



Alive

INSIDE

Chilling out With Polar Bears

Fun at the Zoo in Winter

Our work in Africa & Belize

Bonobos: Passage of Power

The mission of the Zoological Society is to take part in conserving wildlife and endangered species, to educate people about the importance of wildlife and the environment, and to support the Milwaukee County Zoo.

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CEO's Letter



I almost lost control of my car and ran off the road on a trip up to Milwaukee last year from Chicago, where I was working at the Lincoln Park Zoo. What startled me? A digital sign over the freeway that noted the drive time to the Zoo Interchange. "The Zoo has its own interchange?" I couldn't believe it. That says a lot about how important the Zoo is to the metro region. Nowhere in my travels had a local zoo been referred to in LED highway signs and on the radio during prime drive time every morning and every afternoon, as it is in Milwaukee. Milwaukeeans have a deep-rooted cultural connection to the Zoo, and they have been very good supporters of the Zoological Society of Milwaukee (ZSM). We have 50,000 member households, which equates to reaching 150,000 to 200,000 people just through member programs. Thousands more people who aren't ZSM members visit the Zoo yearly. Yes, the Zoo is important here.



Yet there are many families / children who don't visit or can't get to the Zoo, for reasons ranging from economics to accessibility. I am committed to connecting them to this wonderful Zoo and getting them to become environmental stewards. We want these families to become ZSM members so that they can attend our animal-science education classes (September-May) and summer camps. So I have been meeting with leaders from diverse community groups throughout the metropolitan area. I want to build partnerships with these organizations. Of course, there is a need to raise funds for our programs. So I've also been meeting with members of Milwaukee's philanthropic community.

Thanks to the direction of our capital campaign director, Jack McKeithan, and Dr. Gil Boese, immediate past chief executive officer of the ZSM, this \$29,828,500 campaign – \$14.9 million of that raised by the Zoological Society – has resulted in spectacular changes at the Zoo. Seven of the nine projects, from a new veterinary hospital to a new conservation education facility, are completed. The eighth, the Miller Brewing Company Giraffe Experience (see page 6) opens this summer. The ninth project, the U.S. Bank Gathering Place atrium, will premier in 2008. I'm pleased to be a part of this success.

This winter we are charting the future. We will develop a five-year strategic plan for the ZSM and its support of the Zoo.

Finally, as I finish six months as ZSM president/chief operating officer and start as CEO, I want to thank Gil Boese for his counsel to me. It has proved critical in the success of my transition.

Robert Davis

Dr. Bert Davis
 Chief Executive Officer



Summer Camps Brochure

Look for the Zoological Society's Summer Camps 2006 brochure packaged with this *Alive* magazine. Online registration for these camps at the Milwaukee County Zoo starts Feb. 8.

FEATURES

4 *The Zoo in Winter*

Seven fun things to do and see at the Zoo when it's cold outside

6 *Capital Campaign Report: Neck & Neck With the Giraffes*

Soon you'll be able to feed the giraffes when the Miller Brewing Company Giraffe Experience opens in July.

8 *The Belize Connection*

The Zoological Society has a 20-year history of conservation projects in Belize.

11 *What She Learned in Belize*

A high school science teacher brings Belize into her Wisconsin classroom.

12 *Chilling Out*

Say a winter hello to Zero and Snow Lilly, the polar bears, and Pender and Sydney, the new harbor seals.

18 *How Lab Tests Save Animals*

ACL Laboratories helps veterinarians keep Zoo animals healthy.

22 *Passage of Power*

A troubled bonobo matures and vies for leadership of the Zoo's bonobo group.

23 *A Partner in Africa*

The Zoological Society has contracted with the World Wildlife Fund to do conservation work in Africa.

26 *Saving Animals, Helping People*

The ZSM's support of the Lewa Conservancy in Africa helps save rhinos and elephants while creating jobs.

DEPARTMENTS

- 2 President's Letter 🗣️
- 16 Education: The Zoo as a Teaching Lab 🙋
- 20 Conservation Chronicles: Sharing Space With Chimps 🌍
- 21 On the Job: A Passion for Penguins 🐧
- 25 Serengeti Circle 🦒
- 28 Platypus Society 🦢
- 30 What's Gnu 🐘

KIDS ALIVE

- 13-15 Birdfeeders at the Zoo, a winter home for summer-loving animals, apes and monkeys.



Kalahari, the Zoo's new black rhino! See page 30.

The Lions in Winter

(plus gorillas, wolves & more)



Gorilla

The Milwaukee County Zoo is a fascinating and inviting place in the wintertime. When city streets and sidewalks are covered in snow, the Zoo's walkways are plowed, salted and safe to stroll. Summertime crowds are gone and the Zoo truly becomes a calm and quieting park. Stroll past winter-loving animals in their outdoor yards. Need to warm up? Duck into one of the many indoor animal buildings, such as the Florence Mila Borchert Big Cat Country. Most animals are on exhibit year-round, and the Zoo is open 365 days a year. Here are seven winter-themed Zoo spots to enjoy.

A Winter's Tail or Two

Start your walk at the Taylor Family Humboldt Penguin Exhibit as you walk into the Zoo's Main Mall. These penguins like warmer weather, but can withstand the cold. Try to walk like a penguin as you head to the African Waterhole Exhibit. Don't be surprised if you see an African zebra when you walk past. Cousins to the horse, zebras can withstand cold temperatures; however, they're kept inside when it's snowy or icy and they might slip. Near the waterhole is the main (north) entrance to the new Florence Mila Borchert Big Cat Country, where you can view the lions and cheetahs and jaguars keeping warm indoors. Exit at the south end of the building and you'll find Boris the snow leopard in his outdoor exhibit. The Siberian tigers are often outdoors nearby, too. These big cats love the snow! Walk past the elephants and rhinos to the polar bear exhibit and watch lovebirds Zero and Snow Lilly frolic in their outdoor pool (see page 12).

Window on the Wolves

Across from the polar bears is the moose and mule-deer yard bordered by their neighbors the wolves. Stay warm in Wolf Woods Lodge and watch through picture windows as the Zoo's five wolf siblings go about their winter antics. Visit when not many people are around and the wolves may come right up to the windows and peek at you through the glass! The best times to visit are early morning and late afternoon. Observe their behavior. Note that they quickly turn away when you look them in the eye. Many animals feel threatened by direct eye contact. If you stop by when the wolves are hiding behind trees or bushes, trace their tracks by looking for paw prints in the snow. If you like to draw, you might want to bring some paper and a pencil to sketch a winter afternoon wolf scene.



The Zoo in winter.

Top-of-the-World Animals

From Wolf Woods, walk along Lake Evinrude, past the elk to the three caribou: Larry, Barry and Young Mother. Caribou, known in Europe as reindeer, are well adapted to harsh arctic climates and pant during Wisconsin's hot summers. Their heavy, wooly coats are made of stiff, long, tubular hairs for insulation. This thick hair traps air and keeps it warm near the caribou's bodies. Caribou also have fascinating feet, with four broad, flat hooves for traveling on slippery ground. Although caribou usually walk on only two hooves, they spread out all four hooves for balance in the snow and ice. These animals are also memorable for being the only member of the deer family in which both males and females have antlers.



Siberian tiger

Different as Night and Day

From the caribou, walk uphill to visit some exotic warm-weather-loving animals in the Small Mammals Building. The temperature in much of the building is kept warm to accommodate such animals as South American tamarins, meerkats, lemurs, and more! The building is divided in two sections: day and night. On the day side of the building, enjoy the playful otters frolicking and splashing around in their pool. Welcome the Zoo's two new African fennec foxes and two new tayras (see page 30). Explore the Animals of the Night section where lights are kept very low to simulate nighttime. Here you can witness nocturnal animals going about their "nightly" activities. "Hang around" and observe fruit bats hanging upside down from branches.

