a supervisory animal care position. **Deadline for application is 25 March 1999.** Please submit resumé/application to: Greta McMillan, Director of Animal Collections, Knoxville Zoological Gardens, P. O. Box 6040, Knoxville, TN 37914.

**GENERAL CURATOR (Animal Curator)**...Available at Chaffee Zoological Gardens of Fresno. Responsible for the conservation/acquisition/maintenance/propagation for a mid-sized zoological collection. Must have experience supervising paid animal staff, and be able to train and establish effective working relationships with other employees and volunteers. Requires Bachelor's degree in zoology, biology, wildlife management or related field and five (5) years of paid experience in the care of mammals, birds, reptiles, amphibians and invertebrates at an AZA accredited facility. Additional experience may be substituted for up to two (2) years of education.

Salary \$3,143.00 to \$3,825.00 per month. **Application deadline is 2 April 1999.** Obtain applications from City of Fresno Human Resources, 2600 Fresno St., Fresno, CA 93721 (559) 498-1575.

**ZOOKEEPER/MAMMALS**...responsible for the care, feeding, cleaning of exhibits, observation and record maintenance of mammal collection. Requires a high school diploma and a degree in biology/zoology or a related field, and prefer one (1) years work experience with a zoo mammal collection. Starting wage \$10.55 per hour with benefit package. EOE. For consideration **submit resumé by 31 March 1999.** Send to: Nancy Foley, Director of Human Resources, The Toledo Zoo, P. O. Box 4010, Toledo, OH 432609.

**The following three (3) positions are available at the Department of Natural and Environmental Resources of Puerto Rico. They involve captive breeding of an endangered Amazon parrot. To apply send cover letter, resumé, three (3) references and salary history to: Project Leader, Rio Abajo Aviary, P. O. Box 439, Arecibo, PR 00613-0439. OPEN UNTIL FILLED.**

**PROJECT LEADER**...we are soliciting applicants who have demonstrated superior husbandry skills in the area of aviculture. Experience in all areas of aviculture will be considered, however we are especially interested in persons with experience in breeding, artificial incubation and hand-rearing of neonate psittacines. Will be responsible for overseeing all aspects of the management and breeding program of captive endangered Amazon parrots. Duties include direct animal care, supervision of staff, hiring, training and scheduling, assigning/reviewing work of supervised staff, continuing to implement the master plan for our successful breeding program and ensure that it complies with all regulations, update and expand this master plan, develop and implement an annual budget, overseeing the construction and maintenance, landscaping and sanitation of aviary complex, supervision over technical staff, students/interns, and volunteers. Proven leadership ability, teamwork, organizational and communication skills, as well as direct experience with the management of captive psittacines must be possessed. Must be willing to work on any of the seven days of the week. Must be able and willing to work independently. Bilingual (English/Spanish) highly desirable. Must have minimum of five (5) years paid experience in bird-related field. Required to live on-site. Housing, water and electricity provided.

**ASSISTANTS (2) TO THE PROJECT LEADER**....actively participate in the continuing development of a successful breeding and husbandry program for endangered Amazon parrots. Need to have experience in exotic animal husbandry, computer literacy, strong observation/communication skills, record keeping and the ability to work in a harmonious manner with veterinary/keeper/supervisory staff. Applicants should have adequate writing skills and demonstrate the ability to do independent studies and instruct students/interns. Experience in supervision, development and maintenance of a facility and animal records highly desirable. Duties include direct animal care, animal record keeping, animal husbandry, general treatments, critical care, assisting in limited surgeries, parasitology work, laboratory testing, animal clinic maintenance and related duties, implementing nutritionally complete diets and providing sanitation to bird use areas. Successful candidate must possess strong interpersonal skills as well as coordinating, planning and scheduling skills. Must be willing to work on any of the seven days of the week, including holidays. Must be able and willing to work independently. Bilingual (English/Spanish) highly desirable. Must have minimum two (2) years paid experience in bird-related field. Required to live on-site. Housing, water and electricity provided.

**ANIMAL KEEPER/GUIDE**...several positions available for seasonal employment May through October 1999. Requires high school diploma, paid zoo experience preferred, but volunteer experience acceptable. Good opportunity to gain paid zoo experience. Applicants must have strong, audible voice, neat appearance, good personality, and must work well with co-workers. Non-smokers preferred. Duties will include daily animal care and feeding, exhibit cleaning and maintenance, various other maintenance duties, and talking to groups in a tour situation. Lectures given on both venomous and non-venomous reptiles. Must have experience in handling non-venomous reptiles or a willingness to learn. Salary...\$195.00 per week. Living quarters, utilities and uniforms furnished. Send resumé to: Jim Miller, Soco Gardens Zoo, c/o 89 Evans Cove Rd., Maggie Valley, NC 28751..

**INTERNSHIP**...the Grand Island Heritage Zoo is offering a Summer Internship in the Education Department. Prefer applicants to be juniors or seniors in an undergraduate program looking to explore non-formal educational opportunities in the sciences. The successful candidate must enjoy working with the public, able to work some weekends, be committed, hard-working and fun-loving. Bilingual skills (English/Spanish) considered a definite plus. The intern will assist with educational tours, outreach programs, children's workshops and classes, overnights, and other duties as assigned: The internship also will involve educational animal handling. The internship is an unpaid position and housing is not provided. To apply, send a cover letter, resumé, and references postmarked no later than **2 April 1999** to: Keanna Leonard, Education Curator, Grand Island Heritage Zoo, Grand Island, NE 68801.

**INTERNSHIP (Kentucky Reptile Zoo)**...a nonprofit organization is seeking a student intern for the 1999 summer and fall seasons. The zoo is an educational exhibit, reptile breeding and venom research facility located near Kentucky's Red River Gorge and Natural Bridge State Park. The intern will assist in the captive maintenance of the zoo's reptile collection, collect admissions to the exhibit, give interpretive talks and interact with the public, assist with educational outreach programs, and perform other duties as assigned. In addition, the intern will be responsible for the completion of at least one research project related to the field of herpetology. The intern will **not be involved** in the handling of any venomous reptiles. Desirable qualifications include a willingness to handle snakes and other reptiles on a daily basis, ability to communicate effectively with people, writing skills, orientation to details, and self-motivation. Students majoring in the biological or natural sciences are preferred. Former interns have arranged for academic credit with their colleges and universities. Benefits include experience with the most extensive and diverse collection of snakes in the area, housing, and \$55/week to cover expenses. Personal transportation is recommended. Starting dates are flexible, but a minimum commitment of three months covering SUMMER (June-August) or FALL (September - November) is required. To apply send a cover letter and resumé to: Kristen Wiley, Internship Coordinator, Kentucky Reptile Zoo, 1275 Natural Bridge Road, Slade, KY 40376. Deadline for applications for Fall is **1 June 1999**.

**AVICULTURE INTERN**...will receive intensive, hands-on training in the care and maintenance of a large bird collection. Will experience all aspects of bird husbandry including general cleaning, handling, incubation, record keeping, public education, etc. Seeking college students or recent graduate with an interest in avian management biology. Interns will work with the aviculturists for a three-month period. This is a volunteer position with on-site housing provided. Internships available year-round. Send a letter and resumé with references to: Tracy Aviary, 589 East 1300 South, Salt Lake City, UT 84105. ATTN: Kristine McCue/Holly Seitz.

**INTERNSHIP AVAILABLE**...the Audubon Zoological Garden located in New Orleans, LA is offering a summer internship in the Sea Lion Dept. The internship is an unpaid position and housing is not provided. Applicants should be Juniors or Seniors in an undergraduate program, looking to explore the zoo keeping/animal training field. Performing the internship for college credit is strongly encouraged. The internship will last the duration of the summer, beginning in May/June and end in August. The intern will be requested to work 40 hr. weeks, in 8 hr. shifts, with a willingness to work weekends. Audubon is looking for a committed, hard-working candidate with public speaking skills. The internship will involve conducting daily routines, performing public presentations, maintenance work, and may involve animal handling and swim skills. If interested, please send resumé with cover letter and reference **by 16 April 1999** to: Lisa Nicoll, Sr. Trainer, Sea Lions, Audubon Zoological Garden, P. O. Box 4327, New Orleans, LA 70178.

*Check AZA Member Institution job position listings  
on the AZA Home Page: <http://www.aza.org>*

## ***Keepers' Alert...***

Those of you with Internet access to the World Wide Web might like to check out a series of articles that the *San Jose Mercury* did on what happens to animals that are surplussed from zoos and how many of these animals end up with animal dealers. The site also has several interesting links. Look for it t <http://www.sjmercury.com>

## **Information Please**

I am looking for information on bachelor groups of primates. I am particularly interested in the species name, number of animals, ages, length of time they have been together, and any successes and/or problems you have experienced. Please send any information to: Silvia Zirkelbach, Louisville Zoo, 1100 Trevilian Way, Louisville, KY 40213-1559 or



### **1999 AZA Regional Conference Schedule**

**AZA Eastern Regional** - April 14-17, 1999 in Pittsburgh, PA. For information contact Terry DeIulis, Pittsburgh Zoo, One Wild Place, Pittsburgh, PA 15206; phone (412) 365-2500.

**AZA Western Regional** - April 28 - May 1, 1999 in San Jose, CA. For information contact Dr. Anthony Smith, Zoo Director, Happy Hollow Park & Zoo, 1300 Senter Rd., San Jose, CA 95112; phone (408) 998-5172; fax (408) 279-8021.



# AAZK Membership Application

check here if renewal [ ]

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## U.S. Members

**\$35.00 Professional**  
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*Other staff & volunteers*

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**\$60.00 or up - Individuals**  
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an animal facility*

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**Contributing/Canada**

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Mail this application to: AAZK Administrative Offices, Topeka Zoo, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Make checks/money orders payable to AAZK, Inc. Must be in U.S. FUNDS ONLY. Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.



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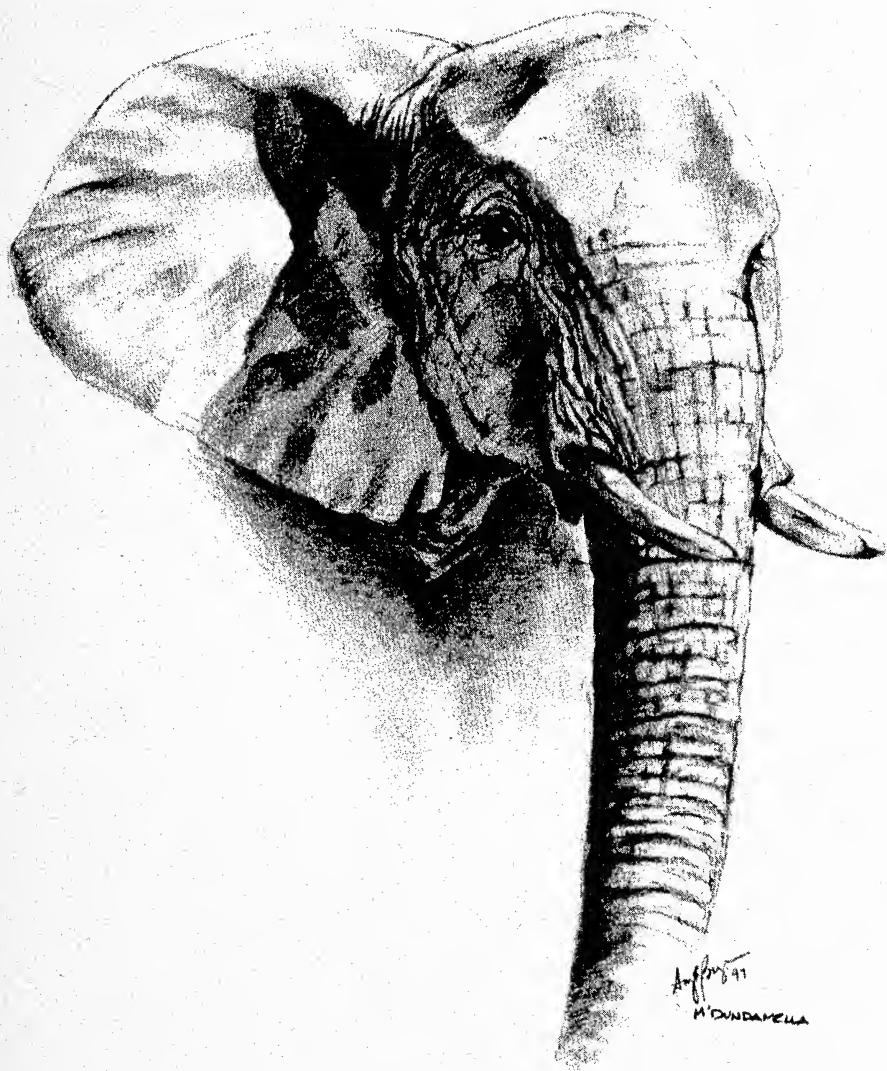
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**Animal Keepers' Forum  
25th Anniversary  
1974 - 1999**

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# ANIMAL KEEPERS' FORUM



**The Journal of the American  
Association of Zoo Keepers, Inc.  
April 1999**

**Managing Editor:** Susan D. Chan • **Associate Editors/Enrichment Options**

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Animal Keepers' Forum (ISSN 0164-9531) is a monthly journal of the American Association of Zoo Keepers, Inc. Ten dollars of each membership fee goes toward the annual publication costs of Animal Keepers' Forum. Third Class postage paid at Topeka, KS. Postmaster - Please send address changes to: **American Association of Zoo Keepers, Inc., Administrative Offices, 635 S.W. Gage Blvd., Topeka, KS 66606-2066 - attn: Barbara Manspeaker, Administrative Secretary**

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### **AAZK PUBLICATIONS - CONTINUING DATA COLLECTION**

Zoo Infant Development Project - Jennifer Hackshaw, Lowry Park Zoo and G. Suzanne Chacon, Zoo Aves (Birds/Passerines); Jeanne Walsh, Newark Museum Mini-Zoo (Reptiles); Linelle Smith, Denver Zoo (Amphibians)

Crisis Management Resource Notebook - Susan Chan, AAZK; William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX; and Diana L. Guerrero, Ark Animals, Inc., Escondido, CA.



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## **About the Cover.....**

*This month's cover features an African Elephant (*Loxodonta africana*) named M'Dundamella from the Oakland Zoo in California. It was drawn by Amy Burgess who is a keeper at that facility. African elephants, like their Asiatic relatives, live in matriarchial-led, close knit family units comprised of females and their offspring. Adult males are not part of the herd, but make contact only for purposes of mating with receptive females. The African elephant may stand from 10-14 ft. tall at the shoulder and weigh up to seven tons. Their lifespan may go as long as 50-55 years. The female bears one calf (twins are very rare) after a gestation period of 20 months. They are herbivores who spend most of their time searching for adequate food and water. They are endangered because of their ivory tusks, and the recent decision to release stockpiled ivory to the Japanese market, may well increase their peril at the hands of man. Thanks, Amy!*

## **Information for Contributors**

*Animal Keepers' Forum* publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration. Articles should be typed or hand-printed and double-spaced. Authors are encouraged to submit their manuscripts on a disk as well as in hard copy form. Acceptable formats include: for Macintosh users - Microsoft Word or Works; IBM users - Word for Windows, WordPerfect or Wordstar. All illustrations, graphs, charts and tables should be clearly marked, in final form and should fit in a page size **no greater than 5.5" x 8.5"** (14cm x 22cm). Literature used should be cited in the text (Brown, 1986) and alphabetically in the final bibliography. Avoid footnotes. Include scientific name (as per ISIS) the first time an animal name is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Glossy finish black and white photos **only are accepted**. Color slides should be converted to black and white prints (minimum size 3" x 5" [8cm x 14cm] ) before submission. Clearly marked captions should accompany photos. Please list photo credit on back of photo.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone and FAX contributions of late-breaking news or last-minute insertions are accepted as space allows. However, long articles must be sent by U.S. mail. Phone 1-800-242-4519 (US); 1-800-468-1966 (Canada); FAX (785) 273-1980.

**Deadline for each regular issue is the 10th of the preceding month.  
Dedicated issues may have separate deadline dates  
and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. Reprints of material appearing in this journal may be ordered from the editor. Back issues are available for \$3.00 each.

# Scoops & Scuttlebutt



## Chapters Make Donations to Support AAZK, Inc.

The AAZK Board of Directors and the Administrative Office staff wish to express their sincere appreciation to the following AAZK Chapters who have shown their support for the Association by making donations to AAZK, Inc. during the rechartering process: Fort Worth Zoo AAZK (\$100.00 to general operating fund); Puget Sound Chapter (\$1000.00 unrestricted); Philadelphia AAZK Chapter (\$75.00 unrestricted); AAZK Chesapeake Chapter (\$1000.000 general operating fund); AAZK Sacramento Chapter (\$100.00 unrestricted); Virginia Chapter AAZK (\$200.00 divided between general operating fund and CPR Grant Fund); Lincoln Park AAZK Chapter (\$100.00 unrestricted); Pt. Defiance [formerly Mt. Tahoma Chapter (\$1263.37 divided between general operating fund and CPR Grant Fund); Birmingham Zoo Chapter (\$200.00 unrestricted); Chinook Chapter of AAZK (\$25.00 general operating fund); Los Angeles AAZK Chapter (\$150.00 general operating fund); Detroit Chapter AAZK (\$100.00 divided between general operating fund and CPR Grant Fund); Caldwell Zoo Chapter (\$75.00 to general operating fund); and Audubon Institute Chapter of AAZK (\$500.00 unrestricted.)

Such support by Chapters allows AAZK, Inc. to carry out its many programs and projects including publication of *Animal Keepers' Forum*, funding of the CPR and Research Granting Programs, and support for committees such as Enrichment and International Outreach. Such support also helps to underwrite the "less glamorous" expenses incurred by AAZK such as office equipment maintenance policies, insurance, toner cartridges, paper clips, etc. Again, our heartfelt thanks for this show of support.

## Several Workshops Planned for May

### Rockwork Construction

The Emporia Zoo, Emporia, KS will be hosting Exhibit Boot Camp 1999 from 3-7 May. This is the second workshop of its kind and will concentrate on hands-on construction of artificial rock trees and vines. The Emporia Zoo will be the host and Billy Williamson of the Knoxville Zoo will be demonstrating the art of creating rock work in a variety of areas. Participants are invited to stay one day or all week and will be as involved as they want in the process. Participants should bring a lot of enthusiasm, clothes that you don't mind messing up, and some small tools (pliers, wire-cutters, a small trowel and heavy rubber gloves are recommended). For more information please contact: David Traylor's office at the Emporia Zoo (316) 342-6558; Jeff Bullock at the Lee Richardson Zoo (316) 276-1250; or Billy Williamson at the Knoxville Zoo (423) 637-5331.

### Crisis Management

The Frank Buck Zoo, Gainesville, TX, will be presenting a one-day Crisis Management Workshop on Firearms Applications in Zoological Institutions on Friday, 28 May, 1999. The workshop will consist of classroom, firing range demonstrations and practical application followed by a "question & answer" session. Class size is limited to 14 participants on a first-come basis. To reserve a space or for further information contact: Bill Baker, Zoo Curator, Frank Buck Zoo, 1000 W. California, Gainesville, TX 76240; (940) 668-4533.

### Chemical Immobilization

Safe-Capture International's 16-hour training program on Chemical Immobilization of Animals will be held at the Frank Buck Zoo, Gainesville, TX on 26-27 May 1999. This program consists of 12 hours of multi-media, lecture presentation and a four-hour "hands-on" workshop. The program will be presented by Mark Drew D.V.M., Diplomat of the American College of Zoological Medicine. Attendees receive 110-page training manual covering all program presentations. Advanced registration (30 days prior to program date) is \$350.00; general registration is \$400.00. For registration or further information, please contact: Safe-Capture International, P. O. Box 206, Mt. Horeb, WI 53572; phone - (608) 767-3071; fax - (608) 767-3072; e-mail - safecapture@aol.com; website: www.safecapture.com.

### **ATTENTION Professional Members- Election Ballots in the Mail and Must Be Returned by June 1st !**

All AAZK Professional Members have been sent a biographical sketch of the eight candidates running in this year's Board of Director election, along with a ballot and specially numbered return envelope. After reviewing the bio sketches, voting members should mark their ballot for **four** candidates and return it in the envelope provided. **DO NOT** send ballot in any other envelope or include anything but the ballot in the return envelope

### **To: 1998 Conference Delegates and Presenters**

The 1998 National Conference Proceedings have been distributed and we find that a total of 12 papers did not make it into the book. We wish to apologize to those authors. We are currently looking into a remedy for this mistake. Please watch the *Forum* for updates. In the meantime, any questions can be directed to Bruce Elkins at belkins@mail.indyzoo.com or phone (317) 630-2031.

The 1998 National Conference Committee  
Indianapolis Chapter - AAZK, Inc.  
Indianapolis, IN



## **Saving Wildlife in Nature Slide Set Available from ESC**

The Center for Ecosystem Survival has developed the Biodiversity Slide Set and Script to motivate and inspire school children to take direct action for saving wildlife in wild places. We would like to invite all keepers and AAZK Chapters to get involved with your local schools this year, and especially for Earth Day, by presenting this program of 40 brilliant slide images of rainforest and coral reef animals and their native habitats. Included is a slide script and a comprehensive conservation teacher guide set. Additionally, there are two conservation videos to accompany the slides and script. To receive an order form call (415) 338-3392 or e-mail - [ecosystm@sfsu.edu](mailto:ecosystm@sfsu.edu) or fax (415) 338-2295.

## **Guidelines Available from Enrichment Committee**

The AAZK Enrichment Committee has developed general guidelines for the enrichment of reptiles (compiled by Cheryl Frederick at Woodland Park Zoo, Seattle, WA) and ungulates (compiled by Amy Burgess at the Oakland Zoo, Oakland, CA). These guidelines were available at the 1998 AAZK/EMA/AZH joint conference in Indianapolis. Copies may be obtained by sending a self-addressed, stamped envelope to: Lee Houts, AAZK Enrichment Committee, 1118 Sherburn Ave., Sacramento, CA 95822.

You are also encouraged to visit the AAZK Enrichment Website at [www.enrich.org/aazk](http://www.enrich.org/aazk). To join the AAZK Enrichment Listserve, email your information to: [jackbell@humboldt1.com](mailto:jackbell@humboldt1.com).

## **Tree Kangaroo SSP Distributes 2nd Husbandry Videotape**

A copy of the Tree Kangaroo SSP's (TK-SSP) husbandry training videotape entitled *Tree Kangaroo Husbandry - Part Two* was recently mailed to all TK-SSP Institution Representatives. This videotape covers the subjects of "Behavior and Reproduction" and includes "Joey Development". Runtime is approximately 40 minutes. The cover letter accompanying the videotape requested that it be viewed by everyone involved with the captive management of tree kangaroos.

**If you are involved with the management of tree kangaroos and have not yet seen this video, contact your TK-SSP Representative and ask to see it.**

If you want to have your own copy of Part Two, VHS copies are available for a cost of \$20.00 (U.S.). PAL versions are available for \$25.00(U.S.). Please make checks payable to the Philadelphia Zoo/TK-SSP ex-situ Fund, and mail to the attention of Heidi Jamieson, Tree Kangaroo SSP, Philadelphia Zoological Gardens, 3400 West Girard Ave., Philadelphia, PA 19104-1196.

1999 is AKF's 25th Anniversary. Make this your year to contribute an article to AAZK's monthly professional journal. The AKF editorial "to publish" bin is empty at the moment--let us hear from you!!

# ***Message from the President***

Greetings from the Lone Star State!

In February, I participated in the annual migration of zoo and aquarium professionals to the AZA Schools in Wheeling, WV. It was a great experience: the classes, the out of class discussions, seeing old friends and making new acquaintances.

I was proud to see an increasing number of zoo keepers coming to Wheeling. Over 20 years ago the AZA schools began and only directors attended. Today there are eight different schools and my second year Management School class was roughly 70% keeper staff. As zoo keepers, this shows our increased commitment for continuing education and professional development.

In 1997, AAZK, Inc. set forth a Five-year Strategic Action Plan. The plan included short and long-term goals targeting four key areas; Finance, Image, Education and Conservation. I am happy to report that our organization has been progressing in all areas.

A greater partnership with AZA has enhanced the opportunities for keepers to participate in AZA conferences, workshops and the zoo professional schools. Scholarships are available for individuals interested in the AZA schools. Bird keepers who are interested in the Avian Interest Group Workshops can qualify for stipends to assist them to the regional conference. Speakers from the AZA Offices have been invited to AAZK National Conferences to lead and participate in professional development workshops each year.

AAZK has nurtured our partnerships with AZA. Today AAZK and its members participate actively in many committees and animal management programs. Our Association has been recognized as an untapped resource with a willingness to assist in the programs relating to the animals in our care.

Finally, it was great seeing everyone again, especially the gang from the Good Zoo at Oglebay (see you again next year).

Looking to the future, Tony Vecchio, Director - Oregon Zoo, welcomes everyone to Portland this year and promises that we will have an enjoyable time. Not to be left out of the conference promotions, folks from the Toronto Zoo plan on making the 2001 Odessey an adventure. Thanks goes to Andy Jacobsky and the staff of the Columbus Zoo for making my preview an exciting one. The zoo is beautiful and the new manatee exhibit is impressive. The exhibit will open sometime this summer. After talking with all these folks, I think the AAZK delegates will be getting there monies worth at each of these venues.

Start planning now, I want to see everyone in Portland. And, to Denise in Columbus - Yes, there is a zoo in Houston.

Sincerely,



Ric Urban, AAZK President





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## NORTHWEST PASSAGES

### Frontiers in Zoo Keeping

Preparations for the 1999 National Conference are in full swing. We'd like to let everyone who is coming know that there is a free Holiday Inn Courtesy Shuttle. It will be running from the Portland International Airport to the conference hotel, the Holiday Inn, Portland-Downtown, every half hour. Also, be sure to book an early flight on Sunday. We will be leaving the hotel for the Ice Breaker at 5:00 p.m. on Sunday, Sept. 12.

Remember, Conference paper abstracts are due by **1 July 1999**. Our theme is "Northwest Passages - Frontiers in Zoo Keeping". Suggested topics are: Keeper's Tools; Expanding Keepers' Role; Innovations: Successes or Failure; Research, and Local Conservation. See the March issue of *Animal Keepers' Forum* for more information as well as Hotel and Conference registration forms, or contact Anna Michel at the Oregon Zoo (503) 226-1561 ext. 275 or email - [aazkpapers@michelnet.com](mailto:aazkpapers@michelnet.com)

## Publications Available

Managing Zoo Populations: compiling and analyzing studbook data. This manual offers a step-by-step account of how to manage a studbook using the ISIS software package SPARKS (version 1.42), and how to analyze studbook data using the pedigree analysis features of the SPARKS, DEMOG and GENES packages. The document includes detailed instructions on interpreting results from these analyses, as well as discussing how these analyses can be used to help manage zoo populations. Available from the ARAZPA office, P. O. Box 20, Mosman NSW 2088, Australia. Aproximate U.S. price is \$24.50 depending on exchange rate at time of purchase. Contact e-mail - [admin@arazpa.org.au](mailto:admin@arazpa.org.au) for current U.S. price.

Guidelines for Enrichment - published by the Association of British Wild Animal Keepers (ABWAK). This 250-page looseleaf document covers all vertebrate groups from fish to great apea, providing detailed descriptions of enrichment devices and ideas for each taxa. For every copy sold by ABWAK, an additional copy will be sent to a collection in a developing country. Copies are £14.00 for the text and dividers or £15.00 for the assembled guidelines in a ring binder. For more information or to place an order, please contact: Andrew Bagnall at Chester Zoo, Tel: 01244 380280 or e-mail [juliec@chesterzoo.co.uk](mailto:juliec@chesterzoo.co.uk). Please contact for current U.S. \$ prices.

# Coming Events



**The 30th Annual Conference and Workshop of the International Association of Aquatic Animal Medicine** - May 2-5, 1999 in Boston, MA. For further information, contact Elizabeth Coleman, New England Aquarium, e-mail: [ecoleman@neaq.org](mailto:ecoleman@neaq.org)

**39th International Symposium on the Diseases of Zoo and Wild Animals** - May 12-16, 1999 in Vienna, Austria. For information contact: [office@zoovienna.at](mailto:office@zoovienna.at) or [froelich@izw-berlin.de](mailto:froelich@izw-berlin.de)

**The Annual Regional Aquarists Workshop (RAW) Conference** - May 13-15, 1999 at UnderWater World at the Mall of America in Bloomington, MN. For registration and further info contact Craig Atkins (612) 853-0615 or Jeff Krenner (612) 853-0619, UnderWater World at MOA, 120 E. Broadway, Bloomington, MN 55425.

**7th World Conference on Breeding Endangered Species** - May 22-26, 1999 at the Cincinnati Zoo. For more details contact: Grace Retig (Fax - 1-513-559-7791).

**Fourth International Elephant Research Symposium and 1999 Elephant Managers Association Annual Meeting** - June 17-22, 1999 in Atlanta, GA. Hosted by Zoo Atlanta. For further information contact: Edward Daniel at (404) 624-5611.

**American Society of Mammalogists** - June 20-24, 1999 at University of Washington, Seattle, WA. For more information contact: Paul Anderson, Chair, ASM Marine Mammal Committee at: [pkanders@cadvision.com](mailto:pkanders@cadvision.com)

**Animal Behavior Society Annual Meeting** - June 26-July 1, 1999 at Bucknell University in Lewisburg, PA. For further information see - <http://www.cisab.indiana.edu/> or call (717) 524-1430.


**American Federation of Aviculture 25th Annual Convention** - August 12-15, 1999. Denver, CO. For more information contact e-mail: [rmsa@altavista.net](mailto:rmsa@altavista.net); [doms4afa@aol.com](mailto:doms4afa@aol.com); or [stat@wizard.net](mailto:stat@wizard.net). Infor on web site at: <http://www.upatsix.com/afa>

**Fourth International Enrichment Conference** - August 29, 1999 in Edinburgh, Scotland. Details are now available from the *Shape of Enrichment* website: <http://www.enrichment.org>

**AAZK 1999 National Conference** - Sept. 12-16, 1999 in Portland, OR. Hosted by the Oregon Zoo and the Portland AAZK Chapter. Look for info in *AKF* or contact Jan McCoy or Anna Michel at (503) 226-1561.

**AZA 1999 National Conference** - Sept. 24-28, 1999. Minneapolis, MN. For information contact Lucinda McCandless via e-mail: [AZAconf@mail.mnzoo.state.mn.us](mailto:AZAconf@mail.mnzoo.state.mn.us)

**Association of Zoo Veterinary Technicians** - Sept. 24-30, 1999 in Indianapolis, IN. For information contact: Julie Hutt, R.V.T., Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222-4500; phone: (317) 630-2090; Fax: (317) 630-5154; e-mail: [jhutt@mail.indyzoos.com](mailto:jhutt@mail.indyzoos.com)



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# REACTIONS

## *A Question and Answer Forum for the Zoo Professional on Crisis Management*

By William K. Baker, Jr., Zoo Curator  
Frank Buck Zoo, Gainesville, TX

### Question

How can staff members contact each other in an emergency?

### Comments

The inevitable question, how do you get hold of your staff when the crisis actually does happen? There are two main concerns when you're trying to contact your staff in a crisis management situation - contact during hours of operation and after-hours. The best way to illustrate this is by showing what other zoological institutions have done. The following is an excerpt from the North American Crisis Management Survey (1996) which shows how 79 AZA institutions responded:

How is your staff contacted in an emergency?

[65] Radio	82.28%	[ 3] Horn	3.80%
[57] Telephone	72.15%	[ 1] Intercom	1.26%
[42] Pager	53.16%	[ 1] Media	1.26%
[31] Cellular Phone	39.24%	[ 1] Strobe light	1.26%
[30] Public Address	37.97%	[ 1] Seucephone	1.26%
[27] Alarm	34.18%	[ 1] Other	1.26%
[ 5] Siren	6.33%	[ 0] N/A	0.00%

Does yopur facility have an alternate means of contacting staff after-hours in an emergency situation?

[70] Telephone	88.61%	[ 1] Media	1.26%
[47] Pager	59.49%	[ 1] LE Dispatch	1.26%
[23] Cellular Phone	29.11%	[ 1] Other	1.26%
[14] Radio	17.72%	[ 1] N/A	1.26%

It becomes quickly evident that electronic means is the most used form of communication in zoological institutions. Specifically, telephone, radio, pager,

and cellular phone. The most likely reason for this would be portability, range, and ease of use.

Each form of communication has its associated strengths and weaknesses. Telephones are nice, but someone has to be at the other end for it to work. Cellular phones work if you stay within your area. They are also nice if the regular phone lines go out. Personally, I prefer radios with extended range utilizing high-power repeaters and multi-channel applications during regular work hours and high-end pagers with national service for contact after-hours.

Also, another nice method of communication or contacts during an emergency is an alarm system in keeper work areas. The most common version is the "snake bite" alarm found in reptile houses. However, this would also be applicable in carnivore and large primate areas as well.

My best suggestion is don't reinvent the wheel. If this many institutions are utilizing these methods, then they probably will work for you. Try different methods, find one that works, test it, refine it, and then stick with it. But, always have an alternate method of communication in case the primary form of communication fails.

**NEXT MONTH;** Is crisis training really necessary and does it aid in the resolution?

**If you would like to submit a question for this column or have comments on previously published material, please send them to: Reactions/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.**

*(About the Author: Since 1985 Bill has been active in the fields of science, zoology and wildlife management. His education and experience include a B. S. in wildlife management and post-graduate work in zoology; Lab and Museum Assistant; Shoot Team leader, ERT Member, and Senior Keeper and Large Mammal Keeper at various AZA facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR/First Aid Instructor.)*

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## New Contact Information for Bowling for Rhinos Chair

Effective immediately the following is new contact information for Patty Pearthree, Chair of the Bowling for Rhinos project: 318 Montibello Dr., Cary, NC 27513-2479; e-mail is ppear3@aazk.org; phone - (919) 678-0449. All correspondence/inquiries for Bowling for Rhinos should now be directed to this new address/phone/email. This includes requests for sponsorship forms, questions needing answers, etc.

# ***Legislative Update***

*Compiled by Georgann Johnston  
Legislative Advisor  
Sacramento, CA*



---

## **Transfer of Elephants to Japan Approved By Cites Secretariat**

The transfer of three elephants currently residing in a park in South Africa has been approved by the South African coordinator of CITES, Susanna Meintjies. At a court hearing regarding the elephants, she testified that "CITES would not issue permits [for transfer] without being very certain that the housing and food for the elephants are suitable." The proposed recipient of the elephants is a Japanese safari park that already houses six South African elephants previously imported from the Kruger National Park. Further testimony regarding the transfer of the elephants was to be heard later in March before a final decision is made.

*Source: The Star Newspaper of South Africa 4 March 1999*

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## **Kruger Park Fund Established to Fight Bovine TB**

The Kruger Park in South Africa is appealing to the public for contributions to help subsidize proposed measures to fight the ongoing spread of bovine tuberculosis (BTB) in the Park. The disease has already infected a large number of buffalo and lions living within the Park's boundaries. Proposals to contain the disease include the establishment of a 70 km-long buffalo-free-zone in the Park to act as a buffer between infected buffalo herds in the more southern parts of the Park and the lesser-infected herds in the northern parts.

Another alternative being considered by Park authorities is to construct a containment fence across the Park which would prevent the larger species, including potential carriers such as rhinos and elephants, from migrating from areas where the disease is more prevalent to areas that have experienced few incidents of the disease. The problem with this concept is that in addition to the cost of construction, maintenance of the fence each year would place an added strain on the Park's budgetary resources. Moreover, smaller animals such as warthogs, badgers and rodents would likely be able to cross over or under the fence, carrying the disease with them.

A final proposed program for the money to be raised under this new plan would be for the development of a diagnostic test for elephants and rhinos to see if they are carriers of and/or have the disease, since at this time no completely accurate test exists. A representative of the School of Veterinary Science at the University of Pretoria said that BTB did not appear to be a threat to rhinos and



elephants in the Park, but that this could only be accurately confirmed by the appropriate pathological tests.

*Source: The Star Newspaper of South Africa 25 February 1999*

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## **Mountain Plover Proposed for Endangered Species Listing**

The mountain plover (*Charadrius montanus*) has been proposed for listing as "threatened" on the Endangered Species List by the U. S. Fish and Wildlife Service. These birds winter in the farm fields of central California but breed in the short-grass prairie of the Midwestern states from Canada to Texas. As is usual with most proposed endangered species, destruction of natural habitat and declining populations due to human intervention is the cause for their endangered status.

Years ago people hunted plovers as food; driving a horse and buggy into a flock of birds and shooting them when they resettled on the ground nearby. While hunting is no longer a major problem, destruction of plover nest sites - built on the ground in prairie dog towns - is a significant reason for their continuing population declines.

Plover are about 7 inches tall (about the size of a killdeer) and dine primarily on beetles, ants, grasshoppers and other insects. At peak populations, these birds contribute a sort of natural pest control for farmers but not enough of them are left to have any significant impact at this time.

