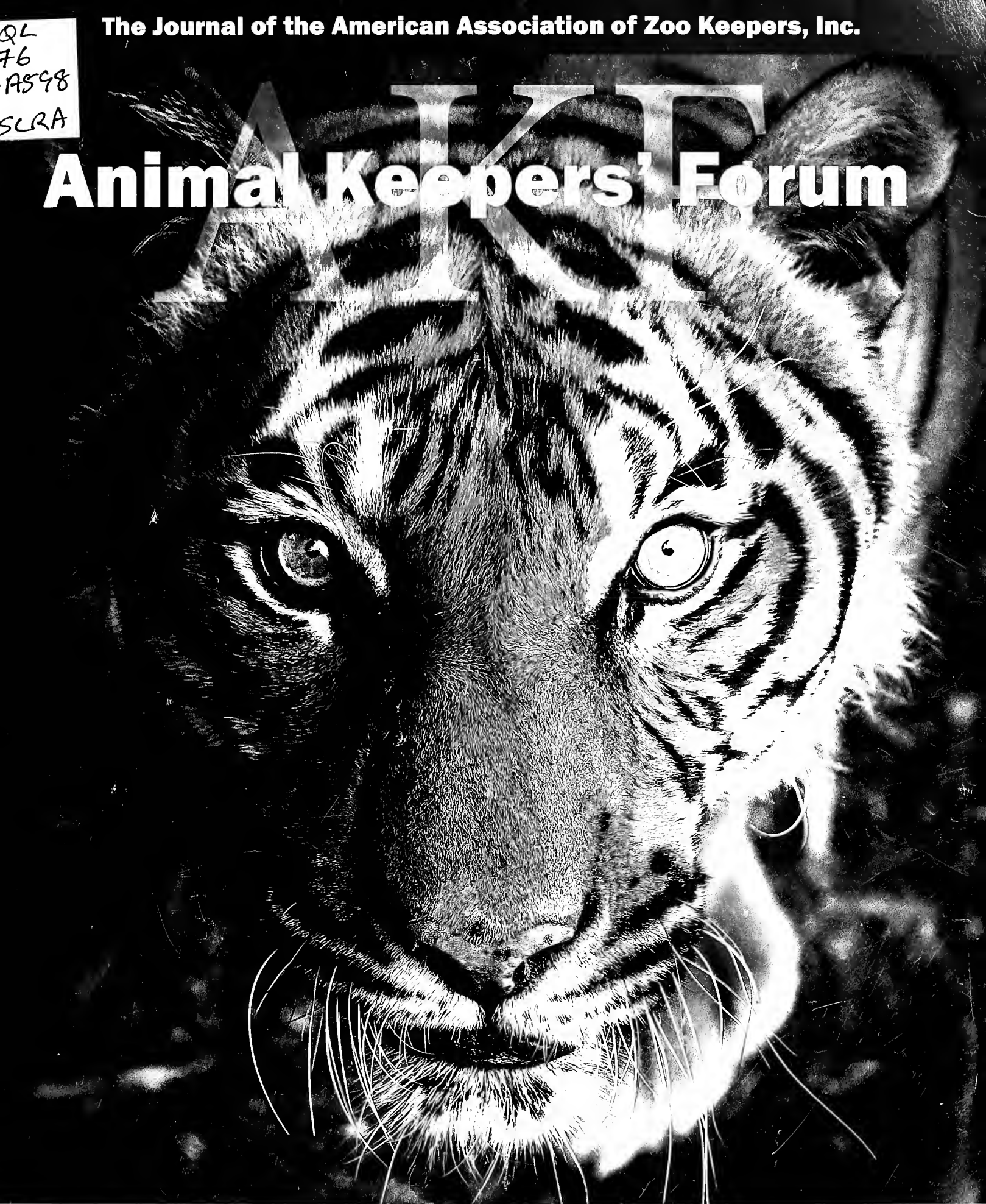


QL  
76  
A598  
SLRA

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

# AKZT Animal Keepers' Forum



October 2016, Volume 43, No. 10



ANIMAL BEHAVIOR INSTITUTE

## ADVANCE YOUR CAREER & CONTINUE YOUR PROFESSIONAL EDUCATION *ONLINE!*

Our programs in Zoo & Aquarium Science and  
Wildlife Rehabilitation give you the training you need  
to grow and advance in your field.

Small class sizes and professional faculty guarantee  
you a personal education with the individual attention  
you deserve.

START TODAY AND EARN YOUR CERTIFICATE  
IN AS LITTLE AS SIX MONTHS!



Visit us at  
[www.AnimalEdu.com](http://www.AnimalEdu.com)

Toll free  
(866) 755-0448



*a more personal education*





**277 ABOUT THE COVER**

**278 FROM THE PRESIDENT**

**280 COMING EVENTS**

**FEATURED ARTICLE**

**282-283**

*High Tech on a Small Zoo Budget*

**Eric Mahan**

**CONSERVATION STATION**

**290-294**

*Let Me Introduce You To...*

*AAZK's Conservation Partners*

**TRAINING TALES**

**296-298**

*Medical Husbandry for*

*North American River Otters*



**2016**

**AAZK AWARDS**

recognizing excellence in the field of animal care

**284 AAZK Awards • 288 AKF Awards**

# Savings that Stack up!



Discover what tens of thousands of customers — including commercial reptile breeding facilities, veterinarians, and some of our country's most respected zoos and aquariums — have already learned: with Rodentpro.com®, you get quality AND value! Guaranteed.

RodentPro.com® offers only the highest quality frozen mice, rats, rabbits, guinea pigs, chickens and quail at prices that are MORE than competitive. We set the industry standards by offering unsurpassed quality, breeder direct pricing and year-round availability.

With RodentPro.com®, you'll know you're getting exactly what you order: clean nutritious feeders with exact sizing and superior quality. And with our exclusive shipping methods, your order arrives frozen, not thawed.

We guarantee it.

Order online!

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

It's quick, convenient and guaranteed!

P.O. Box 118  
Inglesfield, IN 47618-9998

**Tel: 812.867.7598**

Fax: 812.867.6058

E-mail: [info@rodentpro.com](mailto:info@rodentpro.com)



 **RODENT PRO.COM®**  
MICE • RATS • RABBITS • CHICKS • QUAIL



## MISSION STATEMENT

American Association of Zoo Keepers, Inc.

The American Association of Zoo Keepers, Inc. exists to advance excellence in the animal keeping profession, foster effective communication beneficial to animal care, support deserving conservation projects, and promote the preservation of our natural resources and animal life.

### About the Cover

This month's cover comes to us from Photographer of the Year award winner Dane Jorgensen of the Birmingham Zoo. The cover features Kumar, a 17-year-old, 240-pound Malayan tiger (*Panthera tigris jacksoni*) residing at the Birmingham Zoo. Malayan tigers are the second smallest subspecies, and their slender build helps them traverse the dense broadleaf forests of their range country. Malayan tigers are unfortunately critically endangered, with an estimated 250-350 individuals in the wild. Visitors often enjoy Kumar playing in his pool on exhibit.

All tigers are listed as endangered on Appendix I of CITES (Convention on International Trade in Endangered Species), IUCN Red List and the U.S. Endangered Species List. The decline in numbers continues precipitously. In 1900 an estimated 100,000 tigers existed. In 1998 the estimates fell between 5,000 to 7,600. By 2011 only an estimated 3,200 tigers remained in the wild. Historically tigers ranged throughout Asia from the Caspian region into Central Asia, most of South and Southeast Asia, and East Asia and Siberia. Today their dramatically reduced range is limited to 13 countries in scattered areas of the Indian sub-continent, Southeast Asia, Sumatra, China and the Russian Far East. The Malayan tiger is endemic to southern and central Malay Peninsula. This includes only peninsular Malaysia and its border area with the southern tip of Thailand. The Global Tiger Recovery Program coordinates international action which includes all 13 tiger range countries to save tigers before it is too late.

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, fax or e-mail contributions of late-breaking news or last-minute insertions are accepted as space allows. Phone (330) 483-1104; FAX (330) 483-1444; e-mail is [shane.good@aazk.org](mailto:shane.good@aazk.org). If you have questions about submission guidelines, please contact the Editor. Submission guidelines are also found at: [aazk.org/akf-submission-guidelines/](http://aazk.org/akf-submission-guidelines/).

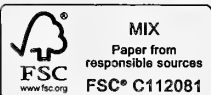
Deadline for each regular issue is the 3<sup>rd</sup> of the preceding month. Dedicated issues may have separate deadline dates and will be noted by the Editor.

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. If an article is shown to be separately copyrighted by the author(s), then permission must be sought from the author(s). Reprints of material appearing in this journal may be ordered from the Editor. Regular back issues are available for \$6.00 each. Special issues may cost more.

### MEMBERSHIP SERVICES

Animal Data Transfer Forms available for download at [aazk.org](http://aazk.org). AAZK Publications/Logo Products/Apparel available at AAZK Administrative Office or at [aazk.org](http://aazk.org).