Get a Feel of Summer

If walking around the Zoo is giving you the chills, head to the Aquatic & Reptile Center (ARC) for a taste of the tropics. Stop by the giant aquarium filled with exotic fish in the back of the building and imagine you're in the Amazon. Or "jet" from Lake Victoria to Lake Tanganyika at the African Lakes aquarium. Wish you were sunning on a beach? Look at the snakes and lizards as they bask under hot aquarium lights. If you miss the singing summer birds, walk from the ARC past the snow monkeys on Macaque Island to the Herb & Nada Mahler Family Aviary. Here you can be among the birds in the warm and humid open-flight exhibits. Stroll through the building's rain-forest or African savanna exhibits and check out birds such as the Egyptian plover and the vivid blue Victoria crowned pigeon.

Let's Play Vet

Not far from the aviary, over the river and through the woods, it's off to the Animal Health Center we go! The tree-canopied walk to the Holz Family Foundation Learning Zone at the north end of the Animal Health Center offers charming views. Indoors you can "diagnose" animal conditions by looking at X-rays. You can also take a close look at and compare blood-sample photographs of healthy and sick animals. Be sure to check out the treatment and surgery rooms. Large windows give you a close-up view of the veterinary team treating and operating on Zoo animals. And if you can't see everything through the windows, there is a TV overhead that may show play-by-play images of the animals' treatments.

Who's Watching Whom?

From the Animal Health Center, walk to the Peck Welcome Center and through the building to the Stearns Family Apes of Africa and Primates of the World buildings. Bring a folding chair and sit in front of an ape or monkey exhibit for 30 or 60 minutes. Take notes and learn to identify the individual animals. Get a feel for the complex social dynamics of the bonobos and the personalities of the Zoo's six gorillas. See if they start watching you. In the afternoon, you may see the bonobos and gorillas playing with plastic balls and other toys as part of their enrichment activities. Got children in tow? Stop by the spider monkeys. Their lively antics are sure to amuse the little ones. As you head back outdoors to finish your walk through the Zoo, watch for the peafowl. The colorful peacocks and more muted peahens stay out all winter and like to crowd near building doors.

-by Julia Kolker and Melissa Lindstrum

Photos by Richard Brodzeller: Siberian tiger, Humboldt penguin, timber wolf, and Francesca
Photos by Robb Quinn: The Zoo in Winter, mule deer, and gorilla

Francesca Jeffries, a Zoological Society educator, finds the Zoo in winter exhilarating.



Timber wolf

Humboldt penguin



Mule deer





Neck & Neck With the Giraffes

You don't need to travel to Africa to see a giraffe up close or even feed one. This summer, you can meet these graceful giants face to face at the Milwaukee County Zoo. Just visit the new Miller Brewing Company Giraffe Experience, scheduled to open in mid-July. Replacing a 50-year-old giraffe building and yard, the new exhibit is twice as big, and it will let you climb up a 6-foot-high deck to go eye to eye with the giraffes. The giraffes will be fed treats such as vegetables or food pellets from this platform twice a day. You may even have a chance to feed a giraffe yourself.

"Giraffes will have more space and a more open and natural view; visitors will get a different perspective of the animals," says Dr. Gil Boese, Zoological Society project manager for the new exhibit.

The Zoo broke ground for the new exhibit last June, and the chief executive officer for Miller Brewing Company, Norman Adami, was present for the event. Adami, who has a ranch in South Africa that has wild animals such as giraffes roaming freely, toured the Zoo with Dr. Boese. "He was impressed by our Zoo's quality and particularly by our new Florence Mila Borchert Big Cat Country, which exhibits cheetahs and lions from Africa," says Dr. Boese. Adami was enthusiastic about Miller's support of the new giraffe exhibit.

To get additional space for the new exhibit, the old exhibit's wide moats (see photo at right) will be narrowed so that giraffes can come up closer to the public. The new exhibit will expand into a tree-filled area to the west. The 6-foot-high deck will be wheelchair-accessible. "The deck will make the exhibit much more engaging for visitors," says Dr. Bruce Beehler, Deputy Zoo Director.




Visitors used to view the giraffes in their indoor enclosure from an open-air walkway that was exposed to the wind during cold weather. In the new exhibit, a glass wall will enclose this public area for comfortable viewing. There will no longer be a wall between the visitors and the giraffes, just a tall, cable railing for the giraffe and a public railing. This will allow a more personal encounter with these graceful animals. In the summer, doors will be open on both sides of the exhibit.

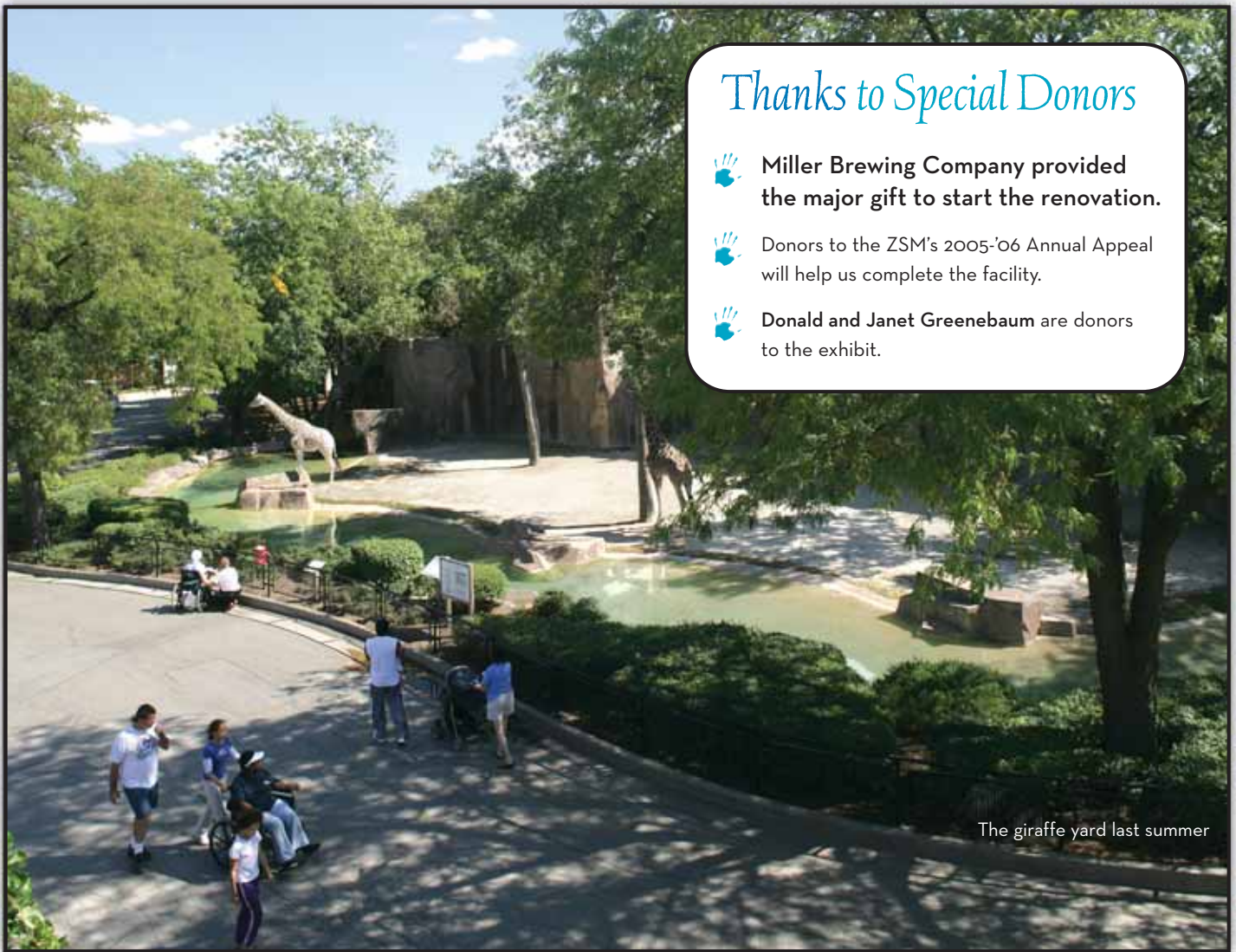
Cushioned exhibit floors will give the long-limbed giraffes a comfy place to lie down. Behind-the-scenes



Above: Norman Adami, president and CEO of Miller Brewing Company, speaks at the groundbreaking at the Zoo in June 2005.