Further information about the proposed listing can be obtained from Robert Leachman, Assistant Field Supervisor, USFWS, 764 Horizon Dr. South Annex A, Grand Junction, CO 81506-3946, (970) 243-2778.

*Source: Federal Register Online 16 February 1999 vol. 64, no. 30*

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## **Date For "Day of Six Billion" Arrives This Year**

The United Nations Population Fund recently announced that the world's human population will reach 6 billion on 12 October 1999. The U. N. has previously calculated that the date would fall in June 1999 but changed it to October based on a recalculation. Projections from the Fund also show that fertility levels in developing countries are continuing to decline. This is based, primarily, on better reproductive health and family planning services.

In essence, however, the world's population is continuing to increase by 78 million people per year. This increase continues even in the face of the HIV-AIDS epidemic that, in many developing countries such as Botswana, is present in at least 1 out of 4 people.

*Source: Calypso Log, published by the Cousteau Society December 1998*

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## **Mexican Plan to Protect Forest Recovering from Fires of Early 1998**

Mexican President Zedillo has announced a plan to help over 500,000 acres of tropical forest recover from forest that burned in many parts of Mexico during 1998. The presidential decree identifies 85 priority forest sites affected by the fires where changes in land use are prohibited and the regeneration of natural vegetation is to be encouraged. Without this governmental intervention, the land would be turned over to agricultural uses, causing permanent loss of habitat for already endangered species such as ocelots, jaguars, harpy eagles, and many species of orchids. Likewise, millions of monarch butterflies that migrate from the United States and Canada to Mexico each winter would have their wintering habitat protected.

During the first six months of last year, fires burned approximately 490,000 acres of forest throughout portions of Mexico, primarily on its eastern side. The smoke from the fires was so intense at times that it caused smog and health alerts in Texas and Florida. Many of the areas burned had already been recognized as critical habitats for endangered species. This action by Mexico's government will help to ensure that the areas destroyed or damaged by fire are protected and the species that reside there be allowed to continue in residence without being disturbed.

*Source: Focus, publication of The World Wildlife Fund January/February 1999*

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## **CITES Allows Ivory Sale to Japan**

Reuters News Service reported in February that the Convention on International Trade in Endangered Species and Wild Fauna and Flora (CITES) voted to allow Zimbabwe and Namibia to sell stocks of ivory to Japan. The sale follows a nine-year ban on ivory sales designed to end poaching. The U.S. World Wildlife Fund said the decision "could put in jeopardy vulnerable elephant populations in both Africa and Asia."

*Source: GREENlines Issue # 818 2/18/99*

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## **Coral Reefs in the News**

The Washington Post reported early last month that record high sea temperatures resulted in the destruction of up to 70% of the world's coral reefs. A report issued by the U.S. State Department found global warming and El Nino resulted in coral reefs "suffer[ing] the most extensive and severe bleaching and...mortality in the modern record." The Associated Press has also reported that the National Marine Fisheries Service wants to list staghorn and elkhorn corals for protection under the Endangered Species Act. Both species are suffering from disease and bleaching caused by high sea temperatures.

*Source: GREENlines Issue #820 3/7/99*

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## United Nations Campaign to Save Tigers

Reuters News Service has reported that a United Nations initiative to save the world's 5,000 remaining tigers is in the works. A preliminary fact-finding mission will meet Chinese medicine retailers peddling tiger parts in an effort to end demand. Conservationists welcomed the effort, but urged political action in the immediate future to save the species from extinction.

*Source: GREENlines Issue #801 1/24/99*

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## Endangered Species Act Bill Introduced

In early March, Representative George Miller (D-CA) introduced a bill in the House of Representatives to reauthorize the Endangered Species Act. The new bill, HR 960, is called the Endangered Species Recovery Act of 1999. The bipartisan bill was introduced with 67 original cosponsors. The bill is very similar to a bill introduced last year in the 105th Congress, HR 2351, that garnered over 100 cosponsors by the end of the session.

*Source: GREENlines #829 3/4/99*

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## AZFA Conference Scheduled for October 1999

The Sixth Annual Conference of the Aquarium and Zoo Facilities Association (AZFA) will be held in San Diego, CA from 3-6 October 1999. The conference will be hosted by the San Diego Zoo, the San Diego Wild Animal Park, and Sea World of California. For more information, contact:

Sue Hennings  
Sea World of California  
Plant Engineering  
500 Sea World Drive                      OR  
San Diego, CA 92109  
(619) 226-3931  
e-mail:sue.hennings@anheuser-busch.com

Sherry McGartland  
San Diego Zoo  
P. O. Box 120551  
San Diego, CA 92112  
(619) 231-1515 ext. 4307  
e-mail:smcgartland@sandiegozoo.org

For membership information contact: Paul Reiter, Oregon Zoo, 4001 SW Canyon Rd., Portland, OR 97221 (503) 220-5721; or Ann Kaminsky, Cleveland Metroparks Zoo, 3900 Wildlife Way, Cleveland, OH 44109 (216) 661-6500 ext. 252; e-mail - mak@clevelandmetroparks.com

# 1998 Conference Proceedings Order Information

If you are interested in obtaining a copy of the Proceedings containing the papers presented at the joint National Conference between AAZK, Inc., The Elephant Managers Association and the Association of Zoological Horticulture which was held in Indianapolis, IN, you will need to fill out and return the form on the next page. This is a unique opportunity to purchase a publication with papers from three separate organizations included. All orders **must** be prepaid in U.S. Funds ONLY. Allow 2-4 weeks following order for receipt of publication within U.S. Overseas orders will take longer by surface post. Prices are as follows: AAZK Member **\$25.00** Non Member **\$40.00** Postage for U.S. orders is included. Canadian and overseas orders should add \$5.00 for air mail postage to Canada and surface postage elsewhere. Overseas orders wishing air mail service should add \$10.00. Make checks or money orders payable to AAZK, Inc.

**Note:** Because of a one-time grant secured by the Indianapolis Conference Committee, all full-registration delegates will be receiving a copy of this Proceedings gratis. Day registrants or those who did not attend the Conference but wish a copy of the Proceedings, will need to order one.

**The following papers are included in the Proceedings:** If I Ran the Zoo, I'd Get Into In-situ; Savanna Flora of Kenya and Tanzania; Uganda Wildlife Education Centre Exhibit Design and Objectives; **AAZK Sessions:** Rhino Conservation Programs in S.E. Asia – IRF & Partners; 1998 Bowling for Rhinos – A Million Dollars Later; A Conservation Masterplan for the Kansas City Chapter of the American Association of Zoo Keepers; Developing a Hippo Skin Tissue Biopsy Dart; When Things Go as Planned: Introducing an Unrelated Ten Month Old Hippo to an Established Pair of Over Forty Years; It's Great to be a Keeper; Review of Fine Avian Abodes; Environmental Enrichment on a Seasonal Basis for Sub-antarctic and Sub-arctic Seabirds at SeaWorld, San Antonio; Conservation at Moody Gardens: Exhibiting Two Fragile Ecosystems; The Forgotten Wallabies of New Zealand; The Ramsey Canyon Leopard Frog: Working Together to Help Preserve an Endangered Species; Breeding Rhinoceros Hornbills; Chilean Flamingo Breeding...A Natural Progression; Treatment of Severe Contracture of the Flexor Tendons in a Reticulated Giraffe (*Giraffa camelopardalis reticulata*) or "Reconstructing Sudi"; Principles of Animal Training Workshop; Giraffe Training Program at Milwaukee County Zoo; Target Training Malayan Flying Foxes (*Pteropus vampyrus*): A Beginner's Perspective; Enrichment Is for Everyone in Detroit; Training for the Trunk Wash at the Indianapolis Zoo; **EMA Sessions:** T.B. Training at The North Carolina Zoo; Managing a *Mycobacterium tuberculosis* Positive Elephant at the San Francisco Zoo: "A Pain in the Butt for Her and Us!"; Emmett Exits; The Transport of "Kiba Mampe" from the Houston Zoo to the Berlin Zoo or "Jumbo in the Jumbo" (When Elephants Fly); Loading and Unloading Elephants at Knoxville Zoo; A Global Elephant Network; Five Years of Teaching and Learning at our Elephant School; Elephant Management at Disney's Animal Kingdom: Turning Challenges into Successes; Manual Collection of Semen from Elephants; Ganesh: "King of the Queen City"; Birth of African Elephant Breeding Facility; *Salmonella typhimurium* in 0.3 African Elephants at the Oakland Zoo; Pack Your Trunk for Africa; One Thousand Years of Military Elephants; **AZH Sessions:** Horticultural Options for Fruit Bat Enrichment; Take a Butterfly to Lunch; Vegetation Management Study and Guidelines for the Ravine Garden at the Indianapolis Museum of Art; Northern Temperate Forest Planting Project for the Kids Kingdom; Tree Care & Holiday Lighting Program; Siting and Managing Bamboos in a Zoo Environment; Dangerous Animal Response Team at the Cheyenne Mountain Zoo; Plants, Iguanas and Islands: A Zoo Horticulturist Visits Hispaniola; Cheyenne Mountain Zoo 1998 AZH Internship; Growth Chamber for Rare and Endangered Plants at Henry Doorly Zoo; Bring Back the Natives; **Workshops/Video Sessions:** AAZK Enrichment Video Session Synopsis; Browse/Enrichment Device Workshop Summary; Enrichment Discussion Group Synopsis; Mineral Composition of Selected Temperate Browsers Fed in Zoos; Listing of 1998 Conference Participants.

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Once 1999 Proceeding copies are sold out, photocopies of individual papers will be available for \$3.00 each by contacting the AAZK Administrative Offices.

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# From the AAZK Enrichment Committee

The AAZK Enrichment Committee would like to expand and revise the AAZK Enrichment Notebook which was distributed in 1996. The new edition will include additional sections of information along with a table of contents and index to make it easier to access information.

The Enrichment Committee would like to encourage everyone to submit enrichment ideas on the enclosed form (the form may be copied as needed) for inclusion in the revised edition of the AAZK Enrichment Notebook. Forms should be complete and include as much detail as possible (i.e., specific sizes of materials, step-by-step instructions). Submissions must include a contact person and institution. All submissions will be credited by institution. Items that are currently included in the original notebook will be entered in the revised version and therefore do not need to be re-submitted.

Please return all completed submissions **by 15 May 1999** to:

Beth Stark  
c/o Fort Worth Zoo  
1989 Colonial Parkway  
Fort Worth, TX 76110

The tremendous response to the original request for ideas in 1996 led to the first AAZK Enrichment Notebook. With your input we can produce an even more useful Second Edition, hopefully, in the fall of 1999. So, put on your thinking caps and share your successes with enrichment!

THANK YOU

# AAZK Enrichment Notebook Idea Submission Form

Item/activity

Check one

Naturalistic looking

Artificial looking

Applicable taxes

Total Cost Estimate

\$0-10     \$11-25     \$26-50     \$51-100     Over \$100

Description / Assembly Instructions

List all necessary materials for assembly and implementation

Materials

Dimensions

Diagram/Picture



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**Safety Concerns (include potential of ingestion, cross contamination of disease, keeper safety issues, etc.)**

--

**General Comments (i.e., difficult to clean, time consuming to implement, etc.)**

--

**Submitted by**

--

**Institution**

--

Please return forms to Beth Stark, Training and Enrichment Coordinator  
Fort Worth Zoo  
1989 Colonial Parkway  
Fort Worth, TX 76110



# AAZK Enrichment Notebook Idea Submission Form

Check one

Item/activity

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implementation

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General Comments (i.e., difficult to clean, time consuming to implement, etc.)

Submitted by

Institution

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1989 Colonial Parkway  
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# Enrichment Links :

<http://arrs.envirolink.org/psyeta/hia/vol8/buchanan.html>

<http://www.well.com/user/abs/dbs/eesb/>

<http://www.zooregon.org/survival/environm.htm>

<http://www.iwec.org/enrichment.htm>

[http://www.animalwelfare.com/Lab\\_animals/biblio/enrich.htm](http://www.animalwelfare.com/Lab_animals/biblio/enrich.htm)

<http://www.primate.wisc.edu/pin/pef/slide/intro.html>

<http://www.enrich.org/aazk>

<http://www.cwu.edu/~cwuchci/enrichment.html> (one of my favourites)

<http://enrichment.org/publication.html>

<http://www.geocities.com/RainForest/Vines/8435/ak/enrich/index.htm>

<http://www.arkanimals.com/E/Enrich.html>

[http://www.well.com/user/elliotts/smse\\_enrich.html](http://www.well.com/user/elliotts/smse_enrich.html)

<http://www.brown.edu/Research/Primate/enrich.html>

<http://www.nal.usda.gov/awic/newsletters/v8n2/8n2deluc.htm>

<http://mommensj.web2010.com/menvirn.htm>

<http://pablo.ubu.ruu.nl/~proefsch/01801846/inhoud.htm>

<http://www.nal.usda.gov/awic/pubs/enrich/intro.htm>

<http://www.primate.wisc.edu/pin/owagner.html>

These site locations came across my weekly Zoo News Digest e-mail from Peter Dickinson in Scotland. This amazing electronic information source is great and is available to you by e-mailing Peter that you would like to be put on the listserve. Contact Peter at [Peter@elvinhow.prestel.co.uk](mailto:Peter@elvinhow.prestel.co.uk) ---*Editor*

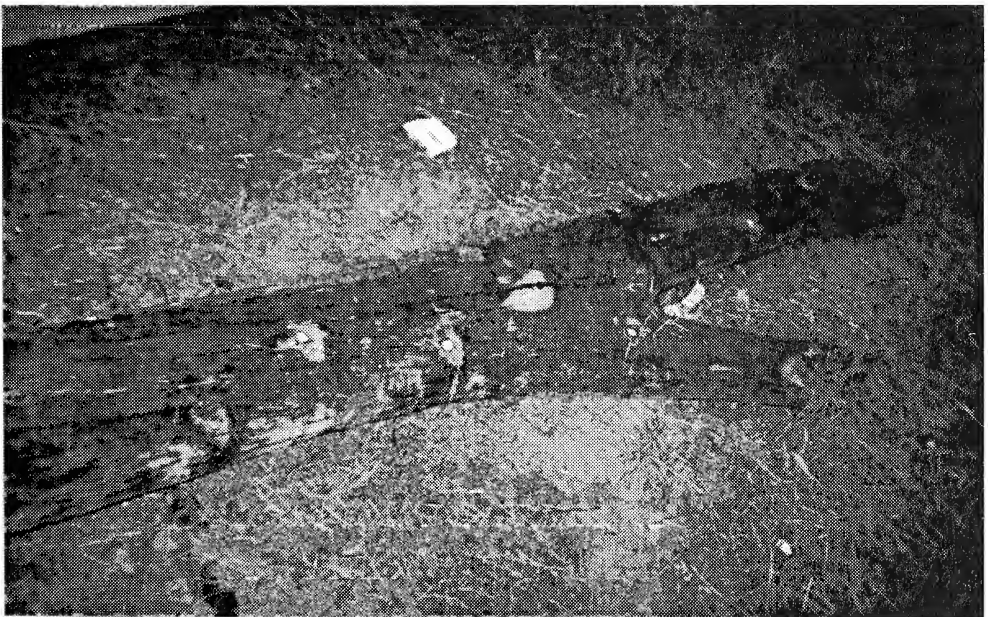


*By Kayla Grams, Arizona-Sonora Desert Museum  
and Gretchen Ziegler, Sequoia Park Zoo*

**PRIMATES:** Termite log

We made a simple and economical termite feeder using deadfall and PVC. Find a solid tree trunk five or more feet long. Drill 6-inch deep holes using 1 1/8 inch bit. Cut 1-inch schedule 40 PVC to length and plug one end with a hydraulic plug. Hammer PVC pieces; plug end first, into log. If fit is not snug you can use glue.

Our chimpanzees and orangutans love it and have not moved or dismantled it. The same idea can be used for small primates for finger use. Smaller log and shorter holes. Our macaques look forward to honey, yogurt, or a touch of peanut butter in their hanging log.



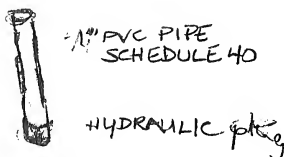
**Termite Log for Primates** (photo by Brenda Gunder)

## Termite Log showing hydraulic plug

Termite log:



Illustration by Becky Fenno



Hanging peanut/sunflower seed tube dispenser:

Drill holes in 4-inch schedule 40 PVC that is 2-3 feet in length. Using 4-inch to 2-inch reducer bushings knot rope through with the knot fitting snugly on the 4-inch side. Glue bushings to PVC pipe. Hang in enclosure and fill with dry treats. NOTE: For a more natural look, brush a welder's torch over PVC to darken and look more like wood.

We have used this inside and out in our chimpanzee exhibit with much success and will be making a smaller version for our small primates.

Peanut/Seed dispenser:



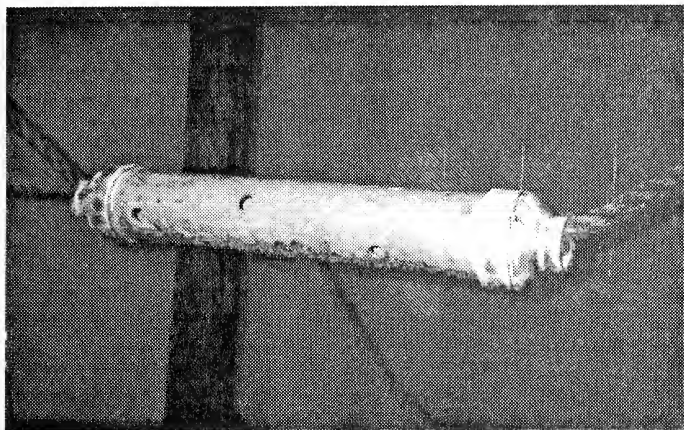
Illustration by Becky Fenno



4" PVC PIPE  
SCHEDULE 40

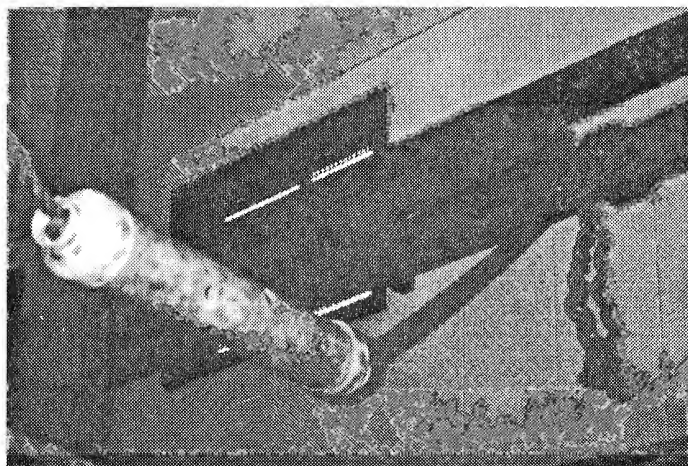
4" TO 2" REDUCER BUSHINGS

**Peanut/Sunflower Seed Tube Dispenser showing detail of PVC with reducer bushing.**



**Peanut/Sunflower  
See Tube Dispenser  
hanging in the  
Chimpanzee exhibit  
at Rolling Hills  
Wildlife Conserva-  
tion Center.**

*Photos by  
Brenda Gunder*



*—Brenda Gunder, Primate Keeper  
Rolling Hills Refuge Wildlife Conservation Center  
625 N. Hedville Road, Salina, Kansas 67401*

*(Ideas appearing in this column have not necessarily been tested by the editors for safety considerations. Always think ahead and use good judgement when trying new ideas. Eds.)*

*You are invited to submit material for the Enrichment Options Column. This might include recipes, toys, puzzle feeders, olfactory enrichment ideas, etc. Drawings and photos of enrichments are encouraged. Send to: AKF/Enrichment Options, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.*

**Visit the new AAZK Enrichment Website - [www.enrich.org/aazk](http://www.enrich.org/aazk) or  
join the Enrichment Listserv by e-mailing - [jackbell@humboldt1.com](mailto:jackbell@humboldt1.com)**

# When it was necessary to go against the grain: From Natural Exhibit to Cage Display

By  
Joann Zeliff, Wildlife Supervisor  
Silver Springs Wildlife Park  
Silver Springs, FL

## Introduction

Zoos of today are always advocating building “natural” displays. Our park has many wooded acres which we can use as animal habitats. On our Jungle Cruise we have three tree-covered islands housing numerous primate species. The first island is home to spider monkeys (*Ateles sp.*). The second island is home to ring-tail lemurs (*Lemura catta*), moustached guenons (*Cercopithecus cephus*), colobus monkeys (*C. guereza kikuyensis*), and black lemurs (*Lemur sp.*). The third island was home to 1.2 white-handed gibbons (*Hylobates lar*). This is the story of why we had to move them from their “natural” home to a caged exhibit.

## “New Arrivals”

In 1983 we received 1.1 white-handed gibbons, “Glenda” and “Gary”, age estimated at seven years each. We placed them on the third island on the Jungle Cruise. The size of the island at the time was approximately 30.48m long and 6.09m wide (100 ft. x 20 ft.).

It consisted of palm and cypress trees, grass, a house on stilts and ropes to allow the animals to brachiate. Their enrichment consisted of boats traveling by and the numerous native wild animals which inhabit the waterway. Through the years, due to natural and boat erosion, it became evident that the gibbons were going to have to be moved off the island to a new home. Due to periods of extreme rains in the past several years (as the photos illustrate), we had to build bamboo structures and a boardwalk so the gibbons would have some areas above the waterline.

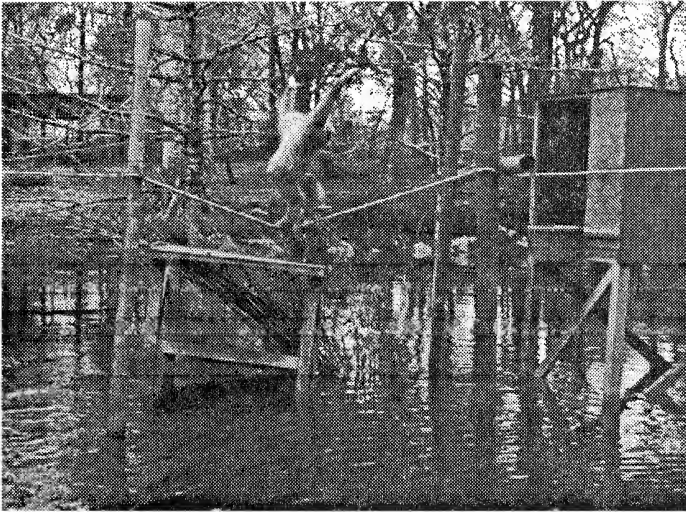
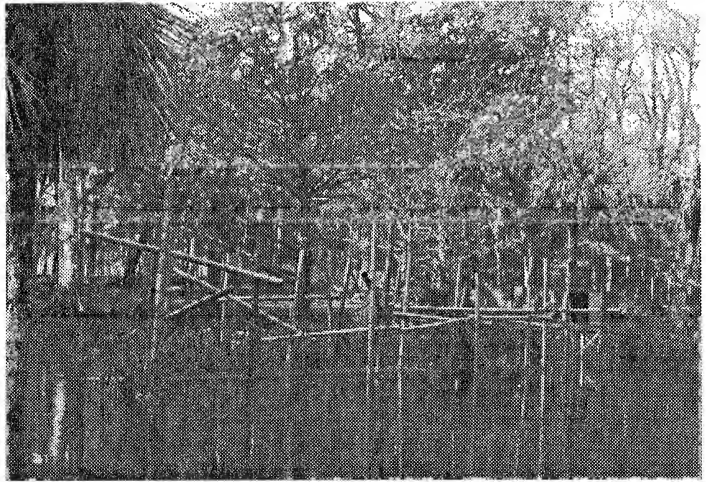
In the winter of 1998, we averaged 30" (76cm) above the normal rainfall. It got to the point that with every afternoon thunderstorm, the river would flood the island. The decision was made to build a new home for the gibbons at another location in the park.

By now the family included a seven-year-old daughter, “Sara”. We had never been able to do physical exams, etc. on the male or daughter since they arrived. Four years earlier the mother had had a health problem which allowed us to do a veterinary work-up on her. The only way we had been able to get her off the island was by using a blow gun tranquilizer. During the one-month isolation, the female keepers established a bond with Glenda that remains strong today. Prior to this she was an extremely aggressive animal toward both male and female keepers. Now she greets the female keepers with a big cry and hug. She still had no love-lost for the male keepers. Gary and Sara have always kept their distance from the keeper staff.



**Flooded Gibbon Island: bamboo, boardwalk and house above water.**

*Photos by Joann Zeliff*



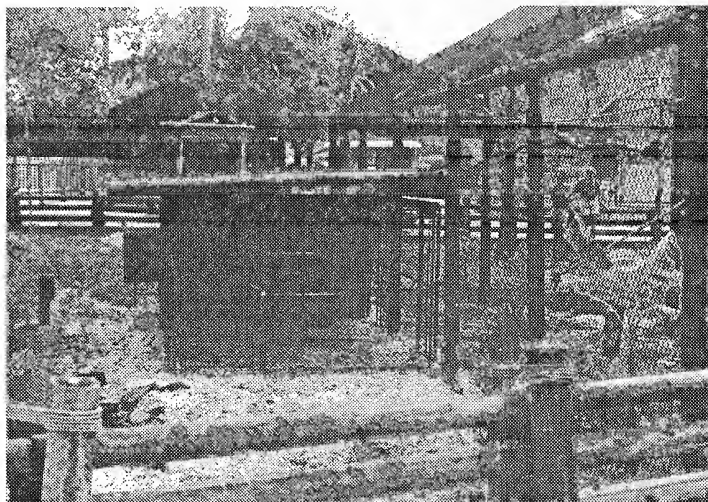
**Female gibbon  
"Glenda" maneuvering over flooded island.**

### **"Moving Day"**

We constructed a trap door on the front of their house and hid a keeper under the house using bamboo screening. We baited the house with their favorites - grapes and bananas. One keeper was stationed across on the riverbank, the veterinarian and two other keepers left the island by boat and hid around the river bank. We used our portable radios to signal the keeper under the house to shut the door when one was inside.

The next step was the vet blow-darting and transporting the animal in a kennel to the clinic for physicals, etc. While this was going on, the other keepers caught up the next gibbon. After recovering in kennels overnight, we moved them to the holding cage at their new home. The cage is constructed of chain-link and fence posts. Dimensions are 8.23m tall, 22.8m long, and 9.12m wide (27 ft. tall, 74.9 ft. long, 30 ft. wide). We installed three barrels up top for them to sleep in, palm and cypress trees, grass, and ropes. We also installed automatic waterers. There are two holding cages, each with dimensions of 1.82m long, wide and tall (5.9 ft.). The first cage is used for keepers and the second one has a house and feeding area for the gibbons.

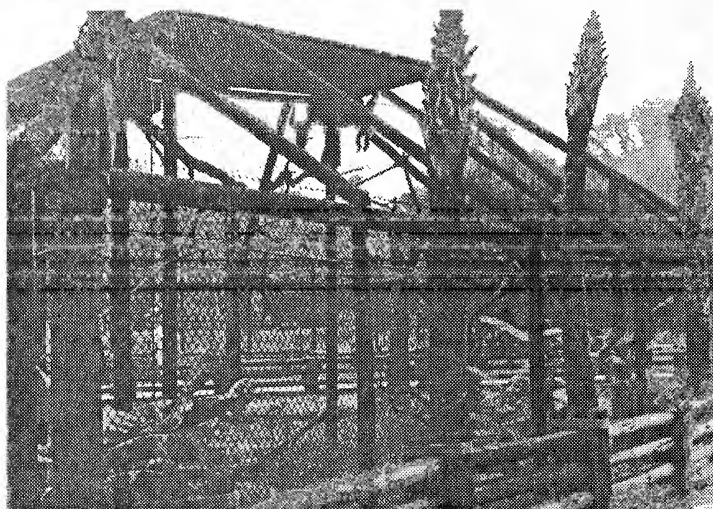
We also spread treats inside their display cage. It didn't take long for the gibbons to enjoy all the areas provided for brachiation and they love lying on the grass in the sun!



**Holding and training cages at new gibbon exhibit.**

*Photos by Joann Zelif*

### **Gibbons in their new home.**



### **“New Home Provides Training for Gibbons and Keepers”**

Since the move in September 1998, we not only built a new home for the gibbons but also a new relationship with the family. Glenda still gives the female keepers hugs, but now Gary readily comes down to be hand-fed by the keepers. In January, daughter Sara finally took food from keepers and regularly does so now. This was a major breakthrough since she never did it in seven years at the park. This turned the old-fashioned, pessimistic keepers like me into believers. It has taken a lot of time and patience on both sides, and we've come a long way in just a few months. We've learned a new word in our vocabulary - “Ethogram”. We now have two training sessions a day, hand-feeding each gibbon on their stumps in the holding cage. This is helping them to feel more comfortable with the cage. The next step is closing the shift door and getting them to feel comfortable inside. Animals and keepers are now enjoying a new life at the park filled with enrichment. This is one time when animals and keepers have benefited in moving from a “natural” home to a cage.



# Book Review

## **Borneo Rain Forest**

By Mattias Klum, 1998

Chronicle Books, 85 Second Street

San Francisco, CA 94015

Paperback 190 pgs. \$24.95

*Review by Debbie Aden, Zookeeper  
Denver Zoo, Denver, CO*

Author and photographer Mattias Klum spent more than a year deep in the heart of one of the world's most elusive and ancient rainforests: Borneo's Danum Valley. The world's third largest island is home to species found nowhere else on earth such as bearded pigs, rhinoceros hornbills, forest elephants, king cobras, and Low's pitcher plant. While patiently waiting behind blinds, shooting from platforms high in the trees, or skimming above the forest canopy in a hot air balloon, Klum captures the flora and fauna of this mysterious place.

The only true text in the book occurs in the last 15 pages which contain excerpts from the author's expedition journal that detail a few of his adventures in the Danum Valley. Throughout the book the author also offers short insights and observations that convey his passion for the rainforest.

The purpose of *Borneo Rainforest* is simply to portray the beauty and complexity of this region through photographic artistry. Borneo's rare gifts are photographed as they really are, filled with darkness and shadows shot through the streaks of light. The book makes no attempt to educate, providing only common species names for the majority of pictures and no explanation for the rest. The book is not geared toward specialists or students but is rather suited for anyone with an interest and appreciation of Borneo and its wildlife. Through the 164 vivid photographs in this book, the author recreates the experience of being deep in the heart of the rainforest and gives rare, precious glimpses of a marvelous place few people will ever see.

## **Foraging for Survival, Yearling Baboons in Africa**

By Stuart A. Altmann

University of Chicago press 1998

5801 South Ellis Ave., Chicago, IL 60637

Hardback 622 pgs. \$70.00

*Review by Elizabeth Larsen, Primate Keeper  
Utah's Hogle Zoo, Salt Lake City, UT*

*Foraging for Survival* by Stuart Altmann is a result of decades of research studying foraging behavior of yearling baboons and its long-term impact on their reproduction and survivability. The general questions Altmann addresses in this book are what types of foods consumed in the yearling diet; what proportions of each food are consumed; nutrients and toxicity levels of the foods

chosen and not chosen. Altmann then utilizes this information to compare his field data to a general model of optimal nutrition.

Altmann observed yellow baboons (*Papio cynocephalus*) of the Amboseli National Park in Southern Kenya for this study. Eleven infants between the ages of 30-70 weeks of age were selected. Although the baboons at this young age are difficult to study, close-range observations were permitted due to habituation of the troop, and the open environment in which the baboons live. He was able to obtain detailed data on the species and the parts of the plants eaten, and the quantities of each that were eaten. This also allowed for chemical analysis of the flora.

Altmann found there are three characteristics to the successful foraging behavior. Although the baboon diet consists mostly of acacia and grasses, their diet is relatively broad. They feed on a wide array of phyla, yet they are very selective in terms of which parts of plants are consumed. His evidence has shown their selectivity results in a higher nutrient and less toxic, or less harmful, diet. Not only are baboon diets broad, but they are opportunistic in feeding as well. They will incorporate new foods into their diet due to seasonal changes and availability. Selective omnivory has enabled baboons to be among the most widespread mammals in Africa. Altmann then attributes selective omnivory to several traits: anatomy (size, metabolism, cheek pouches, digestion, etc.), energies (locomotion, manipulation), and intelligence.

The most impressive result of Altmann's study is the correlation between foraging and fitness. Lifetime fitness, survivability and reproductive success is highly predictable based on what individuals ate when they were yearlings. The diet of the yearling baboons with energy intake comparable to optimal intake, predicts which individuals survive to adulthood and also the length of their reproductive life span. At 70 weeks of age, when the baboons are still nursing and under maternal care, their lifetime fitness is virtually established.

The latter part of his book incorporates appendices and tables of his data, including but not limited to, primate nutrient requirements and toxin limits, feeding bouts, and composition of foods.

This book is a valuable reference tool on foraging behavior, diets and its consequences. It is an in-depth study and not geared for the light reader. However, as nutrition is becoming an essential component in animal care of zoological institutions, this book is an excellent reference for zoo nutritionists and veterinarians.

## Information Please

We are interested in talking with anyone who uses Fennec Foxes (*Fennecus zerda*) as educational animals. Please call, write or fax: Kate Friedman or Kim Johns, Memphis Zoo, 2000 Galloway, Memphis, TN 38112; phone - (901) 725-3400, ext. 3800; fax - (901) 725-9305.

# The Inception of a Cooperative Shifting Conditioning Program for Bongo Antelope

By

Joseph Robertia, Mammal Keeper  
Dallas Zoo, Dallas, TX

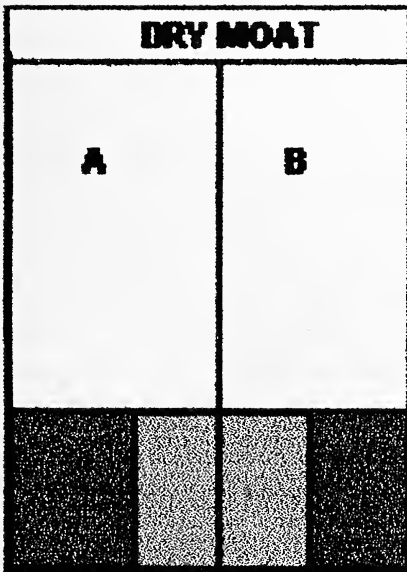
## Introduction

The conditioning and training of the ungulate collection is a critical component of animal management at the Dallas Zoo. By incorporating training programs into the daily care and maintenance of select species, remarkable accomplishments have been achieved that facilitate efficient maintenance and increased safety for both staff and animals.

## Animals

The Dallas Zoo currently manages one male and three female Bongo il (*Tragelaphus euryceros*). All four are adult animals. The male is housed separately from the female herd; however, the two exhibits are beside one another (see figure 1).

Figure 1



■ = Patio  
▒ = Night Barn

A = Exhibit Yard (Male)

B = Exhibit Yard (Female)

**Note: Exhibit yards are divided by a 7 ft. tall chainlink fence.**

Bongos had historically been shifted off exhibit by being walked in by a keeper, or keepers, using broom handles or squirt bottles to persuade the animals (negative reinforcement). Animals were not shifted onto exhibit, but rather were given access to the exhibit and were allowed to shift out at their leisure.

As Bongos can be skittish, flighty animals by nature, it was determined that a conditioning program would be implemented. The goal of which would be improved and consistent cooperative shifting of all four Bongo.

## Methods

All four bongo were successfully conditioned to shift on and off exhibit. Using the verbal cue "Lets go to WORK," the animals will shift from their night barn onto exhibit. Using the verbal cue "Lets go HOME," the animals will shift from the exhibit back to the night barn. Initially, keepers would entice the animals (almost every step of the way) off exhibit by feeding them leafy greens. The verbal cue would be given the entire time the bongos followed the keeper off exhibit. As the bongos progressed and began to respond more quickly, the keepers began to decrease the distance they would walk into the exhibit. The verbal cue continued to be given. This continued until the keepers had decreased the distance completely and were cueing from the night barn. Also, the leafy greens went from being the motivation to being the reward, or positive reinforcement.

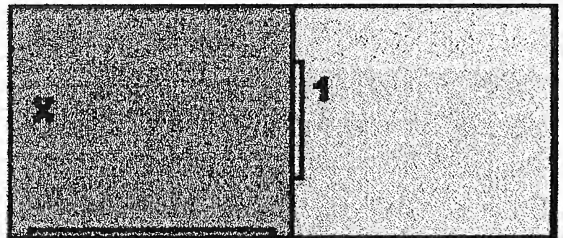
The process used to shift the bongos onto exhibit was very similar. Keepers would give the verbal cue "Lets go to WORK," while standing on the patio outside the access door of the night barn (see figures 2 and 3). This was done while simultaneously putting out the daily grain. The keeper would then back out of the exhibit, still giving the verbal cue, and would give the bongos access to the exhibit. This method continued until the animals began shifting to only the verbal cue. At which point, the daily grain became the positive reinforcement.