## ANIMAL KEEPERS' FORUM

TO CONTACT THE AKF EDITOR:

Shane Good, AKF Editor  
P.O. Box 535, Valley City, OH 44280  
330-483-1104  
[Shane.Good@aazk.org](mailto:Shane.Good@aazk.org)

## AAZK Administrative Office

American Association of Zoo Keepers  
8476 E. Speedway Blvd. Suite 204  
Tucson, AZ 85710-1728  
520-298-9688 (Phone/Fax)

**CHIEF EXECUTIVE/FINANCIAL OFFICER:** Ed Hansen

E-mail: [Ed.Hansen@aazk.org](mailto:Ed.Hansen@aazk.org)

**DIRECTOR OF PROFESSIONAL DEVELOPMENT:** Bob Cisneros

E-mail: [Bob.Cisneros@aazk.org](mailto:Bob.Cisneros@aazk.org)

### ANIMAL KEEPERS' FORUM - EDITOR

Shane Good, [Shane.Good@aazk.org](mailto:Shane.Good@aazk.org)

### GRAPHIC DESIGNER

Elizabeth Thibodeaux, [Elizabeth.Thibodeaux@aazk.org](mailto:Elizabeth.Thibodeaux@aazk.org)

### ENRICHMENT OPTIONS COLUMN COORDINATORS

Julie Hartell-DeNardo, Heather Dunn

Casey Plummer, Dawn Neptune

### TRAINING TALES COLUMN COORDINATORS

Kim Kezer, Jay Pratte, Beth Stark-Posta

### CONSERVATION STATION COLUMN COORDINATOR

Lauren Augustine

### ANIMAL WELFARE COLUMN COORDINATORS

Beth Ament, Pattie Beaven

## BOARD OF DIRECTORS AND OVERSIGHTS

**PRESIDENT:** Penny Jolly, [Penny.Jolly@aazk.org](mailto:Penny.Jolly@aazk.org)

### Awards Committee

**Chair:** Jan McCoy, [Jan.McCoy@aazk.org](mailto:Jan.McCoy@aazk.org)

**Vice Chair:** Denny Charlton, [Denny.Charlton@aazk.org](mailto:Denny.Charlton@aazk.org)

### International Outreach Committee

**Chair:** Yvette Kemp, [Yvette.Kemp@aazk.org](mailto:Yvette.Kemp@aazk.org)

**Vice Chair:** Adriana De Los Santos, [Adriana.DeLosSantos@aazk.org](mailto:Adriana.DeLosSantos@aazk.org)

**VICE PRESIDENT/Ethics Chair/Conference Manager:** Bethany Bingham,

[Bethany.Bingham@aazk.org](mailto:Bethany.Bingham@aazk.org)

### Professional Development Committee

**Chair:** Melaina Wallace, [Melaina.Wallace@aazk.org](mailto:Melaina.Wallace@aazk.org)

**Vice Chair:** Ellen Gallagher, [Ellen.Gallagher@aazk.org](mailto:Ellen.Gallagher@aazk.org)

**BOARD MEMBER:** Bill Steele, [Bill.Steele@aazk.org](mailto:Bill.Steele@aazk.org)

### Behavioral Husbandry Committee

**Chair:** Amanda Ista, [Amanda.Ista@aazk.org](mailto:Amanda.Ista@aazk.org)

**Vice Chair:** Megan Wright, [Megan.Wright@aazk.org](mailto:Megan.Wright@aazk.org)

### Bylaws

**Manager:** Jackie Wolfinger, [Jackie.Wolfinger@aazk.org](mailto:Jackie.Wolfinger@aazk.org)

### Grants Committee

**Chair:** Jessica Munson, [Jessica.Munson@aazk.org](mailto:Jessica.Munson@aazk.org)

**Vice Chair:** Amanda Ott, [Amanda.Ott@aazk.org](mailto:Amanda.Ott@aazk.org)

### Safety Committee

**Chair:** Kelly Murphy, [Kelly.Murphy@aazk.org](mailto:Kelly.Murphy@aazk.org)

**Vice Chair:** Sara Venable, [Sara.Venable@aazk.org](mailto:Sara.Venable@aazk.org)

**BOARD MEMBER:** Mary Ann Cisneros, [Maryann.Cisneros@aazk.org](mailto:Maryann.Cisneros@aazk.org)

### Bowling for Rhinos Program

**Program Manager:** Patty Pearthree, [Patty.Pearthree@aazk.org](mailto:Patty.Pearthree@aazk.org)

**Vice Manager:** Jim Haigwood, [Jim.Haigwood@aazk.org](mailto:Jim.Haigwood@aazk.org)

### Conservation Committee

**Chair:** Christy Poelker, [Christy.Poelker@aazk.org](mailto:Christy.Poelker@aazk.org)

**Vice Chair:** Janee Zakoren, [Janee.Zakoren@aazk.org](mailto:Janee.Zakoren@aazk.org)

### Trees for You and Me Program

**Program Manager:** Christy Mazrimas-Ott, [Christy.Mazrimas-Ott@aazk.org](mailto:Christy.Mazrimas-Ott@aazk.org)

**Vice Manager:** Anthony Nielsen, [Anthony.Nielsen@aazk.org](mailto:Anthony.Nielsen@aazk.org)

**BOARD MEMBER:** Rachael Rufino, [Rachael.Rufino@aazk.org](mailto:Rachael.Rufino@aazk.org)

### Communication Committee

**Chair:** Zachary Page, [Zach.Page@aazk.org](mailto:Zach.Page@aazk.org)

### National Zoo Keeper Week Program

**Program Manager:** Robin Sutker, [Robin.Sutker@aazk.org](mailto:Robin.Sutker@aazk.org)



Memphis is a city with a heritage and recognition all its own. From supreme barbecue, legendary Graceland, iconic Beale Street and of course the fantastic Memphis Zoo with outstanding zoo keepers. Our conference host, the Memphis Chapter of the American Association of Zoo Keepers (AAZK) and the Memphis Zoo did an outstanding job organizing events, zoo day and providing meals and transportation for the delegates. Thank you for all your hard work and a wonderfully unique experience!

Each conference hotel offers different benefits. The Holiday Inn Memphis-University of Memphis provided us the opportunity for our Topical Workshops to be open, so more delegates could attend workshops. Whether you attended "Maximizing Animal Conservation Efforts as an Animal Keeper," "Emergency Response for Animal Keepers," the Avian, Carnivore Husbandry, Animal Welfare Professional Certificate Courses, a paper presentation or made a new acquaintance that inspired you, we hope you will all share your inspiration and knowledge from the conference with your co-workers and managers back home. The flash drive provided containing the conference proceedings and other learning materials is a valuable resource for all staff members at your institution. We will continue to update our conference program in response to the membership and plan to continue to offer workshops that are Professional Certificate Courses as well as moving the Awards presentation to an evening event to provide another networking opportunity. If you know someone who attended the conference, please ask them to share the information with you. I am sure they would be happy to.

Speak with your managers about your interest in attending the 44<sup>th</sup> Annual AAZK Conference hosted by the National Capital Chapter of AAZK, August 27 - September 1, 2017 in historic Washington, D.C. The program is being developed, but we are looking to add learning opportunities in the areas of herpetology, nutrition and keeper roles in research. Do you or your team have information you would like to share? Start planning now to submit a paper or workshop abstract for the conference.

Do you know someone who received an AAZK Award? See who all the recipients were and congratulate them on AAZK's Facebook page [Facebook.com/AAZKinc](https://www.facebook.com/AAZKinc). I want to say thank you to all the Sponsors and Exhibitors of the conference. You help make the delegates' experience memorable!

Thank you once again to the Memphis Chapter Members and Memphis Zoo Staff. Your dedication and long hours showed and are greatly appreciated!

Penny Jolly  
E-mail me at [Penny.Jolly@azk.org](mailto:Penny.Jolly@azk.org)

# Spooktacular Cylinders



**You may refer to these as drums, tanks or barrels; we  
call them CYLINDERS!**

13 sizes, 2 duty selections and 32 colors to choose from there is something for all animals! We can always customize any of our products. As displayed in the image, we can create custom colors! We also manufacture custom duties; Extra Extra Heavy Duty Cylinders for those stronger animals!

**"Helping professionals mold enrichment"**

[sales@wildlifetoybox.com](mailto:sales@wildlifetoybox.com)

(866) 793-0376

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

# COMING EVENTS

Post upcoming events here!  
e-mail [shane.good@aazk.org](mailto:shane.good@aazk.org)

**November 14-18, 2016**  
**15<sup>th</sup> International Elephant & Rhino Conservation and Research Symposium**  
Singapore Zoo.  
Hosted by Wildlife Reserves Singapore.  
For more information go to: [elephantconservation.org](http://elephantconservation.org)

**February 6-9, 2017**  
**6<sup>th</sup> International Sea Duck Conference**  
Tiburon, CA  
Hosted by Audubon, Ducks Unlimited, USFWS, USGS, and California Department of Fish and Wildlife.  
For more information go to: [seaduckconference.net/](http://seaduckconference.net/)



**March 26-31, 2017**  
**AZA Mid-Year Meeting**  
Albuquerque, NM  
Hosted by ABQ BioPark  
For more information go to: [aza.org/conferences-meetings](http://aza.org/conferences-meetings)

**April 4-7, 2017**  
**International Zoo Design Conference**  
Wroclaw, Poland  
Hosted by Wroclaw Zoo and ZooLex Zoo Design Organization  
For more information go to: [zoodesignconference.com/](http://zoodesignconference.com/)

**April 23-28, 2017**  
**ABMA Annual Conference**  
Cincinnati, OH  
Hosted by Cincinnati Zoo and Botanical Garden.  
For more information go to: [theabma.org/abma-annual-conference/](http://theabma.org/abma-annual-conference/)

**May 16-18, 2017**  
**7<sup>th</sup> International Hornbill Conference**  
Kuching (Sarawak), Malaysia  
Hosted by SARAWAK FORESTRY Corporation  
For more information go to: [internationalhornbillconference2017.com](http://internationalhornbillconference2017.com)



**July 12-22, 2017**  
**International Herpetological Symposium**  
Rodeo, NM  
Hosted by Chiricahua Desert Museum  
For more information go to: [internationalherpetologicalsymposium.com/40th-annual-symposium/](http://internationalherpetologicalsymposium.com/40th-annual-symposium/)



**August 27- August 31, 2017**  
**AAZK National Conference**  
Washington, D.C.

*Hosted by the National Capital AAZK Chapter and Smithsonian's National Zoo*

[facebook.com/AAZK2017](https://facebook.com/AAZK2017)

**September 9-13, 2017**  
**AZA Annual Conference**  
Indianapolis, IN  
Hosted by Indianapolis Zoo  
For more information go to: [www.aza.org/conferences-meetings](http://www.aza.org/conferences-meetings)





**HIGH OUTPUT UVB & HEAT**

# POWERSUN H.I.D. METAL HALIDE UVB LAMP & LAMP FIXTURE

- High output **UVB** lamp for larger habitats.
- Truly **SUN-LIKE BRIGHT NATURALISTIC LIGHT** for terrariums.
- **6500K** color temperature & **95 CRI** for amazing color combined with **UVB, UVA, & HEAT** from one lamp!
- Proprietary **ZOO MED** lamp construction creates a true flood-lamp effect, eliminating dangerous UV "hot-spots" common to many other metal halide reptile lamps.
- Full one year guarantee.