Thanks to Special Donors


-  **Miller Brewing Company** provided the major gift to start the renovation.
-  Donors to the ZSM's 2005-'06 Annual Appeal will help us complete the facility.
-  **Donald and Janet Greenebaum** are donors to the exhibit.



The giraffe yard last summer

features are designed to help zookeepers improve animal care. A moveable wall inside the exhibit will allow veterinarians and keepers to examine and care for the animals safely. "The giraffes will be trained to go in and out of the chute daily and to be comfortable with staff touching them," says Beehler. This will allow keepers to trim hooves and do exams without putting giraffes under anesthesia, which can be fatal to these animals. A transfer door in one of the giraffe stalls will streamline the transport of giraffes in and out of the Zoo.

All-new graphics will keep visitors up to date on the natural history of the giraffe species and the biographies of the giraffes at our Zoo.

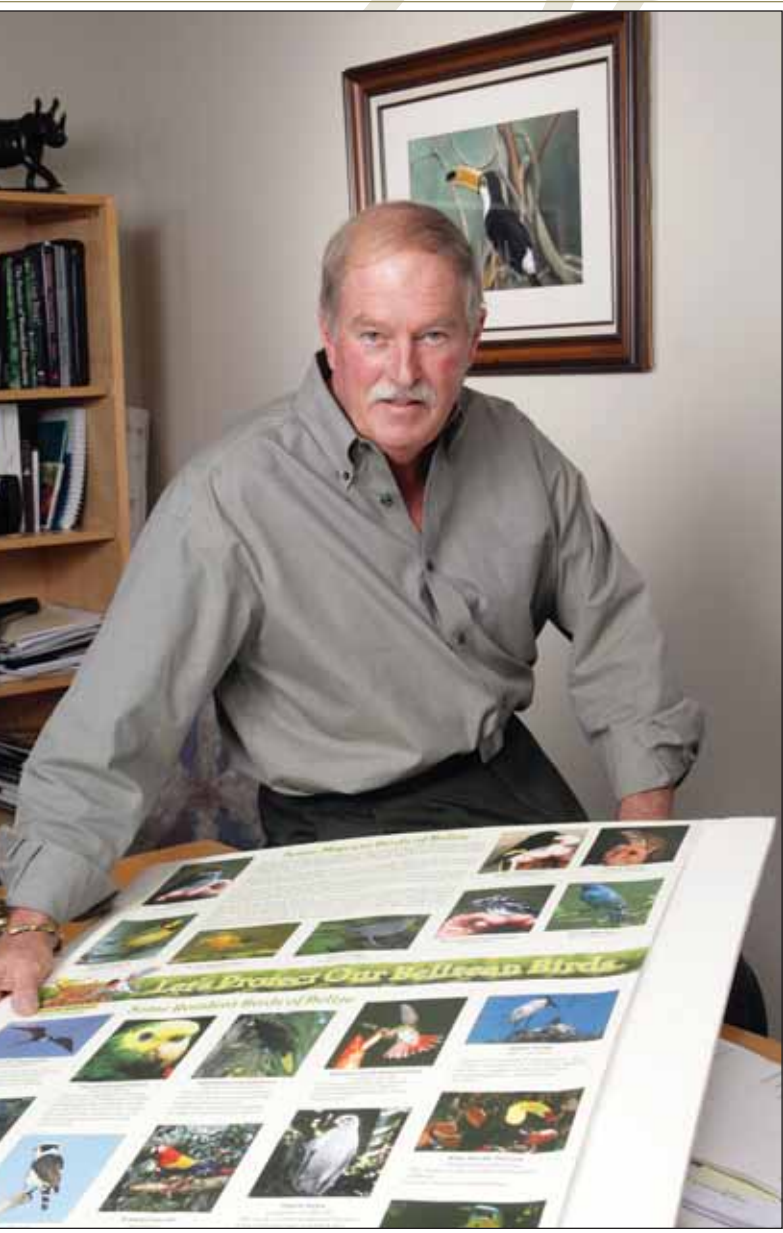
During construction, which began in November 2005, the Zoo's two giraffes (both females) are staying at The Wilds in Cumberland, Ohio. The Zoo also may acquire a male giraffe. The females and the new male will come to our Zoo in May and June, which will give the giraffes time to acclimate to the exhibit before it opens to the public in July, says Beehler. The Miller Brewing Company Giraffe Experience is one of the last projects in the joint ZSM and Milwaukee County New Zoo II Capital Campaign. 



VIPs break ground for the Miller Brewing Company Giraffe Experience at the Zoo in June. From left are Milwaukee County Executive Scott Walker; Norman Adami, president and CEO of Miller Brewing Company; ZSM Board member Mike Jones; Kim Marotta of Miller; Jack McKeithan, chair of the capital campaign; and Zoo Director Chuck Wikenhauser (far right, applauding).

To contribute to the capital campaign, please call us at (414) 258-2333, or go online at www.zoosociety.org.

Our Belize



Dr. Gil Boese has spearheaded the Zoological Society's conservation projects in Belize, including this educational poster on the birds of Belize.

Opposite page: Glasswing butterfly photo by Jan Meerman
Harpy eagle photo by Vicki Plaskowski

How do you choose a wildlife habitat to save? "There are so many endangered places in the world that need saving," says Dr. Gil Boese, "but to make a difference, you have to focus." Twenty years ago Dr. Boese – now president emeritus of the Zoological Society and president of the Foundation for Wildlife Conservation, Inc., in Milwaukee – focused on the Central American country of Belize. Since then, a strong conservation partnership has developed between Wisconsin and Belize.

The Zoological Society of Milwaukee (ZSM) and the Foundation have developed or assisted numerous conservation projects in Belize. Today, the Foundation owns a 6,009-acre wildlife sanctuary in Belize called Runaway Creek Nature Preserve. An international bird project started by Dr. Boese has published several research articles on birds and a guide to help private landowners in Belize manage land to conserve birds (see page 10). The ZSM has partnered with We Energies to bring Wisconsin high school students to Belize to study conservation in the field (see page 11).

It all started in 1986 with the first exploration trip to Belize by Dr. Boese and his wife, Lillian, then ZSM executive director. "We were hosted by the Belize Audubon Society and looked at a number of their projects," he says. "We hooked up with archeological groups to visit Maya ruins, went to the coast to explore the bird islands, met researchers, and got an insight into the country." With three-quarters of its land forested, Belize had ample wildlife habitat still able to be saved. The official language was English, and the country (formerly British Honduras) had been relatively stable since gaining independence from Great Britain in 1981.

One Audubon Society project was the Community Baboon Sanctuary. (Baboon is what many Belizeans call howler monkeys. Actual baboons live in Africa, not Central America.) "Bob Horwich, a research zoologist and former colleague of mine from the Brookfield (Ill.) Zoo, was working with a group of farmers to set aside land for howler monkeys. Farmers and their children served as guides to take tourists through the properties," says Dr. Boese. "I was impressed that the local people were coming together to protect resources on their property while they also were developing eco-tourism.

"So the Zoological Society partnered with the Belize Audubon Society to help fund the Community Baboon Sanctuary, which is north of the Belize Zoo in Bermudian Landing. We helped them build a museum and visitor orientation center and assisted in training guides. This was in the late 1980s." When the Foundation for Wildlife Conservation (FWC) was set up in 1993, it took over funding of the sanctuary and continued for years.