**Figure 2**

**X = Position of food bowl  
with daily grain**

**1 = Access Door to  
Night Barn**

**2 = Access Door to Exhibit**



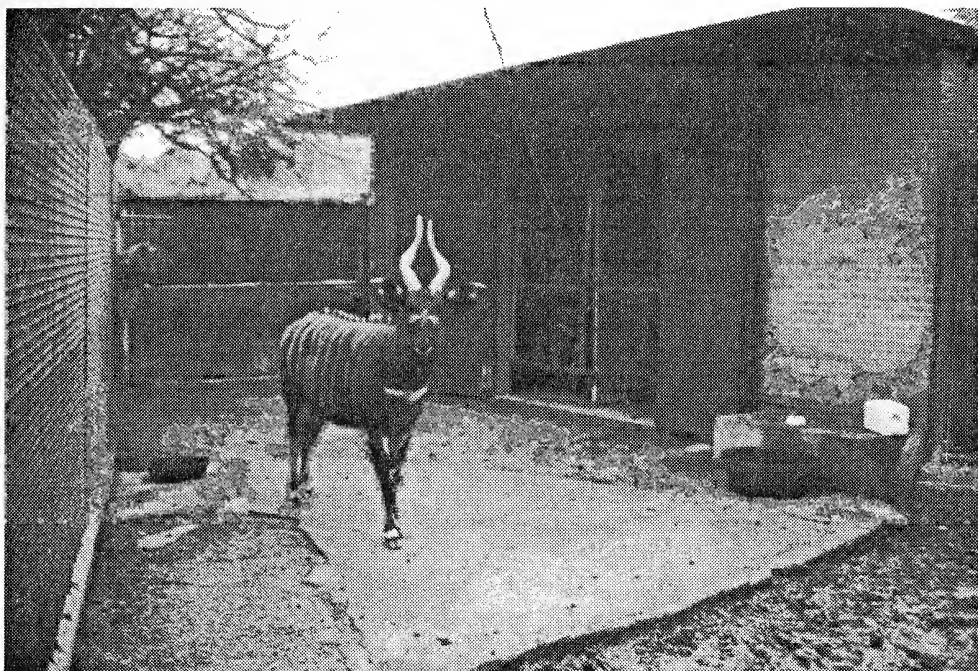
## Results

As already stated, four out of four bongo were successfully conditioned to shift cooperatively. The entire shifting program was accomplished in a relatively brief period of time (< 90 days). All four animals continue to respond to both cues within five minutes about 90% of the time.

## Discussion

As a result of the success of the pilot program to condition bongos to cooperatively shift on and off exhibit, similar programs were and still are being developed for species like bontebok (*Damaliscus dorcas dorcas*), Arabian oryx (*Oryx leucoryx*), and several others. The pilot program also served as a precursor to a target training program for bongo currently in progress.

**Figure 3**



**Showing Patio area in front of night barn. Note placement of food bowl behind Bongo. (Photo by Joseph Robteria)**

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### ***Web Sites to Check Out . . . . .***

The SSP/EEP manual "The Management and Conservation of Captive Tigers" is posted on the International Tiger Information Centre website <[www.5tigers.org](http://www.5tigers.org)>.

1. AZA Bear TAG [www.bearden.org](http://www.bearden.org)
2. AZA Felid TAG [www.csew.com/felidtag/](http://www.csew.com/felidtag/)
3. AZA Canid TAG <http://members.xoom.com/mthor/dogs/>
4. AZA Antelope TAG <http://members.xoom.com/mthor/antelope/>
5. Golden lion tamarin [www.si.edu/glt/](http://www.si.edu/glt/)
6. Red panda [www.s.i.edu/natzoo/redpanda/](http://www.s.i.edu/natzoo/redpanda/)
7. AZA Avian Interest Group [www.riverbank.org/aigindex.html](http://www.riverbank.org/aigindex.html)

# Chapter News Notes

## Cheyenne Mountain Zoo AAZK Chapter

Officers for 1999 are:  
President.....Ingrid Shea  
Vice President.....Stacey Paisner  
Secretary.....Heidi Genter  
Treasurer.....Gina Landucci  
Liaison.....Jennifer Long

Our Chapter had a successful year, raising \$894.00 in Bowling for Rhinos. During Electric Safari we also raised over \$300.00 with our bake sales. Thanks to all who donated their time and goodies during a hectic holiday season!

Also, our Chapter is donating \$100.00 to the *Junior Keepers' Forum*. Good luck to those future zoo keepers.

Once again we're planning a summer dog wash in conjunction with the Humane Society of the Pikes Peak Region.

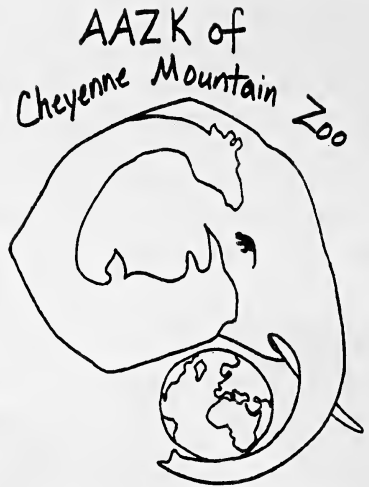
Thanks to all our new and returning officers for their time and dedication.

--Jennifer Long, Liaison

## Wildlife Safari AAZK Chapter

Officers for 1999 for the Wildlife Safari AAZK Chapter (Winston, OR) are:

President.....Anisa Penrose  
Vice President.....Jason Kauntze-  
Cockburn  
Treasurer.....Pat Roberts  
Co-Secretaries.....Jeretta Stanton and  
Josj Jones  
AAZK Liaison.....Amy Exceen



## AAZK Historian Information

**Request of Chapters:** It is extremely important that AAZK have a record of the conservation work being done by its Chapters. Individual Chapters accomplish quite a lot by providing funding and/or volunteering time to a great many organizations. As Historian, I need to have a record of your Chapter's activities. Examples of the information I would like to receive include: Chapter funding provided to a local wildlife rehabilitation center, money contributed to The Nature Conservancy, or supplies provided to a foreign zoo. This information can be of use to demonstrate AAZK, Inc.'s and individual AAZK Chapters' dedication and involvement in conservation efforts if the national organization or Chapters apply for grants.

In addition, Susan Chan at the Administrative Office would like to have a brief description, photo, or a sample of any merchandise a Chapter produces, including any associated with Bowling for Rhinos fundraisers.

Please send conservation information, including amount of money raised/donated to me at: Mark Levin, AAZK Historian, 3038 Arrowhead Lane, Norristown, PA 19401 or via e-mail to: fstzoo@aol.com.



## Birmingham Zoo Chapter of AAZK

Our 1999 officers are:

President.....Heidi Fisher  
Vice President.....Renee Gainer  
Sec/Treas.....Michelle Herman

We are donating \$200.00 to the National AAZK Organization to support its projects and programs. We will also be donating varying sums to several different conservation causes, including the Cahaba River Society which is a local group. We have adopted a hornbill family and two black-footed ferrets.



Chapter members are gearing up for our 1999 season of Keeper Encounters. At these encounters, Keepers from different areas of the zoo give talks and some behind-the-scenes tours. These encounters are held in the evenings starting in March and running through October.

The Chapter has purchased computer printers for several areas in the zoo.

We will be taking over the aluminum can recycling in employee areas at the zoo and hope to use the funds raised for enrichment items.

--Michelle Herman, Liaison

## Oklahoma City AAZK Chapter

The Oklahoma City Zoo AAZK Chapter held officer elections on 9 December 1998.

Elected 1999 officers for the Chapter are:

President.....Vonceil Harmon  
Vice President.....Brian Whitsitt  
Treasurer.....Doug Latham  
Secretary.....Sandi Shoemaker



Every year the Chapter hosts a silent auction-bake/craft sale at the zoo's Christmas Luncheon. The items are donated by the staff and volunteers and range from cookies, to artwork, to floral arrangements and wreaths. We allocate these funds to benefit local conservation efforts.

This year the auction raised a total of \$420.25. The Chapter voted to send 50% of the money to Wildcare (a local rehabilitation center) with the other half going to the Selman Bat Cave near Freedom, OK. The money will aid in predator research at the cave.

In 1998 we were also able to offer a basket of specialized Beanie Babies® for silent auction. This effort netted \$300.00 for our Chapter to use for conservation and education. This fundraiser was made possible by Karen Jones, Coordinator of the Oklahoma City Zoo Gift Shop who ordered the Beanie Babies® and coordinated the silent auction for us.

--Sandi Shoemaker, Secretary

*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the **10th of each month** to: Opportunity Knocks / AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Please include closing date for positions available and when setting these dates keep in mind that because of bulk-mail, most readers do not receive the AKF until the middle of the month or later. There is no charge for this service and fax listings of positions which become available close to deadline are accepted. Our fax is (785) 273-1980.*

**The following three (3) positions are available at the Department of Natural and Environmental Resources of Puerto Rico. They involve captive breeding of an endangered Amazon parrot. To apply send cover letter, resumé, three (3) references and salary history to: Project Leader, Rio Abajo Aviary, P. O. Box 439, Arecibo, PR 00613-0439. OPEN UNTIL FILLED.**

**PROJECT LEADER**...we are soliciting applicants who have demonstrated superior husbandry skills in the area of aviculture. Experience in all areas of aviculture will be considered, however we are especially interested in persons with experience in breeding, artificial incubation and hand-rearing of neonate psittacines. Will be responsible for overseeing all aspects of the management and breeding program of captive endangered Amazon parrots. Duties include direct animal care, supervision of staff, hiring, training and scheduling, assigning/reviewing work of supervised staff, continuing to implement the master plan for our successful breeding program and ensure that it complies with all regulations, update and expand this master plan, develop and implement an annual budget, overseeing the construction and maintenance, landscaping and sanitation of aviary complex, supervision over technical staff, students/interns, and volunteers. Proven leadership ability, teamwork, organizational and communication skills, as well as direct experience with the management of captive psittacines must be possessed. Must be willing to work on any of the seven days of the week. Must be able and willing to work independently. Bilingual (English/Spanish) highly desirable. Must have minimum of five (5) years paid experience in bird-related field. Required to live on-site. Housing, water and electricity provided.

**ASSISTANTS (2) TO THE PROJECT LEADER**....actively participate in the continuing development of a successful breeding and husbandry program for endangered Amazon parrots. Need to have experience in exotic animal husbandry, computer literacy, strong observation/communication skills, record keeping and the ability to work in a harmonious manner with veterinary/keeper/supervisory staff. Applicants should have adequate writing skills and demonstrate the ability to do independent studies and instruct students/interns. Experience in supervision, development and maintenance of a facility and animal records highly desirable. Duties include direct animal care, animal record keeping, animal husbandry, general treatments, critical care, assisting in limited surgeries, parasitology work, laboratory testing, animal clinic maintenance and related duties, implementing nutritionally complete diets and providing sanitation to bird use areas. Successful candidate must possess strong interpersonal skills as well as coordinating, planning and scheduling skills. Must be willing to work on any of the seven days of the week, including holidays. Must be able and willing to work independently. Bilingual (English/Spanish) highly desirable. Must have minimum two (2) years paid experience in bird-related field. Required to live on-site. Housing, water and electricity provided.

**ZOOKEEPER**...Pueblo Zoo. Learn all sections of the zoo initially. Areas include hoofstock, small mammals, carnivores, birds of prey, rainforest, penguins, waterfowl, herps and farm. Requires zookeeping degree or related degree and one (1) year

paid exotic animal experience; able to lift 50 lbs.; work weekends and holidays; have a valid driver's license and good driving record. Beginning salary \$7.00-\$7.50 depending on education and experience. **Position open until filled.** Send resumé to: Marilyn McBirney, General Curator, Pueblo Zoo, 3455 Nuckolls Ave., Pueblo, CO 81005, or fax to (719) 561-8686, or e-mail: zoo@coyotenet.net.

**The following two (2) positions are available at the Claws 'N' Paws Wild Animal Park, a privately owned zoo in the Pocono Mountains of Pennsylvania. Applicants should send resumé to: Vince Hall, Claws 'N' Paws, RD 6, Lake Ariel, PA 18436.**

**HEAD KEEPER...**the applicant should have a degree in zoology or an allied field, and have at least five (5) years of paid, hands-on experience in a zoological park. That experience should include the care of large cats, wolves, old and new world primates, reptiles, and birds. Supervisory responsibility is a must. Responsibilities will include all aspects of animal care. The applicant will also help to formulate protocols for both animal and keeper safety. Good public interaction is necessary as well as being able to get along and work with fellow employees. Insurance and paid vacation are included. Salary will be based on experience and education.

**ZOO KEEPER...**this position requires at least two (2) years of paid experience in a public zoo. A degree in one of the animal sciences is preferred. The applicant will be responsible for the daily care and feeding of a collection of mammals, birds and reptiles. This person should be able to give an educational presentation to a large audience. We are looking for someone who is self-motivated and can get along with co-workers. Benefits include paid vacation and insurance. Salary based on experience and education.

**ANIMAL KEEPER I...**the Lee Richardson Zoo is seeking resumé from highly motivated, team-oriented individuals. Minimum requirements include: must have or be able to acquire a valid Kansas driver's license; high school diploma or equivalent; and animal-related experience. A college degree and experience in an AZA-accredited institution is preferred. Responsibilities will include daily work with a variety of animals, with an emphasis on behavioral enrichment. Salary range from \$8.27 to \$10.74 per hour based on experience and education, plus an excellent benefits package. Send resumé to: City of Garden City, Human Resources Department, P. O. Box 499, Garden City, KS 67846. **The position is open until filled.**

**KEEPER/MAMMALOGY AND ORNITHOLOGY...**The Arizona-Sonora Desert Museum currently has a full-time position for an animal keeper in the Mammalogy and Ornithology Dept. Responsible for the care/feeding/cleaning, observation and environmental enrichment of animals. Degree in related field and at least one (1) year work experience in an AZA-accredited facility is preferred. Ability to work well in a team environment and to demonstrate good communication and interpersonal skills. Knowledge of the Sonoran desert fauna is desirable. Must be able to work weekends and holidays as required. Send resumé to: H.R., Arizona-Sonora Desert Museum, 2021 N. Kinney Rd., Tucson, AZ 85743. EOE. **Closing date is 30 April 1999.**

**VETERINARY TECHNICIAN/REGISTRAR...**The Heritage Zoo in Grand Island, NE is seeking a unique individual who enjoys the challenges of helping build the veterinary program from the ground up. The director/veterinarian needs a multitalented person who thrives on all aspects of veterinary technology practice including equipping and inventory control, overseeing and monitoring preventative health schedules, record keeping (ARKS, MedARKS, etc.), clinic construction projects,

preparing for animal shipments, keeping the veterinarian in line, etc. Salary \$15,000.00 with benefits. License or eligibility for licensing to practice in Nebraska. Send resumé to: Mike Nance, DVM, 2103 West Stolley Park Rd., Grand Island, NE 68801. **Position open until filled.**

**CURATOR**...The Wildlife Discovery program (a Houston I.S. D. Magnet School) is now taking applications for the 1999-2000 school year. The Curator position vacancy will become available 11 August 1999, and continue until 1 June 2000 (10 month contract/benefits). The duties of this position include planning and experiential instruction in an outdoor setting at the Houston Zoo to 3rd grade students. Requirements are two or more of the following: Two (2) years college (degree preferred); education experience; wildlife biology background; environmental/outdoor education experience; or summer camp counselor experience. Salary is \$1733.00/month for 10 months with benefits. **Applications will be accepted until 15 July 1999.** Applicants need to send a cover letter with their resumé and three (3) references to: Ms. Karyl Watz, Coordinator, Wildlife Discovery program, 1513 North MacGregor Way, Houston, TX 77030 or e-mail : watz@tenet.edu

**BIRD KEEPER**...the Department of Natural and Environmental Resources of Puerto Rico is accepting resúmes for an opening at its captive propagation facilities for an endangered Amazon parrot. A degree in animal science/biology/zoology or related field, with two (2) years paid experience preferred. Primary duties include daily feeding and care of Amazon flock, including cage maintenance, cleaning and disinfection. General facilities maintenance also included. Applicant must be able to assist the project leader, veterinary assistant and other staff members as a team player, and be flexible, creative, organized and demonstrate a good work attitude. Experience in developing diets, disease control, record keeping, ARKS and SPARKS desirable. Residence, including water and electricity, provided. Applicant must live on site. **Position open until filled.** Send cover letter, resumé, including references and CV to: Project Leader, P. O. Box 439, Arecibo PR 00613-0439.

**ANIMAL KEEPER/GUIDE**...several positions available for seasonal employment May through October 1999. Requires high school diploma, paid zoo experience preferred, but volunteer experience acceptable. Good opportunity to gain paid zoo experience. Applicants must have strong, audible voice, neat appearance, good personality, and must work well with co-workers. Non-smokers preferred. Duties will include daily animal care and feeding, exhibit cleaning and maintenance, various other maintenance duties, and talking to groups in a tour situation. Lectures given on both venomous and non-venomous reptiles. Must have experience in handling non-venomous reptiles or a willingness to learn. Salary...\$195.00 per week. Living quarters, utilities and uniforms furnished. Send resumé to: Jim Miller, Soco Gardens Zoo, c/o 89 Evans Cove Rd., Maggie Valley, NC 28751..

**ZOOKEEPER/CARETAKER**...Primarily Primates, Inc., a non-profit animal sanctuary is accepting applications for Caregiver/Zookeeper. References and minimum two (2) years experience at an AZA-accredited zoo are required. A unique opportunity to work with a wide variety of primate species in a sanctuary setting. History of direct care with Callithichids or chimpanzees a plus. Good communication skills essential. Position ideal for independent, self-motivated mature individual. Position is outside in all weather with low pay and a sometimes difficult boss. Fax resumé to attn: William W. Swett, Primarily Primates, Inc. (830) 755-2435. **Position open until filled.**

**VETERINARY TECHNICIAN/HOSPITAL KEEPER**...the Gladys Porter Zoo is seeking qualified applicants for a full-time veterinary technician/hospital keeper position anticipated to be available August 1999. Job responsibilities include weekday and relief hospital keeper duties (cleaning, feeding, treatments, etc.), weekend and relief technician duties (clinical pathology, assisting with all procedures, radiology, etc.). MedARKS data entry and maintenance of medical records. Prior technician/animal keeper and computer experience preferred. Wages in the mid-teens, plus benefits. Send resumé to: Teri Hermann, RVT, Gladys Porter Zoo, 500 Ringgold St., Brownsville, TX 78520.

**ZOOKEEPER. EOIII.**City of Marshfield, WI. Primary professional staff member at the Wildwood Park Zoo. Provides general care, maintenance and record keeping for the zoological collection and facilities. Assists with public relations and promotion by developing and implementing wildlife education programs, exhibits and tours. This position is an AFSCME represented position with a current wage rate of \$14.33 per hour. Qualifications: Bachelor's degree or equivalent education in captive wildlife, animal husbandry, wildlife or related field. Oral and written communication skills required. Valid Wisconsin Drivers License. Application Deadline: **Until filled.** For application materials, contact Human Resources Office, City of Marshfield, P. O. Box 727, Marshfield, WI 54449-0727. Phone (715) 387-6597. E-mail: hr@ci.marshfield.wi.us. EOE.

**INTERNSHIP (Kentucky Reptile Zoo)**...a nonprofit organization is seeking a student intern for the 1999 summer and fall seasons. The zoo is an educational exhibit, reptile breeding and venom research facility located near Kentucky's Red River Gorge and Natural Bridge State Park. The intern will assist in the captive maintenance of the zoo's reptile collection, collect admissions to the exhibit, give interpretive talks and interact with the public, assist with educational outreach programs, and perform other duties as assigned. In addition, the intern will be responsible for the completion of at least one research project related to the field of herpetology. The intern will **not be involved** in the handling of any venomous reptiles. Desirable qualifications include a willingness to handle snakes and other reptiles on a daily basis, ability to communicate effectively with people, writing skills, orientation to details, and self-motivation. Students majoring in the biological or natural sciences are preferred. Former interns have arranged for academic credit with their colleges and universities. Benefits include experience with the most extensive and diverse collection of snakes in the area, housing, and \$55/week to cover expenses. Personal transportation is recommended. Starting dates are flexible, but a minimum commitment of three months covering SUMMER (June-August) or FALL (September - November) is required. To apply send a cover letter and resumé to: Kristen Wiley, Internship Coordinator, Kentucky Reptile Zoo, 1275 Natural Bridge Road, Slade, KY 40376. Deadline for applications for Fall is **1 June 1999.**

**AVICULTURE INTERN**...will receive intensive, hands-on training in the care and maintenance of a large bird collection. Will experience all aspects of bird husbandry including general cleaning, handling, incubation, record keeping, public education, etc. Seeking college students or recent graduate with an interest in avian management biology. Interns will work with the aviculturists for a three-month period. This is a volunteer position with on-site housing provided. Internships available year-round. Send a letter and resumé with references to: Tracy Aviary, 589 East 1300 South, Salt Lake City, UT 84105. ATTN: Kristine McCue/Holly Seitz.

**BIRD/MAMMAL KEEPER**...excellent opportunity at Audubon Center for Research of Endangered Species & Freeport-McMoRan Audubon Species Survival Center. Will work with carnivores, hoofstock, cranes and storks. Requires valid drivers

license, reliable transportation and one (1) year's paid experience working with birds or mammals. starting salary is \$17,000-\$20,000 depending on experience and ability. Position open until filled. Send resumé to the ACRES/FMASSC, 14001 River Road, New Orleans, LA 70131. Attn: Jeff Vaccaro.

**The following two (2) positions are available at the Brevard Zoo, 8225 North Wickham Rd., Melbourne, FL 32940. If interested in joining the team at Brevard Zoo, please e-mail resumé to [mmsurl@brevardzoo.org](mailto:msmurl@brevardzoo.org) or fax (407) 259-5966 by 25 April 1999. Questions may be directed to Michelle Smurl, General Curator at (407) 254-9453, ext. 17. Website: [www.brevardzoo.org](http://www.brevardzoo.org). Hard copies of resúmes may be sent to Michelle Smurl at zoo address given above. Be sure to indicate which position you are applying for.**

**ZOOKEEPER...**requires four-year degree and/or experience working with animals. Responsibilities include, but are not limited to, animal care/observation for a variety of animals, record keeping, exhibit maintenance and design, operant conditioning, enrichment, public education, diet preparation and commissary management. Must have a flexible working schedule and willing to work weekends and holidays. Great communication and interpersonal skills required.

**NIGHT ZOOKEEPER...**requires four-year degree and/or experience working with animals. Responsibilities include, but are not limited to, animal care/observation for a variety of animals, record keeping, exhibit maintenance and design, operant conditioning, enrichment, public education, diet preparation and commissary management. Must have a flexible working schedule and willing to work weekends and holidays. Great communication and interpersonal skills required. Available shifts are from 4:30 p.m. to 12:30 a.m. and 12:30 a.m. to 8:30 a.m. Day shifts are covered on an as needed basis.

*Check AZA Member Institution job position listings on the AZA Home Page: <http://www.aza.org>*



*Artist: Mary Deckert*

# AAZK Membership Application

check here if renewal [ ]

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State/Province \_\_\_\_\_ Zip \_\_\_\_\_

## U.S. Members

**\$35.00 Professional**  
*Full-time Keepers*

**\$30.00 Affiliate**  
*Other staff & volunteers*

**\$30.00 Associate**  
*Those not connected with  
an animal facility*

**\$60.00 or up - Individuals**  
**Contributing/U.S.**

**\$100.00 or up**  
**Institutional/U.S.**  
*Organizations / Institutions  
(requires Board approval)*

**International Members**  
**\$50.00 International**  
*All members outside U.S. &  
Canada regardless of category*

## Canadian Members

**\$40.00 Professional**  
*Full-time Keepers*

**\$35.00 Affiliate**  
*Other staff & volunteers*

**\$35.00 Associate**  
*Those not connected with  
an animal facility*

**\$60 or up - Individuals**  
**Contributing/Canada**

**\$100.00 or up**  
**Institutional/Canada**  
*Organizations / Institutions  
(requires Board approval)*

**Library Only**  
**35.00 Library**  
*Available only to public  
& university libraries*

Zoo Affiliation (if any) \_\_\_\_\_

Zoo Address \_\_\_\_\_

Title \_\_\_\_\_

Work Area \_\_\_\_\_

My check is enclosed (AAZK, Inc.)  Please charge my credit card

MASTERCARD \_\_\_\_\_ VISA \_\_\_\_\_ Card # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Name on card \_\_\_\_\_ Expiration date \_\_\_\_\_

Signature \_\_\_\_\_

Mail this application to: AAZK Administrative Offices, Topeka Zoo, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Make checks/money orders payable to AAZK, Inc. Must be in U.S. FUNDS ONLY. Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.



**American Association  
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635 S.W. Gage Blvd.  
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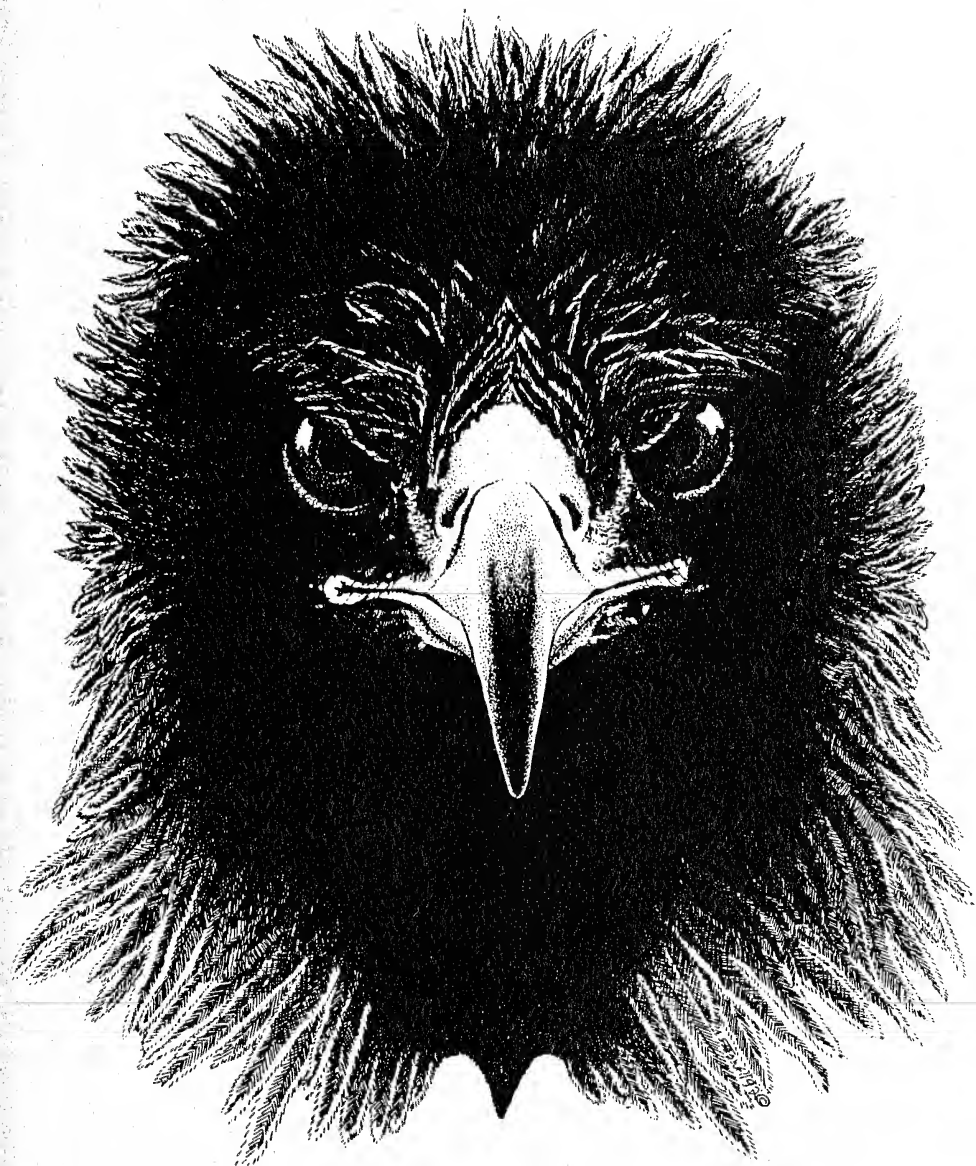
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**Animal Keepers' Forum  
25th Anniversary  
1974 - 1999**



# ANIMAL KEEPERS' FORUM



**The Journal of the American  
Association of Zoo Keepers, Inc.  
May 1999**

**Managing Editor:** Susan D. Chan • **Associate Editors/Enrichment Options**

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**Review Coordinator:** Andrea Bernee, Chaffee Zoological Garden • **Legislative Outlook Column Coordinator:**

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### **AAZK PUBLICATIONS - CONTINUING DATA COLLECTION**

Zoo Infant Development Project - Jennifer Hackshaw, Lowry Park Zoo and G. Suzanne Chacon, Zoo Aves (Birds/Passerines); Jeanne Walsh, Newark Museum Mini-Zoo (Reptiles); Linelle Smith, Denver Zoo (Amphibians)

Crisis Management Resource Notebook - Susan Chan, AAZK; William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX; and Diana L. Guerrero, Ark Animals, Inc., Escondido, CA.



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## **About the Cover.....**

*This month's cover features an American Golden Eagle (*Aquila chrysaetos canadensis*) drawn by Geoff Creswell of Emporia, KS. Golden Eagles are most common in the western parts of the U.S. where they prey on small to medium-sized mammals. There are five subspecies of this bird and the pairs mate for life. The female lays a clutch of between 2-3 eggs in March or April of each year and incubation lasts about 38 days. The females are somewhat larger than the males with this species having a weight range of 4-6kg (8-14 lbs). Their wingspan ranges from 195-230cm (6-7.5 ft.) The Topeka Zoological Park was the first institution to successfully raise this species in captivity and received the Edward H. Bean Award from the American Zoo & Aquarium Association in 1972 for this breeding achievement. Thanks, Geoff!*

## **Information for Contributors**

*Animal Keepers' Forum* publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration. Articles should be typed or hand-printed and double-spaced. Authors are encouraged to submit their manuscripts on a disk as well as in hard copy form. Acceptable formats include: for Macintosh users - Microsoft Word or Works; IBM users - Word for Windows, WordPerfect or Wordstar. All illustrations, graphs, charts and tables should be clearly marked, in final form and should fit in a page size **no greater than 5.5" x 8.5"** (14cm x 22cm). Literature used should be cited in the text (Brown, 1986) and alphabetically in the final bibliography. Avoid footnotes. Include scientific name (as per ISIS) the first time an animal name is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Glossy finish black and white photos **only are accepted**. Color slides should be converted to black and white prints (minimum size 3" x 5" [8cm x 14cm] ) before submission. Clearly marked captions should accompany photos. Please list photo credit on back of photo.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone and FAX contributions of late-breaking news or last-minute insertions are accepted as space allows. However, long articles must be sent by U.S. mail. Phone 1-800-242-4519 (US); 1-800-468-1966 (Canada); FAX (785) 273-1980.

**Deadline for each regular issue is the 10th of the preceding month.  
Dedicated issues may have separate deadline dates  
and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. Reprints of material appearing in this journal may be ordered from the editor. Back issues are available for \$3.00 each.

# **Scoops & Scuttlebutt**



## **By-laws Committee Welcomes New Member**

Please join the Bylaws Committee in welcoming Michelle Shireman from the Oregon Zoo as our newest committee member. Michelle has been active in local AAZK Chapters for many years and is now participating in the hosting of a second AAZK conference. We are excited that she has decided to use her talents on a national level. ---*Gisela Wiggins, ByLaws Chair*

## **Bowling For Rhinos Funds Dispersed**

Funds from the 1998 Bowling for Rhinos national fundraiser have been dispersed as follows: \$100,000.00 to the Lewa Wildlife Conservancy in Kenya; and \$12,459.98 each to the Ujung Kulon Preserve and to Bukit Barisan Selatan National Park, both in Indonesia. --*Patty Pearthree, BFR Chair*

## **Recent Chapter Donations Acknowledged**

The Board of Directors and the Administrative Office staff would like to thank the following AAZK Chapters for their recent donations which were sent in with their recharters: Zoo Atlanta AAZK Chapter (Atlanta, GA) \$1000.00 for the general operating fund; and the South Florida AAZK Chapter (Miami, FL) \$250.00 to general operating fund. Continued Chapter support helps keep the Association strong and allows programs such as the Enrichment Website and Zoo Keeper Training Workshops to continue.

## **Bio Values to be Revisited**

The AAZK Board wants to consider publishing a revised edition of the AAZK Biological Values for Selected Mammals reference work. Anyone interested in participating in this project, please contact: Jan Reed-Smith, John Ball Zoo, 1300 W. Fulton, Grand Rapids, MI 49504; phone (616) 374-0806; fax (616) 336-3907; e-mail - [jrsotter@iserv.net](mailto:jrsotter@iserv.net).

**Election Reminder: Ballots must be received by the CPA by 1 June 1999. Send only in specially-numbered envelope provided in the election mailing packet sent to all Professional members in April.**



**CONFERENCE NOTE:** The correct deadline for submitting papers is Friday, 27 August 1999. Be sure to use the corrected registration form in this month's center insert. The conference website mentioned in the March AKF is **not** currently available.

## ***From the Executive Director***

On 11 and 12 April 1999, the AAZK Board of Directors met in Tucson to discuss the State of the Association and to exchange updates and reports on the Committees. The meeting was extremely productive and the minutes will be made available to the membership for review and comment.

The purpose of calling the entire Board together for mid-year was to take a long, hard look at the immediate future of the Association. Financially, we have never been better. As an "organized" membership association, we have some communication issues that we will work on correcting. It is also evident that this association will be faced with new challenges in the near future.

In the late 1980's the Association raised the professional dues for Canadian members to cover increased mailing costs. What has happened over time is the monetary exchange rate continues to devalue Canadian currency when exchanged for U.S. funds. A \$40.00 professional membership rate costs Canadians almost \$60.00 in U.S. Funds. As a result, our Canadian membership, which was very strong at 280 members in 1990, is now down around 75 members. To help level the field, the Board has voted to reduce the Canadian professional membership dues to equal those in the States, or to \$35.00. This is just a small decrease, but we feel, a step in the right direction.

The Board also approved the creation of an Endowment Fund. You will be hearing more about this program in the coming months. The Directors intend to build up a fund, with solicitation from outside sources, passive income from the Association and donations from Chapters and members, enough funds to allow us some flexibility in managing the operational expenses of the Association. This type of fiscal management has been a dream of mine for years, and I am very excited about the potential of the fund and the positive impact it should have on your membership rates in the future.

As stated, this meeting was very productive. I have been active with the Board since 1989 and I can state with confidence that we have never before accomplished this much work during a mid-year meeting. My thanks to the Board of Directors, Committee Chairs and interested members who contributed to the meeting and made it such a success.



Ed Hansen  
AAZK Executive Director

# ***State of the Association***

## ***Message from the President***

Dear Members,

Greetings from the Lone Star State!

It is my pleasure to report to the members of the American Association of Zoo Keepers, Inc. on the 1999 State of the Association.

Today, AAZK is a much slimmer and trimmer organization. The Board of Directors have streamlined many committees, redefining their duties and responsibilities while improving the quality of the committees. The needs of the membership continually change. We no longer need some services and committees that we had in the past. Hopefully the services offered today are now better in serving the needs of the membership.

In 1996, AAZK established a Five-Year Strategic Action Plan. This outline of goals and objectives will carry us through the year 2001, offering direction when answering the needs of the Association. The Strategic Action Plan consists of long-range and short-term goals which are reviewed annually. The Board of Directors will adjust the goals annually to meet the needs of the organization. There has been great progress since the Plan was implemented. Every member should be proud of the Association, nationally and locally.

There are four areas of focus in our Strategic Action Plan: Education, Conservation, Finances and the AAZK Image. Educationally our Association works internally and externally. Professional development workshops are scheduled at national conferences to offer members an opportunity for continuing education.

AAZK committees such as the International Outreach Committee provide library resources, technical assistance and sponsor *in-situ* keeper training workshops. The IOC offers opportunities for AAZK members to become teachers and offer assistance to their counterparts in Latin America and Mexico.

AAZK continues to develop, produce and distribute educational materials to assist its members or interested individuals learn more about our profession. One publication is the *Junior Keepers' Forum*. This outstanding newsletter goes out to nearly 300 children around the country. This is a great way for children and their parents to read together and then work the puzzles and games. Our goal is to develop a partnership with the AZA Conservation Education Committee and integrate the Junior Keepers Program into local zoo and aquarium educational programs.

AAZK and its members are dedicated to conservation. As individuals we participate in species and habitat conservation programs. As an Association, AAZK encourages and supports conservation projects and programs initiated by our members. AAZK's most popular conservation project is Bowling for Rhinos. With over a million dollars raised thus far, AAZK now supports three rhino preserves and their ecosystems.

Financially AAZK is looking for more stability. Endowment opportunities are being researched for the long-term survival of the Association and its programs. I want to personally thank all of the Chapters that have contributed monies to the general operations account or the Conservation, Preservation and Restoration Grant fund. Your donations are valuable to the Association and I hope you will continue with your support. Our Association is only as strong as the members and Chapters supporting it.