LF-95

LF-96



PUV-15

# Join today at AAZK.ORG



## NANO FIXTURES & LAMPS

Nano lamp fixtures and lighting specifically designed for terrariums 10 gallons or smaller.

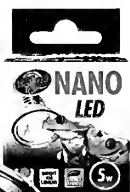


LF-36



LF-35

For more information regarding our Nano, Powersun H.I.D. or any of our other fine products, please visit our website below.



ES-5N



SL-25N & SL-40N



RS-25N & RS-40N



CE-25N & CE-40N



HB-35N



Actual size

[WWW.ZOOMED.COM](http://WWW.ZOOMED.COM)



Membership with the American Association of Zoo Keepers includes a subscription to the *Animal Keepers' Forum*, member rates for AAZK events and products, access to the Members Only section of [aazk.org](http://aazk.org), plus much more!



# High Tech on a Small Zoo Budget

## Alternatives to Expensive Monitoring Equipment

Eric Mahan, Zoo Keeper  
Elmwood Park Zoo  
Norristown, Pennsylvania

Obtaining the proper technology necessary to monitor animals at a facility can be burdensome for a zoo on a budget. Thankfully, the demand for surveillance equipment in other industries has resulted in the invention of cheaper alternatives that zoos with smaller budgets can integrate into their programs. Our team has begun utilizing both inspection and capture cameras, and the results have been very beneficial to our animals' welfare. The equipment allows the keeper staff to inspect areas not typically viewable and observe rare animal behaviors. It also limits the stress put on the animals that observations with the keeper standing there can put on them.

### Inspection Camera

Inspection cameras are cameras attached to a monitor by a wire designed to help plumbers and electricians inspect the pipes and cables behind walls. Because of their maneuverability and flexibility, they are also ideal tools for nature photography. In fact, you may have seen David Attenborough or another wildlife expert using high-end inspection cameras to take a tour of an animal's den. Unfortunately, these cameras retail for a thousand dollars, which is well beyond the zoo-on-a-budget's means. Thankfully, Do-It-Yourselfers can find cheaper alternatives online or at big box stores like Lowe's and Home Depot for only a hundred dollars. This is a far more reasonable price, and it allows for every facility to customize its equipment. For example, our facility never needed an inspection camera longer than three feet, but longer

cameras and extensions are on the market for facilities with the need. Our zoo, which has burrowing animals, finds that inspection cameras are a most effective tool for ensuring the safety and well being of various species. We have enjoyed success using the inspection camera with our black tailed prairie dogs (*Cynomys ludovicianus*), burrowing owl (*Athene cunicularia*), and various pest species. With our burrowing owls, we used a camera with a small LED light at least once a week to monitor the progression of their nest building. If the owls lay their eggs, the inspection camera can also allow us to inspect the owl's nest without having to climb into the exhibit and upset them. Affording the animals privacy during breeding season helps make them feel safer, but we would not have been able to effectively limit their stress level without an inspection camera.

Inspection cameras can also give keepers the ability to check areas where the animals spend most of their time but are not normally visible to the staff. For example, like most zoos, our prairie dog area is an open-top exhibit with a fence of hip height. Thus, debris sometimes is blow into the exhibit. Visible trash is easy to deal with, however, the top of a prairie dog exhibit is only 10% of the actual exhibit, and curious prairie dogs often transport trash down into their tunnels. But thanks to the inspection camera, much more becomes visible. This isn't just good for spotting debris in the burrow. After winter, we can also use the cameras to examining the burrows themselves for tunnel issues. Thus,

Keeper Eric Mahan with inspection cam in prairie dog exhibit.



Mr. Pibbs our burrowing owl.



the cameras help ensure the tunnels remain safe and clean. Finally, the cameras make it possible to ID different pest species that burrow around the zoo so that we may limit the chances of invasive species spreading disease or stealing food.

### Camera Trap

Camera traps are frequently used by hunters in order to locate the best spots to hunt. For a zoo, however, camera traps act as a cheap alternative to high-end mounted security style cameras. These pieces of equipment use a sensor to trigger the camera to take a picture or to start filming for a given amount of time. Like many small zoos, we lack the ability to continually monitor all of our animals, but with a camera trap's ability to record motion, we are at least afforded a glimpse. For this reason, camera traps have been one of the most beneficial pieces of equipment we have at our facility.

Finding a camera trap is as easy as finding a store with hunting equipment such as Wal-Mart or Dick's Sporting Goods. Online, Amazon.com also sells these tools. Camera traps can be found for fifty dollars, but these models might only take pictures and may not work at night. For only around one hundred dollars, zoos can purchase a camera trap with good resolution video and night vision. Though the animals notice them, the best thing about camera traps is that they are easily movable, where as mounted monitoring equipment is not as easily changeable and sometimes requires Wi-Fi to record. It is also important to note that proper placement of a camera trap must also be considered.

Our facility has placed camera traps all around the zoo in order to solve our various animal mysteries. For example, our grey wolves (*Canis lupus*), kept putting muddy paw prints on the ceiling of their holding pen. When they were younger, our wolves displayed aggression towards one another while in holding, so they were separated during the evenings in order to ensure that they would not fight during the night. This went on for a while, and then in the wolves' older years keepers suddenly noticed paw prints on the ceiling as if the wolves were doing back flips all night. So we placed the camera trap in front of the spot that we would find the footprints, outside the holding area of course. The next day, we learned two things from those videos. First, our one wolf periodically used her paw to test the doors to see if they were really locked. The second is that our other wolf was really doing back flips!

Part of the wolf exhibit has a section where neither wolf can see the other, and one wolf was jumping up the wall and off the ceiling to see what the other was doing. So we decided to try letting them stay together at night, and thankfully it worked. In their later years the aggression has lessened, and because of the camera traps, we don't have to worry about scrubbing muddy paw prints off of the ceilings anymore. As an

Trap camera in wolf holding.



added benefit, since putting the wolves together at night, our shifting problems with them have disappeared. They went from never wanting to come in to reliably shifting in, and the response was almost immediate. Within that first month of letting them in together they shifted as if they never really had a problem.

Unlike wolves, some animals notice the camera and hate it. For example, each morning after setting the camera trap inside the burrowing owls' exhibit, we found it on its side. And after discovering a video of our male burrowing owl trying to kill the lens, we decided to let them enjoy their nights in private.

The camera trap has helped our zoo immensely. In conjunction with the stories above, we have also enjoyed success with the equipment on jaguar (*Panthera onca*), spotted skunk (*Spilogale putorius*), Virginia opossum (*Didelphis virginiana*), great horned owls (*Bubo virginianus*), and a couple others to make sure that the exhibit and enrichment was preventing stereotypical behavior and changing things around if it was not helping. We continue to use the technology to study behaviors and unexplained observations but we are planning to use it for some of our breeding programs, especially since a good portion of them are nocturnal animals, or at least are most likely performing breeding behaviors during the evening hours when we already have left for the day.

### Conclusion

One of the best outcomes of using this technology was to see a wide range of behaviors. It's interesting to learn what your animals are doing when you're not looking, or how upset they get when you try to find out. As zoo keepers, we all know how important it is to monitor these animals in order to ensure that we provide the best care possible but you only interact with your animals for a limited amount of time each day. To truly provide superior care, the ability to see all aspects of the animals' lives is critical. For those reasons this technology might be the most overlooked resource a zoo keeper can have mostly because of price, but thanks to camera traps and inspection cameras, what used to only be available for thousands, now costs hundreds. These pieces of technology have helped our facility, and without hesitation, I recommend your facility begin using monitoring equipment in order to help with the wellbeing of the animals you're responsible for now that price is really no longer a problem. 🐾

Grey wolf (Nox) checking if the door is locked.



# AAZK AWARDS

**2016** recognizing excellence  
in the field of animal care

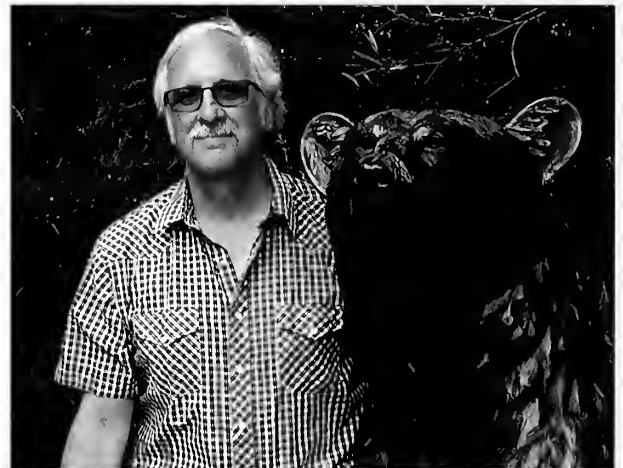


## Lifetime Achievement Award

**Michael Illig, Oregon Zoo.**

This award is in recognition of his outstanding commitment to professionalism in his distinguished career as a zoo keeper. Specifically noted is his high level of mentoring zoo keepers, successful breeding programs, initiating training programs, construction of numerous exhibits, and advancing species conservation with the California Condor, Western Pond Turtle, Columbian Basin Pygmy Rabbits and the Oregon Silverspot Butterfly. Also noted is his service to AAZK on a National and Chapter level, Rodent, Insectivore

and Lagomorph TAG Steering Committee, the Husbandry and Management Coordinator for the Zoo with the USFWS California Condor Recovery Program, and the Studbook Keeper and Population Management Plan for the Columbian Basin Pygmy Rabbit. Throughout his career, he has served as a role model, leader and friend. Such action earns the praise and respect of all members of the zoological profession.