In 1988 Dr. Boese met Sharon Matola, the ebullient director and founder of the Belize Zoo, at a conference in Chicago. He

Connection



mentioned that he was planning to take a tourist group to Belize. “She asked us to visit the Belize Zoo. We knew she was working hard to improve the Zoo and to get education programs started. When we went there, we presented her with a check from our group, maybe \$1,000 or so. And then we started getting more and more involved.”

The Zoological Society helped fund improvements on an old research building at the Belize Zoo’s Tropical Education Center. Years later Zoological Society researchers and staff were able to use that building for education programs presented to Belizean children. “We continued to support the Zoo through the Foundation for Wildlife Conservation, providing funds for zoo maintenance and education programs,” he says. “One of the first projects we supported was an environmental education outreach program to the rural Toledo District in southern Belize. Its goal was to sensitize both adults and children to how human activities can endanger plants and animals. In 1997, the Foundation followed up in the same district with a manatee (sea cow) conservation program for kids.” Eventually the Belize Zoo focused on holding children’s programs right on zoo grounds.

As Dr. Boese, Zoological Society staff and Board members met more people in Belize and built a reputation for following through with successful conservation efforts, “one project led to another and another,” he says. Among them:

- Posters promoting conservation, including one on the birds of Belize (see photo), distributed to schools, libraries, etc.
- A biological study by the Belize Zoo and Tropical Education Center of the scarlet macaw (threatened to the point of extinction)
- Relocation of howler monkeys in three threatened areas of Belize to a safer, larger territory that would allow the combined groups to interbreed. The new area borders on Chaa Creek Nature Reserve, an award-winning eco-tourism resort. Dr. Boese met the owners in 1986 and has brought ZSM tour groups there. It is also a research site for the bird project Dr. Boese started, and the FWC built housing there for Zoological Society researchers.
- Harpy eagle restoration project to bring back this raptor that had completely disappeared from Belize, its native habitat

One dream of Dr. Boese was to bring the beautiful butterflies of Belize to the Milwaukee County Zoo so that people in Wisconsin could see them. He met botanist and butterfly specialist Jan Meerman, who owns Green Hills Butterfly Ranch in Belize. They

started planning for a huge tropical butterfly exhibit that would open at the Zoo in summer 2000. An important benefit of Meerman’s contract with the Zoological Society to ship butterfly larvae to Milwaukee meant that he could expand his ranch and thus help preserve some endangered and rare butterflies. The butterfly exhibit, which ran in the Otto Borchert Family Special Exhibits Building both in 2000 and 2003, was the first animal exhibit totally developed by the ZSM and was one of the most popular summer exhibits in the Zoo’s history.

The Belize conservation projects Dr. Boese recommended to the Foundation had multiple benefits, helping both wildlife and people, benefiting Belizeans as well as Wisconsinites. The Milwaukee County Zoo and its affiliate, the Zoological Society, are required by the American Zoo and Aquarium Association to support animal conservation in the wild if the Zoo is to continue to exhibit wild animals such as jaguars, for example. “In the mid-1990s we were talking about a major project to preserve jaguars, like the farmers did for howler monkeys,” he says. But jaguars are solitary cats, roam a huge territory and are hard to locate. It would be difficult to measure success in preservation. So his focus shifted.

“I started to notice all the migratory birds in Belize, many of which I would see on our own property in Pewaukee. I was sitting on our deck reading an article in the Milwaukee Journal Sentinel about migratory birds disappearing, and I looked up to see those same migratory birds in our back yard.” With research, he discovered that Wisconsin and Belize shared 114 species of birds that migrate between the two areas. If the birds are disappearing, he thought, why don’t we try to understand the dynamics of bird migration.

Thus was born Birds Without Borders-*Aves Sin Fronteras*® (BWB-ASF). This multi-year, international project begun in 1997 was co-sponsored by the Zoological Society and the Foundation and included three missions: research on birds, conservation of birds and their habitats, and education of children and adults about birds and conservation. A major aspect of the project was the use of private land as research sites, both in Wisconsin and Belize. “Most of the world’s wilderness is on private property,” says Dr. Boese. So it’s important to get private landowners interested and involved in conservation.



Sharon Matola



Continued on next page ►

Our Belize Connection (continued)

As the researchers were learning how to save habitats for birds, an unusual proposal came to the Foundation. Would you like to buy a large tract of land near the Belize Zoo and create a nature preserve? The FWC Board decided that, if they could get the land at an affordable price, the answer was yes. "It took years to negotiate the sale, and on Sept. 16, 1998, we bought 6,009 acres and turned them into Runaway Creek Nature Preserve," says Dr. Boese. Jan Meerman was hired to do an assessment of plants and animals on the property, and his analysis provided a model that the FWC's Belize staff still follow as they explore the reaches of this preserve.

Buying land is one of the best ways to assure you can preserve wildlife, says Dr. Boese. Runaway Creek allowed the Foundation to accomplish its original plan to protect jaguars because several have been seen on the preserve. A multitude of wildlife, however, has found refuge at Runaway Creek: migratory birds, endangered Morelet's crocodiles, huge jabiru storks, spider monkeys, howler monkeys, tapirs, rare plants and butterflies.

Runaway Creek has become a site for ongoing Birds Without Borders-*Aves Sin Fronteras*® research and a place to bring Wisconsin high school students who are part of Belize & Beyond (see page 11).

Now that Dr. Boese has stepped down from his role as ZSM chief executive officer, he can focus more on the Foundation for Wildlife Conservation. For the future in Belize he has several projects in mind: a cultural-exchange program between Belizean and Wisconsin children; studies on the monkeys, cave crocodiles and jaguars at Runaway Creek; an eco-tourism program for the preserve that will have minimal impact on wildlife and avoid building tourist facilities; studies of Maya culture and the archeological artifacts found on the preserve; studies and maybe even propagation of endangered plants there. "We hope Runaway Creek will serve as a model for quality natural-history preserves."

-by Paula Brookmire



Photo by Nick Stephens

Keel-billed toucan, national bird of Belize

Conservation Legacy



Mario Teul is Belize national coordinator of BWB-ASF.

the others still work in conservation or education. BWB-ASF has three full-time, year-round staff. BWB-ASF also trained two staff of Programme for Belize (a conservation organization) in bird banding so that they could conduct their own research. BWB-ASF trained six people from a Belize village to be bird tour guides, and two of them have been hired to help conduct weekly ecological assessments on Runaway Creek Nature Preserve in Belize (see accompanying story).

While conducting research on the migratory and resident birds of Belize, BWB-ASF banded 4,433 birds (1,556 migrants and 2,877 residents) and located and studied 346 nests. BWB-ASF staff have given 45 educational outreach talks and bird banding

Birds Without Borders-*Aves Sin Fronteras*® (BWB-ASF) has left a lasting legacy in Belize. Since the start of this bird research-conservation-education project in 1997, BWB-ASF has hired and trained 19 Belizeans. One of the staff earned a Fulbright scholarship to attend graduate school in the U.S., earned a master's degree and is now studying for a Ph.D. Two are attending school to complete bachelor's degrees in natural resource conservation. Most of

demonstrations in Belize, given 13 presentations on Belize research at scientific meetings and had 6 articles published in scientific journals.

A BWB-ASF curriculum guide developed by Zoological Society educators for elementary school students was used in programs that reached hundreds of schoolchildren both in Belize and Wisconsin. Later the guide served as a model for a high school curriculum for Belize & Beyond (see page 11).

Research on resident and migratory birds as well as on the nesting cycle of the threatened jabiru stork is continuing on Runaway Creek Nature Preserve. To learn more about plants in the pine savanna (an open area with scattered trees and shrubs that has grasses, sedges or rushes covering the ground) at the preserve, BWB-ASF staff collected samples that made botanical history. Gerrit Davidse of the prestigious Missouri Botanical Garden identified two of the plants (*Scleria lacustris* and *Paspalum wrightii*) as never before having been recorded as existing in Belize.

-by Vicki Piaskowski, international coordinator of BWB-ASF

ZSM staff trained Belize villagers to be bird guides for eco-tourist groups.