Finally, the image of AAZK reflects that we have a membership of highly professional and dedicated individuals. Our Association's relations with other organizations has improved over the years. AZA recognizes AAZK and its members as a vital resource of manpower. In a very important recommendation as a result of the AAZK Strategic Action Plan, the AZA Conservation and Science Office has recommended the appointment of keeper advisors for steering committees of SSPs, TAGs, CAPs and other scientific advisory groups. Many groups have requested keeper participation as advisors, institutional representatives, population managers or studbook keepers.

The image of AAZK is well respected among our peers in the zoological and conservation communities. As we continue to grow as an organization, AAZK will be able to continue to reach out and support others as well. However, we must keep our Association healthy. AAZK must remain balanced internally and not overextend ourselves when someone looks for assistance. We must look forward toward new opportunities that will be positive for our professional organization.

You are all doing a great job and I am honored to represent you. This is my last State of the Association message since my term as President ends in Portland. It has been a privilege and I hope that the last four years have been productive. I still have two years to serve as a Board member and as Immediate Past President. I will continue to share my experience and leadership as a senior member of the Board. Please remember if you have any questions concerning the Association or have an idea you feel might benefit the organization, feel free to contact me anytime.

Respectfully,



Ric Urban, President AAZK, Inc.  
Houston Zoological Gardens





# Coming Events



**The Annual Regional Aquarists Workshop (RAW) Conference** - May 13-15, 1999 at UnderWater World at the Mall of America in Bloomington, MN. For registration and further info contact Craig Atkins (612) 853-0615 or Jeff Krenner (612) 853-0619, UnderWater World at MOA, 120 E. Broadway, Bloomington, MN 55425.

**7th World Conference on Breeding Endangered Species** - May 22-26, 1999 at the Cincinnati Zoo. For more details contact: Grace Retig (Fax - 1-513-559-7791).

**Fourth International Elephant Research Symposium and 1999 Elephant Managers Association Annual Meeting** - June 17-22, 1999 in Atlanta, GA. Hosted by Zoo Atlanta. For further information contact: Edward Daniel at (404) 624-5611.

**American Society of Mammalogists** - June 20-24, 1999 at University of Washington, Seattle, WA. For more information contact: Paul Anderson, Chair, ASM Marine Mammal Committee at: pkanders@cadvision.com

**Animal Behavior Society Annual Meeting** - June 26-July 1, 1999 at Bucknell University in Lewisburg, PA. For further information see - <http://www.cisab.indiana.edu/> or call (717) 524-1430.

**American Federation of Aviculture 25th Annual Convention** - August 12-15, 1999, Denver, CO. For more information contact e-mail: [rmsa@altavista.net](mailto:rmsa@altavista.net); [doms4afa@aol.com](mailto:doms4afa@aol.com); or [stat@wizard.net](mailto:stat@wizard.net). Infor on web site at: <http://www.upatsix.com/afa>


**Fourth International Enrichment Conference** - August 29- Sept. 3 1999 in Edinburgh, Scotland. Hosted by the Royal Zoological Society of Scotland, conference will take place at the University of Edinburgh. Overnight accommodations for delegates also at the University. Details are now available from the *Shape of Enrichment* website: <http://www.enrichment.org>

**AAZK 1999 National Conference** - Sept. 12-16, 1999 in Portland, OR. Hosted by the Oregon Zoo and the Portland AAZK Chapter. Look for info in AKF or contact Jan McCoy or Anna Michel at (503) 226-1561.

**AZA 1999 National Conference** - Sept. 24-28, 1999. Minneapolis, MN. For information contact Lucinda McCandless via e-mail: [AZAconf@mail.mnzoo.state.mn.us](mailto:AZAconf@mail.mnzoo.state.mn.us)

**Association of Zoo Veterinary Technicians** - Sept. 24-30, 1999 in Indianapolis, IN. For information contact: Julie Hutt, R.V.T., Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222-4500; phone: (317) 630-2090; Fax: (317) 630-5154; e-mail: [jhutt@mail.indyzoos.com](mailto:jhutt@mail.indyzoos.com)

**The Apes: Challenges for the 21st Century** - May 10-14, 2000 in Chicago, IL. Hosted by The Chicago Zoological Society (Brookfield Zoo). A unique conference focusing on the apes of the world. It is hoped to bring together researchers, zoo personnel and field biologists from all over the world. Keynote speakers include Dr. David Chivers for lesser apes, Dr. Carel van Schaik for Orangutans, Dr. Gay Reinartz for Bonobos, Dr. Claudia Olejniczak for Gorillas and Dr. Toshisada Nishida for Chimpanzees. Additional information and details regarding conference registration will be announced in mid May.



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# REACTIONS

## *A Question and Answer Forum for the Zoo Professional on Crisis Management*

*By William K. Baker, Jr., Zoo Curator  
Frank Buck Zoo, Gainesville, TX.*

### **Question**

Is crisis training really necessary and does it aid in the resolution?

### **Comments**

The training experience is the most valuable tool that a zoological institution has at its disposal. A well-designed training program has the capability to focus and develop the abilities of the zoological professional. The issues of anxiety, emotional stress, and poor communication can be effectively dealt with during the training process, yet in order for a training program to be effective, it must be clearly presented, consistent, and allow enough flexibility for growth. This can be accomplished through the development and use of a systematic approach to training staff members.

A zoological institution can effectively educate its zoo keepers through the development and use of Keeper Training Programs. A training program should address two key topics, animal husbandry skills and basic safety procedures. Animal husbandry skills would provide basic training for staff members in animal behavior, husbandry, and the use of capture and restraint techniques specific to an animal work area. Basic safety procedures would provide training for staff members in first aid, CPR, defensive driving, and general safety. This would include the use of safety equipment and primary barriers per Occupational Safety & Health Administration (OSHA), Center for Disease Control (CDC), and National Institute of Health (NIH) guidelines.

Keeper Training Programs should be presented annually to accommodate new personnel. Another effective training format that can be utilized in a zoological institution is the Keeper Workshop. There are two applications for this format: species diversity workshops, and advanced training workshops. The species diversity workshop can provide effective in-house training and exposure to animals beyond the assigned work area. This format could be potentially more time-effective than conventional cross-training techniques. Advanced training workshops could provide zoo keepers with training in job-related skill areas through the use of guest instructors. Possible workshop topics might include: environmental enrichment, operant conditioning, and SCUBA certification.

Facility managers can provide proactive training for the crisis situation through the use of Crisis Management Training Programs. Two key examples would be a firearms training programs and an advanced safety program. The firearms training program would utilize specialized training, practice sessions, and annual qualification to prepare emergency responders for dangerous animal situations. An advanced safety program would provide the technical skills needed to confront different situations. Examples of this would be: crisis management, damage assessment, disaster planning, logistics, hazardous materials, pathogenic awareness, and advanced first aid.

An institution can evaluate training effectiveness through the use of Crisis Management Response Drills. The limited response drill would be restricted to emergency responders (Shoot Teams, Emergency Response Teams, and Crisis Management Teams). This will provide emergency responders with the opportunity to fine tune their crisis management skills using scenario-based situations.

The Facility Response Drill would include the entire staff of a zoological facility. This will provide facility management with the opportunity to test and evaluate the operational readiness of the entire facility using scenario-based situations.

In response to the other part of the question - Yes, training makes a difference. It can save lives.

**NEXT MONTH:** How does a crisis management workshop work?

**If you would like to submit a question for this column or have comments on previously published material, please send them to: Reactions/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.**

*(About the Author: Since 1985 Bill has been active in the fields of science, zoology and wildlife management. His education and experience include a B. S. in wildlife management and post-graduate work in zoology; Lab and Museum Assistant; Shoot Team leader, ERT Member, and Senior Keeper and Large Mammal Keeper at various AZA facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR / First Aid Instructor.)*

---

## New Contact Information for Bowling for Rhinos Chair

Effective immediately the following is new contact information for Patty Pearthree, Chair of the Bowling for Rhinos project: 318 Montibello Dr., Cary, NC 27513-2479; e-mail is ppear3@aazk.org; phone - (919) 678-0449. All correspondence/inquiries for Bowling for Rhinos should now be directed to this new address/phone/email. This includes requests for sponsorship forms, questions needing answers, etc.

# New & Renewing AAZK Professional, Institutional, and Contributing Members

## New Professional Members

Delia Pena, **Zoo in Forest Park (MA)**; Catherine Askew, **Franklin Park Zoo (MA)**; Maureen Mellett, **Zoo New England (MA)**; Pamela J. Swift, **Beardsley Zoo (CT)**; Michael Seeley and Steve Binnig, **Philadelphia Zoological Gardens (PA)**; Elizabeth A. Mills (**Bronx Zoo**); Glen Gilmore, **Long Island Game Farm (NY)**; Lynne Von Haggin, **Flag Acres Zoo, Inc. (NY)**; Margaret Best, **Thompson Park (NY)**; Jennifer D. Bowers and Tammy L. Henderson, **Baltimore Zoo (MD)**; David Wallace, **Natural Science Center (NC)**; Angel G. Triano, **Riverbanks Zoo (SC)**; Gary Lee Davidson, **Tallahassee Museum of Natural History & Science Center (FL)**; Newton R. Silva, **Central Florida Zoo (FL)**; Kristin Jiminez and Danielle Webster, **Miami MetroZoo (FL)**; Heather R. Aldridge and Leigh K. Rickey, **Lion Country Safari (FL)**; Col. Rock G. Reed, **Silver Springs Nature Park (FL)**; Vicky Brown and Kimberly Johns, **Memphis Zoo (TN)**; Heather Stephens, **Detroit Zoo (MI)**; Dawn M. Buczak, **Brookfield Zoo (IL)**; Tracey Leigh, **Henson Robinson Zoo (IL)**; Wm. D. Pottorff, **Cedar Cove Feline (KS)**; Tami J. Deel, **Lee Richardson Zoo (KS)**; Rachel A. Stone, **Zoo of Arcadiana (LA)**; Rochelle Wilison, **Dallas Zoo (TX)**;

William Garvin, Yvonne Carbis, Melissa Nicholson, Donna M. Kelley, Carlos Martinez, Holly Connor, Bruce L. Burch, Kimberly Crosby, Shane Ray Trantham, Debbie Carnes, Paul Dunklin, Angie Burgin and Pam Smith, **Caldwell Zoo (TX)**; Constance A. Miller and Kathryn Poudrier, **Frank Buck Zoo (TX)**; Wendy N. Stephenson, **Houston Zoo (TX)**; Julie vest, **Moody Gardens (TX)**; Kirstin Ohslund and Beth Hammond, **Zoological Society of San Diego (CA)**; and Ryan Wyche, **Cat Tales Zoological Park (WA)**.

## Renewing Contributing Members

Michelle Claud, Keeper  
Santa Ana Zoo, Santa Ana, CA

## New Institutional Members

Dean Harrison, President  
Out of Africa Wildlife Park, Inc.  
Fountain Hills, AZ

## Renewing Institutional Members

Lion Country Safari, Inc.  
Loxahatchee, FL

Mary Rabb, Librarian  
Brookfield Zoo Library  
Brookfield, IL

## Need to Reach AAZK?

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1-800-468-1966 (Canada)  
FAX: (785) 273-1980  
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# Legislative Update

Compiled by *Georgann Johnston*  
*Legislative Advisor*  
*Sacramento, CA*



---

## **African Countries Join to Protect Congo Basin Forests**

A Forest Summit held in March in Cameroon brought together heads of state from Gabon, Central African Republic, Congo-Brazzaville, Equatorial Guinea and Cameroon to announce a new plan to create forest protected areas. The plans endorsed by the five countries are unique in that they cover forests which cross the borders of the participating countries. The plans were initially instigated by the NGOs (non-governmental organizations) World Wildlife Fund in conjunction with the World Bank.

Within Africa, the forests of the Congo Basin form one quarter of the world's rainforests and are home to more than half of Africa's wild plants and animals including forest elephant, western lowland gorilla and forest buffalo. To ensure that the agreements are put into force, and that the more than 3.5 million hectares of forest are protected, the government of Cameroon announced the launching of a Trust Fund in Cameroon. The fund would finance the management of the protected areas and has been started with an initial contribution from the World Wildlife Fund in the amount of \$500,000. The World Bank has stated that it "welcomes the commitment of heads of state to focus on the problems of forests, and is encouraged that these issues are receiving high level attention."

Initially, three new reserves will be created in Cameroon and Gabon as part of those countries' Gifts to the Earth program. These include Cameroon's Lobeke Forest, and Gabon's Minkebe Forest Reserve and Monts Doudou rainforest. The Congo Basin has the good fortune of experiencing lower deforestation rates than those found in other tropical rainforest areas, due primarily to lower populations in the countries which encompass the protected lands.

*Source: WildNet Africa News 17 March 1999*

---

## **More Endangered Wolves Released into AZ National Forests**

The U. S. Fish and Wildlife Service (USFWS) reports that in mid-March a pack of endangered Mexican gray wolves were released into the Gila National Forest in Arizona near its border with New Mexico. By mid-June, the USFWS hopes to release additional wolves into both the Apache-Sitgreaves and Gila forests, bringing the total number of wolves released in 1999 to 17.

In 1998, the first year for reintroduction of this species into its native habitat, 121 wolves were released but five were dead from gunfire by the end of the year.

USFWS stated that the new releases will occur in more remote locations, free from human intervention. Additionally, all the wolves released this year will be outfitted with fluorescent collars so hunters are better able to distinguish them from coyotes, the hunting of which is unregulated in Arizona and New Mexico.

While plans for further releases go forward, New Mexico farm and ranch groups have sued to block the reintroduction program and are awaiting hearings on the issues. Additionally, the lawsuits claim that there are already Mexican gray wolves in the wild and, therefore, there is no need to continue with the release programs.

At this time, the USFWS plans to release wolves each year until there is a self-sustaining population of about 100 wolves in a 7,000 square mile area covering the Gila and Aldo Leopold wilderness areas in Arizona and New Mexico. According to USFWS biologists, only 180 Mexican gray wolves are known to exist.

*Source: ABQ Journal 16 March 1999*

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### **South African Gov't Tries to Stop Spread of Bovine TB via Buffalo**

The Nature Conservation Service for the South African national park called LwaZulu-Natal is instigating a program to try to stop the spread of bovine tuberculosis via buffalo living within the park's boundaries. The plan involves capturing and testing approximately 4,500 buffalo. Animals that are TB negative will be released and those that test positive will be put down. Many of the negative animals will then be transferred to other parks and preserves so that they cannot become infected by untested buffalo still roaming throughout the park's boundaries.

At this time, health officials believe that approximately 40% of the buffalo are already infected and are concerned about the disease spreading throughout the country. Additionally, this strain of TB can also infect cattle, lions and rhinos, thus posing a risk to both economic resources (cattle) and other wildlife. It is hoped that the entire project can be completed by the end of 2001.

The cost of the capture and testing will be covered by selling the meat, hides and bones of those buffalo that are put down due to the disease.

*Source: WildNet Africa News 19 March 1999*

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### **Korea and Private Environmentalists Join to Transform DMZ**

The Demilitarized Zone (DMZ), an area about 2.5 miles by 150 miles, was created between North and South Korea after the Korean War. Since then, this ecologically devastated land has been virtually untouched by humans.

Now, it has become a sanctuary for rare birds, mammals and plants - many of which are found nowhere else in Korea or in the rest of the world. Resident species include Siberian tigers, Asiatic black bears, Amur leopards, Chinese

gorhals, Chinese egrets, crested shell ducks, blackfaced spoonbills, Stellar's sea eagles, swan geese and Saunders gulls.

A forum concerning the future of the DMZ was held in New York in late March, with the primary goal being the establishment of a landscape analysis and survey of the DMZ ecosystem. The World Bank has indicated a willingness to cover funding for such a project. South Korea has been an active participant in the plan to develop a "Korean Peace Bioserve System", but North Korea has held back from endorsing the project at this time. It is hoped that North Korea will agree to cooperate in the initial surveys done under the auspices of the Wildlife Conservation Society headquartered in New York.

*Source: Environmental News Service; compiled by the search engine Lycos March 1999*

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## **Feral Animals Under Attack By Clinton Administration**

President Clinton issued an executive order in February 1999 declaring war on species not native to the United States. The order creates an interagency "Invasive Species Council" which is to produce a plan to "mobilize the federal government to defend against aggressive predators and pests." The report is due within 18 months and the Council is chaired by Interior Secretary Babbitt, Commerce Secretary Daley and Agriculture Secretary Glickman. Funding in the amount of \$29 million for invasive species eradication is involved in Clinton's proposed fiscal year 2000 budget that was sent to Congress in late January.

The mission to eradicate the species focuses on plants, viruses, micro-organisms transported in ships' ballast water and a number of invertebrates including zebra mussels, East Asian longhorned beetles, and mitten crabs. The only vertebrate mentioned in the initial press report regarding the executive order is the brown tree snake, which is feared in Hawaii after it allegedly annihilated four endangered native bird species of Guam.

Critics of the order point out that mammals such as cats, both feral and domestic, are considered by many as a contributing factor to the decline of neotropical songbirds. Thus, under the order, domestic cats could be subject to eradication as well, since they are not native to North America. Likewise feral pigs, many of which are found in Hawaii and on Catalina Island (off the California coast), would be targeted by the proposed eradication methods. Another mammal, the puma (cougar), is an introduced species that many people believe have contributed to declines in bighorn sheep populations. Should the findings of the investigative committee determine that puma are a hazard to native wildlife, it could reverse the ban on puma hunting imposed by a number of west coast states in recent years.

*Source: Animal People: News for People Who Care About Animals March 1999*

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## **Endangered Species Act Update**

Congressman George Miller's (D-CA) Endangered Species Reauthorization Act (H.R. 960) now has 71 co-sponsors. Many Congress members who sponsored



Representative Miller's 1998 ESA reauthorization bill (H.R. 2351) still have not signed on to this year's bill. Folks are urged to ask their Representatives to co-sponsor H.R. 960. If your Representative is already a co-sponsor of H.R. 960, please thank them for their support. While a Senate version has yet to be introduced, Senator Frank Lautenberg is circulating a draft bill and is seeking cosponsors. Similar calls of support to the Senate would be helpful as well.

Contact GREEN (202-682-9400 ext. 289) to find out if your elected officials support H.R. 960.

*Source: GrassRoots Environmental Effectiveness Network - 3/31/99*

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## **Everglades Purchase Completed**

Tampa Bay Online reported in late March that the federal government has completed the purchase of the 63,000-acre Talisman property in southern Florida from sugar growers. The purchase is seen as a critical component of Everglades restoration. About 50,000 acres of land now used for growing sugar cane will be used for water storage and the additional land will be used as filtering marshes.

*Source: GREENlines #847 3/31/99*

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## **Wolf and Condor Found Dead**

The Arizona Daily Star reported on 31 March that an endangered California condor was found dead in Grand Canyon National Park apparently from a gunshot wound. The U.S. Fish and Wildlife Service said there were three potential suspects. On 23 March, CNN Online reported that a newly released Mexican gray wolf was found dead alongside a highway near the Arizona-New Mexico border. The FWS is investigating the cause of death.

*Source: GREENlines Issue #849 4/2/99*

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## **Ontario Announces Increase in Protected Land Areas**

Toronto's Globe and Mail announced in late March the designation of 2.4 million hectares in Ontario - an area 3/4 the size of England—as protected lands. Up until a few months ago, the provincial government indicated it would protect only a small portion of lands sought by environmental groups as part of the "Lands for Life" program. The final announcement includes protection for 378 new parks. Meanwhile, Native American groups in northern Ontario oppose the new designation, claiming it violates existing treaty rights.

*Source: GREENlines Issue #849 4/2/99*

# BOX SCORE

Listings and Recovery Plans as of September 30, 1998

GROUP	ENDANGERED		THREATENED		TOTAL LISTINGS	U.S. SPECIES W/PLANS**
	U. S.	FOREIGN	U. S.	FOREIGN		
MAMMALS	59	251	8	16	334	48
BIRDS	75	178	15	6	274	77
REPTILES	14	64	22	14	114	30
AMPHIBIANS	9	8	7	1	25	11
FISHES	68	11	40	0	119	88
SNAILS	15	1	7	0	23	20
CLAMS	61	2	8	0	71	45
CRUSTACEANS	17	0	3	0	20	10
INSECTS	28	4	9	0	41	26
ARACHNIDS	5	0	0	0	5	5
<b>ANIMAL SUBTOTAL</b>	<b>351</b>	<b>519</b>	<b>119</b>	<b>37</b>	<b>1,026</b>	<b>360</b>
FLOWERING PLANTS	531	1	123	0	655	488
CONIFERS	2	0	1	2	5	2
FERNS & OTHERS	26	0	2	0	28	26
<b>PLANT SUBTOTAL</b>	<b>559</b>	<b>1</b>	<b>126</b>	<b>2</b>	<b>688</b>	<b>516</b>
<b>GRAND TOTAL</b>	<b>910</b>	<b>520</b>	<b>245</b>	<b>39</b>	<b>1,714*</b>	<b>876</b>

**Total U.S. Endangered:** 903 (350 animals, 553 plants); **Total U.S. Threatened:** 232 (116 animals, 116 plants); **Total U.S. Listed:** 1135 (466 animals\*\*\*, 669 plants)  
 Separate populations of a species listed both as Endangered and Threatened are tallied once, for the endangered population only. Those species are the argali, chimpanzee, leopard, Stellar sea lion, gray wolf, piping plover, roseate tern, green sea turtle, saltwater crocodile, and olive ridley sea turtle. For the purposes of the Endangered Species Act, the term "species" can mean a species, subspecies, or distinct vertebrate population. Several entries also represent entire genera or even families. \*\*There are 514 approved recovery plans. Some recovery plans cover more than one species, and a few species have separate plans covering different parts of their ranges. Recovery plans are drawn up only for listed species that occur in the United States. \*\*\*Eight animal species have dual status in the U. S.

*(adapted from Endangered Species Bulletin USFWS, Sept/Oct 1998, Vol. 23, No. 5)*

# *Folsom City Zoo Pinatas*

By

*Lee Houts, Zookeeper I  
Chair, AAZK Enrichment Committee  
Folsom City Zoo, Folsom, CA*

At the Folsom City Zoo, Folsom, CA, many young people and youth service groups are looking for ways to help our zoo's animals. All interested parties are given a *Behavioral Enrichment Guidebook*, which includes a recipe for pinatas and papier mache. This has been one of our most popular projects for kids and animals alike.

## How To Make A Pinata

Many animals enjoy tearing into and destroying papier mache or pinatas. It can be especially fun if you create something that looks like the natural prey for carnivores, or a natural sparring partner for animals with horns and antlers. Here are safe and easy instructions on how to make these destructible toys for zoo animals! A great pinata or papier mache will take several days to complete because different stages have to dry before you begin the next stage. Plan on at least a week from start to finish.

DO NOT use string, tape, staples, wire, cloth or glues! These items can injure animals!

All pinata and papier mache items should be made of cardboard, non-glossy paper, flour and water paste and non-toxic paint only!

1. Let the zoo know what animal you want to "enrich" and what kind of "creation" you will be making.
2. Begin with a cardboard box that has no tape, string, plastic or staples in or on it. You can close the box by folding and tucking the flaps under each other. The box will be the "belly" of the animal you are creating.
2. Make a thick paste of flour and water.
4. Start putting layers of torn paper over the cardboard box, using the thick paste to plaster the paper to the box. Additional shaping can be added by crumpling paper and securing it with torn strips of paper and the paste.
5. When the "belly" is between 1/4 and 3 inches thick (depending on the strength of the animal that will be tearing into it), let your creation dry before attaching any other "body parts".

6. Begin working on a neck and head. Once again, the head can begin as a small cardboard box. The neck can begin as a cardboard paper towel roller or "mailing tube". Cut a small hole in the cardboard box and insert the paper towel "neck" into the hole. Using the flour and water paste, cover the head and neck with torn paper. Let the head and neck dry.

7. After the head, neck and belly are dry, cut 4 small holes where the legs should go at the bottom of the belly. Insert a cardboard paper towel roll, mailing tube, or carpet tube (for really large animals) in each of the 4 holes. Secure each roll to the body by wrapping torn paper and paste around the "joint". Continue to add paper to the "legs" until they are the desired shape and thickness.

8. Cut a hole the size of the neck at the proper place on your "body". Insert the neck part way into the hole and secure it with paste and torn paper.

9. To make "fur", shred strips of paper and paste one end only to the animal.

10. If you wish to paint your creation, use only non-toxic paints.

11. Cut a small "door" in the top of the "back" of the animal. Zoo keepers will fill the cardboard "belly" with acceptable treats through that door.

12. If you are going to "hang" your creation like a pinata, attach the kind of handles found on paper shopping bags. Use only hemp, cotton or sisal rope.

13. Make an appointment to come to the zoo. A Zookeeper will fill the pinata or papier mache with the proper treats and give it to the animal of your choice while you watch!

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## **Magazine Requests Animal Related Courses, Internship Opportunities, and Related Announcements**

The electronic magazine, *Ark Animal Tracks*, is seeking information on courses offered by zoological gardens, aquariums, and educational institutions. Programs specifically related to training for animal careers, internship opportunities, and similar animal programs are sought.

Launched in April of 1997, the electronic magazine features articles on captive animal training, animal behavior, enrichment, conservation, and related topics. Content is geared to the general public. In 1998, visitor readership counts exceeded 500,000.

In 1999 the magazine expansion will continue and seminars will supplement the ongoing *Unusual Animal Career* article series. This can be found online at <<http://www.arkanimals.com>>. Institutions wishing to submit material for inclusion in the series should send the catalog or synopsis of the program, schedule of classes, and contact person to: Diana Guerrero, P. O. Box 1154, Escondido, CA 92033. E-mail contact: [arkabc@arkanimals.com](mailto:arkabc@arkanimals.com). Other animal-related articles of 1000 words or less are welcomed, but should be queried first.

# 1998 Conference Proceedings Order Information

If you are interested in obtaining a copy of the Proceedings containing the papers presented at the joint National Conference between AAZK, Inc., The Elephamt Managers Association and the Association of Zoological Horticulture which was held in Indianapolis, IN, you will need to fill out and return the form on the next page. This is a unique opportunity to purchase a publication with papers from three separate organizations included. All orders **must** be prepaid in U.S. Funds ONLY. Allow 2-4 weeks following order for receipt of publication within U.S. Overseas orders will take longer by surface post. Prices are as follows: AAZK Member **\$25.00** Non Member **\$40.00** Postage for U.S. orders is included. Canadian and overseas orders should add \$5.00 for air mail postage to Canada and surface postage elsewhere. Overseas orders wishing air mail service should add \$10.00. Make checks or money orders payable to AAZK, Inc.

**Note:** Because of a one-time grant secured by the Indianapolis Conference Committee, all full-registration delegates will be receiving a copy of this Proceedings gratis. Day registrants or those who did not attend the Conference but wish a copy of the Proceedings, will need to order one.

**The following papers are included in the Proceedings:** If I Ran the Zoo, I'd Get Into In-situ; Savanna Flora of Kenya and Tanzania; Uganda Wildlife Education Centre Exhibit Design and Objectives; **AAZK Sessions:** Rhino Conservation Programs in S.E. Asia – IRF & Partners; 1998 Bowling for Rhinos – A Million Dollars Later; A Conservation Masterplan for the Kansas City Chapter of the American Association of Zoo Keepers; Developing a Hippo Skin Tissue Biopsy Dart; When Things Go as Planned: Introducing an Unrelated Ten Month Old Hippo to an Established Pair of Over Forty Years; It's Great to be a Keeper; Review of Fine Avian Abodes; Environmental Enrichment on a Seasonal Basis for Sub-antarctic and Sub-arctic Seabirds at SeaWorld, San Antonio; Conservation at Moody Gardens: Exhibiting Two Fragile Ecosystems; The Forgotten Wallabies of New Zealand; The Ramsey Canyon Leopard Frog: Working Together to Help Preserve an Endangered Species; Breeding Rhinoceros Hornbills; Chilean Flamingo Breeding....A Natural Progression; Treatment of Severe Contracture of the Flexor Tendons in a Reticulated Giraffe (*Giraffa camelopardalis reticulata*) or "Reconstructing Sudi"; Principles of Animal Training Workshop; Giraffe Training Program at Milwaukee County Zoo; Target Training Malayan Flying Foxes (*Pteropus vampyrus*): A Beginners Perspective; Enrichment Is for Everyone in Detroit; Training for the Trunk Wash at the Indianapolis Zoo; **EMA Sessions:** T.B. Training at The North Carolina Zoo; Managing a *Mycobacterium tuberculosis* Positive Elephant at the San Francisco Zoo: "A Pain in the Butt for Her and Us!"; Emmett Exits; The Transport of "Kiba Mampe" from the Houston Zoo to the Berlin Zoo or "Jumbo in the Jumbo" (When Elephants Fly); Loading and Unloading Elephants at Knoxville Zoo; A Global Elephant Network; Five Years of Teaching and Learning at our Elephant School; Elephant Management at Disney's Animal Kingdom: Turning Challenges into Successes; Manual Collection of Semen from Elephants; Ganesh: "King of the Queen City"; Birth of African Elephant Breeding Facility; *Salmonella typhimurium* in 0.3 African Elephants at the Oakland Zoo; Pack Your Trunk for Africa; One Thousand Years of Military Elephants; **AZH Sessions:** Horticultural Options for Fruit Bat Enrichment; Take a Butterfly to Lunch; Vegetation Management Study and Guidelines for the Ravine Garden at the Indianapolis Museum of Art; Northern Temperate Forest Planting Project for the Kids Kingdom; Tree Care & Holiday Lighting Program; Siting and Managing Bamboos in a Zoo Environment; Dangerous Animal Response Team at the Cheyenne Mountain Zoo; Plants, Iguanas and Islands: A Zoo Horticulturist Visits Hispaniola; Cheyenne Mountain Zoo 1998 AZH Internship; Growth Chamber for Rare and Endangered Plants at Henry Doorly Zoo; Bring Back the Natives; **Workshops/Video Sessions:** AAZK Enrichment Video Session Synopsis; Browse/Enrichment Device Workshop Summary; Enrichment Discussion Group Synopsis; Mineral Composition of Selected Temperate Browsers Fed in Zoos; Listing of 1998 Conference Participants.

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Once 1998 Proceeding copies are sold out, photocopies of individual papers will be available for \$3.00 each by contacting the AAZK Administrative Offices.

## ORDER NOW !

# Update on the Frozen Zoo

*By Arlene Kumamoto in CRES Report Winter 1998  
reprinted from International Zoo News Vol. 46, No. 1, 1999*

Unseen by the public, the Frozen Zoo is maintained by the Zoological Society of San Diego as part of the program at the Center for Reproduction of Endangered Species (CRES), where the concept of living collections has been extended to include one of the largest inventories of living cells in the world. Housed in an array of large cryogenic freezers, the Frozen Zoo contains carefully accessioned and cryopreserved cells, representing a wide range of mammals and birds.

It is composed of two parts: somomatic cels (diploid fibroblast skin strains) and gametes (haploid sperm and eggs). The gamete collection, overseen by CRES's reproductive physiology division, includes semen samples from approximately 750 animals and eggs from another 75 individuals. The collection of somatic cells, however, comprises the bulk of the Frozen Zoo, with cells from 3,679 individual mammals and 26 birds.

Begun more than 20 years ago, the Frozen Zoo started as a resource for in-house research and as a way of preserving the genomes of animals for future studies. Today it is an incredibly valuable resource, not only for in-house research, but also for scientists around the world who are interested in studying the genomes of threatened and endangered species. Where else can they get cells of an elephant, a giant panda, or a gorilla?

From small ear-notch or skin biopsy samples collected opportunistically during routine veterinary examination or at necropsy, cell cultures are established and grown until multiple viles of each individual can be frozen. Cells immersed in a special cryo-protective medium are frozen at a rate of 1°C per minute and then placed in liquid nitrogen holding tanks for storage at -196°C (-385°F). Samples are split between freezers in two different locations to ensure safekeeping of the cells.

The acquisition priorities have been centered on mammalian species; 13 of the 26 mammalian orders are represented, but emphasis is on the Artiodactyla, Perissodactyla, Primates and Carnivora. Approximately half of the species are on CITES protection lists; also targeted are samples from species included in the SSP--of the 56 mammal SSP programs, 46 are included in the frozen collection at CRES.

Samples from the Frozen Zoo have been used in-house at CRES for virtually all of the genetic studies conducted by the cytogenetics and molecular genetics divisions. They have been used in studying genetic variation within and between populations of animals such as the gorilla, rhinos, bonobo and dik-dik. Cytogenetic studies have focused on identifying chromosomal differences within captive populations, as in the Somali wild ass, suni antelope and waterbuck. In cases of unknown parentage, cryopreserved cells have been used in genetic

evaluations to determine paternity or maternity. Frozen cells are particularly valuable in retrospective studies: an animal may have died, but there are still living cells from that individual in the Frozen Zoo that can be thawed for study in the future. There may be genetic diseases, or other medical questions that arise in the future that may depend on frozen cells for answers.

With the arrival and growth of genetic technologies, this collection of cells has come to the attention of scientists around the world who are interested in studying issues of biodiversity, genetics and systematics. In addition, the Human Genome project, the largest effort to date to define the entire human genome, has sparked interest in other species that can help researchers understand and elucidate the human genetic material. Samples from animal species are of tremendous help to these researchers.

The scientific world was startled in 1997, when researchers in Scotland took a nucleus from a cell like those in the Frozen Zoo and transferred it into another enucleated somatic cell. The result was Dolly, a lamb that was a clone of its mother. It is because of scientific advances such as this that we cannot foresee all the potential uses of this precious repository.

Scientific advances and increased interest in the Frozen Zoo as a biological resource for research investigations have encouraged the CRES genetics division to expand the Frozen Zoo even further. Plans are underway to work with field biologists to increase the number of species represented: samples will come not only from far-off places but also from our own backyard. Samples from local fauna, as well as from neighboring Baja California, will help build the collection so that studies can be undertaken on local species diversity.

Techniques are currently being developed to culture and freeze cells from birds by using the minute bits of cellular material at the end of bird feather shafts. Reptile and amphibian cells are also now on the horizon. With these additions, the Frozen Zoo may truly become the 21st Century Ark.

## Information Please

We are interested in talking with anyone who uses Fennec Foxes (*Fennecus zerda*) as educational animals. Please call, write or fax: Kate Friedman or Kim Johns, Memphis Zoo, 2000 Galloway, Memphis, TN 38112; phone - (901) 725-3400, ext. 3800; fax - (901) 725-9305.

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Information is requested on any training program (husbandry or enrichment based) involving any of the following species: cottontop tamarin, mandrill, DeBrazzas monkey, gorilla, warthog, black bear, hippo and Hyacinth macaw. Please fax written information to: Keepers, ZOONE, c/o Heidi Fowle (617) 539-0211 or mail to: 42 Ocean Ave., Winthrop, MA 02152.





# NORTHWEST PASSAGES

Frontiers in Zoo Keeping

**1999 AAZK National Conference • Portland, Oregon  
September 12-16, 1999**

**Thursday night banquet:** For those of you who like to change out of your fancy duds into jeans and tennis shoes after the banquet, we have a great solution for you. The banquet's theme is "Black Tie and Jeans." This means you dress fancy from the waist up, but wear those jeans and comfortable shoes - hence you are ready to dance!

**Trips:** For those attending the Saturday trip to the Oregon Coast Aquarium, we have added a barbecue to end the day in festive style back in Portland. The overnight in Seattle on Friday is included in the fee for the Post Conference trip.

**Poster session:** For those wishing to present a poster at the conference, you will need to submit an abstract by July 1 to the Program Committee. The poster session will be held on Monday, September 13, at the hotel. Paper and poster abstract information is included in this issue and also the March *AKF*.

**Conference reminder:** If your special interest group is planning to meet at the conference this year, please contact the Program Committee. Even if you plan on just a small informal gathering, we can help coordinate times and locations. Call, write, or email: Anna Michel, Program Co-Chair, Oregon Zoo, 4001 SW Canyon Road, Portland, OR 97221-2799. Phone 503-226-1561 ext. 275, fax 503-226-0074, or email at [AAZKpapers@micheln.net](mailto:AAZKpapers@micheln.net).

The Portland Chapter would appreciate it if your Chapter would consider supporting the conference financially. All sponsors receive credit in the program and recognition at the sponsored function. You might want to consider sponsoring a night in the hospitality suite.

Questions and concerns can be directed to Jan McCoy at 503-226-1561 ext. 236, or fax to 503-226-0074.