## **Lutz Ruhe Meritorious Achievement - Professional of the Year Award**

**Sarah Kirkman, Akron Zoological Park.**

This award is in recognition of her outstanding commitment to professionalism during her distinguished career as a zoo keeper. Specially noted are her successes in managing critical breeding programs for Jaguars, Snow Leopards and Andean Condors as well as extensive participation on multiple zoo teams including the Continuing Education, Behavioral Husbandry and Climate Alliance Committees. She is also noted as a devoted mentor to new staff and volunteers with her positive outlook, strong desire to provide teachable moments and willingness to share her experiences with others at frequent "Lunch and Learns." Sarah embodies the spirit of AAZK with her active participation in both National and Chapter events including attending conferences, organizing BFR and developing logos and marketing campaigns.



## **Jean M. Hromadka Excellence in Animal Care Award**

**Hilda Tresz, Phoenix Zoo.** This award is based on her outstanding efforts in establishing a comprehensive behavioral enrichment and training management program for the entire zoo collection. The protocols set in place within this program provide for a flexible, creative and self-sustaining environment in which all levels of staff and volunteers are encouraged to participate. Specially noted is Hilda has worked to collaborate extensively on international zoo animal welfare issues, developed and coordinated five behavioral research studies and has published numerous articles worldwide.



## **Nico van Strien Leadership in Conservation Award**

**Lauren Augustine, Smithsonian's National Zoo,** for founding the Foundation for the Conservation of Salamanders (FCSal.). Started as "Chopsticks for Salamanders" in 2013, with the goal of reducing single-use chopsticks, Lauren is currently the President of this new non-profit organization. In the past three years, more than \$20,000 in grants have been awarded to salamander conservation projects both in the U.S. and abroad. This year Lauren launched a petition to end single-use chopsticks, hosted two fundraisers for the organization and developed "Salamander Saturday" which she hopes will become a national awareness/fundraising event, similar to AAZK's Bowling for Rhinos.



**Mesker Park Zoo AAZK Chapter, Mesker Park Zoo:** 1<sup>st</sup> runner up, for their participation in and commitment to Community-supported Agriculture (CSA.). They have had a share in Seton Harvest, a CSA in Evansville, Indiana since 2012. The members donate time working on this Certified Naturally-grown farm to support natural land care in the community. Their effort not only helps feed the hungry in Evansville, but also provides enrichment produce for their own zoo animals.



**Keith Neitman, Alyssa Borek, Woodland Park Zoo:** 2<sup>nd</sup> runner up, for their work with the Oregon Spotted Frog head-start program. Woodland Park Zoo works with the state of Washington and several other zoos to hatch out these critically endangered frog eggs (collected in the wild) and then raises the tadpoles through metamorphosis for release back into the wild. Keith and Alyssa's work has helped the Woodland Park Zoo contribute over 4000 frogs for release, as well as innovated some of the enclosure logistics, life support and basic husbandry aspects of the project.

## Mazuri® Animal Nutrition Award

**Rebecca Sturges, Denver Zoo**, for collaborating and managing diet revisions for the facility's ring-tailed lemurs, white-collared brown lemur, black and white colobus, red-capped mangabeys and aye-ayes, many of which have medical issues with nutritional components. She is being recognized for her outstanding commitment to four case studies which improve the welfare, natural behaviors and dietary nutritional content of these animals.



## Lee Houts Advancement in Enrichment Award

**Christine Juarez, Happy Hollow Park and Zoo**. This award is based on Christine's new enrichment procedures for the education collection - mainly focused on offering different forms of feeding techniques (i.e. puzzle feeders, slow feeders, foraging boxes, etc.). She has also fostered a more positive relationship with the education staff to work closely with the training and enrichment of the collection. Also noted is the forming of an enrichment committee, facilitating 'parties' for all zoo staff to create and brainstorm new enrichment items, and developing a binder for keeper notes and ideas/changes to the enrichment items.



**Enrichment Committee (Aaron Dye, Jill Brown, Katie Hubbard, Autumn Lindey), Museum of Life + Science**, for the transformation of an object-based enrichment program to a behavior-based program for their 90+ animals. The committee created an activity budget for each animal, noted behaviors they expected to observe, created a new calendar system, an evaluation scale, and approval forms with the idea that a behavior-based enrichment program will allow guests to see species-appropriate behavior that they would otherwise only see in the wild. This new program has been in place for less than a year and is always being re-evaluated and updated.



## Certificate of Excellence in Exhibit Renovation

**Africa Team (Tracy Campbell, Matt Corrie, Andrea Kendrick, Sheila Samek and Ken Harmon), Dickerson Park Zoo**, for their renovation to create a natural-looking, multiple-species exhibit encouraging natural behaviors of lemurs and storks, including foraging and nesting behaviors. They are recognized for their inventive plans and construction of this versatile exhibit that has the ability to incorporate a diversity of species as well as increase public awareness through educational graphics and tours.

**Distinguished Service Award**  
Memphis AAZK Chapter, 2016 AAZK  
National Conference Host Chapter



**Certificate of Appreciation**  
Memphis Zoo, 2016 AAZK National  
Conference Host Institution



**Barbara Manspeaker Chapter of the Year**  
Greater Houston AAZK Chapter, Houston Zoo



**Certificate of Recognition**

**Wendy Lenhart**, Philadelphia Zoo, for serving on the  
Board of Directors and as Vice President.  
**Jamie McTyre**, Memphis Zoo, 2016 National  
AAZK Conference Chair.



*recognizing*  
**excellence**  
*in the field*  
*of animal care*

# AKF AWARDS

Celebrating excellence in journalism and photography



**Susan D. Chan**  
**Author of the Year**

**Mel Covey**

Disney's Animal Kingdom

*Abyssinian Ground Hornbill Breeding at Disney's Animal Kingdom Lodge: Finding a suitable alternative to hand-rearing second chicks*

## Excellence in

## Journalism

**Dean Gibson,**  
**Prosimian Taxon Advisory Group/  
San Diego Zoo**

*The Night is Alive with Nocturnals:  
How about at your zoo?*



**Laura Danielczyk,**  
**Chicago Zoological Society/  
Brookfield Zoo**

*Utilization of Zoo Enclosures in  
Capuchin and Spider Monkeys*



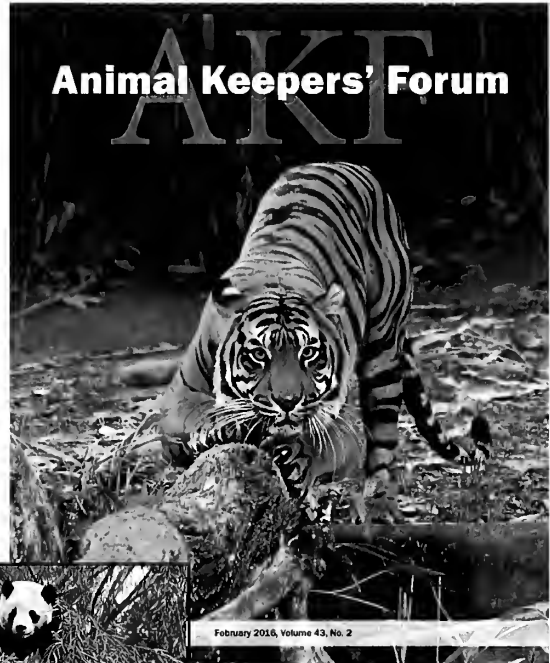
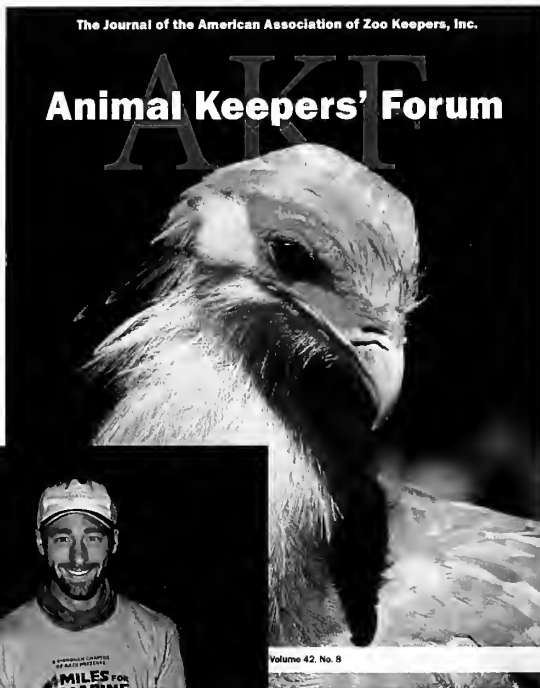
**Vince Sodaro,**  
**Chicago Zoological Society/Brookfield Zoo**

*Social Immersion vs. Isolation for Hand-reared Goeldi's Monkeys (*Callimico goeldii*):  
A comparison of long-term trends for socialization milestones*





# COVER PHOTOGRAPHY AWARDS



## Photographer of the Year

**Dane Jorgensen**  
Birmingham Zoo  
Secretary Bird, August 2015



## Excellence in Photography

**Craig Salvas**  
Smithsonian's National  
Zoological Park  
Sumatran Tiger, February 2016

**Tyler McCullough**  
Akron Zoological Park  
*Paper Trial for 1.0 Sumatran Tiger  
with an Ingestion Behavior*



**Heather Neldner**  
Milwaukee County Zoo  
*Breeding Spangled Cotingas:  
A colorful conundrum*



**Elizabeth Miller**  
Chicago Zoological Society/Brookfield Zoo  
*Walrus Conservation:  
Connecting research and zoo keepers*



## Let Me Introduce You To... AAZK's Conservation Partners

Carol McCallum  
AAZK Conservation Committee

As members of the American Association of Zoo Keepers we all have access to a wealth of information on AAZK's website. There is information on the numerous committees, information on how to form a Chapter, there are forms and publications and a shop where you can buy awesome AAZK merchandise. A section I would bet gets few visitors is in the "members" section where several categories of "partners" are listed. You will find our Conservation Partners there. These organizations share commonality in their commitment to animals whether they be captive or wild. Not only are these organizations resources for conservation information but they are great candidates for support from your AAZK Chapters.