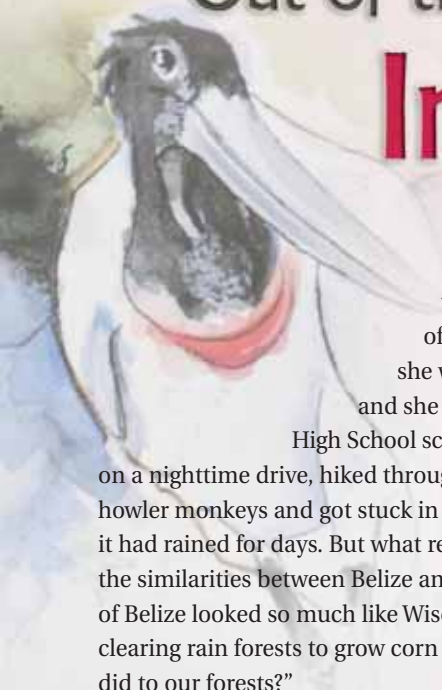


Wisconsin high school students visit Runaway Creek Nature Preserve in Belize.

Two photos in Belize by ZSM staff



Out of the Classroom, Into the World



When Tammie Niffenegger went to Belize last August as part of the Belize & Beyond program, she was prepared for an adventure and she got one. The Port Washington High School science teacher spotted two tapirs on a nighttime drive, hiked through the tropical forest to see howler monkeys and got stuck in a bus on a muddy road because it had rained for days. But what really surprised Niffenegger were the similarities between Belize and the United States. "Some areas of Belize looked so much like Wisconsin," she says. "Farmers are clearing rain forests to grow corn and raise cows. Is this what we did to our forests?"

Niffenegger's trip is helping her and her students answer these kinds of questions. The Belize & Beyond program, a joint effort of We Energies and the Zoological Society of Milwaukee (ZSM), has classes and field trips that teach 650 students in nine high schools how economic factors affect the environment in tropical and temperate forests. In each of the last two years, six high school students and a teacher from participating schools were selected to go to Belize. After teaching the Belize & Beyond curriculum for two years, Niffenegger applied to travel to Belize because she wanted to learn more about this Central American country.

"Tammie was chosen because she is a dedicated teacher who took the Belize & Beyond curriculum a step further," says Kerry Scanlan, a community program coordinator in the ZSM's Conservation Education Department. "She is a committed and passionate teacher who shares her enthusiasm with her students, which inspires them to make real, positive environmental choices."

In Belize, Niffenegger hiked through the tropical forest; toured caves; visited

the Belize Zoo; went bird-watching; and saw animals like monkeys, armadillos and tapirs in the wild. She also enjoyed presentations on local ecology and conservation by Belize natives. "I learned so much about what is really important in life," says Niffenegger. "Some people in Belize do not have access to the Internet, TV, shopping and cars. Yet they are very happy."

Now back in her Wisconsin classroom, Niffenegger is incorporating her experience in Belize into her curriculum to give her students a global world view. For example, last October she took her class to a research site in Pewaukee to watch Dr. Noel Cutright, senior terrestrial ecologist at We Energies, band birds that soon would migrate to Belize. "What would happen if we destroy the birds' habitat in Wisconsin?" says Niffenegger. "It would also affect the number of birds returning to Belize."

Using her trip to Belize as a springboard, Niffenegger is also teaching her students to think about conservation. Everyone can conserve by recycling or driving less. "Teenagers think that what we do in Wisconsin doesn't affect the rest of the world," says Niffenegger, "but I have seen my students change their minds after they know the facts." Thanks to teachers like Niffenegger and the Belize & Beyond program, a passion for conservation in the next generation will be only natural.

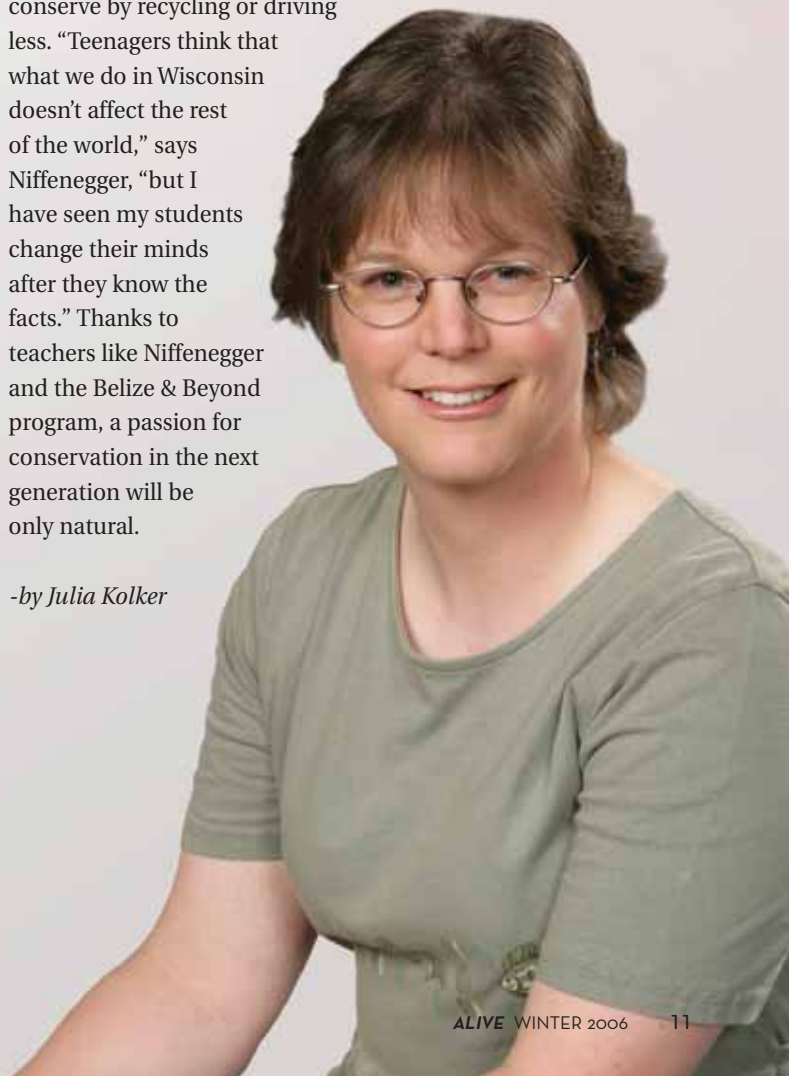
-by Julia Kolker



Photo by ZSM staff

Left: In Belize, Niffenegger climbs up a hill to get to a cave.

Right: Tammie Niffenegger, a teacher at Port Washington High School, accompanied six Wisconsin high school students last summer to Belize, home of the jabiru stork (in background).



CHILLING OUT



Zero (left) with Snow Lilly.

There's a reason Milwaukee's Polar Bear Club (those daring people who take a dip in Lake Michigan every Jan. 1) is named after polar bears. While humans can tolerate icy cold water only briefly, the polar bears and harbor seals at the Zoo splash about in icy water for hours—and love it. In fact, Snow Lilly, the Zoo's new female polar bear, spends most of her time outside, frolicking in the pool with her male companion, Zero (appropriately named).

Polar bears have several survival adaptations that help them endure their cold aquatic environments. They use their large paws as paddles, and their powerful sloped shoulders and high hips help them glide smoothly through water. The hair on their footpads keeps them from slipping. Their white appearance camouflages them in ice and snow. Although their fur appears white, polar bears actually have black skin, which absorbs heat from sunlight. Their fur consists of clear, hollow insulation “tubes” that reflect light and make their fur look white.

Snow Lilly arrived at the Zoo last February and has adjusted well to her new environment. “She has a spunky, independent personality,” says zookeeper Mike Hoffmann. “If Zero ever tries to bully her, Snow Lilly stands up to him.” Polar bears are typically not very social, but Snow Lilly and Zero enjoy each other's company. Zookeepers hope they will breed this spring.