**NORTHWEST  
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Frontiers in Zoo Keeping

1999 AAZK National Conference • Portland, Oregon  
September 12-16, 1999

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RATES APPLICABLE SEPTEMBER 10-18, 1999  
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CHECK-IN TIME: 2:00 pm - CHECK-OUT TIME: 11:00 am

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**To make reservations by phone**, call 1-800-343-1822  
Mention group reservation for American Association of Zoo Keepers

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# NORTHWEST PASSAGES

Frontiers in Zoo Keeping

1999 AAZK National Conference • Portland, Oregon  
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## CONFERENCE REGISTRATION FORM

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VEGETARIAN?  YES  NO TYPE \_\_\_\_\_

T-SHIRT?  YES  NO SIZE  M  L  XL  XXL

**Registration Fees:** Registration deadline is August 1, 1999 - for all events.

AAZK Member	\$135*	_____
AAZK Member's spouse	135*	_____
Non-member	185	_____
Late fee (After August 1, 1999)	25	_____

### Daily Rates:

Sun. Sept. 12 - Icebreaker	\$25	_____
Mon. Sept. 13 - Papers, multi-media night	35	_____
Tues. Sept. 14 - Papers, Sauvie Island trip, auction	35	_____
Wed. Sept. 15 - Zoo Day, Workshops	35	_____
Thurs. Sept. 16 - Papers, banquet	55	_____

**Pre-Conference Trip:** Oregon Coast Aquarium Sept. 11 \$50 \_\_\_\_\_

**Post-Conference Trip:** Northwest Trek, Woodland \$150 \_\_\_\_\_  
Park Zoo, Seattle Aquarium, Friday-Saturday, Sept. 17-18

\* Fee includes a \$35.00 contribution to AAZK National. Fee does not include conference proceedings. A \$25 handling fee will be charged for refunds prior to September 1, 1999. NO REFUNDS will be given after September 1, 1999.

**Please make checks payable to: AAZK CONFERENCE, OZF**

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## SECOND CALL FOR PAPERS

"Northwest Passages - Frontiers in Zoo Keeping" is the theme for the paper sessions and workshops at the 1999 National Conference.

### KEY THEMES AND SUGGESTED TOPICS

**Keepers' Tools:** Skills and techniques needed for the job.

**Expanding Keepers' Role:** As a zoo professional, our job description has greatly expanded over the years. Veterinary care, exhibit design, studbook/ TAG/SSP work, field work, keepers' role in visitor education.

**Innovations - Success or Failure:** Unique animal introductions, exhibit renovations.

**Research:** The keeper's role in institutional or field research.

**Local Conservation:** Most keepers do not have the opportunity to participate in international field projects. We are soliciting conservation projects that are within your geographical region.

### Abstracts must include the following information:

- Name of presenter and co-authors
- Zoological or aquarium affiliation
- Position / title
- Title of Paper / workshop
- Audiovisual equipment needs
- One or two line bio or "How you want to be introduced"

**Abstracts for papers and posters** should be limited to one to two paragraphs; describe in detail the significance of the presentation topic; briefly list the results, conclusion, or benefits of the work described. Abstracts that are poorly written, do not contain the proper submission information, or do not meet submission criteria, will be returned with a letter rejecting the abstract or suggesting the corrections required for acceptance.

**Abstracts for papers and posters will be accepted for review until July 1, 1999. Deadline for papers is Friday, August 27, 1999.**

### Mail abstracts to:

Anna Michel, Program Co-Chair, 1999 AAZK National Conference  
Oregon Zoo, 4001 SW Canyon Road, Portland, OR 97221-2799

**FAX abstracts to:** 503-226-0074

**E-mail abstracts to:** AAZKpapers@michelnets.com

**CONFERENCE NOTE:** Auction items should be mailed to Louise Kent, Auction Chair at the above address for the Oregon Zoo.

# Repair of a Beak Fracture to a 1.0 Sandhill Crane at the El Paso Zoo

By Lucy A. Bruce, Keeper  
Dr. Mark Lloyd, Deputy Director  
El Paso Zoo, El Paso, TX

## Introduction

An aggressive brooding male Florida Sandhill crane (*Grus canadensis pratnsis*) at the El Paso Zoo was observed hemorrhaging from the mid-shaft mandible. Upon closer inspection and physical exam, a small partial thickness vertical non-displaced fracture was found to be present. Because the fracture appeared stable and the bird had recently eaten, he was released back into the exhibit. Food was withheld for anesthesia and radiographs the following morning. Overnight the fracture became full thickness, extending to the intermandibular gular fold. The fracture was managed by a combination of external fixation and epoxy casting. This paper outlines the successful methods used to achieve complete recovery.

## Case History/Methods

The zoo acquired the male crane of a single bonded pair at six months of age, and acquired a six-year-old female mate approximately one and one-half years later. The pair are housed in a mixed-species exhibit that includes pronghorn (*Antilocarpa americana*), wild American turkeys (*Meleapris gallipavo*), and Bolson tortoises (*Gopherus flavomarginatus*).

It required seven years before this pair established a nuptial bond and laid their first clutch. This first clutch was incidentally laid after the pair's intake of fish (caplin) was increased to 3 oz. (85g) each daily; from 3 oz. each, four times a week. It is uncertain if the dietary change prompted the nesting, but it may have enhanced reproductive behavior.

The original injury was observed within three days of the pair's first nesting. Consistent with nesting avian pairs, both individuals become overtly aggressive to exhibit mates and personnel. The male, in particular, struck with his beak at any object he perceived to be a threat, including animate and inanimate objects (shovels, fencing, cleaning barrels, etc.). Keepers and staff were required to wear eye protection and carry an object to fend off an attack while working in the enclosure. Cleaning and



maintenance in the vicinity of the nest was kept to a minimum. When it was necessary to approach the nest area, two keepers were required - one to ward off an attack and the other to do the required maintenance or cleaning.

A small hemorrhage was observed along with what appeared to be only a small puncture wound of the left mid-shaft mandible. Recent food consumption prohibited anesthesia for a more complete exam and radiographs and the animal's behavior appeared normal. Food was withheld overnight and in the morning he was anesthetized for radiographs, diagnostics and treatment. The radiographs revealed a vertical full thickness fracture of the left mandibular ramus. The decision was made to reappose the fracture, and wire the fractured ramus to the undamaged right mandibular ramus with fixation.

Stainless steel #6 surgical suture was placed through holes made in both mandibular segments with an 18 Ga., 1 1/2 needle. Four holes were placed in each ramus. Two holes were made directly above/below each other, 1cm proximal to the fracture site, and likewise 1cm distal to the fractured side. The contralateral ramus was intended to stabilize the fractured side. The fracture site, however, was almost exactly at the junction of the distal mandibular symphysis and the intermandibular gular skin fold. The suture was tied in a modified horizontal mattress pattern to the vertical fracture. The gular fold, however, presented the suture from being significantly tightened. When tension was placed on the suture, the gular fold did not allow stabilization, but rather, brought the rami too close together for proper fracture alignment of the proximal fracture segment. Poly-Strate® five-minute epoxy (Devcon, 30 Endlcott St., St. Danvers, MA 01923) was then spread over the surface of the fractured mandible for reinforcement. For about one and a half weeks recovery was going well. Then the patient became lethargic and hypophagic. There was no improvement for two days.

In the middle of the second week the bird was captured and brought to the vet clinic for a closer exam. The bird was anesthetized and radiographs were again taken. At this time the fracture site appeared to be healing, but the holes around the wire sutures inserted through the beak were enlarging. The wires and entire original epoxy patch was removed. Necrotic areas were debrided. The mandible was "roughed-up" with a Dremel Moto-tool® (Dremel, 4915 21st St., Racine, WI 53406) and a coarse stone grinding attachment. New epoxy combined with fiberglass (polyester) cloth was applied bridging the fracture, but only on the fractured left ramus. The next day there was still no improvement in behavior or appetite and the patch appeared loose. The bird was taken back to the clinic for more cast repair and reevaluation.

First the patch was removed and all necrotic tissue was debrided. Supports were then incorporated into the new epoxy/fiberglass cast parallel to the mandible. The supports were fashioned from 14 Ga, two-inch metal i.v. catheters (hub removed), one on each ramus and an additional 1 1/2 Ga needle (hub removed) on the fractured ramus as well. Epoxy was used for the bulk of the patch. This patch was approximately 0.25cm thick and now extended completely

around the ventrum of the mandible, over the right (unfractured) side, and completely covered 1/4 of the lower beak. It was essential that the upper and lower beaks maintain proper occlusion and that the elongated tongue could move and rest normally within the lower mandible. The cast had to be fashioned and trimmed to achieve these criteria to allow normal feeding behavior.

Antibiotic therapy was initiated to help minimize infection and a re flora agent was also initiated. The re flora agent was intended to prevent secondary overgrowth associated with the antibiotic effects on the normal flora in the intestinal tract. Enfloxacin® (Baytril, Bayer Corporation, Shawnee Mission, KS 66201), 10mg/kg orally, twice daily; and Bene-Bac® (Bene-Bac Gel, Pet-Ag, Inc., Hampshire, IL 60140), 1ml once daily for two weeks, were the antibiotics and re flora agent used, respectively. Originally he wasn't voluntarily taking the medication, even hidden in fish. After two days of unsuccessful attempts of remote food medication, the veterinary staff decided to have the keepers manually restrain, medicate, and carefully force-feed his morning diet (3 oz. caplin, as previously noted). This ensured that he was receiving some nutrition. This method proved beneficial, as two days later he was seen eating grain out of the feeders on his own, however treatment and force-feeding continued.

One week later, it was noticed that the patch again was loosening on the intact ramus. Under close consideration, it was decided not to replace the cast at this time. The pressure of opening the mouth to pill and force-feed was the likely culprit. It was decided to continue force-feeding and medicating as being the best course of action. The patch was inspected daily to ensure that it remained stable and still secure on the right ramus. After the antibiotic regime was finished, the same cast was removed, cleaned and reattached.

By the end of the third week, the crane appeared to be behaving normally. He was eating his morning fish and from the *ad-lib* grain feeders on his own. The same cast was removed and reattached after debriding, cleaning and roughening, and a thin layer of epoxy as "glue" used to reattach each time (twice in the next month) as the mandible remolded and the patch loosened. The external patch still inhibited normal ground probing behavior which allows natural beak wear. This, combined with the slowed growth of the repairing fractured mandible, caused the upper beak to grow and extend approximately 2cm beyond the lower beak. The upper beak required grinding (by using the same Dremel equipment as used previously) to obtain a length equivalent to the lower beak. This was done twice in the final two months of recovery. Three months after the original injury, the patch fell off on its own. Under closer examination the beak appeared sturdy enough not to need a replacement patch reattached.

After four months, the beak on the male crane has healed completely. The weak part of the mandible has almost grown completely out. There is a minimal amount of scissoring to the beak occlusion. He is probing the ground as before the injury, allowing normal wear so his beak may not need to be repeatedly trimmed. During the time he was repeatedly captured and pillled, he became very leery of humans. Now, however, he has lost most of his fear, regained his normal flight distance, and isn't prone to run to the other side of the exhibit when keepers approach. Next breeding season his aggression is expected to return.



# Book Review

## **Eagles: Masters of the Sky**

Edited by Rebecca L. Grambo

Voyageur Press, Inc., 1997

123 North Second St.

Stillwater, MN 55082

Hardback 108 pgs. \$24.95

*Review by Sara Bratcher, Carnivore Keeper  
Nashville Zoo Breeding/Quarantine Facility  
Nashville, TN*

The complete title of this book is *Eagles: Masters of the Sky*, an Anthology of Writing, Photography, and Art from Throughout the World. Rebecca Grambo has compiled some of the most beautiful photographs available of eagles and interspersed them with informative text about these magnificent birds. Throughout the book she manages to teach us about eagles in general, while focusing on two native species - the Bald Eagle and the Golden Eagle.

The book begins with the period when man first admired and exalted the eagles. This is done by the telling of Native American folklore, quoting legends and showing drawings of early tribal art that was based on the might and cunning of these birds. There are also photographs of Indian artifacts depicting the eagle. The Indian revered the eagles and considered them spiritual, a belief that continues today. Only later on through the advent of "civilization" did eagle populations begin to suffer. Man felt he had to dominate the species, and if that was not possible, then eliminate them. Unbelievable numbers of eagles were killed at the hands of hired hunters, even as recently as the mid-point of this century. This doesn't even include the untold thousands of birds that died from the DDT poisoning or the eggs that were unable to be incubated due to the effects of DDT which made the shells too fragile. While the DDT problem began because we didn't know the effects, apparently it could have been corrected sooner had the birds' lives been more valued.

Through quotations, poems, and writings by such famous people as John James Audubon, Robinson Jeffers, George Laycock, and Richard R. Olendorff, Ms. Grambo gives us a view of these raptors we may not have had before. While a good deal of the writing in this book is quoted, she has evidently also done studies herself on the subject of eagles and made reading this easy and enjoyable.

While not going into great scientific detail about eagles, Ms. Grambo covers the basic information such as different species, their ranges and sizes, etc. She goes into mating and nesting specifics, and I especially enjoyed a small section of the book regarding their nests. In the 1952 book, *Eagle Man*, Charles Broley, a pioneer in eagle-banding, recorded finding unusual items in bald eagle aeries in Florida. Among the items were an empty bleach bottle, an old street light bulb, old shoes, ladies' garments, and even a family-group photograph in a heavy frame. These items were of course not the normal, but usual nesting materials and the speculations on their purposes—such as sprays of fresh greenery to help keep the nest clean or shelter the eaglets are discussed. From this point, mating and nesting behaviors are covered.



The book takes us to the point in time where we are now. We go through DDT poisoning and the over-hunting of the eagles as nuisance animals, and threats to farmers' livestock. That the eagles have survived these problems is a testament in itself to their character. There are amusing and informative stories about present efforts to band eaglets, and thereby learn more to help preserve the wild populations. There is a page at the end of the book to alert us to organizations that help save the endangered eagles. This book made me wish that I could go out and see these birds soaring above me in the wild.

I was definitely pleased with this book and would recommend it to anyone interested in these beautiful creatures. The photographs alone are comparable to what you would find in a "coffee-table" book, and well worth the price.

## **Seasons in the Desert**

By Susan J. Tweit with illustrations

by Kirk Caldwell

Chronicle Books 1998

85 Second St., Sixth Floor

San Francisco, CA 94015

Hardback 224 pgs. \$19.95

*Review by Bernard H. Gallant, Head Keeper  
Magnetic Hill Zoo, Moncton, NB Canada*

*Seasons in the Desert* is a naturalist's view of the fascinating life in the desert. This book is a selective species guide of the North American desert (Great Basin, Mojave, Sonoran, and the Chihuahuan Desert). Susan Tweit brings 40 desert species alive providing more than just scientific information. Selections include trees, plants, invertebrates, reptiles, birds, mammals and fish.

The book is divided into four sections, each section covering a season (summer, fall, etc.). Each species is placed in the season which corresponds to a major event in its cycle (blooming time for certain plants, mating time for some species). There is the general description and the range where it is found, followed by text which covers the uniqueness of the species. The author also covers the symbiotic relationships between the species and its environment - for example, the century plant and the long-nosed bat which drinks the plant's nectar while pollinating it. She also discusses the problems facing each species in today's world, such as man's encroachment on their habitat. At the end of the book she describes some good locations where a person may be able to find them, as well as other suggested reading material for each entry.

I enjoyed this book because of the extra little things the author included. For example, she gives an explanation for both the scientific and Spanish names of all her selections. She also included a quote from different authors to introduce each plant and animal. She describes many personal experiences such as her first startling encounter with a Gila monster. A few years back I visited the state of Arizona and this book brought back some fond memories. I remember my first sightings of many animals and plants she discusses.

This is a good introductory book to the desert region. I found this book useful if you are interested in any of the species covered here. You will find some interesting facts about them and their relationships with other species of their environment. It is not a field guide for identification purposes, but if you want to learn more about the desert and its inhabitants, this is a good way to begin.



By Kayla Grams, Arizona-Sonora Desert Museum  
and Gretchen Ziegler, Sequoia Park Zoo

**FELIDS:** We currently house 1.1 Amur leopards (*Panthera pardus orientalis*) in the Lion House at the Philadelphia Zoo. They are now in the process of being introduced to each other. Prior to this, is when I used this enrichment with them.

Using an ordinary mealworm bag measuring 17.78 cm. x 35.56 cm. (7" x 14") I stuffed it with timothy hay and tied it with a thin twine about 20.32 cm. (8") long. Then I sprinkled it with mint extract and water.

The leopards can see each other through the caging both inside and outside. While they were outside, I placed a hay bag in each of their indoor enclosures. They each immediately came over to them and carried the bags to their outside cages. My co-worker and I went outside to observe.

At first, the male (hand-raised) laid down outside with his bag, ever so carefully nibbling at the edges. He would periodically turn around to see what the female (mother-raised) was doing with her bag. She quickly took it up on one of her perches and began to shred it. Occasionally the bag would fall on the ground and she would jump down to retrieve it and jump back up onto the perch in one leap!

She had to maneuver herself between the horizontal branches that are elevated in the enclosure as her perch is. That was amusing for us! After about 15 -minutes, the male became more aggressive with his bag, attempting to shred it. He then took it up onto one of his perches. This activity went on for 35 minutes. It would have gone on longer, but her bag was shredded at this point and his was well on its way. I didn't want them to accidentally ingest any of it, so I removed the remains of the bags.

They both exhibited the flehmen response, so that was a treat for the public.

This also showed how leopards carry their prey up into a higher location to "eat" it. This proved to be a great experience for the animals, the public and the keepers. In order for this to last even longer, a large burlap bag could be used. We've done this with our tigers in the past.

—*Leslie DeMarco, Keeper*  
*Philadelphia Zoo,*  
*Philadelphia, PA*

### **Enrichment Websites to Check Out. . . .**

<http://arrs.envirolink.org/psyeta/hia/vol8/buchanan.html>  
<http://www.well.com/user/abs/dbs/eesb/>  
<http://www.zooregon.org/survival/environm.htm>  
<http://www.iwec.org/enrichment.htm>  
[http://www.animalwelfare.com/Lab\\_animals/biblio/enrich.htm](http://www.animalwelfare.com/Lab_animals/biblio/enrich.htm)  
<http://www.primate.wisc.edu/pin/pef/slide/intro.html>  
<http://www.enrich.org/aazk>  
<http://www.cwu.edu/~cwuchci/enrichment.html> (one of my favourites)  
<http://enrichment.org/publication.html>  
<http://www.geocities.com/RainForest/Vines/8435/ak/enrich/index.htm>  
<http://www.arkanimals.com/E/Enrich.html>  
[http://www.well.com/user/elliotts/smse\\_enrich.html](http://www.well.com/user/elliotts/smse_enrich.html)  
<http://www.brown.edu/Research/Primate/enrich.html>  
<http://www.nal.usda.gov/awic/newsletters/v8n2/8n2deluc.htm>  
<http://mommensj.web2010.com/menvirn.htm>  
<http://pablo.ubu.ruu.nl/~proefsch/01801846/inhoud.htm>  
<http://www.nal.usda.gov/awic/pubs/enrich/intro.htm>  
<http://www.primate.wisc.edu/pin/owagner.html>  
<http://www.wwwspace.co.uk/~abwak/enrich.htm>  
<http://netvet.wustl.edu/species/primates/primenv.htm>  
[http://www.animalwelfare.com/Lab\\_animals/biblio/](http://www.animalwelfare.com/Lab_animals/biblio/)  
<http://arrs.envirolink.org/psyeta/hia/vol8/pastorello.html>  
[http://www.wolfpark.org/Links\\_enrichment.html](http://www.wolfpark.org/Links_enrichment.html)  
<http://www.psyeta.org/hia/vol8/rice.html>

### **Guidelines For Enrichment Available from ABWAK**

This A5 250 page looseleaf document by a variety of authors covers all vertebrate groups from fish to great apes, providing detailed descriptions of enrichment devices and ideas for each taxa. For every copy sold by ABWAK an additional copy will be sent to a collection in a developing country. Copies are £14.00 for the text and dividers or £15.00 for the assembled guidelines in a ring binder. For overseas orders cost is £17 to cover postage. Payment **must** be made in pound sterling. We suggest you check with your local bank for current exchange rates. For more information or to place an order, please contact: Andrew Bagnall at Chester Zoo, Tel : 01244 380280 or e-mail [juliec@chesterzoo.co.uk](mailto:juliec@chesterzoo.co.uk) (Checks payable to ABWAK).

## **4th International Conference on Environmental Enrichment**

The Fourth International Conference on Environmental Enrichment will be held in Edinburgh, Scotland from 29 August - 3 September 1999. The Royal Zoological Society of Scotland will host the conference which will take place at the University of Edinburgh. Overnight accommodations for delegates will also be at the University.

The main aim of this conference is to provide a forum for discussion between the theory-based scientist and the practical application of the zoo keeper. The importance of having a sound theoretical background to practical application will be the main theme of the conference. A focal area within the theme will be of innovation and creativity brought to environmental enrichment programs by zoo keepers/animal caregivers. The conference will feature oral presentations, workshops, posters and discussions that deal with all aspects of environmental enrichment. The conference will include a trip to the Edinburgh Zoo, a evening reception hosted by the Edinburgh Zoo and a Conference Banquet.

For further registration information contact In Conference Ltd., 10B Broughton Street Lane, Edinburgh EH1 3LY, Scotland; Tel: +44 (0)131 556 9245; Fax: +44 (0) 131 556 9638; e-mail: [inconference@cablenet.co.uk](mailto:inconference@cablenet.co.uk). **Deadline for registrations is 31 July 1999.**

*(Ideas appearing in this column have not necessarily been tested by the editors for safety considerations. Always think ahead and use good judgement when trying new ideas. Eds.)*

*You are invited to submit material for the Enrichment Options Column. This might include recipes, toys, puzzle feeders, olfactory enrichment ideas, etc. Drawings and photos of enrichments are encouraged. Send to: AKF/Enrichment Options, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.*

**Visit the new AAZK Enrichment Website - [www.enrich.org/aazk](http://www.enrich.org/aazk) or join the Enrichment Listserve by e-mailing - [jackbell@humboldt1.com](mailto:jackbell@humboldt1.com)**

### **Guidelines Available from Enrichment Committee**

The AAZK Enrichment Committee has developed general guidelines for the enrichment of reptiles (compiled by Cheryl Frederick at Woodland Park Zoo, Seattle, WA) and ungulates (compiled by Amy Burgess at the Oakland Zoo, Oakland, CA). These guidelines were available at the 1998 AAZK/EMA/AZH joint conference in Indianapolis. Copies may be obtained by sending a self-addressed, stamped envelope to: Lee Houts, AAZK Enrichment Committee, 1118 Sherburn Ave., Sacramento, CA 95822.

## Publications Available

Birth Date Determination in Australasian Marsupials - available from the ARAZPA Office, P. O. Box 20, Mosman, NSW 2088, Australia for A\$40 to non-members outside of Australia. Birth Date Determinations made from measurements and observations. Materials gathered from published papers for each species of marsupial held in the Australasian region. Includes pouch life events such as when fur appears, when ears open and when the young begin to spend time off the teat and to emerge from the pouch. This information is provided on a chart with a measure of age in days. It also gives measures of foot, tail and head, where known.

Poisonous Plants: A Veterinary Guide to Toxic Syndromes (CD-ROM) - By Murray Fowler, DVM. Published by Iowa State University Press, 2121 S. State Ave., Ames, IA 50014-8300. Available for Windows and Power Mac at \$89.95. Approximately 1,000 plants - including fungi - that are poisonous to animals (and humans) appear in this easy-to-use, full-color diagnostic tool and reference. Three cross-referenced indexes make each plant instantly accessible by: common name, scientific name, and poisonous syndromes (groupings of plants by similar toxins, effects, structures and other common relationships). Each plant selected by common or scientific name appears on its own page with one or more full-color photographs and detailed information including common name, scientific name, poisonous parts, and links to pages for related plants. Icons on each plant description page provide access to additional information including: poisonous principle, distribution (native habitat), common circumstances in which poisoning occurs, clinical signs, diagnosis (lab tests/pathology) and management or treatment. ORDER AT 1-800-862-6657.

Managing Zoo Populations: compiling and analyzing studbook data. This manual offers a step-by-step account of how to manage a studbook using the ISIS software package SPARKS (version 1.42), and how to analyze studbook data using the pedigree analysis features of the SPARKS, DEMOG and GENES packages. The document includes detailed instructions on interpreting results from these analyses, as well as discussing how these analyses can be used to help manage zoo populations. Available from the ARAZPA office, P. O. Box 20, Mosman NSW 2088, Australia. Approximate U.S. price is \$24.50 depending on exchange rate at time of purchase. Contact e-mail - admin@arazpa.org.au for current U.S. price.

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### **AZFA Conference Scheduled for October 1999**

The Sixth Annual Conference of the Aquarium and Zoo Facilities Association (AZFA) will be held in San Diego, CA from 3-6 October 1999. The conference will be hosted by the San Diego Zoo, the San Diego Wild Animal Park, and Sea World of California. For more information, contact: Sue Hennings, Sea World of California, Plant Engineering, 500 Sea World Drive, San Diego, CA 92109 (619) 226-3931; email:suehennings@anheuser-busch.com; OR Sherry McGartland, San Diego Zoo, P. O. Box 120551, San Diego, CA 92112 (619) 231-1515 ext. 4307; email:smcgartland@sandiegozoo.org

For membership information contact: Paul Reiter, Oregon Zoo, 4001 SW Canyon Rd., Portland, OR 97221 (503) 220-5721; or Ann Kaminsky, Cleveland Metroparks Zoo, 3900 Wildlife Way, Cleveland, OH 44109 (216) 661-6500 ext. 252; e-mail - mak@clevelandmetroparks.com

# Chapter News Notes

## Greater Baltimore Chapter

Our Chapter had a successful Bowling for Rhinos event this year, raising over \$4000.00. Other fundraisers held were candy sales, our annual Easter Weekend Bake Sale, a Human-i-tees Environmental Fundraiser, and the Second Annual Baltimore Zoo Photography Contest.



Conservation and education projects included participation in Zoomobiles and school career days, and zoo-wide collection of supermarket receipts for a local school. These receipts helped the school purchase computers, books, and other much needed supplies. We have also continued to support animal conservation associations such as the Chesapeake Bay Foundation, the SPCA, and the Yellow-eyed Penguin Fund.

We are already deep into planing new fundraisers, projects, and social events and look forward to a busy and exciting 1999.

Our new officers are:

President.....Gil Myers  
Vice President.....Kristina Flanigan  
Treasurer.....Tammy Anderson  
Secretary.....Linda Pill

## Tulsa AAZK Chapter

The Tulsa Zoo AAZK Chapter recently held officer elections for the 1999-2000 term. The elected officers are:

President.....Tiffany Barbour  
Vice President.....Kelly Messenger  
Secretary.....Jenny Gaffney  
Treasurer.....Kevin Graham  
Liaison.....Katy Cook

Our goals this year are to increase our membership, participate in Bowling for Rhinos, and contribute money to various conservation projects.

Our first project of the year was to sell Valentine Zoo-Grams, and we made about \$130.00 (Hey, we have to start somewhere!). A contest to design our Chapter logo is going on right now, so look for that soon! Finally, we look forward to 1999!

--Katy Cook, Chapter Liaison

## Metro Boston AAZK Chapter

We at the Metro Boston AAZK have been keeping busy during the long, cold months of a New England winter with many activities including Bowling for Rhinos. Our special thanks to Jeannette Berranger of Roger Williams Park Zoo for raising almost half our total BFR funds.

Our next event was a visit to the New England Aquarium. Kudos to the entire staff who presented a talk on training a green sea turtle, displayed innovative training with a sea lion, and entertained us with a visit to the other new exhibits where the residents dined on local delicacies.

Our Christmas party was hosted by Hooters of Boston at no cost, and during the month of December the bar



promoted and sold our very own Rhino Bucks. They were printed free by a local printer and were sold for \$1.00 each. The money raised will go to BFR. With little effort we raised approximately \$500.00.

Even our business meetings have been eventful with the development of new committees for conservation, recycling, education/entertainment and keeper exchange. Elections were held in January and our new officers are:

President.....Heidi Fowle  
 Vice President.....Anne Knapp  
 Secretary.....Ian Ives  
 Treasurer.....Shane Siers

In his last act as President (outgoing), Bob Hayes lobbied the membership and won a unanimous vote to purchase our first Conservation Parking Meter to support the conservation efforts of the Center for Ecosystem Survival.

We are currently planning for 1999 and began with a Pub-Quiz in March. We have planned a Summer Soltice pseudo black-tie event with a silent auction dubbed "the moth ball" for June.

We're also looking forward to visiting other local facilities such as Southwick Zoo in Mendon, MA, whose management donated \$100.00 to the Chapter for BFR, while the staff made a splashy appearance arriving at the aquarium in a limo. We are grateful to all for the support.

Thanks to old, new and prospective members and to our outgoing officers

for making 1998 fun and successful! Good luck to everyone in 1999 and beyond.

For information on Rhino Bucks; our local keeper exchange committee in partnership with the Dublin, Ireland and Chessington, England Zoos; or EIDER T-Shirts please contact Heidi Fowle at Incredible Animals, Inc. (617) 539-0211 (phone/fax).

*--Heidi Fowle, President*

### Greater Houston Chapter

The Greater Houston Chapter of AAZK has started off the new year with a new slate of officers:

President.....Dawn Evans  
 Vice President.....Lisa Marie Avendano  
 Secretary.....Kim Lykins  
 Treasurer.....JC Whitney  
 Liaison.....Diane Olsen

We are looking forward to a busy year and a bigger than ever Bowling for Rhinos.

*--Diane Olsen, Liaison*

### Philadelphia Zoological Gardens AAZK Chapter

New officers for 1999 are:

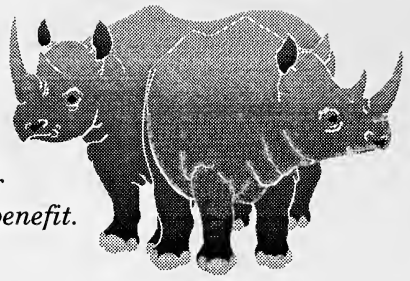
President.....Adam Cheek  
 Vice President....Laurel Mochinski  
 Secretary.....Ellie Mark  
 Treasurer.....Marla Schwalbe  
 Liaison.....Andrea Hirsh

This past year's BFR Rhinopalooza events, which included a silent auction, a Dunk Tank, Putt-Putt® golf, and Bird-a-thon netted us over \$4400.00.

We have some exciting things planned for this year, including a field trip to T & D Cats, and working with The Nature Conservancy on a July Butterfly Count.

*--Andrea Hirsh, Chapter Liaison*

# Bowling for Rhinos



*I recently realized that those of you who do not get the Conference Proceedings each year may miss out on some important "Bowling For Rhinos" information. This reprint is for your benefit. The address listed is current for 1999.*

*To update the information, BFR raised \$124,919.96 in 1998 making our current total since 1990 \$1,107,830.83. Let's keep up the great work!*

## **1998 BOWLING FOR RHINOS A Million Dollars Later**

*Presented by Patty Pearthree, BFR Chairperson  
at the 1998 AAZK National Conference, Indianapolis, IN*

### **Introduction**

The American Association of Zoo Keepers, Inc. (AAZK) "Bowling For Rhinos" (BFR) fund-raiser has raised over \$1,077,000 since 1990 entirely through volunteer efforts. One hundred percent of all donated funds go directly to three rhino conservation organizations protecting hundreds of endangered plant and animal species and their habitats.

The first is Lewa Wildlife Conservancy (LWC) in Kenya which has grown to 65,000 acres protected with a two-meter tall electric fence that is home to 22 black and 22 white rhino along with their ecosystems. In 1994, AAZK expanded its funding efforts to include Ujung Kulon National Park in Java, Indonesia which is home to the last 47 Javan rhinos on earth (with a few recently discovered in Viet Nam). AAZK expanded its funding efforts once again in 1997 to include Bukit Barisan Selatan National Park in Sumatra, Indonesia where one of the largest populations of Sumatran rhinos live. These efforts protect ecosystems enabling the protection of hundreds of endangered plants and animals.

### **1997 BFR Results**

Forty-three AAZK Chapters or institutions turned in money in 1997 with a total of \$128,603.64. The first \$100,000 was sent to Lewa Wildlife Conservancy with \$4,000 being retained for 1998 expenses. The remaining monies were split with \$14,301.82 sent to Ujung Kulon National Park, and \$14,301.82 to Bukit Barisan Selatan National Park in 1998 from the 1997 event.

### **1998 BFR to Date**

Forty-three AAZK Chapters or institutions have stated they will hold an event in 1998. As of September 15, 32 Chapters or institutions have turned in money



for a total of \$99,906. I estimate the total to be \$130,000 when all money is turned in for 1998.

Nineteen-ninety-eight marks the year BFR surpassed the \$1 million mark. BFR has raised over \$1,077,000 since 1990 entirely through volunteer efforts. It is the hard work and dedication of these volunteers that will make the difference in wildlife conservation efforts. Everyone can be proud to have taken part in such a successful program.

### **BFR 1998 Top Individual Money Raisers**

Thanks to everyone for the outstanding effort this year! Here are the top 10 individual fund raisers:

<b>Name</b>	<b>AAZK Chapter</b>	<b>Comments</b>	<b>Total Raised</b>
Norah Farnham	Lincoln Park	Wins Trip	\$7,539.46
Kirk Nemecheck	Rolling Hills Refuge	Wins Trip	\$5,406.09
Trudy Deweese	Dallas		\$5,393.04
Christine Clements	Edmonton		\$4,737.59
Kim Davidson	Utah		\$4,395.75
Kirsten Christensen	Oklahoma City		\$4,391.00
Delora Batchelor	South Florida		\$3,042.00
Carol Cone	San Francisco		\$2,290.00
Patty Pearthree	Indianapolis		\$1,030.00
Nicki Boyd	San Diego		\$885.00

### **BFR 1998 Top Money Raising Chapters**

Thanks to everyone again! Here are the top 10 fundraising organizations:

<b>AAZK Chapter or Organization</b>	<b>Zoo Affiliation or Comments</b>	<b>Funds Raised</b>
Lincoln Park		\$12,653.46
Dallas		\$12,245.39
Portland	The Oregon Zoo	\$10,292.03
Rolling Hill Refuge	Salina, Kansas	\$ 5,406.09
San Diego		\$ 5,121.13
Hogle Zoo	Salt Lake City, Utah	\$ 4,945.75
Edmonton	Alberta, Canada	\$ 4,737.59
Oklahoma City		\$ 4,500.00
South Florida	Miami MetroZoo	\$ 4,345.21
San Francisco		\$ 4,100.00

The Oregon Zoo (Portland AAZK) has raised the most since BFR started with \$93,039.00.

It is extremely important to have continued participation from everyone if we are going to continue in our success. It doesn't matter how little or how much money is raised by your event, all events and funds raised are important! Public awareness of the plight of the rhino is of utmost importance so whatever it takes to get the word out is incredibly helpful. Remember, it takes about five consecutive years for a fund-raiser to take hold where people start to count on it, so it's important to hold an event each year! It's also fun!

### **Use of Bowling For Rhinos Funds**

One hundred percent of all funds raised are sent directly to three rhino conservation projects conserving four species of rhino, their habitats, and hundreds of other endangered plants and animals. BFR helps preserve the black and white rhino in Africa, and the Javan and Sumatran rhino in Indonesia. The first \$100,000 raised each year goes to the Lewa Wildlife Conservancy (Lewa has AAZK retain \$4,000 to cover BFR Trip winners travel expenses and BFR Coordinator expenses) with the remainder split between Ujung Kulon National Park and Bukit Barisan Selatan National Park. BFR Funds raised in 1997 were distributed as follows:

Lewa Wildlife Conservancy	Isiolo, Kenya	\$100,000.00
Ujung Kulon National Park	Java, Indonesia	\$14,301.82
Bukit Barisan Selatan National Park	Sumatra, Indonesia	\$14,301.82

#### *Lewa Wildlife Conservancy, Isiolo, Kenya*

In 1990, the money AAZK raised with BFR was used to complete the Ngare Sergoi Rhino Sanctuary fence. In 1991, the money was used to fence in the Ngare Ndare Forest Preserve, purchase a plane and a lorry (truck used to transport animals). In 1992 and 1993, the funds were used to fence off the two remaining boundaries and increase security. The old existing fence between the rhino sanctuary and the Ngare Ndare forest area was then removed. This allowed the animals to migrate between the rhino sanctuary and the lush forest area which was extremely important during times of drought. This created a 65,000-acre haven where everything from orchids to elephants could flourish. There are 145,000 acres under common wildlife policy but only 65,000 acres are enclosed by the fence with an area open at the north end to allow for the migration of elephant in and out of the sanctuary. Starting in 1994, BFR funds were used to help provide the running costs of this successful rhino sanctuary.

Currently, the annual running cost of the sanctuary is over \$600,000 with 170 guards protecting the area. Anna Merz, AAZK's BFR funds and private donations combine together to fund the running costs. Running costs include funding the security staff for the sanctuary and the wildlife, maintenance for the fence, vehicles and plane, and research staff to provide information such as carrying

capacity determinations and fire burning regimes. By supplying running costs, AAZK makes it easier for Lewa to solicit private donations to provide funding for future projects. Future plans for the sanctuary include relocation of 50 black rhino into the sanctuary, the purchase of additional security vehicles, increased security patrols, provision of a fire protection plan, educational facilities and health care. LWC hopes to be self-supporting within the next three years. If this goal is realized, AAZK will be able to fund other conservation areas.

The former Ngare Sergoi Rhino Sanctuary became part of the Lewa Wildlife Conservancy (LWC) when the fence separating the rhino sanctuary and Lewa Downs cattle ranch was taken down. LWC includes the former rhino sanctuary, the Lewa Downs ranch (including Lewa Springs) and the Ngare Ndare forest area.