### Polar Bears International

"Our mission is to conserve polar bears and the sea ice they depend on. We also work to inspire people to care about the Arctic and its connection to our global climate."

### Building Better Polar Bear Tracking Devices

Effectively tracking polar bears teaches us about their habitat needs, movement patterns, hunting practices, and responses to a changing environment. If we could build a better bear collar (or even a better ear tag), we would be better prepared to implement the best conservation measures and ensure the protection of this animal.

Many great talks and seminars were held at the recent International Bear Association Conference in Anchorage, Alaska, but one workshop in particular was especially exciting for polar bear scientists. Two members of the PBI team, Geoff York and Alysa McCall, took part in a Polar Bear Tracking Innovation Workshop hosted by WWF. This workshop brought together biologists, Inupiat hunters, technicians, collar makers, and the global design company IDEO to brainstorm a better way to track a

Polar bear and cubs. Photo by Robert and Carolyn Buchanan



polar bear. The workshop looked at priorities for new designs, tracking males, better drop-off devices, lighter equipment, more dependable data uploads, and more.

To learn more go to: <http://www.polarbearsinternational.org/news-room/scientists-and-explorers-blog/building-better-bear-tracking-devices>

### How do you know if a bear is fat enough?

PBI supports polar bear research prioritized by the IUCN Polar Bear Specialist Group and by our conservation partners across the Arctic. Several members of our Arctic Ambassador Network are taking part in the Body Condition Project. The project was conceived by our chief scientist, Dr. Steven C. Amstrup, and is being conducted in cooperation with the University of Wyoming and Purdue University, with support and participation of animal care and research teams at the North Carolina Zoo, Point Defiance Zoo and Aquarium, the Cincinnati Zoo & Botanical Gardens, Utah's Hogle Zoo, the Indianapolis Zoo, the Louisville Zoo and the Maryland Zoo in Baltimore. They are developing methods to monitor wild polar bear populations through photography. The accuracy of this new, non-invasive field approach will let scientists and wildlife managers determine the body condition of wild polar bears in remote areas without handling them. If successful, it will help scientists obtain baseline condition data on bears in areas that currently lack any formal monitoring. Photos of captive polar bears taken by zoo staff will be analyzed by a research team and then compared with data collected during routine health exams. The zoo's veterinary and animal care teams use a protocol for measuring body length, neck width, foot length, girth, and current weight—all needed to determine each bear's body condition and size. Why take photos at zoos? In order to assess the body condition and size of *wild* polar bears through photographs, they need to test the methods and calibrate the equipment by taking photos of polar bears of *known* size and body condition.

To learn more go to: <http://www.polarbearsinternational.org/news-room/pbi-blog/zoo-bears-help-wild-counterparts>

### Coming Together on Polar Bear-Human Conflict

Earlier this year, 30 representatives from communities, governments, and tourism from across the Hudson Bay region came together for a meeting to discuss polar bear-human conflict. Such conflicts are on the rise as more polar bears spend more time ashore in more places as the sea ice retreats. The incidents often end badly for the bears and sometimes for people. The goal of the three-day meeting was to foster a regional discussion of shared concerns, tactics, and resources—with an ultimate goal to reduce conflict and improve safety. Organizers also hoped to clear up regional misconceptions and create a shared understanding going forward. Discussions focused on conflict with polar bears: What are people seeing in different parts of Hudson Bay? What actions are communities and others taking to keep people and bears safe?



Snow Leopard Trust: Tsetsen - 20<sup>th</sup> collared cat Photo by: SLT/Lkhagvasumberel

The workshop wrapped up with participants identifying and prioritizing an action list for next steps. They also identified opportunities for greater collaboration, including: Offering a polar bear guard training program, making deterrents more available in remote communities, identifying and addressing attractant issues and providing information on polar bear safety and education.

Learn more about Polar Bears International and their conservation efforts at [www.polarbearsinternational.org](http://www.polarbearsinternational.org).

### **Snow Leopard Trust**

The Snow Leopard Trust builds community partnerships by using sound science to determine priorities for protecting the endangered snow leopard: understanding snow leopard behavior and habitat, listening to the community to identify needs and seeking resources for sustaining long-term programs.

### **Mongolia's Tost Mountains Declared a Protected Area!**

In April 2016, Mongolia's Parliament approved a proposal to turn the Tost Mountains, a prime snow leopard habitat, into a Nature Reserve. Under this designation, only traditional economic activities such as livestock grazing that aren't harmful to nature will be allowed; while mining, construction, and hunting will be prohibited. Efforts to protect this important area began in 2008, and in 2010 the local community in the area achieved a major breakthrough, as both the provincial and central governments agreed to give Tost and Tosonbumba status of a Locally Managed Protected Area. Though this offered a level of protection, it could not guarantee the ecosystem's long-term future.

Now, with its National Reserve status, Tost should remain a safe haven for snow leopards.

"This is a huge step forward for the protection of the endangered snow leopard in this part of its range", says Dr. Charu Mishra, the Snow Leopard Trust's Science & Conservation Director. "This Nature Reserve will be a bridge between two existing Protected Areas, the Great Gobi and the Gobi Gurvansaikhan National Park. The resulting landscape will be one of the world's largest continuous protected snow leopard habitats.

### **Site of the most comprehensive snow leopard study to date!**

Tost is the site of the Snow Leopard Trust's Long Term Ecological Study, the world's most comprehensive long-term snow leopard research study. In this study, scientists have so far tracked 20 snow leopards with GPS satellite collars, gaining unprecedented insights into the behavior and ecology of these cats.

To learn more about the Trust you can visit them at [www.snowleopard.org](http://www.snowleopard.org). To learn how you, your zoo and/or your AAZK Chapter can become a partner, please contact: [marissa@snowleopard.org](mailto:marissa@snowleopard.org)

### **Association of Zoos and Aquariums**

The Association of Zoos & Aquariums (AZA) is a nonprofit organization dedicated to the advancement of accredited zoos and aquariums in the areas of animal care, wildlife conservation, education and science.

### **Join A Conservation Conversation for AZA Animal Programs!**

Beginning at the Association of Zoos and Aquariums' Annual Conference

in San Diego, CA, September 7-11, AZA will support a year-long “conservation conversation” to facilitate learning and networking opportunities among AZA Animal Programs involved – or wanting to become involved – in field conservation. Participants in AZA Animal Programs will be encouraged to discuss how their field conservation program was developed and maintained, adapted, or wound down over time. If you work at an AZA-accredited zoo or aquarium or certified related facility, you can join the “Animal Programs Conservation Conversation” group on the AZA Network to participate. Visit the AZA website (<https://www.aza.org/aza-network>) to get started, and look for more information beginning in September.

#### **AZA-Accredited Zoos and Aquariums continue to support SAFE initiative.**

In 2015 the leadership of the AZA-accredited zoo and aquarium community identified 10 SAFE (Saving Animals From Extinction) Signature Species on which to focus planning and conservation action. These species include African penguin, Asian elephant, black rhinoceros, cheetah, gorilla, sea turtle, shark, vaquita, western pond turtle and whooping crane.

Since that time, strategic meetings with experts from the AZA zoological community, non-profit conservation organizations and government agencies, have identified current population threats and the conservation actions needed to address them. SAFE Conservation Action Plans have been developed for the African penguin, cheetah, western pond turtle, sharks and vaquita and include 36 critically important conservation projects, some of which are already underway in the field.

Learn more about AZA at [www.aza.org](http://www.aza.org).

### **Turtle Survival Alliance**

Organized in 2001 after the Asian Turtle Crisis, the Turtle Survival Alliance (TSA) “is an action-oriented global partnership that is committed to zero turtle extinctions in the 21<sup>st</sup> century”. Through field research, captive breeding programs, species reintroductions, enactment of conservation plans, and advocating for greater enforcement of wildlife laws the TSA has had a huge positive impact on turtle and tortoise species internationally. Learn more about their incredible work at [www.turtlesurvival.org](http://www.turtlesurvival.org)

#### **Breeding Season at the TSC**

The 2016 nesting season has seen the successful hatching of three species never before bred at the TSC: Home’s hinge-back tortoise, forest hinge-back Tortoise and Sulawesi tortoise. The two hinged-back tortoise species are particularly significant because they are uncommonly bred in captivity.

#### **New Tortoise Conservation Center Offers New Hope to Thousands of Tortoises in Southern Madagascar**

In response to the increase in tortoise poaching throughout Madagascar, record numbers of animals have been confiscated at the Ivato International Airport and in villages as well. Used for food or sold as pets, thousands of tortoises such as radiated tortoises, spider tortoises and ploughshare tortoises are confiscated by Malagasy authorities. These animals then must be rehabilitated and treated for medical issues before they can be returned to the wild or put into breeding programs. Confiscated tortoises would be sent to one of five centers that are regularly at capacity.

Recognizing the need for a central facility that can accommodate the increase in the number of confiscated tortoises while providing veterinary care, research opportunities, and reintroduction planning, the TSA/Hogle Zoo partnership begin planning a base from which to coordinate tortoise conservation activities in the south, and the concept for the Tortoise Conservation Center (TCC) was born. Construction began in 2015 and

is expected to be completed by 2018. More than 2000 tortoises have already been sent to the TCC from the other confiscation centers.