Most polar bears are very intelligent. They need to be sneaky when hunting prey. In the frosty regions of the Arctic Circle, polar bears search to find seals to eat. At the Zoo, Snow Lilly eats lard, which is similar to seal blubber. Lard helps keep her fur coat in good condition and boosts her energy levels, says Hoffmann. Zookeepers feed Snow Lilly about 9 pounds of food daily, including beef, fish, and vitamin and mineral pellets. She also enjoys peanut butter. Unlike humans, who need to avoid high-fat diets, polar bears need extra fats and proteins to keep healthy.

The Zoo's two new harbor seals, Pender and Sydney, are swimming up a storm this winter, too. The pair arrived at the Zoo last September from the Alaska SeaLife Center. Harbor seals have several

survival adaptations for their cold, ocean environments. Their finlike flippers enable them to swim through water quickly and efficiently. Their dives usually last six minutes, and they can stay under water for up to a half-hour! In the ocean, harbor seals have to dive for their food, which includes crustaceans, mollusks, squid and fish. At the Zoo, zookeepers feed Pender and Sydney each about 6 pounds of herring daily.

At the Alaska SeaLife Center, Pender and Sydney were in a training program that will continue at the Zoo. Bess Frank, our Zoo's curator of large mammals, says that the seals are trained to offer their flippers for inspection, to come to and move away from trainers, to move from land to water, and to open their mouths so veterinarians can look at their teeth. Harbor seals are the most widely distributed pinniped found in the North Pacific and North Atlantic Oceans. They are usually solitary animals. But Pender, Sydney, and Ringo (the Zoo's longtime harbor seal) get along just fine, says Frank.

The harbor seals share their exhibit with Pudgy, the Zoo's California sea lion. How do you tell the seals from the sea lions? Sea lions have external ears, and seals have internal ears (ear holes). Seals have white tooth enamel while sea lions' teeth are black. Also, seals' coats are mottled while sea lions' are generally a solid color. Visit Snow Lilly and the harbor seals this winter in their predator-prey exhibits in the North America area.

-by Melissa Lindstrum 



Sydney, one of the new seals, skims the surface.

Kids ALive



Birdfeeders at the Zoo

Want to be a bird detective? See if you can find the Zoo's four birdfeeders near the Peck Welcome Center. Then try to identify the birds you see. These feeders are not for Zoo birds. Instead, they feed the many cardinals, chickadees, nuthatches, blue jays and other native Wisconsin birds that "visit" the Zoo. The feeders are filled with cereal, seeds and grains every Monday morning by Don McLean, a Zoo Pride volunteer who loves birds. The birdfeeders are hard to spot. So look closely. As you walk the wooden boardwalk on your way into the Peck Welcome Center, look to your left. The first birdfeeder has a cylinder shape and a green roof. Can you spot a nuthatch eating upside down? Go farther on the boardwalk and find a wooden feeder shaped like a house. Do you see a red cardinal? When you enter the Peck Welcome Center from the boardwalk, walk to the first set of windows on your right. You will see another cylinder-shaped feeder.

Keep walking to the next set of windows to see the fourth feeder - with a red roof. What birds do you see?



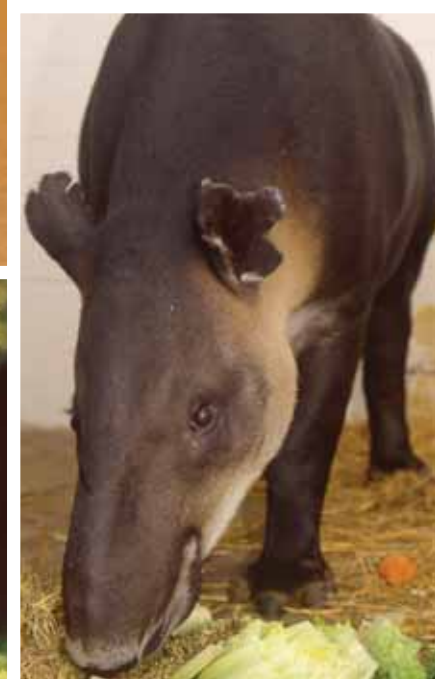
Warthogs like to keep warm.

Vacationing Animals

While you were sledding or ice skating during winter vacation, some of the Zoo's animals have been "vacationing," too! Vultures, emus, impalas, gazelles, kudus, elands, tapirs, and warthogs are some of the animals that travel down to the Zoo's Winter Quarters when the

weather turns cold. Here they kick back and relax until it's warm enough to return to their "home" exhibits. These animals have a much longer vacation than you probably do. They are "off exhibit" until the temperature gets back up to at least 40 degrees, with no trace of ice on the ground. In Wisconsin, that might mean these animals vacation from November until March, or longer! You still can see many animals in their regular outdoor exhibits, including wolves, elk, moose, caribou, polar bears, seals, snow leopards, camels, alpacas, and red pandas.

A Baird's tapir chows down in Winter Quarters.



So that they don't slip on ice, impalas go indoors during winter.

FUN

WITH APES & MONKEYS



WHAT'S A PRIMATE?

Primates are a special type of mammal. Like other mammals, primates have hair on their body, drink milk as infants, and breathe air. They also have large brains for their body size, teeth for all kinds of diets and, generally, a thumb that can touch at least one other digit or finger. You're a primate. Primates include monkeys, apes, prosimians (lemurs and bushbabies) and people. Many people think that monkeys

and apes are the same type of animal.

They actually are very different. One difference: Monkeys have tails and apes do not. Just look at a gorilla (an ape) and a mandrill (a monkey).

Another difference is that most apes and larger monkeys spend a lot of time on the ground.

Smaller monkeys spend most or all of the time in trees.



Male mandrills have colorful faces.

PRIMATES

How many words can you make from the letters in the word **primates**? The words can be anywhere from two to eight letters long.

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Possible Answers: rap, trap, map, lapir, time, tarp, melt, lame, ripe, seat, set, rise, split, slip, prime, mate, ate, rim, pit, mat, ripe, rat, at, tear, rate, pat, lap, ripe, pit, mate, ripe, rat, rip, rat, at, tear, rate, pat, lap, ripe, trim,

◀ Maji the gorilla is an endangered ape.



APE & MONKEY WORD SEARCH

Find and circle the words "monkey" & "ape" seven times in the puzzle below by looking across, down, forward, backward and diagonally.

M	A	P	E	A	P	M
M	O	P	Y	K	O	A
Y	O	N	E	N	P	P
M	O	N	K	E	Y	M
O	P	E	N	E	P	O
N	Y	P	O	P	Y	N
K	A	A	M	P	A	K
E	P	A	O	A	P	E
Y	E	K	N	O	M	Y

◀ Bonobos, rare apes, are a lot like humans.

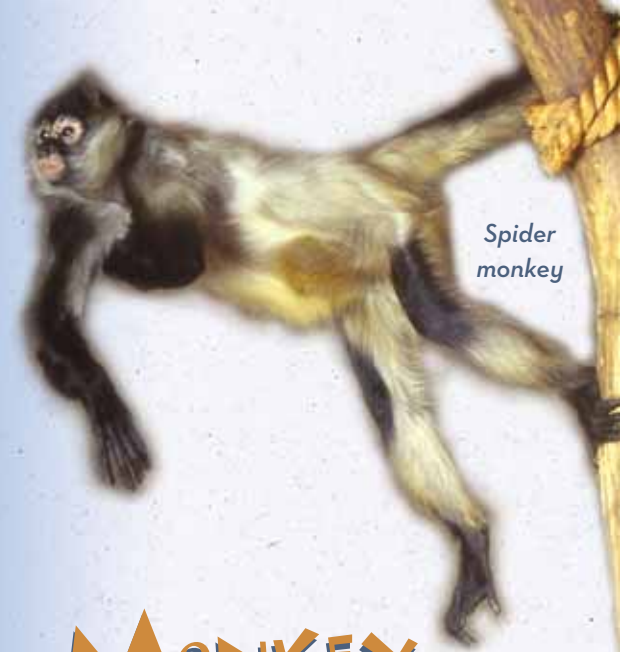


JOKE

What key doesn't fit in a keyhole?