### *Javan and Sumatran Rhinos*

The two kinds of rhinoceros in SE Asia are the most endangered of the five surviving rhino species. There are fewer than 100 Javan rhino: about 50 in Ujung Kulon and another 20 in Cat Loc Vietnam. The Sumatran rhino is considered the most critically endangered species of rhino by the IUCN/SSC Asian Rhino Specialist Group (AsRSG). Fewer than 400 are estimated to survive worldwide. Although not as rare as the Javan rhino, poaching pressure is more intense on the Sumatran rhino whose population has declined at least 50% in the last 5-7 years. BFR supports two National Parks in Indonesia which protect the Javan and Sumatran Rhinos.

### *Ujung Kulon National Park, Java, Indonesia*

The first \$100,000 each year from BFR will continue to go to LWC. Half of the additional money over \$100,000.00 will be sent to Ujung Kulon National Park in Java, Indonesia which works to save the Javan rhino. Ujung Kulon is a 300-square mile National Park that is home to some of the rarest plants and animals on earth. It is one of the last remaining lowland rainforests in the world with hundreds of endangered plants and animals. The annual running cost of Ujung Kulon is \$75,000.

The 1994 BFR funds of \$6,475 paid for a well, pump and water tower at the Karangranjang guard post. Nineteen-ninty-five funds of \$20,600 were used for the completion of a new patrol boat. The \$49,250 from the 1996 event purchased camera units for photo trapping census of the Javan rhino, installation and maintenance of the cameras, training staff for trapping census, 32 hand-held radios, radar unit for night patrol boat and trained a "Rhino Patrol Unit" RPU). These RPUS are the only proven method to effectively conserve these tropical forest rhinos. The \$14,301.82 from the 1997 event will train more RPUs and personnel to repair existing equipment such as generators, radios and boats. Future support will pay for continued use of RPUs to protect wildlife and maintenance of existing buildings and structures are in great demand due to the relentless forces of nature in a tropical rain forest.

### *Bukit Barisan Selatan National Park, Sumatra, Indonesia*

Half of the monies over \$100,000 raised each year from BFR will go to Bukit Barisan Selatan National Park (BBSNP) which is believed to have one of the largest populations of Sumatran rhinos. This is a 3,568-square km protected area on the southwest side of the island of Sumatra. Asian elephant, tiger, clouded leopard, Malayan sun bear, Indian wild dog and a substantial number of the estimated 400 Sumatran rhinos live within this park. Due to the size and vulnerability of the park, five RPU teams are needed in BBSNP.

For the most part, all necessary equipment and training for RPUs have been provided by the Global Environment Facility (GEF), (US Fish and Wildlife Rhino and Tiger Conservation Fund) USFWS RTCF and International Rhino Foundation / IUCN Asian Rhino Specialist Group (IRF/ AsRSG). Adequate patrol shelters already exist in the Park for the patrol work of RPUs. What is needed at BBSNP for rhino conservation is operational funds for the five RPUs. The operational cost for each RPU is currently \$12,000/ year or \$60,000 for all five RPUs. BFR money will be used in this way for the next few years.

### **Fund-Raising**

Fund-raising can take place using many methods. The conventional one used for Bowling For Rhinos is bowling! Tips and advice for organizing a bowling event are listed in the following paragraphs. However, you may choose to have "Recycling for Rhinos" where you gather recycling and donate the total raised each year. Or in "Rocking for Rhinos", "Rummage for Rhinos", "Running for Rhinos", "Rapping for Rhinos" where you organize your fund raising in a completely different manner than what is explained below. Whichever method used, you must notify the AAZK Bowling For Rhinos Coordinator of your event and be sure that 100% of all donations are submitted to BFR. NOTE: Any administrative or organizational costs must be covered by methods other than BFR donations (ticket sales, underwriters, etc.)

### **BFR Getting Started**

In order to have a bowl-a-thon, all one needs is sponsor sheets, a financial form and a group of enthusiastic bowlers. It's that simple to start out small and every dollar counts. Call a bowling alley to find a good date and let them know about the fund-raiser. They will usually give you a good deal. Let the bowlers know what the cost will be to bowl when they get their sponsor sheets. It is usually a good idea to type up a rule sheet so the bowlers know who to make checks out to, when to hand in money, etc. Let the bowlers collect sponsors and then go bowl.

### **Planning for a Larger BFR Event**

A Bowling For Rhinos event can get bigger and more complex from there. For a big event, I suggest starting to plan 4-6 months ahead. First, form a committee (even if it ends up consisting of only 1 or 2 people), call the bowling alleys and set your date. This will allow ample time for your event to get in newsletters, calendars, media. Find some local talent to volunteer to do the artwork for a T-shirt. T-shirts are free advertising and education, and most fund-raisers usually

give T-shirts to the participants. Keep your list of names and addresses from the sponsor sheets of previous years to invite them again. If your event is on a weekend, you will probably get more public involvement. Decide if you want to sell registration tickets for bowlers to purchase to cover the cost of bowling, dinner, T-shirts. This has worked well for many Chapters. Have bowlers turn in their money and sponsor sheets the night of your event. Have a few people to man the registration table so the event runs smoothly. Write letters or call local restaurants, movie theaters, and hotels to see if they could donate prizes for your event. These can be raffled off, given as door prizes or awards for different categories like high and low scorers and this makes the event more exciting. Invite local celebrities from radio and TV stations. Remember to write thank you letters for prizes and celebrity attendance.

### **Expenses**

It is very important to remember that we advertise 100% of all donations go towards conservation. All donations from donors must be submitted to AAZK Bowling For Rhinos in order for this to be true. This means that your organization must cover any expenses for this event. This can be done by charging a set fee for bowlers (Indianapolis charges \$12 for bowling and shoe rental, all the pizza you can eat, and a T-shirt if you've raised over \$30), through silent auctions, door-prize raffles, your local organizations funds, etc.

### **BFR Donations**

Collection of money has always been the most difficult aspect of BFR. We have chosen to use a straight pledge method, i.e. donate \$2, 5, 10 or any amount a donor wishes instead of an amount per point (per point donations have led to confusion in the past.) Tell donors you need to collect the money before your bowling date because you need to turn in the money the evening of the event. A person may comment "how do I know you bowl"? Inform them that your scores will be posted on your sponsor sheets during the event. Remember to let people know that donations to BFR are tax deductible (AAZK is a 501(c)(3) organization) and they may help you win a trip to Kenya!

### **Event T-shirts**

The cheapest way to have BFR T-shirts is to make your own. Make a simple design (an artist friend, volunteer, etc. is helpful at this stage) and make it "camera ready". Locate a local T-shirt company that is willing to work with you and give you good prices (remember to tell them what you are doing it for and you may wind up with a donation, it helps if there's one that currently works with your organization or zoo). If a company makes a donation to your event, ask if they would like to be listed on your T-shirt. Also, ask if any of their employees would be willing to bowl.

### **BFR Fund-raising Guidelines**

- Events should be held between March 1- August 1st.
- If interested in participating, send for an information packet and let me know the number of sponsor sheets to send.
- There is now a \$25 administrative fee to participate which should be made

out to "AAZK, Inc." and mailed to me prior to obtaining sponsor forms. This fee covers indirect costs incurred by AAZK, Inc. due to BFR ( phone, postage, faxes, bank fees, BFR trip winners tickets). First timers are exempt the first year.

- Form a BFR committee
- Locate a bowling alley (food supply and T-shirt co. if going big)
- Advertise your event in calendars, fliers, etc.
- Solicit for prizes
- Call me if the information packet does not answer your questions (919)678-0449)
- To win the trip to Africa, all money must be sent in to me by September 1st!
- Please try to have all money sent within 30 days of your event or by September 1st. I write this workshop paper mid-September so if you want to be included in these totals, send in the money.
- If a Chapter does not wish to send their checks certified mail, the following is the only way to insure that your check is not cashed by anyone other than AAZK, Inc.! Please write "For Deposit Only" on the back signature area of all checks. This will ensure only AAZK can deposit it instead of just anyone who may intercept it!
- Please make out one check payable to "AAZK, Inc.-Bowling For Rhinos", include a copy of your financial form & a copy of only the high money raiser's sponsor sheets and mail to: Patty Pearthree, c/o Bowling For Rhinos, 318 Montibello Dr. Cary, NC 27513; (919) 678-0449; e-mail - ppear3@aazk.org; web site <http://aazk.org>

### **Other Helpful Ideas**

The Birmingham Chapter holds a "Bowling For Rhinos Junior" event prior to the main event. This is held at the zoo a couple weeks prior to BFR which generates interest in the upcoming event. BFR JR. is for kids with toy pins and balls. Zoo volunteers can run the event and a nominal fee can be charged per roll (say a quarter). Fliers advertising the upcoming event can be handed out or registration tickets can be sold. Birmingham also holds a "Friends of Rhinos Barbecue" as a thank you for all bowlers who raise over \$100 or anyone who sponsors more than \$50. This works best if "you have cool bosses and friendly rhinos."

If bowling doesn't seem to work in your area, try "Rock n' for Rhinos", "Rummage For Rhinos" (Assiniboine Park Zoo, Winnipeg, raised almost \$2,000 this way), "Run For Rhinos", "Cueing For Rhinos" or "Recycling for Rhinos" (or create a new idea). Some Chapters even donate money to BFR. It all helps conservation worldwide!

Print an information sheet about BFR, the sanctuaries, that donations are tax-deductible, tips for collecting, etc. to give out to any potential bowlers (we give them to anyone who takes a sponsor sheet). Print up a flier with a registration form about your event and place it in zoo maps, restaurants, libraries, schools, etc.

Remember, anyone can join the bowl-a-thon, so don't limit yourselves to only

200 people. However, be sure it is clear that only National AAZK members are eligible to win the trip.

### Matching Gifts


Many of your bowlers work at corporations which have matching gift programs. This means that when they donate to BFR, the company they work for will match their gift to BFR. This is a very simple program and can double your money with little effort. Follow these steps:

- 1) When someone pledges or donates to BFR, ask if they are employed by a company with a matching gift program?
- 2) If they don't know, they can find out by asking their personnel office.
- 3) They can obtain a matching gift form from their personnel office and complete it.
- 4) Send the completed form to me and I do the rest (fill out BFR info and mail back to the company.)

### Fund-raising Reminders

- Start early
- Get a group together and brainstorm for your event
- Talk to your PR people and get their advice
- Build up a BFR address list using addresses from past events sponsor sheets
- Assign duties such as a person to get prizes, work registration tables, wheel and deal for best bowling alley rates, write letters, etc.
- Write thank you letters so you can build up your potential donor list
- Find out if and how your zoo can help
- Seek out volunteer help
- Get local organizations such as Boy Scouts or Rotary clubs to join your event
- Be creative and let other Chapters know what works for you

No matter how small the Chapter is or how few bowlers you have, every dollar helps so don't be afraid to give "Bowling For Rhinos" a shot!



**ZOO  
CURATOR**

**San Joaquin County  
\$2,509-\$3050 Monthly**

Responsible for preparation and management of portions of the Zoo budget, supervises animal care staff, coordinates veterinary care, manages collection records and participates in the planning and implementation of improvement projects. **Education:** Requires graduation from an accredited four year college or university with a major in zoology or related biological science. **Experience:** three years in the care, propagation, and procurement of animals for a zoo, including one year as a supervisor. **Substitution:** Additional qualifying experience may be substituted for the required education on a year-for-year basis to a maximum of two years. **Filing Period:** April 5-May 25, 1999.

**Apply at:**  
San Joaquin County Personnel  
24 S. Hunter, Rm. 106  
Stockton, CA 95202  
(209) 468-3370

AA/EOE

*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the **10th of each month** to: Opportunity Knocks/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Please include closing date for positions available and when setting these dates keep in mind that because of bulk-mail, most readers do not receive the AKF until the middle of the month or later. There is no charge for this service and fax listings of positions which become available close to deadline are accepted. Our fax is (785) 273-1980.*

**ASSISTANT ZOO NUTRITIONIST/ Wildlife Conservation Society...**Requires MS in Animal Science (nutrition emphasis), Nutrition, or Wildlife Ecology; PhD and /or demonstrated interest in Comparative Nutrition preferred. Must have experience in diet formulation or research with wildlife feeding management, and/or commissary supervision in a zoological institution. Will assist with diet review, foodstuff quality assessment, and economic evaluation of Nutrition programs for all facilities served by the Zoo Nutrition Center of the Wildlife Conservation Society. Expected to also conduct, advise, publish, and present scientific papers on research topics involving comparative animal nutrition. Salary commensurate with experience. Housing subsidy possible. Position closes June 1st to begin July 15th. Send resume and letter of intent to Wildlife Conservation Society, 2300 Southern Blvd. , Bronx, New York 10460, Att: Ellen Dierenfeld.

**AVICULTURIST...**Requires Bachelor's Degree, experience breeding captive birds, skill in interpreting bird behavior, aptitude for using video monitoring equipment, and ability to function in a close team. Part of a team responsible for the care and breeding of a flock of 100-120 cranes, mostly endangered species. Daily assignments include routine husbandry/pen cleaning/behavioral and health observations of cranes; pen maintenance. Seasonal or periodic duties include helping with all aspects of crane breeding and rearing; educating the public; training interns/volunteers/foreign colleagues. Special responsibilities of this position include assisting with the behavioral management of the cranes; running crane flight demonstrations; maintaining ARKS database/crane behavior records/other records as needed; overseeing annual pen cleaning; deploying closed circuit TV cameras for behavioral monitoring. Salary \$18,000.00/yr. + benefits. Send letter/resumé/three references **postmarked by 25 June 1999** to: Scott Swengel, International Crane Foundation, P. O. Box 447, Baraboo, WI 53913. Fax (608) 356-9465. E-mail - ssw@icf@baraboo.com. No phone calls.

**ZOOKEEPER I...**requires high school diploma and one year of full-time experience maintaining wild, exotic or large domestic animals within the last three years as a paid professional, technical employee or as a supervised volunteer in a zoo. Should have knowledge of animal behavior, care, husbandry and classification. Ability to effectively interact with animals without causing injury to them or self. Ability to clean and maintain exhibits. Must be able to lift 50lbs. unassisted. Should have skill in restraining techniques for different animals, valid driver's license, record-keeping ability, and be able to effectively communicate with public, management and co-workers. Should have knowledge of biology/zoology/wildlife science, animal diet preparation, animal exhibitry/maintenance, ability to train and assign work in specific area. Performs specific duties in the feeding, cleaning and general husbandry of live animals; observes animals and records behavior, prepares diets and medicates animals as needed, reports to Animal Care Manager and Zoo Director. Salary \$21,145.00 to \$24,727.00. Currently establishing employment register to fill one vacancy and any vacancies that may occur in the future at the Montgomery Zoo. Applicants will be screened and qualified based on education and experience as shown on the application and supplemental questionnaire. Applications must be filed with the Montgomery City/County Personnel, Room 121-0, City Hall, P. O. Box 1111, Montgomery, AKL 36101-1111.

**ANIMAL CURATOR...**Lehigh County Trexler Game Preserve, Schnecksville, PA - Oversees the long-range plans affecting the wildlife collection in support of the organization's exhibition education and observation goals. Supervises with the appropriate animal keeper in the daily management of the mammal/bird/amphibian and reptile collections. Participates in established training programs and provides



instruction and supervision with the Animal Keepers in all phases of animal care. BS in biology, natural sciences or related field. Previous animal management experience of an increasingly responsible nature at a recognized zoological park desirable. Successful completion of a post-offer medical screening. No allergies related to plants or animals which may interfere with ability to work. Ability to work a flexible schedule which may include weekends, holidays & evenings. Starting salary: \$27,851.00 with excellent benefits. Send resumé to: Lehigh County Human Resources, 17 S. 7th St., Allentown, PA 18101-1614. EOE, **Position open until filled.**

**EDUCATION ANIMAL HUSBANDRY ASSISTANT...**Zoo Atlanta has an immediate opening for this full-time position. Responsible for assisting the Animal Husbandry Supervisor with the care, training and management of a collection of mammals, reptiles, birds and arthropods used in education programs. Will participate in the development of animal use and care protocol. Will participate in training of staff and volunteers who use these animals in education programs. Requires background and knowledge in animal care and strong communication skills. Informal education experience and animal training experience preferred. Please submit letter and resumé to: Gail Allen, Human Resources Dept., Zoo Atlanta, 800 Cherokee Ave. SE, Atlanta, GA 30315; Fax (404) 627-7514.

**ELEPHANT KEEPER...**Baltimore Zoo has a position available with our Elephant Team. Each candidate must have graduated from an accredited high school and have elephant care and handling experience. A Bachelor's Degree in biology, zoology or related field is preferred. Our successful candidate will work well with our zoo visitors, be a team player, be highly motivated and have great communication and interpersonal skills. Eligibility for a Maryland Driver's License is required. Excellent benefits. Send resumé to: Personnel Dept., Baltimore Zoo, Druid Hill park, Baltimore, MD 21217 or Fax to (410) 243-8012P

**BIRD KEEPER...**requires two years of experience in exotic animal care (one year working with a variety of exotic birds) and a college degree in zoology, biology or a related field. (The equivalent combination of education and experience may be considered.) Responsibilities include providing a healthy, attractive environment for the birds in a specified area, all aspects of daily animal husbandry, exhibit maintenance, observation, enrichment, and encouragement of public interest in the animals. Must have excellent communication skills and a willingness to interact positively with the public. The Memphis Zoo offers a competitive salary and benefits package. Send cover letter, resumé and references to: Human Resources, Memphis Zoo, 2000 Galloway, Memphis, TN 38112. No phone calls or e-mail accepted. EOE.

**The Dallas Zoo is forming registers for the positions of Zoo Senior Animal Keeper 37 (senior level) and Zoo Animal Keeper 36 (entry level). Positions are available in the Mammal, Bird and Veterinary Departments and the Children's Zoo. Keepers are responsible for daily diet prep, feeding, cleaning and husbandry of mammals, birds and reptiles; assisting with vet procedures; restraint techniques; behavioral observations; quarantine and sanitation procedures; record keeping and pest control. Call (214) 670-6833 for an application. Original completed applications should be sent to: City of Dallas, Human Resources, Staffing Manager, City Hall, Room 6AN, 1500 Marilla, Dallas, TX 75201. If applying for both positions, must complete an application for each. All positions are subject to drug and alcohol testing and requires a negative TB test. EOE.**

**DALLAS ZOO ANIMAL KEEPER 36 (entry level position)...**requires high school diploma or equivalent. Starting salary \$18,113/yr.

**DALLAS ZOO SENIOR ANIMAL KEEPER 37(senior position)...**requires high school diploma or equivalent and three years related experience with the care of exotic animals. starting salary \$21,233.00/yr.

**ASSISTANT ZOO DIRECTOR**...At Columbian Park Zoo, Lafayette, IN. Requires high school diploma or equivalent. Bachelor Degree in zoology preferred or equivalent work experience. Minimum three years zoo experience and certification in First Aid and CPR. Registered member of professional organization such as AZA and supervisory experience preferred. Effective communication skills including public speaking skills. Ability to prepare and administer budget. Valid driver's license. Position is responsible for administering and directing operations concerning zoo collections, facilities and personnel. Salary range \$25,000.00 to \$29,000.00. Hours will be 8 a.m. - 5 p.m. M-F with flexible hours which may include weekends and holidays. Applications are being accepted in the Human Resources Office, 20 N. 6th St., Lafayette, IN 47901. Please contact Kathy Wade, Director of Human Resources at (765) 476-4469. Resumés may be sent to: kwade@city.lafayette.in.us or faxed to (765) 476-4518.

**ELEPHANT KEEPERS**...The Elephant Sanctuary in Hohenwald, TN, the nation's only natural-habitat refuge for Asian elephants, is seeking dynamic candidates for two upcoming keeper positions. Responsible for cleaning, food prep, construction and facility maintenance. Requires: degree in related field preferred; minimum of one year work experience in animal care and construction preferred. Should have strong work ethic, passion for animal welfare, ability to work unassisted and be self-motivated and mechanically inclined. Must be able to work weekends and holidays. Full-time salary: \$480.00 to \$560.00 BI-weekly, depending on skills. Please send cover letter, resumé and three (3) letters of recommendation to: Scott Blais, The Elephant Sanctuary, P. O. Box 393, Hohenwald, TN 39462.

**BIRD/MAMMAL KEEPER**...excellent opportunity at Audubon Center for Research of Endangered Species & Freeport-McMoRan Audubon Species Survival Center. Will work with carnivores, hoofstock, cranes and storks. Requires valid drivers license, reliable transportation and one (1) year's paid experience working with birds or mammals. starting salary is \$17,000-\$20,000 depending on experience and ability. Position open until filled. Send resumé to the ACRES/FMASSC, 14001 River Road, New Orleans, LA 70131. Attn: Jeff Vaccaro.

**AVICULTURE INTERN**...will receive intensive, hands-on training in the care and maintenance of a large bird collection. Will experience all aspects of bird husbandry including general cleaning, handling, incubation, record keeping, public education, etc. Seeking college students or recent graduate with an interest in avian management biology. Interns will work with the aviculturists for a three-month period. This is a volunteer position with on-site housing provided. Internships available year-round. Send a letter and resumé with references to: Tracy Aviary, 589 East 1300 South, Salt Lake City, UT 84105. ATTN: Kristine McCue/Holly Seitz.

**CURATOR**...The Wildlife Discovery program (a Houston I.S. D. Magnet School) is now taking applications for the 1999-2000 school year. The Curator position vacancy will become available 11 August 1999, and continue until 1 June 2000 (10 month contract/benefits). The duties of this position include planning and experiential instruction in an outdoor setting at the Houston Zoo to 3rd grade students. Requirements are two or more of the following: Two (2) years college (degree preferred); education experience; wildlife biology background; environmental/outdoor education experience; or summer camp counselor experience. Salary is \$1733.00/month for 10 months with benefits. **Applications will be accepted until 15 July 1999.** Applicants need to send a cover letter with their resumé and three (3) references to: Ms. Karyl Watz, Coordinator, Wildlife Discovery program, 1513 North MacGregor Way, Houston, TX 77030 or e-mail : watz@tenet.edu

*Check AZA Member Institution job position listings  
on the AZA Home Page: <http://www.aza.org>*

# AAZK Membership Application

check here if renewal [ ]

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State/Province \_\_\_\_\_ Zip \_\_\_\_\_

## U.S. Members

**\$35.00 Professional**  
*Full-time Keepers*

**\$30.00 Affiliate**  
*Other staff & volunteers*

**\$30.00 Associate**  
*Those not connected with  
an animal facility*

**\$60.00 or up - Individuals  
Contributing/U.S.**

**\$100.00 or up  
Institutional/U.S.**  
*Organizations / Institutions  
(requires Board approval)*

**International Members**  
**\$50.00 International**  
*All members outside U.S. &  
Canada regardless of category*

## Canadian Members

**\$40.00 Professional**  
*Full-time Keepers*

**\$35.00 Affiliate**  
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# ANIMAL KEEPERS' FORUM



**The Journal of the American  
Association of Zoo Keepers, Inc.  
June 1999**

**Managing Editor:** Susan D. Chan • **Associate Editors/Enrichment Options**

**Coordinators:** Kayla Grams, Arizona-Sonora Desert Museum & Gretchen Ziegler, Sequoia Park Zoo • **Book Review Coordinator:** Andrea Bernee, Chaffee Zoological Garden • **Legislative Outlook Column Coordinator:** Georgann B. Johnston, Sacramento, CA. • **ABC's Column Coordinator:** Diana Guerrero, San Diego, CA • **Reactions Column Coordinator:** William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX

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### **AAZK PUBLICATIONS - CONTINUING DATA COLLECTION**

**Zoo Infant Development Project** - G. Suzanne Chacon, Zoo Aves (Birds/Passerines); Jeanne Walsh, Newark Museum Mini-Zoo (Reptiles); Linelle Smith, Denver Zoo (Amphibians)

**Crisis Management Resource Notebook** - Susan Chan, AAZK; William K. Baker, Jr., Frank Buck Zoo, Gainesville, TX; and Diana L. Guerrero, Ark Animals, Inc., Escondido, CA.



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## **About the Cover.....**

*This month's cover features a Black Rhinoceros (*Diceros bicornis*) drawn by Lara Edwards, a volunteer at the Valley Zoo in Edmonton, Alberta, Canada. The most widespread of the African rhinos, it has a large body and short, strong legs. Its front horn, which can measure about 30 inches in length, curves back; the rear smaller horn is almost straight. Average weight is between two and two and one half tons. This animal usually lives alone or in small herds and can live to upwards of 50 years. Females give birth to a single young, weighing from 55 to 150 pounds, after a gestation period of 17-18 months. The black rhino is a good swimmer and likes a daily mud bath to help control insects. Like all rhino species, it is endangered because of its horn which is used in traditional oriental medicine. This month's cover artist is currently completing her veterinary studies at university. Thanks, Lara!*

## **Information for Contributors**

*Animal Keepers' Forum* publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration. Articles should be typed or hand-printed and double-spaced. Authors are encouraged to submit their manuscripts on a disk as well as in hard copy form. Acceptable formats include: for Macintosh users - Microsoft Word or Works; IBM users - Word for Windows, WordPerfect or Wordstar. All illustrations, graphs, charts and tables should be clearly marked, in final form and should fit in a page size **no greater than 5.5" x 8.5"** (14cm x 22cm). Literature used should be cited in the text (Brown, 1986) and alphabetically in the final bibliography. Avoid footnotes. Include scientific name (as per ISIS) the first time an animal name is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Glossy finish black and white photos **only are accepted**. Color slides should be converted to black and white prints (minimum size 3" x 5" [8cm x 14cm] ) before submission. Clearly marked captions should accompany photos. Please list photo credit on back of photo.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone and FAX contributions of late-breaking news or last-minute insertions are accepted as space allows. However, long articles must be sent by U.S. mail. Phone 1-800-242-4519 (US); 1-800-468-1966 (Canada); FAX (785) 273-1980.

**Deadline for each regular issue is the 10th of the preceding month.  
Dedicated issues may have separate deadline dates  
and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. Reprints of material appearing in this journal may be ordered from the editor. Back issues are available for \$3.00 each.



# Scoops & Scuttlebutt



## AAZK Founder Retires at San Diego

Gerald "Red" Thomas, one of the original seven founders of the American Association of Zoo Keepers, has retired after working for 37 years at the San Diego Zoo, San Diego, CA. "Red", along with co-founders Dick Sweeney, Conrad Grayson, Denis Melvin, Ken Willingham, Carl Pyle and Walter Bromley created the San Diego Zoo Keepers Association in December of 1967. With the hard work and support of these individuals, this small beginning has grown into an international association of zoo professionals dedicated to the highest level of professional captive exotic animal care.

"Red", whose last day at the San Diego Zoo was 29 April, was honored at a reception at that facility. AAZK wishes to express its sincere appreciation to "Red" Thomas for the role he played in bringing AAZK into being, and further wish him the very best in his retirement. The Zoo World will miss you.

## Oklahoma City Zoo Escapes Killer Tornado

Received at the AAZK Administrative Offices:

Dear AAZK,

The employees of the Oklahoma City Zoo wish to express their thanks for your concern and prayers following our recent tornado disaster. It will be quite some time before our city recovers, but we like to think of ourselves as survivors rather than victims, and we will overcome. Although the zoo itself received no damage, several of our employees were impacted by the storm. Of those employees, the most hard hit was Dean Rakestraw, a keeper in the antelope area. Dean lost his home and both vehicles, and his wife was critically injured. For those who have asked, the zoo has established a fund for Dean and his family. Donations may be made to: Dean Rakestraw Recovery Fund, Municipal Employees Credit Union, 101 N. Walker, Oklahoma City, OK 73102.

Again, thank you so very much for your thoughts and prayers during this time of hardship and grief. They are greatly appreciated.

Kirsten Christensen  
Oklahoma City Zoo AAZK Chapter

*(Editor's note: AAZK Chapters are reminded that under our 501(c)(3) tax-empt status, Chapters are not allowed to donate Chapter funds to an individual, but individual zoo keepers or their facilities may contribute to this fund.)*

## **AZA Resource Center Becomes Reality**

Tired of reinventing the wheel for every new project? Want your information now, without waiting for packages, mail, or faxes to arrive? Let your mouse do the walking, ... check out the new online AZA Resource Center! This "Members Only" service debuted on Thursday, May 6, 1999, at <http://www.aza.org>. To log on, simply click on "Members" then on "Members Only" then type in your first initial and last name (no spaces) and your AZA member number (it's on your Communiqué label and your membership card). You'll find yourself in a haven of documents that will help you develop a crisis communications plan, rejuvenate your Board of Directors, raise those precious dollars or outline an ambitious new strategic plan. Also included are more than 500 organized, annotated links to other Web sites - connecting you to information on environmental education curricula, Y2K planning, professional organizations, taxonomy databases, accessibility guidelines, and federal funding programs. The Resource Center has a wealth of practical, working documents contributed by AZA members, and we want to thank all of those who supplied us with these important resources. We will continue to expand the offerings and if you have anything you would like to contribute, please contact Kate Bronislawski, Resource Center Curator at [kbronislawski@aza.org](mailto:kbronislawski@aza.org) or by calling (301)562-0777 ext. 259.

## **EEP Yearbook/Proceedings Available**

The European Association of Zoos and Aquariums (EAZA) has announced the availability of a 594-page volume which offers an extensive account of the actual status of more than 150 species managed in European zoos as European Endangered Species Programmes (EEPs) or on Studebook level. The EEP yearbook also presents the annual reports of EEP Taxon Advisory Groups, as well as the proceedings of the 1998 EAZA/EEP Conference in Berlin and general EEP information. The EEP Yearbook 1997/98 may be ordered from the EAZA Executive Office, c/o Amsterdam Zoo, 10000 HD Amsterdam, The Netherlands. Cost is Dfl. 130 (Dutch guilders) including postage. The preferred payment is by Eurocheque or International Money Order. Please add Dfl 15 for bank costs is paying by other means. Either check with your local bank's international desk for current exchange rates or e-mail EAZA at: [>nvdzoos@nvdzoos.nl](mailto:>nvdzoos@nvdzoos.nl)< for price in U.S. dollars or other currency.

## **Guidelines Available from Enrichment Committee**

The AAZK Enrichment Committee has developed general guidelines for the enrichment of reptiles (compiled by Cheryl Frederick at Woodland Park Zoo, Seattle, WA) and ungulates (compiled by Amy Burgess at the Oakland Zoo, Oakland, CA). These guidelines were available at the 1998 AAZK/EMA/AZH joint conference in Indianapolis. Copies may be obtained by sending a self-addressed, stamped envelope to: Lee Houts, AAZK Enrichment Committee, 1118 Sherburn Ave., Sacramento, CA 95822.

“Northwest Passages - Frontiers in Zoo Keeping” is the theme for the paper sessions and workshops at the 1999 National Conference.

## KEY THEMES AND SUGGESTED TOPICS

**Keepers' Tools:** Skills and techniques needed for the job. **Expanding Keepers' Role:** As a zoo professional, our job description has greatly expanded over the years. Veterinary care, exhibit design, studbook/TAG/SSP work, field work, keepers' role in visitor education. **Innovations - Success or Failure:** Unique animal introductions, exhibit renovations. **Research:** The keeper's role in institutional or field research. **Local Conservation:** Most keepers do not have the opportunity to participate in international field projects. We are soliciting conservation projects that are within your geographical region.

### Abstracts must include the following information:

- Name of presenter and co-authors
- Zoological or aquarium affiliation
- Position / title
- Title of Paper / Workshop
- Audiovisual equipment needs
- One or two line bio or “How you want to be introduced”

**Abstracts for papers and posters** should be limited to one to two paragraphs; describe in detail the significance of the presentation topic; briefly list the results, conclusion, or benefits of the work described. Abstracts that are poorly written, do not contain the proper submission information, or do not meet submission criteria, will be returned with a letter rejecting the abstract or suggesting the corrections required for acceptance.

**Abstracts for papers and posters will be accepted for review until  
1 July 1999. Deadline for papers is Friday, 27 August 1999.**

### Mail abstracts to:

Anna Michel, Program Co-Chair, 1999 AAZK National Conference Oregon Zoo,  
4001 SW Canyon Road, Portland, OR 97221-2799 • **FAX abstracts to:** 503-226-  
0074 • **E-mail abstracts to:** AAZKpapers@michelnat.com

### CONFERENCE NOTES:

- Auction items should be mailed to Louise Kent, Auction Chair at the above address for the Oregon Zoo.
- Anyone wanting to schedule a workshop or special interest group meeting should contact Anna Michael, Program Co-Chair at the contact information above.

# Coming Events

**Fourth International Elephant Research Symposium and 1999 Elephant Managers Association Annual Meeting** - June 17-22, 1999 in Atlanta, GA. Hosted by Zoo Atlanta. For further information contact: Edward Daniel at (404) 624-5611.

**American Society of Mammalogists** - June 20-24, 1999 at University of Washington, Seattle, WA. For more information contact: Paul Anderson, Chair, ASM Marine Mammal Committee at: pkanders@cadvision.com

**Animal Behavior Society Annual Meeting** - June 26-July 1, 1999 at Bucknell University in Lewisburg, PA. For further information see - <http://www.cisab.indiana.edu/> or call (717) 524-1430.

**American Federation of Aviculture 25th Annual Convention** - August 12-15, 1999. Denver, CO. For more information contact e-mail: rmsa@altavista.net; doms4afa@aol.com; or stat@wizard.net. Infor on web site at: <http://www.upatsix.com/afa>

**Fourth International Enrichment Conference** - August 29- Sept. 3 1999 in Edinburgh, Scotland. Hosted by the Royal Zoological Society of Scotland, conference will take place at the University of Edinburgh. Overnight accommodations for delegates also at the University. Details are now available from the *Shape of Enrichment* website: <http://www.enrichment.org>

**12th Non-domestic Neonatal Symposium and Poster Session** - September 1, 1999 in San diego, CA. Hosted by the San Diego Wild Animal Park and San Diego Zoo. For more information contact: Karla Michelson, Veterinary Services Dept., San Diego Wild Animal Park, 15500 San Pasqual Valley Road, Escondido, CA 92027. Phone: (760) 735-5530. For poster session information contact: Debi Espinoza-Bylin at (760) 735-5530.

**AAZK 1999 National Conference** - Sept. 12-16, 1999 in Portland, OR. Hosted by the Oregon Zoo and the Portland AAZK Chapter. Look for info in *AKF* or contact Jan McCoy or Anna Michel at (503) 226-1561.

**AZA 1999 National Conference** - Sept. 24-28, 1999. Minneapolis, MN. For information contact Lucinda McCandless via e-mail: AZAconf@mail.mnzoo.state.mn.us


**Association of Zoo Veterinary Technicians** - Sept. 24-30, 1999 in Indianapolis, IN. For



information contact: Julie Hutt, R.V.T., Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222-4500; phone: (317) 630-2090; Fax: (317) 630-5154; e-mail: jhutt@mail.indyzoos.com

**The Sixth Annual Conference of the Aquarium and Zoo Facilities Association (AZFA)** will be held in San Diego, CA from 3-6 October 1999. The conference will be hosted by the San Diego Zoo, the San Diego Wild Animal Park, and Sea World of California. For more information, contact: Sue Hennings, Sea World of California, Plant Engineering, 500 Sea World Drive, San Diego, CA 92109 (619) 226-3931; email: suehennings@anheuser-busch.com; OR Sherry McGartland, San Diego Zoo, P. O. Box 120551, San Diego, CA 92112 (619) 231-1515 ext. 4307; email: smcgartland@sandiegozoo.org

**American Association of Zoo Veterinarians (AAZV)** - October 9-14, 1999 in Columbus, OH. Assoc. of Reptile/Amphibian Veterinarians (ARVA) too meet Oct. 5-9. For information, contact: Wilbur Amand, VMD, Executive Director/AAZV and ARAV, 6 North Pennell Rd., Media, PA 19063; Phone: (610) 892-4812, Fax: (610) 892-4813; e-mail - 75634.235@compuserve.com



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# New & Renewing AAZK Professional, Institutional, and Contributing Members

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*Office Hours: 9:00 a.m. - 3:00 p.m. CST*

## Animal Behavior Concerns & Solutions

A Question and Answer Forum for the Zoo Professional

By Diana Guerrero, Independent Behavior Consultant,  
Ark Animals of California, San Diego, CA

### Column Announcement

Thanks for all the nice comments and contacts over the past year! The book projects are almost completed and so after a long break, I am thrilled to have the time to answer your questions and restart this column!

A couple of years ago *AKF* ran a brief breakdown on what information I need to answer your questions, but since it has been a while I thought the column kick-off should have an updated version. Questions can be e-mailed or mailed to me at the address below.

### Topic of the Month: Evaluation Tips

Knowing what questions to answer is half the battle! Due to space constraints it is not always possible to include some of the questions that are asked or discussed in the fact finding phase of a behavior evaluation. Providing important information is a must in any evaluation. Here are some general guidelines to assist those of you who need help with scenarios. The more of these questions you provide answers to in advance, the better and faster the assessment can be. Please remember that all specific items are kept confidential when presented in the column.