Learn more about the Turtle Survival Alliance and their conservation efforts at [www.turtlesurvival.org](http://www.turtlesurvival.org).

### **Seafood Watch**

The Monterey Bay Aquariums Seafood Watch program helps consumers and businesses choose seafood that is fished or farmed in ways that protect sea life and habitats, now and for future generations. They raise public awareness through the distribution of consumer guides, a mobile app and public outreach. Since 1999 they have distributed over 56 million guides and the app has been downloaded more than 1.5 million times.

#### **Saving the Vaquita!**

Not only is the vaquita the world’s smallest porpoise, it is also the most critically endangered cetacean in the world. Found only in the northwestern corner of the Gulf of California, Mexico, the vaquita population has rapidly declined as a direct result of getting caught in fishing gillnets used for catching the totoaba fish, another endangered species that is hunted for its swim bladder, which is considered a delicacy in China. The population is estimated to have less than 60 individuals and the vaquita is in severe risk of going extinct.

In 2015 a temporary ban on the use of gillnets was put in place by the Mexican government. On July 20, 2016 that ban became permanent. This is an important step in saving the vaquita from extinction. The Presidents of both Mexico and the United States are committed to the protection of the vaquita. Mexico will make permanent a ban on the use of gillnets in all fisheries throughout the range of the vaquita in the upper Gulf of California. Both countries will increase cooperation and enforcement efforts to immediately halt the illegal fishing for and illegal trade in totoaba swim bladders. Both countries will redouble efforts, in collaboration with international experts, to develop alternative fishing gear to the gillnet that does not result in the entanglement of vaquita and establish “vaquita-safe” fisheries. Both countries will establish and implement a long-term program to remove and permanently dispose of illegal and derelict fishing gear from vaquita habitat in the upper Gulf of California.

Learn more about the Seafood Watch program at [www.seafoodwatch.org](http://www.seafoodwatch.org).

### **Zoological Association of America (ZAA)**

ZAA’s mission is to promote responsible ownership, management, conservation, and propagation of animals in both private and public facilities through professional standards in husbandry, animal care, safety and ethics.

Conservation, both *in situ* and *ex situ* is a crucial component of the Zoological Association of America’s (ZAA) mission. During 2015 ZAA’s *in situ* conservation grants totaled over \$52,000 and we are on target for surpassing 2015 totals with \$47,000 already distributed in 2016. Some of our grant recipients include International Rhino Foundation, International Elephant Foundation, Black-footed Cat Working Group, Giraffe Conservation Foundation, Bongo Surveillance Project, Cheetah Conservation Botswana, Grevy’s Zebra Trust, Dyer Island Conservation Trust and many more.

#### **Additions to AMP Program**

ZAA is increasing the species which have an Animal Management Plan (AMP) including siamang, mandrill, Schmidt’s guenon, African black footed penguin, and jaguar. The successful Cheetah AMP has seen over 45 births in under three years.



ZAA: Cheetah Cubs at Metro Richmond Zoo. Photo by: Metro Richmond Zoo

Learn more about ZAA and their conservation efforts at [www.zaa.org](http://www.zaa.org).

## **ABMA: Animal Behavior Management Alliance**

The Animal Behavior Management Alliance (ABMA) is a not-for-profit corporation interested in enhancing animal care through training and enrichment.

### **ABMA-A Year in Conservation by: Scott Trauger Director at Large-ABMA**

The Animal Behavior Management Alliance held its annual international conference in Tampa, Florida from April 17-22 this year. It was a great event highlighted by guest speakers including Precision Behavior's Thad Lacinak and Angi Millwood, Author and Animal Trainer Marc Simmons, International Rhino Foundation's Dr. Susie Ellis, and Dr. Nicole Dorey of the University of Florida's Psychology Department, stimulating conversations and networking opportunities among delegates, and inspirational and cutting edge papers and posters on topics ranging from enrichment and training, to husbandry and welfare.

One of the most exciting things that we were able to begin this year was conservation awards to the previous year's conference speakers whose work was deemed to align with ABMA's core values. Our two conservation award recipients were Gerardo Martinez and John Roberts from the Golden Triangle Asian Elephant Foundation and African Safari for the paper titled *Positive Reinforcement as a Replacement of the Antique Training Methods at Elephant Camps in Asia* and Barbara Glatz from the Animal Training Center for the paper titled *An African Adventure: Raising Awareness through R+ Training Methods*. Both of these awards will help to further the efforts these individuals are contributing to the animal field in their respective parts of the world.

Our other exciting news on the conservation front was the ability to have a portion of the registration fees go towards the delegate's choice of three different Florida-based organizations. ABMA was able to provide help to the Guardian Angel Dog Rescue, the Gopher Tortoise Council, and The Nature Conservancy. These causes will help domestic dogs become adopted by forever homes, help protect a keystone species of tortoise vital to the lives of over 100 species of animals, and purchase lands for the endangered Florida Panther.

As always, ABMA values the lives of the animals in our charge, be it domestic or exotic, as well as the animals in the wild. We feel that conferences like ours allow us the education and experiences to provide the care and conservation to all aspects of these animals. We thank all of those who were able to attend, as well as those who are members and partners so that we may continue to leave our positive mark on the animal world we all love so much.

## **Conservation Award**

The ABMA is pleased to announce that we have created a new conservation award. There are two recipients this year of the \$1000 award that were announced at the 2016 Tampa conference. Gerardo Martinez was awarded for his contributions to Asian elephants by introducing foot care and positive reinforcement techniques to local mahoots in Thailand. Our second recipient is Barbara Glatz, for her work in Africa utilizing positive reinforcement techniques with local police service animals. Each recipient presented at the 2015 Copenhagen conference, having a huge impact on the audience. Their work is inspiring and exciting, both implementing training programs that improved welfare for the animals involved. The ABMA looks forward to recognizing outstanding conservation work each year.

Learn more about ABMA at <https://theabma.org>.

## **Vital Ground**

The Vital Ground Foundation is the premier private sector organization ensuring the recovery and long-term survival of grizzly bears – together with the many native species that share their range – through the protection and restoration of natural areas and corridors where grizzly bears and other wildlife can move freely and safely. Vital Ground also helps reduce conflicts between bears and humans by encouraging and supporting “bear aware” communities within our priority project areas.

### **Hard Work Pays Off!**

Vital Ground celebrated 13 years of dedication and teamwork, as 142-acres of community forest have at last been protected! On July 8, 2016, Vital Ground proudly dedicated the Alvord Lake Community Forest at a celebration with community members and partners in Troy, Montana.

To learn more about Vital Ground and their conservation efforts visit [www.vitalground.org](http://www.vitalground.org).

## **SaveNature.org**

SaveNature.org is “committed to inspiring participation and awareness in the preservation of fragile ecosystems by providing opportunities for personal, direct action to save the diversity of life on Earth.” With their Adopt an Acre and Adopt a Reef programs, among others, they have been connecting people with nature and creating opportunities for action.

### **Doing a Great Job!**

“To date, through the efforts of 150 institutions and 2,700 schools nationwide, reaching more than 80 million children and adults, SaveNature.org has raised awareness and more than \$3.9 million for ecosystem protection to save wildlife and wild places. SaveNature.org works in 11 countries to preserve the plants, animals and natural communities that represent the diversity of life on Earth.”

To learn more about Save Nature and their conservation efforts visit [www.savenature.org](http://www.savenature.org).

## **Action for Cheetahs in Kenya**

Our mission is to promote the conservation of cheetahs through research, awareness and community participation in Kenya. We link with other carnivore programs through Carnivores, Livelihoods and Landscapes (CaLL).

### **CaLL**

CaLL (CARNIVORES, LIVELIHOODS AND LANDSCAPES) is a registered Kenya organization that links carnivore researchers and encourages joint efforts in carnivore conservation throughout Kenya. CaLL is guided by a board or directors to assist its project's function within the legal framework in Kenya and function to provide transparency as well

as to produce results in carnivore conservation in affiliation with the Kenya Wildlife Service. CaLL assists in setting up systems that employ staff within the guidelines of the Kenya Revenue Authority, meet the requirements of affiliation for research authorization and meet guidelines in transparency in financial accounting.

Human activities cause declines in carnivore population numbers and has reduced their geographic ranges throughout the world. Even where carnivores are not directly persecuted, they are often vulnerable to incidental decline due to their large ranges, high energy requirements, and small population sizes. Human pressures on predator populations in Kenya reflect the problems facing predators throughout their range. CaLL stresses the focus of carnivore co-existence with people in a sustainable environment for the future of carnivore conservation. Both COOL Crafts and Action for Cheetahs in Kenya function under the umbrella of CaLL.

To learn more about Action for Cheetahs visit [www.actionforcheetahs.org](http://www.actionforcheetahs.org). Contact them at [info@actionforcheetahs.org](mailto:info@actionforcheetahs.org) if you would like more information about CaLL.

## Red Panda Network

The Red Panda Network “saves wild red pandas and preserves their habitat through the empowerment of local communities by community-based research, education, and carbon mitigation.” They are currently active in four of the red panda home ranges (Nepal, Burma, India, and China) and strive to ensure all of their conservation efforts benefit local people as well as red pandas and the wildlife sharing their homes. For more information visit [redpandanetwork.org](http://redpandanetwork.org)!

### An Alliance to Stop Red Panda Poaching

In the ongoing battle to save red pandas and their habitat, Red Panda Network (RPN) has added yet another weapon: an anti-poaching alliance. According to a 2014 RPN study, poaching and illegal trade are growing threats to red pandas. Their geographic location makes them vulnerable as it borders several known animal-trafficking routes.