Answer
(hold page
up to mirror):
A monkey A

◀ The siamang monkey's large throat lets its voice be heard a long way.



Spider monkey

MONKEY SEE, MONKEY DO

Can you find and circle the two monkeys that are exactly alike?



Answer:
One and six



Teens Help in Camps

Nolman Davis Jr. talks with Samantha Fischer of West Bend about making a paper shark.

Stories by Julia Kolker

If you're 15 to 18 years old, like animals and love working with younger kids, what could you do on your summer vacation? How about volunteer at the Zoological Society of Milwaukee's (ZSM's) Conservation Education Department. Every summer, more than 40 high school assistants help ZSM educators and college interns lead kids on Zoo tours, set up classrooms, guide craft activities and do everything in between. Assistants, who are not paid, volunteer for two weeks at a time.

"High school volunteers get real-world work experience by being responsible for a wide range of tasks," says Chris Uitz, a school programs specialist who co-supervises the assistants. "Besides the educational experience, these high school students also take with them the satisfaction of giving their time to the environmental education of thousands of curious children."

Nolman Davis Jr. of Milwaukee, a senior at Vincent High School, became an assistant last summer. "I know a lot about animals and I like to share information with the kids," he says. Other assistants, such as Jim Pokorny of Greenfield, attended Zoological Society classes when they were younger. "I always wanted to help and give kids the same great experience that I had," says Jim, a sophomore at Whitnall High School in Greenfield.

Both teenagers say volunteering taught them leadership. "I got to lead kids through the Zoo and they would look to me for information," Nolman explains. "If we had a problem, I learned how to make decisions." Jim and Nolman also explored future careers. After helping teach classes at the Zoo, Jim decided

that he wanted to be a teacher and/or a zoologist. Nolman, too, became interested in education and zoology last summer. "That's always been at the back of my head," he says, but volunteering at the ZSM confirmed his hunch.

Nolman plans work as a ZSM education intern when he is in college, and Jim is looking forward to volunteering again next summer. "The most important thing I learned," Jim says, "is that volunteering is very good and working with kids is fun."

For More Information on the high school assistant program, call Kerry at the Conservation Education Department, (414) 258-5058, ext. 423. Applications are due by March 31, 2006. See the Summer Camps brochure packaged with *Alive*.

Jim Pokorny helps Benjamin Starsky of Mequon with a craft during camp last summer.



The Zoo as a Teaching Lab

Last summer, Kayla Duellman was in charge of educating a group of 6- and 7-year-old children with fun, hands-on learning at the Zoological Society of Milwaukee (ZSM) Sharks & Rays summer camp. She taught them the differences among types of marine animals; explained how sharks are related to sting rays; and showed the kids how to make a shark out of construction paper. She also set up a classroom, led children on a Zoo tour, supervised high-school-aged assistants and talked with parents. Duellman, a college intern in the ZSM's Conservation Education Department, was one of two women who were part of a new program that lets experienced college interns teach classes.

Education interns always helped with teaching, but they did so in tandem with ZSM educators. The new program, open only to college-age interns who have served as ZSM interns at least one previous summer, allows them to teach camps from beginning to end with minimal supervision. Interns take the first month of summer to observe and help teach the camps they are assigned. "This training is a vital step in successfully stepping up to lead-teach," says Dr. Dawn St. George, director of the Conservation Education Department.

ZSM summer camps are structured so that kids spend at least half of their time exploring the Zoo. "I really liked the unconventional way of teaching," says Domonique Isaac, the other second-year teaching intern. "We weren't just sitting in a classroom." This unusual setup gives interns the flexibility and organization necessary to work with small children. For example, guiding a group of little kids everywhere from the Aquatic & Reptile Center to Chase's Sting Ray Encounter proved more difficult than Duellman had at first expected. "You have to keep control of kids!" she says. Adds Isaac: "Keeping 10 kids busy and interested at the Zoo on a hot day is good training for a teacher."

Both interns were impressed with the level of responsibility they were given. Says Duellman: "When you're teaching, it's your classroom; you're in charge; you have to deal with parents." She expects this internship to help her when she is student teaching this academic year as part of her elementary education degree requirement at University of Wisconsin-La Crosse.

Isaac is now teaching fifth grade in Charlotte, N.C. She says her ZSM internship prepared her for the work world by emphasizing the dedication and patience needed to work with children. "The Zoological Society's high-energy staff was wonderful at that," she says. The most rewarding part of the internship was keeping up with eager children who were ready to rip through the Zoo at 9 a.m. "Kids were always coming in excited," Isaac says. "Your mood really does feed the children; they keep you upbeat."



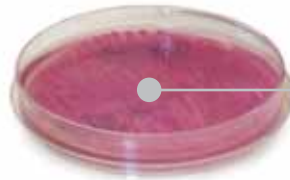
Kayla Duellman guides Morgan Goodwin of DePere as he makes a shark out of construction paper.

Domonique Isaac prepares snacks for kids in the Munch, Gulp, Slurp camp last summer.



For More Information on ZSM college internships, call Patty at the Conservation Education Department, (414) 258-5058, ext. 419. A cover letter and resume are due by Feb. 20, 2006. Interviews will be held in March.

How Lab Tests Save Animals



Zookeepers at the Milwaukee County Zoo's Primates of the World building were worried. Two colobus monkeys, typically lively and energetic, had suddenly become weak, shaky and slow-moving. Dr. Roberta Wallace, senior staff veterinarian at the Zoo's Animal Health Center, wondered if the monkeys' potassium levels were low, which can cause lethargy and, ultimately, death. So Dr. Wallace turned to ACL Laboratories (ACL) in West Allis to run some blood tests.



She knew, however, that the tests alone would tell her little about the monkeys' ailment. Without baseline tests done on monkeys that were not sick, how could she tell what were "normal" blood test results for a colobus monkey? Luckily, ACL had done some baseline tests previously on this species, as they had for many of the Zoo animals. So Dr. Wallace was able to compare the new results with the baseline tests. She discovered that the weak colobus monkeys were lacking potassium. The monkeys were given potassium supplements and have not had fatigue problems since.

ACL, a division of Aurora Healthcare, has helped the Zoo keep its animals healthy for more than 25 years. The lab performs, among others, blood tests, bacterial cultures and urinalyses for free. A longtime Zoo supporter, the lab is a member of the Platypus Society, the Zoological Society's (ZSM's) highest level, donor-recognition group. Caring for the Zoo's more than 2,000 animals is a big expense: Each year the Animal Health Center runs nearly 1,000 blood tests, 600 cultures, and a variety of other tests including spinal fluid analysis and blood lead levels. "If ACL didn't provide lab tests, it would be very expensive for the Zoo. We would really have to start compromising, and cut back on our testing," explains Wallace. "Through their generosity, ACL allows us to properly monitor the animals' health."

For the last five years, ACL has donated about \$80,000 a year in tests and supplies such as blood tubes, says Jay Schamberg, ACL's general manager. In 2005, ACL was on track to do 3,300 tests, including 480 wound cultures; 223 phosphorous tests, which along with blood urea nitrogen (BUN), help check kidney function; and 160 complete blood counts.

The Zoo uses the lab tests not only to diagnose problems in sick animals, but also to establish norms. "ACL helps us do routine testing," says Dr. Wallace. "You can't decide what's abnormal if you don't know what is normal." Thanks to frequent testing provided by ACL, the Zoo has developed a large database of norms for the variety of species that are in the collection. The medical information on animals is entered into MedARKS (Medical Animal Record Keeping

Jay Schamberg, general manager of ACL, says the lab is pleased to be able to support the Zoo and Zoological Society.