### Behavior Background Information:

- 1) briefly describe problem
- 2) the age of the animal when the problem was first observed
- 3) how long the problem has been in existence
- 4) where it occurs and with which conspecifics
- 5) what particular situation it occurs in
- 6) frequency
- 7) how you have attempted to correct it
- 8) other things you think are important to know

### Human Information:

Name of persons working on this problem:

Mailing address of institution (Street or PO Box):

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

TIME ZONE: P M C E Other \_\_\_\_\_

Work Phone: ( ) \_\_\_\_\_ FAX Line: ( ) \_\_\_\_\_ E-mail: \_\_\_\_\_

Other Participants M/F Relationship with animal(s) Time on area

- 1.
- 2.
- 3.
- 4.

Does anyone have any behavior experience? Y\_\_N\_\_ If yes, who?

Has anyone ever attended a training program or behavior seminar before?

Y\_\_\_\_N\_\_\_\_\_

If Yes, who conducted the program or seminar?

When?

### **Exhibit Information**

Please describe the exhibit to the best of your ability (or send a diagram):

Can the animals be separated from each other?

Do they have individual night quarters?

Please list the other animals in the exhibit:

Name	Breed/Species	Age	Sex	Compatibility with animal(s)
------	---------------	-----	-----	------------------------------

1.

2.

3.

4.

5.

### **Animal Information**

Animal Name:

Breed/Species:

Sex: M\_\_F\_\_

Age:

Age when obtained:

From where?

Mother-reared?

Wild-caught?

Nursery-reared? By whom?

Age taken from mother?

Litter behavior/birth order?

How long have you had this animal?

Do you intend to breed this animal?

Where is this animal in the group hierarchy?

Has the status changed?

List prior facilities where this animal was held:

List any current or prior health or physical problems:

Is this animal on medication? Y\_\_N\_\_ If yes, what? Why?

Was this animal ever seriously injured or ill?

If so, please explain:

Has this animal been cleared for allergies? Fungal infections?

Thyroid, adrenals or other physical abnormalities?

Veterinarian: Phone ( )

Is this animal allowed on exhibit with conspecifics?

Where does this animal sleep and with whom?

Who does this animal interact the most with? the least?

What is the current diet?

How many feedings?  
Enrichment?  
Supplements?

How often is enrichment used?  
Is this animal able to participate in this activity?  
What types of interactions occur in the exhibit? Any aggression? Explain.

Has this animal ever received any formal training?  
At what age?  
Trainer's Name:

How have you reinforced acceptable interactions?  
How have you reprimanded or handled aggressive or unacceptable behaviors?  
Animal's reaction to these actions?:

Has this animal been injured by another animal? How?  
Has this animal injured any conspecific?  
What were the circumstances?:  
How many times has this occurred?  
How long ago was the last time?

In stress situations (new situation, strangers, visitors, left alone, confinement, etc.), how does this animal react?:

Would you describe this animal as:

Wildly active\_\_      Active\_\_      Confident, Assured\_\_      Reserved\_\_  
Withdrawn\_\_      Stiff, lethargic\_\_      Fearful, Unsure\_\_

### **Other Notes:**

This should give you an idea of what information is needed to produce each evaluation you are reading. Most often, the questions will get more in-depth than listed. Sometimes a cycling or implanted female may react differently than one who is not; other times an animal may be bonded more with female caretakers than with males or have had horrible experiences with humans overall. If you have any information that you feel may apply or that is a "gut feeling" you are encouraged to provide that information.

Since 1978, ARKANIMALS.COM Director, Diana Guerrero has worked professionally in a variety of animal facilities. Attending and completing courses in both animal management and training from institutions both here in the United States and Europe, she has been affiliated with some of the best organizations. She is an alumni of The Moorpark College Exotic Animal Training & Management Program, The Gentle Jungle Animal Affection Training School, The International Training Centre at the Jersey Wildlife Preservation Trust, and special program extensions with Marwell Zoological Park and Kent University. Guerrero started her career in the marine mammal field working as a naturalist, and subsequently became involved with terrestrial animals in zoos and other facilities. Guerrero writes a variety of animal-related columns, including the popular series, Unusual Animal Careers and does seminars nationally. Watch for two of her book projects in the summers of 1999 and 2000! Questions for ABCs should be submitted to Diana directly via e-mail:> arkabc@arkanimals.com< or via regular mail to ARKANIMALS.COM, P.O. Box 1154, Escondido, CA 92033 USA.





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# REACTIONS

## *A Question and Answer Forum for the Zoo Professional on Crisis Management*

By William K. Baker, Jr., Zoo Curator  
Frank Buck Zoo, Gainesville, TX

### **Question**

How does a crisis management workshop work?

### **Comments**

There are several different ways that workshops can be presented. The first factor to consider is how much time can you afford to devote to a workshop? Workshops are a lot like a scaled down conference. As a result, if your institution is going to put on a workshop, then how much time and human resources can be spared to accomplish it.

The usual time frame is from one to three days. A one-day workshop is closer to a seminar in some ways, such as a total classroom environment, but if there is practical application as well, it's really a workshop.

Once a time frame has been established, then it's usually a good idea to take a look at resources. In other words, now that a commitment has been made to present a program, it's time to take a hard look at what it will take to put it on. The first elements are class size, material to be presented, and the ratio of instructors to students. While at first these may not appear to be related, they are. Class size range would be from 8-25 students. Remember, the smaller the class, the greater the opportunity for personal interaction with students. This translates into a more detailed training, in other words, quality not quantity.

Multiple or assistant instructors can be especially beneficial when covering multiple topics as they allow for "breathers" for the teaching staff and for each teacher to present material within their own area of expertise. This style also provides for a diversity of viewpoints to broaden the overall learning experience.

It has been said that the details are everything. To an extent this is true as the planning and logistics of a workshop can be extensive. They can entail everything from visual aids, training aids, handbooks, reference materials, capture equipment, up to the actual practical application. This would also encompass reserving classroom space, clearing certain areas of a facility, and

range time when utilizing firearms. Of course, safety should be a paramount concern and will require an adequate ratio of instructors to students as well as the availability of the appropriate safety equipment.

Personally, I prefer the three-day workshop to achieve maximum saturation of the material and training, but the one-day workshop can often be as effective. Also, a combination of classroom and practical application is the most effective in my opinion.

It's easy to say "let's put on a workshop", but like so many other things in our profession, what looks simple on the surface requires a great deal of planning and resources to pull off. But the end result is usually worth it. Another option is to outsource the entire operation and have consultants come to your facility and present a program. This can be highly effective, but somewhat costly depending on the consultants you hire and the fee charged. Also, just because someone consults, doesn't mean that they are good at it. Still, there are quality consulting firms that present "turn-key" programs that can be a definite asset to your institution. Shop wisely and call for references, you won't be sorry.

**Next Month:** When is it time to stop and reevaluate during a crisis management situation?

**If you would like to submit a question for this column or have comments on previously published material, please send them to: Reactions/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.**

*(About the Author: Since 1985 Bill has been active in the fields of science, zoology and wildlife management. His education and experience include a B.S. in wildlife management and post-graduate work in zoology; Lab and Museum Assistant; Shoot Team leader, ERT Member, and Senior Keeper and Large Mammal Keeper at various AZA facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR/First Aid Instructor.)*

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## New Contact Information for Bowling for Rhinos Chair

Effective immediately the following is new contact information for Patty Pearthree, Chair of the Bowling for Rhinos project: 318 Montibello Dr., Cary, NC 27513-2479; e-mail is ppear3@aaazk.org; phone - (919) 678-0449. All correspondence/inquiries for Bowling for Rhinos should now be directed to this new address/phone/email. This includes requests for sponsorship forms, questions needing answers, etc.

# Information/Assistance Please

**Giraffe Hair Samples Requested** - The Oakland Zoo, in conjunction with California State University Haywood, is ready to receive hair samples from institutions holding giraffe. Samples from all sub-species and hybrid individuals will be accepted.

1) Please take 5-10 hair strands (mane has worked well) per animal. Small amount of "bulb" material from follicle end is ideal. Gloves are not needed, but avoid over-handling samples.

2) Place hair samples in a paper envelope. Clearly mark the individual's studbook # and house name on the outside of the envelope. Use one envelope per animal.

3) Send samples to: Amy Burgess, Oakland Zoo, P. O. Box 5238, Oakland, CA 94605. No special mailing instructions are necessary.

4) If your institution has a Biological Sample Request Form, or other release form, send it to the above address and the appropriate paperwork will be accommodated for your facility's files.

5) Any inquiries regarding the project may be directed to: Amy Burgess (510) 632-9525 ext. 165. Your cooperation is greatly appreciated.

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**DO YOU WORK WITH BATS?** If you are a bat rehabilitator, please contact Sue Barnard at (770) 961-4127, or e-mail her at <batcons@mindspring.com>.

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**HELP FOR CHINESE ZOOS SOUGHT** - The following request for assistance was forwarded to AAZK from Norm Gershenz at the Center for Ecosystem Survival:

My name is Wang Ai. I am a reporter of Radio Free Asia in New York. I was from Beijing, China. I am an animal lover. Recently I am trying to help the animals in zoos in China because the situation there is just terrible. I am wondering if you can help me to find some videos about zoos in America that I could send to China and let people in China learn what is the right way to treat animals. I think education is the best way to change things. There are some people who want to protect animals in China now, but we do need your help. Please! Thank you, Wang Ai contact at: aiwang@earthlink.net

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We are interested in talking with anyone who uses Fennec Foxes (*Fennecus zerda*) as educational animals. Please call, write or fax: Kate Friedman or Kim Johns, Memphis Zoo, 2000 Galloway, Memphis, TN 38112; phone - (901) 725-3400, ext. 3800; fax - (901) 725-9305.

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The Columbus Zoo is looking for information on improving its safety system in its great ape building. We are looking for information from any facilities that have electronic locks, 'panic' buttons, safe areas for keepers to go, etc. Please call Beth Pohl or Debbie Elder, African Forest Dept., (614) 645-3426/3515 or e-mail us at >afforest@colzoo.com<

# AAZK Book Sale

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Previous books may still be available, with some price increases

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\$5.95	\$4.76	<u>Hummers: Hummingbirds of North America</u> - Millie Miller & Cindi Nelson - a "must have" book for hummingbird enthusiasts. A concise text full of delightful water color illustrations. 32 pgs. Staplebound.
\$7.95	\$6.36	<u>Animal Tracks - A Peterson Flashguide</u> - One of the most popular titles in the Peterson series. It shows how to identify the tracks and other signs of more than 100 North American animals. 24 panels, laminated.
\$7.95	\$6.36	<u>Mushrooms - A Peterson Flashguide</u> - Shows how to identify all of the major families of mushrooms in North America. 24 panels, laminated,
\$60.00	\$48.00	<u>In the Presence of Wolves</u> - Art Wolfe & Gregory McNamee - A photographic study illustrating the lives and behavior of wolves, including legends, essays, fables, and folklore. 160 pgs. hardcover.
\$19.00	\$15.20	<u>Field Guide to the Night Sky</u> - National Audubon Society - Mark R. Chartrend III - A handbook for stargazers containing a unique system of easily understood star charts. Gives the reader the ability to locate & identify major natural celestial objects throughout the year. Flexibound.
\$17.95	\$14.36	<u>Dictionary of Native American Mythology</u> - Sam D. Gill & Irene F. Sullivan - A beautifully illustrated & thoroughly researched guide exploring the captivating myths, legends and spirits of Native American culture. 424 pgs. paper.
\$12.00	\$9.60	<u>The Age of Gaia: A Biography of Our Living Earth</u> - James Lovelock - author proposes that all living species are pieces of one organism, Earth. He argues that natural occurrences can be controlled by biological processes, and that the earth is a coherent system of self-regulating life. 272 pgs. paper.

**To Order:** List the items you are ordering along with your name and complete mailing address. Include a shipping fee of \$3 for the first item, and \$2 for each additional item. Checks payable to: "AAZK Book Sales" (**US FUNDS ONLY - NO CASH or CODs please.**) Call or fax for shipping fees when ordering from outside the continental United States *before* sending any money. We will help to find the best form of shipment.

**Mail requests to:** AAZK Beardsley Zoo Chapter, attn: Linda Tomas, 1875 Noble Ave., Bridgeport, CT 06610-1600. **Phone:** (203) 394-6563 **Fax:** (203) 394-6566

**E-mail:** beardsleyz@aol.com



*By Kayla Grams, Arizona-Sonora Desert Museum  
and Gretchen Ziegler, Sequoia Park Zoo*

**CATS:** We have a male Jaguarundi (*Felis yagouaroundi*) that lives in an old enclosure of about 2m x3m x2m (6.6 ft. x 9.10ft. x 6.6 ft.) surrounded by wire mesh, with an empty pool and a wall like-rock. He doesn't have any kind of enjoyment. The cat developed some stereotypic behaviors like walking from one side to the other or pacing too much during the day, considering that this is a diurnal cat. We decided to improve his life with methods of enrichment related with food items.

We use three methods: gelatin blocks, meat inside a tree trunk, and meat hung over a pool.

### **Descriptions**

- Gelatin blocks: we make the gelatin and once it is solid we put a piece of meat (0.2 kg) inside. The gelatin container is about 1 litre of capacity. Part of the meat could come out from one of the sides of the block so that the cat can see and smell it. He plays with the block until he gets the meat, the gelatin is almost frozen.

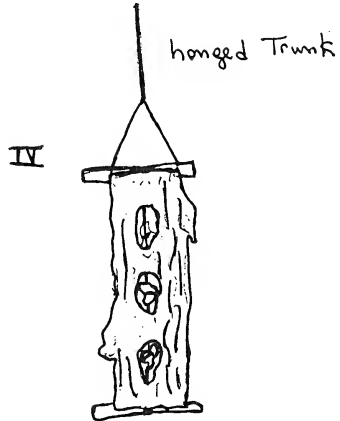
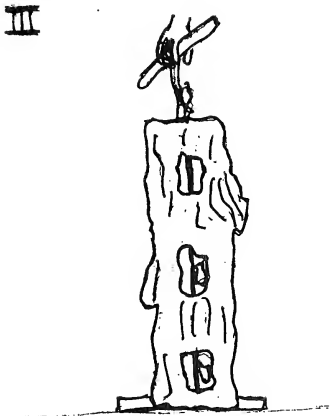
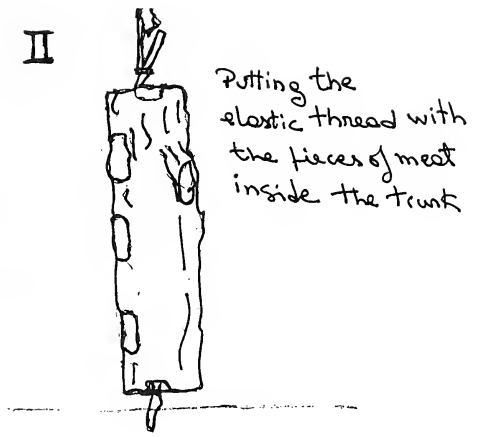
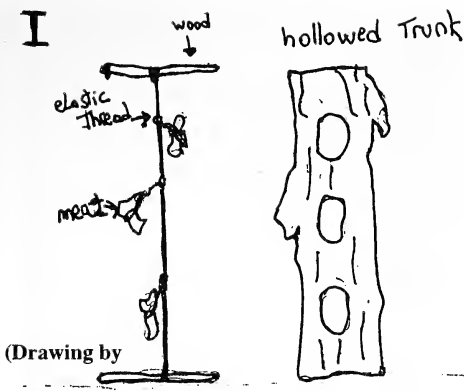
- Meat inside a tree trunk: we hollowed a trunk of about one meter in length (3 ft.), then we put three pieces of meat (30g approx. each one) tied with an elastic thread inside the trunk. The trunk is hung from the roof.

- Meat hung over the pool: five pieces of meat (0.1 kg) were put over a tree trunk in different places, the trunk was then hung over the pool.

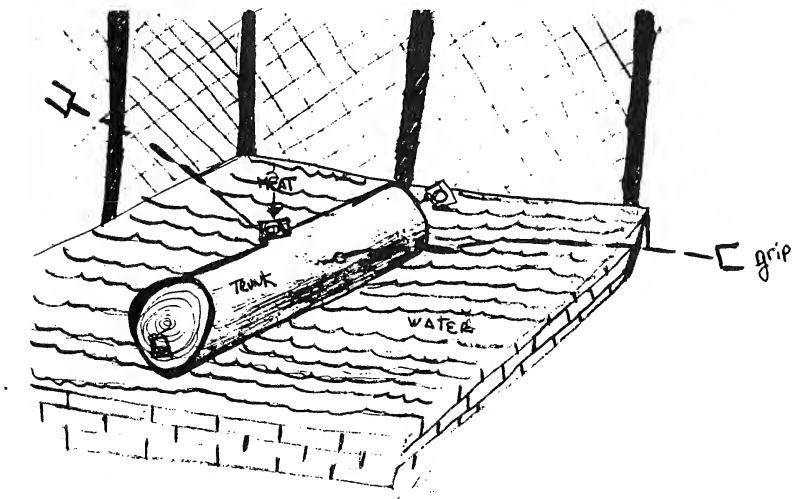
All these methods were successful; they proved to be a lot of fun during almost all evening. The time spent pacing was reduced; the inactivity as well and the stereotypic behaviors disappeared.

We think these method of enrichment are very useful for small felids, in the near future we will try to use them with the Geoffroy's cat and lynx.

*—Fernando Veron and Leandro Barrios, Nutrition Assistants  
Buenos Aires Zoo, Argentina*



**Above illustrations show how meat is hung on an elastic thread inside a trunk, which is then hung from the roof of the exhibit.** (Drawings by Fernando Veron)



**Above illustration shows tree trunk into which meat has been placed; then trunk is suspended over the exhibit's pool.** (Drawing by Leandro Barrios)



**A jaguarundi enjoys  
enrichment at the  
Buenos Aires Zoo.**

*(Photo by Leandro Barrios)*

*(Ideas appearing in this column have not necessarily been tested by the editors for safety considerations. Always think ahead and use good judgement when trying new ideas. Eds.)*

*You are invited to submit material for the Enrichment Options Column. This might include recipes, toys, puzzle feeders, olfactory enrichment ideas, etc. Drawings and photos of enrichments are encouraged. Send to: AKF/Enrichment Options, 635 S. W. Gage Blvd., Topeka, KS 66606-2066.*

**Visit the new AAZK Enrichment Website - [www.enrich.org/aazk](http://www.enrich.org/aazk) or  
join the Enrichment Listserv by e-mailing - [jackbell@humboldt1.com](mailto:jackbell@humboldt1.com)**



# New Bat Publication Available



"Captive Care and Medical Reference for the Rehabilitation of Insectivorous Bats," by Amanda Lollar and Barbara French; a Bat World Publication. Hardbound, 329 pages, 186 photos, 60 diagrams. Price - \$45.00 ( plus \$5.00 shipping and handling USA; outside USA - \$5.00 bookrate, \$15.00 airmail.

The book contains the following information: Introduction (Natural History of Bats, Wildlife Rehabilitation Permits, Rabies, Histoplasmosis, and Special Health Precautions). Identification (Species, Age, Roosting Behavior of Crevice Dwelling and Foliage Roosting bats). Protocol for Interacting with the Public, Requirements for a Properly Equipped Bat Rehabilitation Facility (Facility, Supplies, Pharmaceuticals), Quarantine Considerations, Caging (Transport Carriers, Permanent Caging for Adult Crevice Dwelling and Foliage Roosting Bats, Flight Cages (Indoor and Outdoor), Infant Caging (Crevice Dwelling and Foliage Roosting), Feeding Adult Bats (Mediums, Hand Feeding, Blended Mealworm Mixtures, Teaching Adult Bats to Self-Feed, Feeding Crickets, Water Routines), Feeding Infants and Juveniles (Feeding Orphan Pups, Infant Bat Formulas, Introductory Level Formula, Intermediate Level Formula, Complications including Bloat and Metabolic Bone Disease), Bathing and Grooming Procedures, Initial Rescue, Diagnosis and Treatment, Examination, Deferential Diagnosis Chart, Dehydration and Fluid Replacement (Oral Hydration, Hydration by Subcutaneous Injection), Shock, Wing Injuries (Membrane Tears, Closed and Open Fractures, Stabilizing Compound Fractures with Skin Adhesive, Intramedullary Pinning of Humeral and Radial Fractures, Fracture Rehabilitation Prior to Release, Injuries to the Shoulder, Elbow, and Wrist Joints, Amputations), Back and Leg Injuries, Foot and Toe Injuries, Joint Swelling, Blunt force Trauma, Respiratory Disorders (Aspiration, Pneumonia, Punctured Lung), Heat Exhaustion/Heat Stroke, Electrical Shock and Burns, Insect Stings, Adhesive Contaminants, Skin Conditions, Parasites, Digestive Disorders (Gastritis, Diarrhea, Loss of Appetite), Anemia, Infections of the Gums and Teeth, Urinary Tract Infections, Eye Infections, Injuries to the Ear, Bite Wounds, Pesticide Poisoning, Rabies (Human Exposure/Bat Bites, Clinical Signs of Rabies in Insectivorous Bats), Injection Technique, Oxygen Therapy, Anesthesia, Antibiotics and Other Medications (Antimicrobial Therapy, Medications; Uses and Dosages), Caring for Pregnant and Lactating Females (General Information, Caesarean Section and Ovariohysterectomy), Hibernation, Marking of Bats (Acceptable Marking Methods Used by Rehabilitators, Other Marking Methods), Release of Rehabilitated Bats, Care of Non-releasable Captive Bats (Quality of Life, Roostmates, Reproduction; Orchiectomy), Geriatric Bats, Daily Examinations, Euthanasia and Guidelines for Educational Programs using Live Bats.

The Appendix includes the following: State Information on Wildlife Rehabilitation Permits, Bats by State, Weight Chart and Forearm Measurements, Diets, Dental Chart, Number of Young, Hibernation and Roosting Patterns, Roosting Associations Between Species, Pronunciation of Scientific Bat Names, List of Veterinarian Contacts, Product List and Metric Conversions.

Both credit cards and checks are accepted. Credit card orders can be e-mailed to [batworld@wf.net](mailto:batworld@wf.net), or faxed to (940) 325-3404 between 5:00 and 6:00 AM or PM central standard time. Checks should be made out to Bat World and sent to 217 N. Oak Avenue, Mineral Wells TX 76067.

# Caught in The ACT!

By Michelle Pywell, Senior Keeper  
Colchester Zoo, Maldon Road,  
Stanway, Essex CO3 5SL, England

Humboldt penguins (*Spheniscus humboldti*) pair up for life and are devoted to each other until 'death do us part', or so I was led to believe!

At Colchester Zoo we house 26 Humboldt penguins, including our six breeding pairs. Every morning the pairs guard their boxes and go through complex courtship rituals to renew their bonds, so I never doubted their monogamy (a breeding unit of one female and a male).

That is until I caught "Baldy Man", our male in next box #3, copulating with "Wellemy", a lone female, and then going back to his mate.

Both females have laid their eggs and Baldy Man is sharing in the incubation of his mate's eggs, but alas, Wellemy is on her own incubating them 24 hours a day. We feed her on the nest twice a day and she is coping well.

Has this behavior been observed in other collections? I would love to hear from anyone who has experienced this phenomenon.

Here's a note on the enrichment we provide for our Humboldts.

As we already know, environmental enrichment plays an important role in the welfare of the animals in our care. The more intelligent the animal, the more specialized the enrichment becomes. But I feel that sometimes the smaller, less intelligent animals like sea chickens (oops, sorry, I mean Humboldt penguins) are forgotten.



As our colony is so large they interact with each other, a very important way of stimulating them mentally and physically. Now is a very busy time for the birds as they gather nesting materials, dig holes in the sand and protect their nest sites from those large, unsightly intruders (us)!

Their young spend time interacting and humoring visitors as they race up and down the viewing windows, then get too excited and porpoise out of the pool, often into the rocks, which they seem to enjoy!

Despite these forms of enrichment, we also provide them with plastic balls (just larger than a tennis ball). The penguins took a couple of days getting used to them before

they started to throw them up into the air, chasing them around, and knocking them in and out of the pool.

Pumpkins were also a great hit. They shredded them within hours until only the core was left. However, they showed no interest in lettuce at all.

We provided wooden rafts which they used for a short while, sitting on it, porpoising onto it and collecting fish from it.

Cardboard boxes, large enough for them to enter, proved a great hit and they enjoyed exploring them, shedding them for nesting materials and using them as holiday homes. We weigh the boxes down with large rocks!

All these items were introduced at random times. CAUTION: Please be careful when using these objects as penguins inject some objects, and suffer from stress, so observation is needed. Items can also block filtration systems; however, the only problem I have encountered is when lettuce and pumpkins gave our visitors the impression that this was part of our penguins diet. To counteract this incorrect impression, notices were put up explaining environmental enrichment.

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## Great Ape Web Sites

If you have an interest in the great apes, you might want to get more information by checking out the following web sites:

- To find out what research is being done in Africa, go to [weber.ucsd.edu/~jmoore/apesites/ApeSite.html](http://weber.ucsd.edu/~jmoore/apesites/ApeSite.html). For a list of lites, try [www.primate.wisc.edu/pin/behavior.html](http://www.primate.wisc.edu/pin/behavior.html).
- Information on bonobos or pygmy chimps can be found at the Bonobo Protection Fun's website at [www/gsu.edu/~wwwbpf/bpf/](http://www/gsu.edu/~wwwbpf/bpf/)
- To learn about the habits of chimpanzees go to [www/tc/umn.edu/~joha0103/chimp.html](http://www/tc/umn.edu/~joha0103/chimp.html).
- To find out about the mountain gorilla in Bwindi-Impenetrable National Park in Uganda go to [www.rcf.usc.edu/~stanford/bigape](http://www.rcf.usc.edu/~stanford/bigape).
- Gorilla Online ([www.selu.com/~bio/gorilla](http://www.selu.com/~bio/gorilla)) provides data and an excellent list of sites.
- For Orangutan enthusiasts, visit the Orangutan Foundation International's website at [www.ns.net/orangutan/index1.html](http://www.ns.net/orangutan/index1.html).
- The Great Ape Project, an organization dedicated to expanding fundamental human rights and moral protections to include the great apes has a website at [www.enviroweb.org/gap/gaphome.html](http://www.enviroweb.org/gap/gaphome.html).

--compiled by Robert Anderson in *Natural History* March 1999, vo. 108, No. 2

# Legislative Update

Compiled by Georgann Johnston  
Legislative Advisor  
Sacramento, CA



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## Ivory Auction Concerns Conservationists

On 13 April 1999, the government of Zimbabwe auctioned 20 tons of existing ivory stock to various Japanese buyers. The auction was authorized by a vote taken at the last meeting of the member countries of CITES, held in the summer of 1998. Proponents of the auction process argued that it is better to sell off ivory stores rather than destroy them, since making this ivory available to the public will keep living elephants from being destroyed for their tusks. On the other hand, opponents of the auction claim that any reopening of the trade in ivory could eventually lead to an increase in poaching, particularly when stored supplies run out.

The Environment and Tourism Minister for Zimbabwe, Simon Moyo, said at the conclusion of the auction that 18 buyers, all from Japan, had been the successful bidders for the ivory. However, he declined to state the amount of money generated by the sale citing an agreement between the governments of Zimbabwe and Botswana. Botswana was set to hold a similar sale of stored ivory within a week or two of this one. Moyo further stated that the money from the ivory sale would be used for conservation purposes and to help ensure the survival of over 70,000 elephants now living in that country.

In response to Moyo's comments, a representative of CITES stated that his organization would be monitoring the funds to see if they are actually used for wildlife management and would also try to ascertain if there was any significant increase in poaching.

Source: *South African Star Newspaper* 14 April 1999

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## Cockatoos Under Attack in Australia

The government of Victoria, Australia has recently authorized the use of a variety of pesticides to control populations of cockatoos. Farmers, particularly those who grow grain crops, believe that they lose a large portion of their harvest each year to these birds and sought help from the government in lifting a ban on the use of pesticides as a means of controlling bird populations.

Opponents of the new plan point out that by reducing the restrictions on pesticide use and lowering the reporting requirements, landowners will be given *carte blanche* to use whatever means they see fit to control the birds they believe are destroying their crops. Even more importantly, the new regulations do not take into account the fact that other animals besides the target species (cockatoos) will consume the poisons. Conservation groups worry that some farmers will see the loosening of restrictions as a means to also kill off other alleged pests such as wallaroos, kangaroos, parrots, corvids and grain-eating waterfowl. Additionally, it is unknown what impact the increased use of pesticides will have on rodents and smaller passerines (songbirds) or on raptors.

The Minister of Land Use for the government of Victoria has issued a statement saying that the agency will increase monitoring efforts to see that the newer pesticide use rules are not abused. However, conservation groups counter this statement by pointing to recent statements from the same agency indicating that a lack of funding makes monitoring of pesticide use almost impossible.

A report issued in 1995 by the Environment and Natural Resources Committee of the Parliament of Victoria found that poisoning was an ineffective method for controlling bird pests and that procedures such as trapping, relocation and even humane euthanasia were better alternatives. Bird Australia, a leading conservation group in Victoria, has issued a request to Parliament to review the action taken by the Ministry of Conservation and Land Management and reinstate the more stringent guidelines mandated by the 1995 survey concerning the cockatoo pest problem.

*Source: Bird Australia Press Release 8 April 1999*

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### **Orcas Given Threatened Status in Canada**

The Canadian government will list Orca populations found off the western coast of British Columbia as a threatened species. While Canada has yet to adopt a formal endangered species act, the government does engage in a less-than-formal listing of species whose existence is somehow threatened by activities in that country. John Ford, a spokesperson for the Vancouver Aquarium stated that the major threats to the orcas are dwindling salmon runs and ecotourism. "Putting the orcas on the list is good because it means they're under a more watchful eye," said Ford. However, Ford also admitted that he was unsure of the level of protection that could be given to this species due to the lack of a formal federal law that could be enforced against those who might bring harm to the animals.

*Source: GREENLines, published online by Defenders of Wildlife, 28 April 1999*

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### **Grant Proposals Solicited for African Elephants Conservation**

The U.S. Fish and Wildlife Service Office of International Affairs has issued a notice soliciting grant proposals for the conservation of the African elephant throughout its natural range. Grants will be given to programs that assist in the development of local ability to manage or conserve elephants in their native habitat, for research regarding elephants in the wild, or for proposals to protect the animals through funding for training and equipment.

The grants are funded pursuant to the African Elephant Conservation Act of 1988. As of July 1998, the USFWS has funded 59 projects in 19 African countries with over \$6 million of combined taxes and matching funds from corporate and private sponsors. In order to be considered for a grant, the application must meet these general goals as stated by the USFWS: "protection of at-risk elephant populations; habitat/ecosystem conservation and management; applied research on elephant populations and habitat including surveys and monitoring; conservation education; protected area/reserve management in important elephant ranges; development and execution of elephant conservation action plans; and efforts to decrease human-elephant conflict."

Proposals can be submitted throughout the remainder of calendar year 1999 and

projects with a budget of less than \$75,000 will be given priority. Further information about the grant requirements and application forms may be obtained by contacting Dr. Richard Ruggiero, Staff Biologist, USFWS, 4401 N. Fairfax Dr. ARLSQ 730, Arlington, VA 22203-1622, (703) 358-2460.

*Source: African Wildlife News Service Web Page, 1999*

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### **Standards Proposed for "Dart Safaris"**

The Endangered Wildlife Trust, a non-governmental organization that monitors wildlife-related activities in South Africa has issued a position statement regarding the licensing and operation of so-called "dart safaris" in that country. By definition, a dart safari is a hunting activity that culminates with the "hunter" shooting the target animal with a tranquilizer dart as opposed to a bullet or arrow. In many countries, dart safaris are carried out by both private and governmental organizations for purposes of collecting data, marking, and otherwise examining wildlife species such as elephants, rhinos, cheetahs, jaguars, lions and buffalo. The "hunters" achieve their desire to track and shoot big game while scientists and veterinarians are able to capitalize on the immobilized animals to gather important biological data.

Currently, South Africa has no organized set of rules or regulations for these safaris and they are operated by various hunting operators without adequate medical or scientific supervision. As an example, one hunting operator, Safari Club International, has arranged for the hunter and his/her prey to be entered into the SCI trophy book. Conservationists, including the Endangered Wildlife Trust, are concerned that proper precautions are not being taken on these hunts and that animals may end up wounded or killed because of improper tranquilizer doses and inadequate supervision during recovery.

Therefore, the EWT is proposing that the South African Parliament pass legislation which would regulate these dart safaris to protect wildlife and coordinate efforts with legitimate scientific wildlife researchers. However, as of this writing no member of Parliament has introduced the requested legislation.

*Source: WildNet Africa Online News Service 15 April 1999*

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### **Arctic National Wildlife Wilderness Bill Pending in Congress**

A bill was recently introduced into the House of Representatives (H.R. 1239) for the purpose of protecting a portion of the Alaska wilderness. The bill, called the "Morris K. Udall Wilderness Act", would designate 1.5 million acres of coastal plain in the Alaskan Arctic National Wildlife Refuge as protected for purposes of prohibiting oil exploration and drilling in the area. Congressman Bruce Vento stated in opening remarks to the House concerning the bill that its purpose is to preserve the "coastal plain's virgin land" which provides a home for 150,000 Porcupine Caribou and approximately 200 other species of wildlife. At this time, there is no mention in the bill itself as to how the program will be funded.

*Source: Congressional Record 23 March 1999; GREENLines, published online by Defenders of Wildlife, 26 April 1999*

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### **Namibian Government Rejects Dumping of New York Garbage**

A proposal to transport more than 12,000 tons of nontoxic domestic solid waste from New York to Namibia for disposal has been strongly opposed by both the

Namibian government's environmental agencies and private conservation organizations as well. A private waste disposal company, EnviroServ, planned to ship the garbage through the port of Walvis Bay and on into Namibia, where it would be stored and eventually incinerated.

The Namibian Ministry of Environment and Tourism said that dumping foreign waste in that country is "completely out of the question." The Ministry pointed to the adverse effects that such dumping could produce, including the production of dioxins and other hazardous chemicals that are a byproduct of incineration, as one basis for denial of EnviroServ's request.

Upon learning of the plan, the New York Department of Sanitation turned down EnviroServ's proposal because the company had not attended mandatory environmental conferences. Additionally, a spokeswoman for Earthlife Africa (a private conservation group) stated: "Developing countries should not be regarded as a big carpet under which industrialized countries can sweep their waste management problems."

*Source: African Wildlife News, published by the African Wildlife Foundation, Spring 1999*

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### **Oil Leaves Cancelled for Beluga**

ABC News Online 4/21 reported a judge eliminated future oil and gas leasing in certain areas of Alaska's Cook Inlet to protect the beluga whale. The Cook Inlet beluga is being considered for protection under the Endangered Species Act after populations declined by 50% since 1994.

*Source: GREENlines Issue # 866 4/27/99*

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### **Condor Killer Pleads Guilty**

The US Fish and Wildlife Service announced 4/29 an Arizona resident plead guilty to killing an endangered California Condor in Grand Canyon National Park. Ronald Tenney Owens was fined \$3,200 and was ordered to perform 200 hours of community service in the park.

*Source: GREENlines Issue #871 5/5/99*

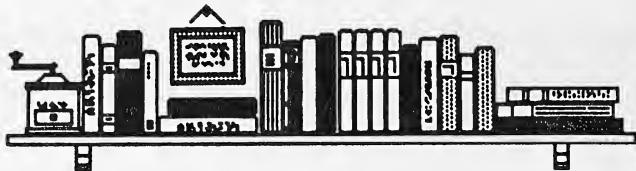
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### **Japan Seeks to Abolish whale Sanctuary**

The Environmental News Network 4/7 says Japan will introduce a motion at a meeting of the International Whaling Commission to abolish the Southern Ocean whale sanctuary. Japan is currently allowed to kill between 300-400 whales for "scientific" purposes in the sanctuary. Environmentalists have long claimed the program is an excuse to continue whaling. Darren Gladman of Greenpeace said, "This proposal shows Japan's true intention is to expand its whaling operations."

*Source: GREENlines Issue # 856 4/14/99*

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# Book Review

## **Alaska's Bears**

Vol.20, No. 4 (dated 1993) of the quarterly journal *Alaska Geographic*

Pages 4-93 devoted to bears, plus one page of bibliographical notes

Various authors and photographers; general editor Penny Rennick

Softbound, 10.75in x 8.25in format, many color photos.

The Alaska Geographic Society, P.O. Box 93370

Anchorage AK 99509-3370;

email: akgeo@customcpu.com

*Review by Anders Wirth, Relief Keeper,  
and Ann Kilby, Zoo Volunteer  
Sequoia Park Zoo & Aquarium, Eureka CA.*

As a bear enthusiast, I always welcome another chance to read about, and revel in fine photographs of, free-living wild bears. On the other hand, although I received the monograph recently, it was published five years back, and I am left to wonder what the authors might wish to add or change in their excellently-written articles had they been writing more recently. Nonetheless, I certainly find it worthy of attention.