The anti-poaching network, which comprises RPN’s 54 Forest Guardians (FGs), has the challenging task of curbing red panda poaching and trafficking in eastern Nepal. Recently, the FGs were trained in anti-poaching investigation methods, which include recording signs of poaching, dismantling traps, identifying wildlife body parts and reporting findings to local law enforcement agencies.

Although habitat destruction is the primary threat to red pandas, recent data suggest poaching is on the rise, according to Damber Bista, Conservation Manager for RPN, Asia Division. The data is based on the number of hides confiscated by the field unit of the Department of Forests as well as the police in Nepal, he wrote in an e-mail. The number of hides confiscated in the past five years has been as low as two in 2011 to as high as 17 in 2013. These may not seem like large numbers, but considering red pandas have been downgraded from “vulnerable” to “endangered” status on the International Union for the Conservation of Nature’s Red List of Threatened Species, every death is significant.

Demand for red panda skins comes primarily from parts of China, such as Sichuan and Yunnan provinces, where some local people believe wearing a hat made of red panda fur and tail during the wedding ceremony will ensure a happy marriage, Bista wrote. In addition, some restaurants in China reportedly serve red panda meat.

“But interestingly, we have no evidence of exporting red panda hides to China and any other country as most of those cases were from Kathmandu,” Bista wrote. In Nepal, only grass-roots level people have been convicted so far, and none of those convicted had any idea where the demand for the hides came from, according to Bista. Locally, red

panda hides can bring anywhere from NPR25,000 to NPR100,000 (about 230 USD to 920 USD).

Poachers who are caught face a jail term of one to 10 years or a fine ranging from NPR10,000 to NPR75,000 (92 USD to 690 USD) or both. But the level of enforcement is moderate, wrote Bista. “Strictly following the rules and regulations will help improve this, and awareness-building of local politicians and other influential persons of the community will be helpful in establishing thorough enforcement.” Conservationists and other stakeholders can further strengthen this enforcement by regularly following up on poaching cases, he added.

Anti-poaching efforts and education face other challenges. Although the Sherpa, who practice Buddhism, do not believe in killing any animals, some of the indigenous tribes living within red panda territory have adopted a hunting culture. “This is one of the issues that makes it hard to convince them,” Bista wrote.

Thanks to their training, the FGs now have a more systematic and scientific anti-poaching protocol – something they lacked in the past, according to Bista. “We still have to work a lot, especially in empowering and mobilizing the members of this network.” Plans are for the anti-poaching network to grow to 100 individuals, serving the entire Panchthar-Ilam-Taplejung Corridor as well as other areas of Nepal. Bista urges red panda advocates to support RPN in extending its outreach. “The poaching induced threat is very high in central and western Nepal, where there is very little effort put forth for the conservation of red pandas and other associated wildlife in comparison to eastern Nepal.”


To learn more about the Red Panda Network and their conservation efforts visit them at [www.redpandanetwork.org](http://www.redpandanetwork.org).

## International Congress of Zookeepers (ICZ)

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

### Planning has begun!

The 6<sup>th</sup> ICZ will be in Argentina in 2018.

To learn more about the ICZ visit them at [www.iczoo.org](http://www.iczoo.org). 





# Follow Us!



[Facebook.com/AAZKinc](https://www.facebook.com/AAZKinc)



[Twitter.com/AAZKinc](https://twitter.com/AAZKinc)

## BIG CAT INTERNSHIPS AVAILABLE



# Join us in

"Saving Tigers One by One"  
As seen on Animal Planet®  
"Growing Up Tiger"

Learn about Big Cat Management. Internship involves  
Animal Care Apprenticeship and Public Education.  
We offer experience that counts towards employment.



TIGER MISSING LINK FOUNDATION • TIGER CREEK WILDLIFE REFUGE • Apply at: [www.tigercreek.org](http://www.tigercreek.org)



CONSULTING & DISTRIBUTING, INC.



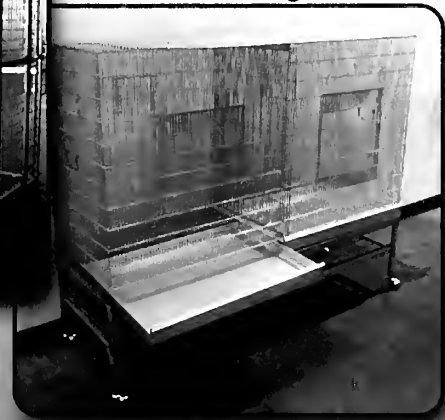
Cut & Clip  
Class III Caging

*Call us for all of  
your caging  
requirements!*



Utility Caging

8620 E Old Vail Road, Suite 100  
Tucson, AZ 85747  
P: (520) 434-8281  
F: (520) 434-0151  
[www.athruzcages.com](http://www.athruzcages.com)



ASSOCIATION  
OF ZOOS &  
AQUARIUMS



## Medical Husbandry for North American River Otters

Andrea Scherrens, Animal Care Professional  
Birmingham Zoo  
Birmingham, Alabama

Each year most zoo collection animals go through a routine medical examination. Many species worked in protected contact must be put under anesthesia in order for this to be accomplished. At the Birmingham Zoo the North American River Otters (*Lontra canadensis*) are treated as a protected contact species. Due to the age of the senior otter and the younger otter's previously troublesome response to isoflurane, keepers became concerned about the frequency of procedures requiring anesthesia. To reduce anesthetic annual examinations to every few years the collective decision was made to train the otters for a completely voluntary examination.

Typical procedures that the North American River Otters at this zoo undergo during an annual examination include annual vaccinations, blood collection, radiographs, an echocardiogram, dental work, and weight assessment. Participation in voluntary injections as well as stepping on a scale had been previously trained, so we were off to a good start. The otters had also been trained to allow for the voluntary examination of several body parts, even offering their paws and tails to the keepers. To continue our goal, we established that we would first train a voluntary ultrasound behavior. This behavior would not only allow for early detection of any heart problems but also for any possible pregnancies.

Our original plan was to create a vertical chute for the otters to stand up in, which would aid in keeping their chests pressed up against the enclosure mesh. This chute was constructed with a thick PVC half pipe and was attached to the mesh of one holding area. The mesh is comprised of 2" x 2" squares - plenty of room to get a small ultrasound probe through. After teaching the hyperactive otters a "hold" behavior which required them to stand still for a total of thirty seconds, we began introducing other factors to them. To do so, we broke the ultrasound behavior down into as many steps as possible, allowing the otter to become completely comfortable with each step before moving on. We feel that this method was and still is the greatest contribution to our success. To this day, we still break the behavior down into baby steps during training sessions, as well as training the behavior in its entirety. By breaking down the behavior into baby steps it allows the otters to become completely comfortable with each step and as such results in the goal behavior being a strong and solid behavior.

We were able to quickly move on to rubbing ultrasound gel on their chests with our fingers. While doing this the otters hold their nose to their set ball and press their chest up against the enclosure mesh or they enter the tube and hold as we apply the gel through the ultrasound probe

opening, always keeping our eyes on their heads in case we need to pull away on the chance the otter breaks away from their hold. This keeps our fingers safe. Once the otters were over that messy step, we introduced a fake probe. Real probes are expensive and we did not want the otters to damage them. For a fake probe we chose to use a syringe cover with the larger end for touching the otter; it was not attached to anything. After a few unrewarded biting attempts the otters learned to accept this strange object touching their chests. Then we added gel to the fake probe and touched them with it. At this point, training sessions began to look like a full mock ultrasound session. Two major elements of a full ultrasound exam were still missing, an actual machine and a cardiologist, but we had to start small with those too. One of the greatest challenges our older female otter faced was her fear of the veterinary staff. She had learned that when people in scrubs came to see her, things were not well in her world. It was a much bigger challenge for her as opposed to our much younger male who had not yet learned to fear them.

To help the female conquer her fears, we began with inviting the same veterinary technician to be in the room during training. As the otters grew more comfortable with her, the technician began to sit closer and closer during training sessions. She took the opportunity to feed the otters their favorite foods whenever she could. She worked her way up to being able to touch the otters while we asked them to hold their noses on the set ball for her. Once they were holding steady with her we began asking other veterinary staff to come and help train. This led to a major decrease in fear towards vet staff. In fact, the otters now willingly perform all of their behaviors to each veterinary staff member that comes to visit. Soon their regular veterinary technician began bringing in an actual probe and a machine. When we felt that they were comfortable with this, we decided to ask a local veterinary cardiologist to come out to see what she could do. Although the otters are used to visitors, letting a stranger touch them was a whole other ball game. However, we were pleased when both otters did accept being touched by the cardiologist.

It did not take long before the otters began to hold for their usual thirty seconds for the cardiologist. This was all the time she needed and after a few trial and error sessions, she was able to see the otters' hearts on her machine. Unfortunately, we soon discovered that the view of the heart was never consistent. We concluded that this was due to multiple factors. The otters had too much room to move around in their vertical chute. Each time they climbed into it their paws were in a different position. Because of the flexibility of otters, this means that the heart was never in the same spot. Even a slight shift moved the heart from





Birmingham Zoo Otter Training



the cardiologist's view. Even if we were to shape this behavior and always have the paws in a consistent position, their bodies could still twist. Shaping this behavior would not have been enough. Gravity was not working in our favor either; because they were standing, their hearts were being pulled downward and backward instead of forward. This made it difficult to see the heart clearly. We needed to find a way for the otters to lie down for ultrasound procedures. After some thought, an idea came to mind.