Should you happen to be an authority on wild bears, or an authority-in-training, you would probably not need to read the text in this one, but would mainly enjoy the illustrations. Even zoo professionals who work with some number of bears, or who have traveled and/or read extensively, may not find much new information here. For other folks, articles on "Black Bears", "Brown/Grizzly Bears", and "Polar Bears" provide finely-crafted introductions both to the wild bears as natural beings and to issues that Alaska wildlife professionals consider central in their efforts to preserve their wild bears and ecosystems. (We use the possessive "their" advisedly---these folks have invested their full attention and commitment to this stewardship for man years.)

The section on "Bear-Viewing" covers experiential and logistic information (the latter may or may not still be accurate) about five public bear-viewing areas, located in diverse areas: Anan Creek, Pack Creek, O'Malley River, Brooks River, and McNeil River. The author of "Bears and Humans" concisely addresses the vital subject of coexisting with actual bears you may come nigh, using a variety of information to illustrate what you need to keep in mind: the spontaneity and wildness (as opposed to nihilism or viciousness) of free-living bears, who always expect to pursue their own purposes and to do what they see fit to do; and the ways people need to be practical in compensating for the communications gulf resulting from the differences between humans and bears.

Two concluding articles focus on researchers LaVern Beier and Don Young, briefly introducing the fascinating work each of their teams had in progress at that time on Brown Bears (I hope to find some publications in the university library



to tell me what they found out over the intervening years.) The beautiful photographs featured throughout are well-reproduced, and the layout artist has achieved the effect, admirably in a constrained format, of making the pictures appear big. Many shots feature active animals in accurate proportion to huge habitat areas---that is, that we see bears really living.

*Alaska's Bears* is available as a back issue of *Alaska Geographic*, and AKF readers may also be interested in others of their monographs, which have been published quarterly since 1972. For comparison with *Bears*, and so that we could form a more general impression, the staff furnished us with copies of three other issues: *Alaska's Magnificent Eagles* (1997:Vol. 24, No. 4); *Moose, Caribou and Muskox* (1996: Vol. 23, No. 4); and *Whales and Whaling* (1976:Vol 5, No. 4). All were well done. . The list of back issues furnished shows dozens of titles, many focused on specific regions or ecosystems, many others on various human enterprises or cultural subjects. An attractive, concise guidebook, *Mammals of Alaska* (1996), available from the same folks, gives a synopsis of each species or group of useful information for wildlife viewers. Members of The Alaska Geographic Society receive a 20% discount on publication orders, as well as receiving four current issues each year (membership is \$49.00).

### **ORCA: Visions of the Killer Whale**

By Peter Knudtson 1996

Greystone Books, a division of Douglas & McIntyre, Inc.

1615 Venables St., Vancouver, BC V5L 2H1 Canada

Hardback 110 pgs. 55 color photographs \$27.50

*Review by Colleen McNamara, Zookeeper  
Lowry Park Zoo, Tampa Bay, FL*

ORCA: Visions of the Killer Whale is written by Peter Knudtson. He has used, with permission, quoted material from The Religion of the Kwakiutl Indians, which was published in 1930 by Columbia University Press.

Discussed in the introduction is the understanding that this book was written to provide a clearer understanding of the orca. Each chapter discusses a different aspect of the killer whale. Chapter 1 discusses the native cultures of the Pacific Northwest and their relationship with the orca, in legend and religion.

Chapters 2, 3 and 4 talk about the evolutionary origins of the killer whale, the physiological and behavioral adjustment to aquatic life, and the orca's complex social organization. In Chapter 5, the reader learns about topics such as the killer whale's brain, senses, and echolocation apparatus.

An essential part of this book lies in the beautiful photographs. Kelley Balcomb-Bartok, Jim Borrowman, Chris Cheadle, Adrian Dorst, Jeff Foott, John Ford, Victoria Hurst, Thomas Kitchin, Frans Lanting, John Murray and Flip Nicklin are responsible for the very real and up close shots of the killer whale.

*ORCA: Visions of the Killer Whale* was written by the author to gain personal satisfaction as a writer and as a biologist who once studied marine mammals. Although the book has beautiful photographs, some of the text is somewhat difficult to understand.

# 1998 Conference Proceedings Order Information

If you are interested in obtaining a copy of the Proceedings containing the papers presented at the joint National Conference between AAZK, Inc., The Elephant Managers Association and the Association of Zoological Horticulture which was held in Indianapolis, IN, you will need to fill out and return the form on the next page. This is a unique opportunity to purchase a publication with papers from three separate organizations included. All orders **must** be prepaid in U.S. Funds ONLY. Allow 2-4 weeks following order for receipt of publication within U.S. Overseas orders will take longer by surface post. Prices are as follows: AAZK Member **\$25.00** Non Member **\$40.00** Postage for U.S. orders is included. Canadian and overseas orders should add \$5.00 for air mail postage to Canada and surface postage elsewhere. Overseas orders wishing air mail service should add \$10.00. Make checks or money orders payable to AAZK, Inc.

**Note:** Because of a one-time grant secured by the Indianapolis Conference Committee, all full-registration delegates will be receiving a copy of this Proceedings gratis. Day registrants or those who did not attend the Conference but wish a copy of the Proceedings, will need to order one.

**The following papers are included in the Proceedings:** If I Ran the Zoo, I'd Get Into In-situ; Savanna Flora of Kenya and Tanzania; Uganda Wildlife Education Centre Exhibit Design and Objectives; **AAZK Sessions:** Rhino Conservation Programs in S.E. Asia - IRF & Partners; 1998 Bowling for Rhinos - A Million Dollars Later; A Conservation Masterplan for the Kansas City Chapter of the American Association of Zoo Keepers; Developing a Hippo Skin Tissue Biopsy Dart; When Things Go as Planned: Introducing an Unrelated Ten Month Old Hippo to an Established Pair of Over Forty Years; It's Great to be a Keeper; Review of Fine Avian Abodes; Environmental Enrichment on a Seasonal Basis for Sub-antarctic and Sub-arctic Seabirds at SeaWorld, San Antonio; Conservation at Moody Gardens: Exhibiting Two Fragile Ecosystems; The Forgotten Wallabies of New Zealand; The Ramsey Canyon Leopard Frog: Working Together to Help Preserve an Endangered Species; Breeding Rhinoceros Hornbills; Chilean Flamingo Breeding....A Natural Progression; Treatment of Severe Contracture of the Flexor Tendons in a Reticulated Giraffe (*Giraffa camelopardalis reticulata*) or "Reconstructing Sudi"; Principles of Animal Training Workshop; Giraffe Training Program at Milwaukee County Zoo; Target Training Malayan Flying Foxes (*Pteropus vampyrus*): A Beginners Perspective; Enrichment Is for Everyone in Detroit; Training for the Trunk Wash at the Indianapolis Zoo; **EMA Sessions:** T.B. Training at The North Carolina Zoo; Managing a *Mycobacterium tuberculosis* Positive Elephant at the San Francisco Zoo: "A Pain in the Butt for Her and Us!"; Emmett Exits; The Transport of "Kiba Mampe" from the Houston Zoo to the Berlin Zoo or "Jumbo in the Jumbo" (When Elephants Fly); Loading and Unloading Elephants at Knoxville Zoo; A Global Elephant Network; Five Years of Teaching and Learning at our Elephant School; Elephant Management at Disney's Animal Kingdom: Turning Challenges into Successes; Manual Collection of Semen from Elephants; Ganesh: "King of the Queen City"; Birth of African Elephant Breeding Facility; *Salmonella typhimurium* in 0.3 African Elephants at the Oakland Zoo; Pack Your Trunk for Africa; One Thousand Years of Military Elephants; **AZH Sessions:** Horticultural Options for Fruit Bat Enrichment; Take a Butterfly to Lunch; Vegetation Management Study and Guidelines for the Ravine Garden at the Indianapolis Museum of Art; Northern Temperate Forest Planting Project for the Kids Kingdom; Tree Care & Holiday Lighting Program; Siting and Managing Bamboos in a Zoo Environment; Dangerous Animal Response Team at the Cheyenne Mountain Zoo; Plants, Iguanas and Islands: A Zoo Horticulturist Visits Hispaniola; Cheyenne Mountain Zoo 1998 AZH Internship; Growth Chamber for Rare and Endangered Plants at Henry Doorly Zoo; Bring Back the Natives; **Workshops/Video Sessions:** AAZK Enrichment Video Session Synopsis; Browse/Enrichment Device Workshop Summary; Enrichment Discussion Group Synopsis; Mineral Composition of Selected Temperate Browsers Fed in Zoos; Listing of 1998 Conference Participants.

# 1998 Proceedings Order Form

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Feel free to photocopy this form for order placement. Phone orders may be placed at 1-800-242-4519 (U.S.) or 1-800-468-1966 (Canada) when using either a VISA or Mastercard credit card.

Once 1998 Proceeding copies are sold out, photocopies of individual papers will be available for \$3.00 each by contacting the AAZK Administrative Offices.

## ORDER NOW !

# Training an Asian Elephant for the TB Trunk Wash at the Little Rock Zoo

By  
*Megan Stringer, Large Hoofstock Keeper  
Little Rock Zoo, Little Rock, AR*

The Little Rock Zoo houses one female Asian elephant (*Elephas maximus*) named "Ellen." Although 47 years old, her repertoire of trained behaviors and verbal commands has been limited by years of inconsistent and poorly structured training programs. In 1997 USDA issued mandatory TB testing for captive elephants, and a trunk wash was attempted with Ellen by her handler (no longer a zoo employee). Ellen was terrified of the plastic Zip-loc® bag used to collect the wash sample and promptly ran out of the barn. Her keeper then chose to perform a different method, the trunk swab. The test results came back negative.

In 1998, the elephant program went through many changes, including all new handlers and a semi-protected contact training program. Five months after implementing this program, we began preparing Ellen for the TB trunk wash. Previously a skeptical and mis-behaved elephant, Ellen had become more manageable, trusting, and confident in her handlers because of the stability and consistency of the new routine. We first introduced her to a one-gallon Zip-loc® bag by placing treats into the bag. She was encouraged to reach in and grab the treat. We found individual leaves of lettuce were easiest for her to grab compared to pieces of carrot or apple which got stuck in the corners. Within minutes, Ellen had gotten over her fear of the bag and was reaching in for the treats. We spent five minutes a day for the next few days letting her grab treats out of the bag.

Next, we began handling Ellen's trunk. The trunk was held against our chest with the tip pointed up (Photo A). Ellen was rewarded whenever she allowed us to position her trunk upright for the test without pulling away. We then extended the amount of time we handled the trunk to include guiding the trunk downward with the tip pointing toward the ground. Once she was comfortable with having her trunk handled, a catheter tip syringe was used to inject 60 ml sterile saline into the trunk by a second keeper (Photo B). Ellen showed no resistance to the saline injected into her trunk. Her trunk was then guided so the tip pointed down and she was allowed to expel the saline onto the ground. We gave her the command to "blow" as she was expelling the saline. Ellen did not know the "blow" command previously, but quickly caught on after practicing with the saline.

The next step was to re-introduce the plastic Zip-loc® bag and pretend to collect a sample without using saline. After positioning the trunk upright, the plastic bag was placed over the tip, the trunk was guided to the downward position,

and the "blow" command was given. When Ellen exhaled into the bag, she was rewarded.



**Photo A**

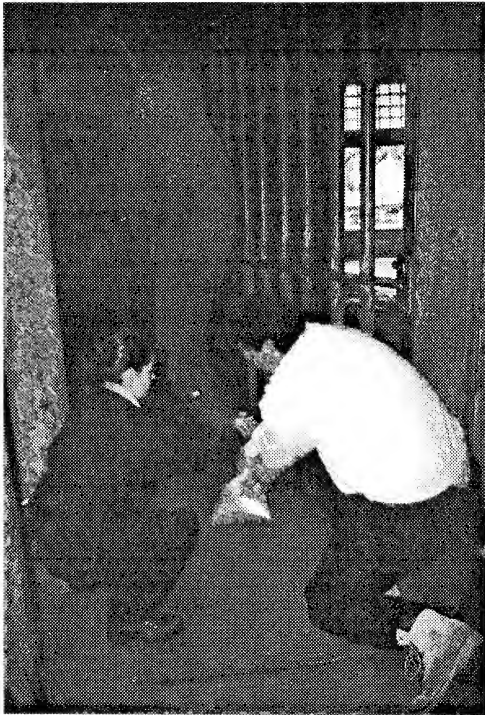
**In Photo A, Ellen learns to hold her trunk upright.**

**In Photo B, Ellen accepts a saline injection.**

*Photos by Karen Caster*



**Photo B**



**Photo C**

**In Photo C, Ellen blows saline into the plastic bag.**

We were then ready to combine all the steps and practice the complete test. The first keeper controlled the trunk, holding it in the upright position while a second keeper injected the saline solution (Photo B). A third keeper placed the bag over the tip of the trunk, and helped guide the trunk into the downward position (Photo C). Ellen would then blow on command and expel the sample into the bag.

As required by USDA, the trunk wash was performed on three different days during a one-week period, and in the presence of the zoo veterinarian. Water and food were withheld for four hours prior to testing. Ellen was restricted from the yard until after completion of the test. From each trunk wash sample, 20 ml was transferred and prepared for shipment by our veterinarian.

By breaking down the steps of the TB trunk wash as described above, we were able to train our Asian elephant, Ellen, to accept the trunk wash method within approximately three weeks. We efficiently collected the samples with her full cooperation — a dramatic improvement from the previous year. We are waiting for the results and hope they will be negative; however, training for the test was positive!

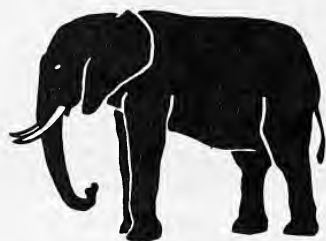
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## European Elephant Keeper and Manager Association

The European Elephant Keeper and Manager Association (EEKMA) was founded early in 1998 to create a platform for elephant keepers and to represent their interests, to develop Europe-specific elephant management concepts, to improve reproductive efforts, to support training programs and continuing education for elephant keepers, to promote the need for species preservation through research and to be active in the field of public education. It now has more than 100 members in Europe as well as a few in the U.S., Australia and South Africa. A quarterly newsletter, *Elephant Journal*, is published in both German and English editions.

An important recent development is that EEKMA, the Elephant Managers Association in the U. S. (EMA), and the Elephant Management and Owners Association of South Africa have collaborated to establish an information platform, the Global Elephant Network (GEN).

Membership fees for 1999 are as follows: Full members DM35; Associate member DM 30; Institutions DM 50; Supporting members DM 200. For further information, please contact: Harald M. Schwammer c/o Schönbrunn Zoo, Maxingstrasse 13b, A-1130 Vienna, Austria (tel. +43 1 877 9294-66; Fax +43 1 877 9641; E-mail [hschwammer@zoovienna.at](mailto:hschwammer@zoovienna.at)).



--from *International Zoo News*, March 1999, Vol 46/2 (no. 291)

## New Zealand Bill Proposes Rights for Apes

According to the 11 January issue of the *Electronic Telegraph*, the New Zealand Parliament was then about to vote on a bill that would accord the equivalent of human rights to gorillas, orangutans and chimpanzees. Such a law would all but protect them from all but the most benign experiments and provide them with the legal right to life and not to suffer degrading or cruel treatment.

There are no chimpanzees in New Zealand laboratories and only 28 chimps and six orangutans in zoos and entertainment facilities. However, the bill sponsors and supporters, mostly affiliated with the Great Ape Project, hope that it will set a precedent for worldwide protection of apes by the United Nations.

David Penny, biologist for Massey University, is leading the campaign. He commented: "The idea is to set a precedent that other countries can follow."

The *Telegraph* quoted Frans de Waal, who studies primate behavior at the Yerkes Primate Center in Atlanta, GA, as opposing the idea of legal rights for great apes because "If you argue for rights on the basis of continuity between us and the great apes, then you have to argue continuity between apes and monkeys."

De Waal felt that the logic would result in laboratory rats eventually having "human" rights.

Taking a different position to De Waal was Jane Goodall, who commented: "One has to make a start to break the arrogant perception that most people have that we are totally different."

Commenting in the 13 February issue of the scientific magazine *New Scientist*, author Rachel Nowak states: "The [New Zealand] law could have an impact in the U. S. Here, around 1700 chimps are kept for experimental use, mainly for testing vaccines against viruses like HIV or hepatitis, although only a small fraction are used at any one time. Moves are afoot in the U. S. to win legal rights for these animals—not by introducing a new bill, but by setting a precedent through a carefully chosen lawsuit on behalf of a chimpanzee. If chimps in New Zealand have legal rights, it might just persuade a judge in the U. S. to grant similar rights to their American cousins."

—from *International Primate Protection League News* - April 1999, Vol. 27, No. 1

### *Gorilla E-Group Established*

Jennifer Chatfield has started up an egroup for gorilla keepers. Those interested can subscribe by sending a blank message to:

<gorillakeepers-subscribe@egroups.com>.



# Gorilla Sanctuary Hires Project Manager

## *Gorilla Haven*

Gorilla Haven (GH) has announced the hiring of British gorilla expert, Peter Halliday, as Project Manager/Director of Animal Care. Peter managed the world's largest collection of gorillas at John Aspinall's Howletts and Port Lympne zoos in England. With 25 years experience, including group formations and exhibit design, Peter is uniquely qualified. He was responsible for almost 60 gorillas when he left Howletts & Port Lympne in 1997, to get his Masters Degree (with Distinction) in Conservation Biology.

Set amid the North Georgia (Blue Ridge) Mountains on 275 acres of wooded slopes and stream-filled valleys, and privately funded by the Dewar Wildlife Trust, a 501 (c)(3) and Georgia non-profit corporation, Gorilla Haven will provide holding facilities for gorillas which owner institutions may otherwise house off-display. The intention is to build a world-class facility which will not be open to the public and focus on research into building bachelor groups in conjunction with evaluating and meeting individual animals' specific needs.

Gorilla Haven will accept any gorilla, regardless of gender, age, behavior or disability. The Gorilla SSP and zoos will still control/own any gorilla at Gorilla Haven. GH will simply be an adjunct to the zoo world, helping ensure all gorillas in captivity are in the best possible situation. Particular emphasis will be placed on enrichment, with choice and control over their environment. Large enclosures, temperate climate and superb natural settings should guarantee a quality lifestyle for all gorilla guests, whether temporary or permanent.

Construction of Phase I should begin during the summer of 1999, with the goal of being ready to house gorillas by the end of 2000. Since GH will not be opened to the public, there is the unique opportunity to design facilities with gorilla and animal caregiver needs as top priorities. GH invites comments and suggestions from all caregivers or people working with or studying gorillas. For more information, see Gorilla Haven's website at [www.gorilla-haven.org](http://www.gorilla-haven.org). Or e-mail [jdewar@gorilla-haven.org](mailto:jdewar@gorilla-haven.org). Or fax 706-374-4491.



# Chapter News Notes

## Rocky Mountain Chapter

Nineteen-ninety-eight was a productive year for the Rocky Mountain Chapter. We enjoyed several guest speakers, two special events and four successful fundraisers. Early in the year the Chapter sponsored Operant Conditioning classes for our keepers by Gale Laule of Active Environments. We were also very fortunate to have Dr. Biruté Galdikas, founder of The Orangutan Foundation International, here for an informal discussion with our members.

Our fundraising activities included a silent auction accompanied by a lecture by Dr. Jim Sanderson, founder of Proyecto Guigna (the Guigna is an endangered felid from South America); Keeper Lectures for the zoo membership, offering Operant Conditioning classes for university students; and selling custom T-shirts.

In turn we donated over \$46000.00 to various conservation organizations. Ngare Sergoi, The Rocky Mountain Arsenal Wildlife Refuge, Proyecto Guigna, The Orangutan International, and the Denver Zoo Docents were among those we were proud to assist.

We also purchased a second Conservation Parking Meter from the Center for Ecosystem survival, and will continue to maintain our Rain Forest Parking Meter as well as our new-Marine Conservation Parking Meter.

In 1999 we will be sending several keepers to AAZK, Elephant Managers Association (EMA) and International



Marine Animal Trainers Association (IMATA) conferences and holding many of the same fundraising events that worked so well in 1998. Goodluck and stay well in 1999!

Officers elected for 1999 are:

President.....Jan Collins  
Vice President.....Alex Saunders  
Treasurer.....Debbie Aden  
Secretary.....Mark Marciniak  
Chapter Liaison.....Melissa Glasser

## Los Angeles AAZK Chapter

Newly elected officers for the Chapter are:

President.....Ruthie Yakushiji  
Vice President.....Debbie Levy  
Treasurer.....Bruce Rawitz  
Secretary/Newsletter Editor...  
Erin Bright Fleming  
Supporting Members.....Kathy Nevins,  
Lois Carwile and Em Matthews

Nineteen-ninety-eight was a successful year in fundraising and donations. We were able to raise \$1700.00 to adopt acres of the Talamanca/Caribbean Biological Corridor in Costa Rica.

Our annual behind-the-scenes walk-thru raised over \$1500.00 that helped provide items to keepers and animals that otherwise could not have been provided through city funding.



We were also able to donate funds to several local organizations, such as the Nature of Wildworks (educational), D.E.L.T.A. Rescue (domestic animal shelter), and Chimpanzoo (conference).

We are looking forward to another year of interesting speakers and fun events.

--Erin Bright Fleming, Sec'y

### **Audubon AAZK Chapter**

The following members of the Audubon AAZK Chapter have been elected to serve as officers for 1999:

President.....Cyndi Ratliff  
Vice President.....Sheila Barrios  
Treasurer.....Diana Hollenbeck  
Secretary.....Kathy Barr

So far this year the Chapter has made donations to National AAZK, the AAZK Enrichment Committee, the Louisiana SPCA, the Dian Fossey Gorilla Fund International, The Nature Conservancy, National Geographic, the

World Wildlife Federation and the *Junior Keepers' Forum*.

In addition, we will be co-sponsoring a lecture visit to New Orleans by Putra Sastrawan, who is Dean of the College of Sciences at Udayana University in Bali, and is one of the world's leading experts on the Komodo dragon.

On tap for later this year is an art contest to provide us with a new Chapter logo. This contest will be open to staff and volunteers, as well as Audubon Institute members.

--Kathy Barr, Sec'y

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### **Magazine Requests Animal Related Courses, Internship Opportunity Info**

The electronic magazine, *Ark Animal Tracks*, is seeking information on courses offered by zoological gardens, aquariums, and educational institutions. Programs specifically related to training for animal careers, internship opportunities, and similar animal programs are sought.

Launched in April of 1997, the electronic magazine features articles on captive animal training, animal behavior, enrichment, conservation, and related topics. Content is geared to the general public. In 1998, visitor readership counts exceeded 500,000.

In 1999 the magazine expansion will continue and seminars will supplement the ongoing *Unusual Animal Career* article series. This can be found online at <<http://www.arkanimals.com>>. Institutions wishing to submit material for inclusion in the series should send the catalog or synopsis of the program, schedule of classes, and contact person to: Diana Guerrero, P. O. Box 1154, Escondido, CA 92033. E-mail contact: [arkabc@arkanimals.com](mailto:arkabc@arkanimals.com). Other animal-related articles of 1000 words or less are welcomed, but should be queried first.

*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the **10th of each month** to: Opportunity Knocks/AKF, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Please include closing date for positions available and when setting these dates keep in mind that because of bulk-mail, most readers do not receive the AKF until the middle of the month or later. There is no charge for this service and fax listings of positions which become available close to deadline are accepted. Our fax is (785) 273-1980.*

**ZOO KEEPER...**private, non-profit otter conservation facility for breeding and study programs, seeking dedicated individual for permanent position. Requires one (1) year experience with exotic animals; experience with mustelids preferred. Responsible for daily husbandry, maintenance of animal and grounds enclosures, diet preparation and record keeping. Experience with animal restraint and blood drawing preferred. Must be physically strong (able to lift 50lbs.) and work independently. Job is 40 hour work week, including some weekends and holidays. Benefits included. Send letter and resumé to: Otter Conservation Center, Inc., 250 Otter Conservation Road, Statesboro, GA 30458 or Fax to (912) 839-2551.

**ZOOKEEPER...**prefer AS/BS degree in biology/zoology-related field and minimum of one (1) year full-time paid experience in zoological institution. Ability to work in a harmonious manner with staff, volunteers and supervisors, work any of the seven days of the week. Responsible for daily routine animal husbandry, maintenance of exhibit and off-exhibit areas, record keeping, and assisting in veterinary practices. Day-to-day management of birds and/or mammals. Salary commensurate with experience, starting range \$20,000.00 to \$24,000.00 plus excellent benefits. Send resumé to: Cougar Mountain Zoo, 19525 SE 54th, Issaquah, WA 98027 Attn: Administrator, or Fax to (425) 392-1076. **Position open until filled.**

**ANIMAL KEEPER...**Lincoln Park Zoo seeks individual for full-time position. Responsibilities include, but are not limited to, animal care and observation, record keeping, exhibit maintenance, diet preparation, educational program participation, special event involvement. Experience with diverse collection a plus. Must be available to work all shifts, including nights. Successful candidate likely to have BS and previous experience in represented taxa. Comparable combination of education and experience may qualify an individual. Salary \$12.75/hr (after six-month probation @ \$11.48) plus benefits. Submit letter of interest and resumé to: Lincoln Park Zoo, HR Dept - Keep, P. O. Box 14903, Chicago, IL 60614 or Fax to (312) 742-2299. No phone calls please. EOE M/F/D/V

**CURATOR...**The Wildlife Discovery Program (a Houston I.S. D. Magnet School) is now taking applications for the 1999-2000 school year. The Curator position vacancy will become available 11 August 1999, and continue until 1 June 2000 (10 month contract/benefits). The duties of this position include planning and experiential instruction in an outdoor setting at the Houston Zoo to 3rd grade students. Requirements are two or more of the following: Two (2) years college (degree preferred); education experience; wildlife biology background; environmental/outdoor education experience; or summer camp counselor experience. Salary is \$1733.00/month for 10 months with benefits. **Applications will be accepted until 15 July 1999.** Applicants need to send a cover letter with their resumé and three (3) references to: Ms. Karyl Watz, Coordinator, Wildlife Discovery Program, 1513 North MacGregor Way, Houston, TX 77030 or e-mail : watz@tenet.edu

**AVICULTURIST...**Requires Bachelor's Degree, experience breeding captive birds, skill in interpreting bird behavior, aptitude for using video monitoring equipment, and ability to function in a close team. Part of a team responsible for the care and breeding of a flock of 100-120 cranes, mostly endangered species. Daily assignments include

routine husbandry/pen cleaning/behavioral and health observations of cranes; pen maintenance. Seasonal or periodic duties include helping with all aspects of crane breeding and rearing; educating the public; training interns/volunteers/foreign colleagues. Special responsibilities of this position include assisting with the behavioral management of the cranes; running crane flight demonstrations; maintaining ARKS database/crane behavior records/other records as needed; overseeing annual pen cleaning; deploying closed circuit TV cameras for behavioral monitoring. Salary \$18,000.00/yr. + benefits. Send letter/resumé/three references **postmarked by 25 June 1999** to: Scott Swengel, International Crane Foundation, P. O. Box 447, Baraboo, WI 53913. Fax (608) 356-9465. E-mail - ssw.e.icf@baraboo.com. No phone calls.

**AVICULTURE INTERN**...will receive intensive, hands-on training in the care and maintenance of a large bird collection. Will experience all aspects of bird husbandry including general cleaning, handling, incubation, record keeping, public education, etc. Seeking college students or recent graduate with an interest in avian management biology. Interns will work with the aviculturists for a three-month period. This is a volunteer position with on-site housing provided. Internships available year-round. Send a letter and resumé with references to: Tracy Aviary, 589 East 1300 South, Salt Lake City, UT 84105. ATTN: Kristine McCue/Holly Seitz.

**LEAD GARDENER**...Horticulture in Living Collections at The Phoenix Zoo. Will supervise gardeners and irrigation technicians. Reports to Curator of Horticulture. Full-time working supervisor position responsible for performing all gardener duties and coordinating the work of horticulture and volunteer staff with other zoo areas. BS in Horticulture or Associate Degree plus three (3) years experience or five (5) years supervisory experience or a combination ANA accreditation in plant care and irrigation; strong written and oral communication skills; ability to safely operate and maintain hand and power equipment; valid drivers license; ability to routinely perform heavy physical labor; ability to pass pre-employment substance and TB test; possession or ability to obtain certification from structural pests control commission. Duties include, but not limited to provide quality customer service to both internal and external customers, routinely schedule horticulture staff duties and supervise their performance, coordinate horticulture work with lead Keeper and Volunteer Coordinator; assist in hiring, training, disciplinary action, evaluations and termination of horticulture staff; perform regular horticulture maintenance and construction; perform as horticulture supervisor for special projects; perform basic maintenance of irrigation systems and supervise maintenance of system; oversee waterway and lake maintenance and maintain appropriate records; conduct acquisition of tools, materials and appropriate supplies; diagnose disease, pest and injury problems on plants and perform resolution, including provision of outside help as warranted; make decisions on pruning and plant removal, and monitor water usage as pertains to landscape. Salary \$31,702.00 to \$34,925.00. Send resume to : Personel Dept., The Phoenix Zoo, 455 North Galvin Parkway, Phoenix, AZ 85008-3431.

**EDUCATION INTERPRETER**...full-time position entails keeping duties for education animals, animal behavior training, training staff and docents on animal handling and public speaking, assisting with the development and implementation of off-site Zoomobiles, presenting on-site talks and other programs, planning and teaching ticketed classes, and assisting with various other education programs. Qualifications: energetic and engaging public speaking style, Bachelors degree in biology or related field, experience with childrens' programming and exotic animal husbandry. Some experience handling/training exotic animals required. Send resumé to Sacramento Zoo Education Department, c/o Education Director, 3930

West Land Park Dr., Sacramento, CA 95822 or Fax to (916) 264-5887 by **21 June 1999**.

**VETERINARY TECHNICIAN/HOSPITAL WORKER**...Gladys Porter Zoo is seeking qualified applicants for a full-time veterinary technician/hospital keeper position expected to be available August 1999. Job responsibilities include weekday and relief hospital keeper duties (cleaning, feeding, treatments, etc.), weekend and relief technician duties (clinical pathology, assisting with all procedures, radiology, etc.), MEDARKS data entry and maintenance of medical records. Prior technician, animal keeper and computer experience preferred. Wage is the mid-teens, plus benefits. Send resumé to: Teri Hermann, RVT, Gladys Porter Zoo, 500 Ringgold St., Brownsville, TX 78520.

**ANIMAL KEEPER (3 POSITIONS)**...Requires related degree with three (3) months animal keeper experience or six (6) months full-time animal keeper experience. Candidate will be responsible for daily animal care, exhibit renovation, animal observation, and public interaction. May work with a diverse animal collection. Salary is \$13.99/hr with regular increases plus excellent benefits. Send resumé by **30 June 1999** to: Cleveland Metroparks, Dept. of Human Resources, 4101 Fulton Prkwy., Cleveland, Oh 44144; or fax to (216) 351-2584; or e-mail to ->kld@clevelandmetroparks.com<

**CARETAKER**...Out of Africa Wildlife Park, Phoenix, AZ, has one position available for African Hoofstock Caretaker. Requires five (5) years experience with various African hoofstock - giraffe, zebra, etc. Requires public speaking. Fax resumé to: (480) 837-7379, Attn: Jamie Hein, or e-mail at: >gilroyhuck@ah.net<

**EDUCATOR**...a position is available at the Arlington Career Center teaching high school students basic zoology and animal husbandry as well as biology. A full-time (203 days) position available for person having a B.S. in Animal Science/Biology or related field who has work experience with a variety of animals in an animal facility such as a veterinary practice, animal laboratory, zoo, or pet shop. Handling, restraint, grooming, and computer skills needed as well. Salary \$25,000.00 - \$40,000.00 depending on experience. Interested individuals should contact Cindy Schall at phone: (703) 228-8692 or 228-5769. E-mail: >cynthiaschall@yahoo.com<

**EDUCATION COORDINATOR**...requires degree in education, zoology, science or biology, experience teaching/developing curriculum and handling live animals. Requires strong people skills, enthusiasm and experience in zoo setting. Will supervise, solicit and manage Education Programs such as outreaches, lectures, special events, presentations, celebrations, shows, etc. Coordinate, organize and supervise necessary staff and volunteers for education programs and during open zoo hours. Refine existing education programs and establish new ones. Excellent salary, plus benefits. Send/fax resumé to: Cougar Mountain Zoo, 19525 SE 54th St., Issaquah, WA 98027. Fax: (425) 392-1076.

**SENIOR KEEPER/Herpetology**...requires Associate's Degree in a field of the Natural Sciences, two (2) years experience in the care of a variety of reptiles and amphibians. This is a supervisory position. Salary \$27,580.00. Send letter/resumé to: Stan Mays, Herpetology Curator, Houston Zoological Gardens, 1513 N. MacGregor, Houston, TX 77030 or e-mail >smays@juno.com<

**PRIMATE KEEPER/Mammals Dept.**...requires two (2) years of experience in exotic animal care and a college degree in zoology, biology or a related field (or the equivalent combination of education and experience). Prefer experience with great ape training.

Responsibilities include providing a healthy, attractive environment for the animals in a specified area, all aspects of daily animal husbandry, exhibit maintenance, observation, enrichment, and encouragement of public interest in the animals. Must have excellent communication skills and a willingness to interact positively with the public. The Memphis Zoo offers a competitive salary and benefits package. **Position available 1 July 1999.** Send cover letter, resumé and references to: Human Resources Manager, Memphis Zoo, 2000 Galloway, Memphis, TN 38112. No phone calls accepted. EOE.

**KEEPER/TRAINER (Mammals/Sea Lions)**...the Audubon Zoological Garden, located in New Orleans, LA, is offering a full-time position in the Sea Lion Dept. A Bachelor's Degree in biology, psychology, or related subject is preferred. SCUBA certification is required along with the ability to lift 50 lbs., and the ability to obtain a Louisiana driver's license. All candidates must have a willingness to work weekends, holidays and/or overtime. Previous marine mammal training experience desired. The position involves the daily care and training of sea lions, maintenance of facility, and performance of public presentations. The position will also include back-up keeper work in the Primate Dept. The opportunity may exist to train a diversity of other animals as well. Audubon is looking for a committed, hard-working candidate who is a team player. If interested, please submit a resumé with cover letter postmarked **no later than 30 June 1999** to: Suzanne Smith, Sr. Trainer, Sea Lions, Audubon Zoological Park, P. O. Box 4327, New Orleans, LA 70178. EOE.

*Check AZA Member Institution job position listings  
on the AZA Home Page: <http://www.aza.org>*

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## Information Please

I am looking for the following information:

### **Butterflies:**

1. Tropical butterfly artificial nectar feeding designs, and color preferences of butterflies.
2. Central and South American species of reptiles, birds, and small mammals that can be kept together with butterflies.
3. Substances (and concentrations) for egg sterilization.
4. Any parasite or parasitoid that occurred on the eggs, on the larvae or on the pupae (on exotic butterfly species).

### **Poison Arrow Frogs**

1. Terrarium designs and sizes for different species.
2. Tadpole care of egg feeder species.

Please send your suggestions to: Fax 001 (36) 343-0579; e-mail: [gneumann@mti.level.hu](mailto:gneumann@mti.level.hu); mail address: Gabor Neumann, Budapest Zoo, 1146 Budapest, Állatkerti krt. 6-12, HUNGARY, EUROPE

Any help is highly appreciated.

# AAZK Membership Application

check here if renewal [ ]

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Province \_\_\_\_\_ Zip \_\_\_\_\_

## U.S. Members

**\$35.00 Professional**  
*Full-time Keepers*

**\$30.00 Affiliate**  
*Other staff & volunteers*

**\$30.00 Associate**  
*Those not connected with  
an animal facility*

**\$60.00 or up - Individuals**  
**Contributing/U.S.**

**\$100.00 or up**  
**Institutional/U.S.**  
*Organizations / Institutions  
(requires Board approval)*

**International Members**  
**\$50.00 International**  
*All members outside U.S. &  
Canada regardless of category*

## Canadian Members

**\$40.00 Professional**  
*Full-time Keepers*

**\$35.00 Affiliate**  
*Other staff & volunteers*

**\$35.00 Associate**  
*Those not connected with  
an animal facility*

**\$60 or up - Individuals**  
**Contributing/Canada**

**\$100.00 or up**  
**Institutional/Canada**  
*Organizations / Institutions  
(requires Board approval)*

**Library Only**  
**\$35.00 Library**  
*Available only to public  
& university libraries*

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Zoo Address \_\_\_\_\_

Title \_\_\_\_\_

Work Area \_\_\_\_\_

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Please charge my credit card

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Name on card \_\_\_\_\_ Expiration date \_\_\_\_\_

Signature \_\_\_\_\_

Mail this application to: AAZK Administrative Offices, Topeka Zoo, 635 S. W. Gage Blvd., Topeka, KS 66606-2066. Make checks/money orders payable to AAZK, Inc. Must be in U.S. FUNDS ONLY. Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.



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