In the past, otters have been transported to the animal health center for their annual examinations. They were transported in a tube rather than in a crate. This tube was designed by previous keepers and was dubbed the "Induction Tube." The otters fit comfortably in this clear tube, which was designed to keep the otter from flailing around and hurting itself while in transport and also during the beginning of an anesthetic procedure. Regardless of possible negative association due to previous trips to the veterinary clinic in this tube, the otters have always remained fond of this tube. It could work for ultrasounds, but would need to be modified. Modifications included cutting a hole in the bottom for probe access, as well as adding a sliding cover in the event the hole might need to be closed. A member of our maintenance crew built us this entirely new dual-purpose tube; it could also be used for taking voluntary radiographs. The original Induction Tube had entirely too much metal on it for successful radiographs, so the new tube was built using a minimal amount of metal parts. As seen in the photograph, the

only metal found is on the ends of the tube as well as on the handles, which can be moved. Transferring the behavior over to the new tube was not a difficult process since it was almost exactly the same as the Induction Tube that they were used to. With a little baiting, the otters soon enthusiastically accepted it. The tube was a resounding success. The otters entered it in a consistent position every time. The method of entry and lack of "wiggle room" ensures a proper position. Gravity now works with us instead of against us; the heart is pulled downward. This allows staff to see the heart much more clearly. We have noticed an immediate improvement since utilizing this tube as compared to the vertical chute. The heart can now be viewed consistently and clearly.

Using this new method, we have seen the heart every time we ultrasound as opposed to only sometimes, as in the past. The otters hold longer because they are more comfortable. We are now able to not only get a visual of the heart but can actually measure the heart in a relaxed, natural state. It is ideal to measure the heart without anesthesia, because some anesthetic drugs can affect the heart's performance which can result in false readings. Being awake gives a more accurate representation of heart function. The cardiologist has commented many times that she has seen "anesthesia worthy" images of both of the otters' hearts. We have also successfully taken multiple voluntary radiographs of our female otter by utilizing this tube. This is very helpful for animals with delayed implantation, since being able to view the bones of the fetus is also a way to confirm a true pregnancy.

Three of the most difficult challenges we faced while training this behavior were getting the otters to hold almost completely still for an extended period of time, desensitizing them to the pressure of the probe, and getting past their thick, air-pocket-filled fur. Again, proceeding with baby steps was the biggest reason we overcame those obstacles. Each time they began to consistently hold for a short period of time (we started with ten seconds) we increased our expectations a little more. The otters will now hold for nearly one minute, which is plenty of time to view a heart, measure it, and assess the health of it. We used the same procedure for training the otters to accept the pressure of the probe. We started off with just touching, and then pushing a little harder when we knew they were ready to accept more pressure. For thick otter fur ultrasound gel is the key! We have gotten the best results with about half of a 250ml bottle per otter per session. Penetrating the fur was the hardest part for the cardiologist. She discovered that beginning each session with several applications of gel and massaging it into the fur is the best technique for breaking past the fur to the skin. Each time she pulls the probe away, she reapplies the gel. We always let the otters wash themselves off immediately after we are through and have seen no negative effects on their fur since we have been doing this. This could have something to do with the ultrasound gel being water soluble.

Once the otters were comfortable with this level of training, it was time to move on to the next behavior, which was a voluntary blood draw. To our knowledge, this had not been a commonly trained behavior for North American river otters. Our first step was figuring out where to draw the blood from. In previous exams the blood had been taken from the neck but this would not be safe to do with a fully-awake otter. With little to no information to be found on this topic, we finally settled on two possible locations to try; the webbing on the back foot as well as the ventral side of the tail. At that time the otters did not have a trained behavior for showing us the ventral side of their tail or the bottoms of their back feet. We decided to make use of the injection chute for this behavior. This would allow the otters to lie on their sides, exposing both the ventral side of the tail and the bottoms of their feet.

To receive an injection the otters enter the tube from the right side and remain on their stomachs. To prevent confusion, we established that the blood draw behavior would require the otters entering the tube from the left side and twisting onto their left side so that their stomachs would be facing us. To get them onto their sides we combined a formerly trained “grab” behavior with the cue to enter the tube. For “grab”, the otters grab a PVC pipe with both front paws. As they entered the tube they were asked to “grab” the PVC pipe, which caused them to flip their bodies to complete the goal behavior. Once they began doing this in one smooth motion, we slowly began backing away from using the PVC pipe and transformed the behavior into its own cue. We also combined the “hold” behavior mentioned above. After training the otters to present their tails and desensitizing them to touching and needles, the veterinary technician attempted a blood draw from the tail. This is essentially a blind stick, and after many unsuccessful attempts once a week for approximately one month, we decided to try for the vein in the foot. To keep the behavior positive, we chose to reward the otters with their favorite types of fish and ask for other simple behaviors during the blood draw training sessions. This vein is small and can roll easily and thus it is not a very easy one to hit. Finally, we had a successful blood draw from our female. With a lot of time, patience, and practice, the veterinary technician learned methods that worked for holding the vein still. To

stabilize the vein, pressing a thumb beside it and a finger on the backside will help significantly. Over the past year each time we have aimed for getting enough blood for a CBC we have succeeded from the female otter, which was more than enough to complete her yearly blood work.

Our goal as a team has been accomplished and we have learned so many things in the process. We, and the otters, have overcome numerous challenges. The whole experience has created a stronger bond between us, and the animals. It also has made daily and medical husbandry easier. The level of bonding that has occurred is so strong that we feel as if we can train the otters to do nearly anything that we need to. The process has taught them skills needed to deal with new things, people, and events. It has also brought our team together as a department, as well as with our veterinary staff. We hope to share our newfound knowledge with others and hope that our information we have gathered — and will continue to gather — will be useful to others. 🐾

## BHC Comments by Kim Kezer

I am going to start my comments by paraphrasing the theory behind operant conditioning. If an animal participates in a rewarding experience, the likelihood of it participating in future training sessions is high. Likewise, if an animal has an aversive experience during a training session, the likelihood of it participating in the future is low. Therefore, planning ahead, or lack of planning for that matter, can strongly influence the outcome of your training effort. This training team has properly prepared in order to make their otter training program a success. They have done an excellent job visualizing a final behavior and developing a shaping plan by breaking the behavior down into many smaller steps. These tiny steps help to establish a solid foundation from the beginning and when trained to completion, the results are a reliable final behavior.

In addition to good shaping plans, a trainer needs to know what the animal is capable of and some of the challenges this individual may have for any part of the behavior. In this case, the female had a fear of the veterinary staff. Anticipating the veterinary staff being an aversive for the otter, the trainers included the veterinary team as part of the training process. As trainers, we are frustrated to have a behavior “ready” to go and the unexpected happens; for example the animal being startled by a beeping sound from the machine or the animal not comfortable with a specific person. Planning every aspect of the behavior is critical, especially when it involves multiple players. Unfortunately, training does not always go as planned. In this case, the vertical positioning was not working well for the cardiac ultrasound, so problem solving and creative thinking were used to design the new tube. This is what I enjoy about Training Tales – hearing what you have accomplished and seeing how trainers problem solve to achieve their goals. Thank you for sharing your Training Tale.



# Lyon ProCare Critical Care Units

The Lyon ProCare CCU assists veterinary professionals in providing the best oxygen therapy care to a variety of small animals.

Designed with leading practitioners to meet the demanding needs of Critical Care and proven by years of actual use in veterinary hospitals, emergency clinics, teaching hospitals, rescue facilities and zoos.

The goal of oxygen supplementation is to increase the oxygen concentration of inspired air, improve blood oxygenation, and increase tissue delivery of O<sub>2</sub>.

Lyon's Intensive Care Units are great for avian and exotic patients because they are low stress and noninvasive. It is the go to unit for thousands of veterinary professionals world wide.



ProCare CCU 24 912-103



ProCare CCU 18 912-120

## DIMENSIONS:

ProCare CCU 18: 22 ¼ W x 22 H x 23 D P/N 912-120

ProCare CCU 24: 28 ¼ W x 27 H x 23 D P/N 912-103

ProCare CCU 36: 40 ¼ W x 27 H x 23 D P/N 912-104

ProCare CCU 48: 52 ¼ W x 33 H x 25 D P/N 912-140

ProCare CCU 60: 66 ¼ W x 39 H x 31 ½ D P/N 912-119

\*All dimensions are in inches by Width X Height X Depth  
\*Specifications subject to change without notice

## STANDARD FEATURES

- 5 Sizes
- Double Walled, Insulated all Metal Construction
- Powder Coated for Superior Durability
- Digital Display
- Relative Humidity Display, Monitoring and Alarm
- Passive Cooling System
- Oxygen Induction System
- CO<sup>2</sup> Scrubbing
- Easy Lift Removable Door
- Auxiliary Access Port(s) depending on unit size
- IV Tube Access with Integrated Bag Holder
- Interior LED Lighting
- Nebulizer System
- Removable Floor
- Optional Cart with Storage Shelf and Casters
- Lyon TrueDimension™ Sizes are Actual Interior Useable Space
- Oxygen Inlet Terminated with DISS 1240 Male Adapter



8476 E. Speedway Blvd.  
Suite 204  
Tucson, AZ 85710-1728  
U.S.A.

ADDRESS SERVICE REQUESTED



SMITHSONIAN LIBRARIES  
3 9088 01858 4193

Berea, OH  
Permit #333

"Dedicated to  
Professional Animal Care"



\*\*\*\*\*AUTO\*\*3-DIGIT 200

P1 S7  
Smithsonian Institution Library  
Nhb 25 Mrc 154  
PO Box 37012  
Washington DC 20013-7012

 facebook.com/AAZKinc

 @AAZKinc

# Sound Nutrition for Nature's Royalty



Central Nebraska Packing, Inc. offers:

**Classic & Premium** Frozen Carnivore Diets

• ALSO AVAILABLE •

HORSE SHORT LOINS / HORSE & BEEF BONES

MEAT COMPLETE WITH TAURINE (RAW MEAT SUPPLEMENT FOR ALL CARNIVORES)

MEMBER: AZA | AAZV | AAZK

**NEBRASKA BRAND**



877.900.3003 | 800.445.2881

P.O. Box 550, North Platte, NE 69103-0550

info@nebraskabrand.com • nebraskabrand.com

FELINE & SENIOR FELINE | BIRD OF PREY | CANINE | SPECIAL BEEF FELINE