System), a computer software system used by zoos worldwide, and also to ISIS (International Species Information Systems), a large computer databank that also can be accessed by zoos around the world. This information gives zoos crucial information about animal health. The Milwaukee County Zoo has been one of the largest contributors of data to this information system.

Lately, the Zoo has been doing regular screens of exotic hoof stock such as kudus (African antelope) for magnesium. Other zoos suspect that kudus have chronically low levels of magnesium and may need supplements in their diets to ensure proper health. By screening the animals at all stages of life, whether they are well or ill, the Zoo is able to add to the national database of magnesium norms and help other zoos keep their hoof stock healthy.

Frequent testing also helps to identify abnormalities and treat them promptly before illness occurs. For example, bonobos (like humans) often have heart problems. Specific blood tests may indicate cardiac disease. In one case, routine tests showed that some of the Zoo's bonobos had unusually high cholesterol. This led to a change in diet, which lowered the cholesterol levels. "We wouldn't have found the persistently elevated cholesterol levels if we hadn't had the ability to run the cholesterol tests routinely as part of their physical exam and check-up. It would be difficult to afford all the tests," says Dr. Wallace.

The Zoo also relies on ACL to do cultures. A culture is a test for bacteria that may be causing severe illness in an animal, and that may spread from one animal to another. Veterinarians take cultures on dead and sick animals to try to determine if bacteria caused the death or illness. The vast majority of animals coming into the Zoo are screened for pathogenic bacteria like salmonella and campylobacter while in quarantine, before being allowed contact with other animals. "This helps protect both employees and visitors from exposure to harmful bacteria, especially where there is direct visitor contact with the animals," says Dr. Wallace.

ACL will support the Zoo as long as it can, says Schamberg. "ACL believes it is vital to support community services. The Milwaukee County Zoo is an exceptional facility with an outstanding national reputation. It provides all its visitors with valuable education and family experience. ACL appreciates the opportunity to contribute to that goal."

-by Julia Kolker 



Top: Lisa Vickery, a microbiologist at ACL, verifies a lab result.
Right: Microbiologist Jessica Schmalzer looks at bacteria samples.



Sharing Space With Chimps

Chris Duvall visited the Zoo last August to see bonobos, rare great apes that are related to chimpanzees. He has been studying chimpanzee habitat.



Chimpanzee (pan troglodytes); stock photography.

When Chris Duvall served in the Peace Corps in Mali in the 1990s, he was captivated by the African country's ecology. While helping to set up a national park, he learned about the area's wildlife and plant life. He also learned that no one was studying Mali's endangered chimpanzees or the vegetation they preferred. "It is natural to be interested in conservation when one is fascinated by natural beauty, such as I saw in southwestern Mali," says the University of Wisconsin-Madison graduate student. So Duvall decided to study chimpanzee conservation as part of his Ph.D. thesis in geology.

For each of the last two years Duvall has received a \$2,000 grant from the Zoological Society of Milwaukee to conduct his research in Solo village in Mali, a country in western Africa. Mali, at 478,841 square miles, is almost nine times bigger than Wisconsin, at about 54,300 square miles.

Chimpanzees, native only to Africa, are threatened by the rapidly growing human population there. Chimp habitat has been lost to expanded farming areas and increased logging in rain forests, says Duvall. Now chimpanzee populations have decreased significantly throughout their range, and in some countries chimps have disappeared completely. Chimpanzees also face threats from people hunting chimps for food or the pet trade, from entrapment in snares set for other animals, and from diseases spread by humans.

Despite studying chimpanzees for nearly 10 years, Duvall has seen them in the wild only once. "I accidentally came across a group

feeding. They fled when they saw me," he says. "The animals are very difficult to observe in the wild where they are not habituated to human observers. I study the evidence chimps leave behind (nests and feces). In many areas, this is the only evidence it's feasible to collect."

Duvall's research focuses on how human activity changes vegetation in chimpanzee habitats over decades. "In the area I research, humans establish new villages and hamlets where they practice agriculture and then abandon these settlements and move to different places," he explains. "The seeds humans discard become trees, and these sites are essentially dense patches of wild fruit trees." These abandoned, densely forested sites, rich with fruit, serve as chimpanzee habitats. In drier areas that can't support a lot of fruit trees or provide enough water for chimps, you find fewer chimps. Duvall once heard a brutal competition for food between baboons and chimpanzees up in the trees. Five chimpanzees attacked and chased out a large group of screaming baboons that were feeding on a fruiting tree. Chimps, which can kill baboons, stayed to eat the fruit.

Duvall hopes that his research will help conservationists understand how humans and chimpanzees share space so that conservationists can learn how to protect chimps and vegetation. "Conservationists actually have a fairly poor understanding of how agricultural practices alter the vegetation characteristics of chimp habitat over time," he says. "Based on my findings, Malian conservationists will be able to make more effective decisions about how to enforce laws that are meant to reduce agricultural encroachment into national parks and protected areas." Duvall's research, which documented plants not previously reported as chimpanzee food, "may help zookeepers expand the range or characteristics of foods they feed captive chimpanzees," he adds.

Duvall, who grew up in Wyoming, earned a BA in African history from the University of California-Santa Cruz and a master's in environmental studies from San Jose State University. Besides the obvious value of his research to chimpanzee conservation, Duvall is examining chimp habitat for clues to a broader question: What vegetation/food allowed apes and humans to walk on two legs?

-by Julia Kolker



Duvall and wife Jen traveled by canoe to Solo, his research site in Mali. Photo provided by Chris Duvall



A Passion for Penguins

originally developed for horses and increased mosquito abatement on Zoo grounds to prevent more West Nile outbreaks.

Kagy takes an interest in her career beyond the day-to-day job tasks. She has spent two weeks during each of the last two summers in Michigan caring for abandoned piping plover eggs and newly hatched chicks. Once these endangered shorebird chicks are old enough, they are released back into the wild. (Our Zoo has been helping restore piping plover populations since 1996.) Kagy also recently accompanied Smith to a planning session for the Humboldt penguin Species Survival Plan (SSP). The American Zoo and Aquarium Association runs SSPs for a variety of animals, focusing on both conservation issues and breeding of nationwide captive populations for the best genetic combinations. At the session, our Zoo was recommended to receive several new Humboldts.

Creating Humboldt penguin pairs that are genetically desirable, and that the birds agree with, is not always easy. In one case, a penguin called Jack took a liking to Lil' Gal, a female eligible for breeding. However, a new penguin named Farley proved a better genetic match for the female. Kagy separated Jack from Lil' Gal and introduced Farley to her. The pair was separated from the flock so they could establish a strong bond. They soon showed mutual interest: building a nest, calling to each other, flapping their flippers. As of last November, the Zoo had four "bonded" pairs, although none had bred in 2005.

Kagy liked animals from an early age. She decided on a zoo career after seeing Joan Embery, a well-known animal ambassador for the San Diego Zoo, on TV. Kagy earned a bachelor's degree in zoology from the University of Wisconsin-Milwaukee in 1980.

There is little that Kagy has not done at the Zoo since she was hired in 1979: attendant in the former Children's Zoo, receptionist, switchboard operator, and, finally in 1989, zookeeper. Her most memorable day at work was her first one: She was bitten by a monkey; she kicked the Zoo director (whom she didn't know) out of an exhibit because she thought he was an intruder; and she staved off an angry visitor who pulled a knife on a goat. "You're probably wondering why I'm still here!" says Kagy with a laugh. "I have fun, I enjoy animals and I get great pleasure from teaching the public about animals."

-by Julia Kolker

Photo: Humboldt penguins gather around Carol Boyd Kagy as she prepares to feed them.

The first exhibit you see on entering the Milwaukee County Zoo is the Taylor Family Humboldt Penguin Exhibit, and the woman who's often there with penguins flocking around her is Carol Boyd Kagy. An aviary keeper, Kagy cares for the Zoo's birds and often is seen feeding the Humboldt penguins in their outdoor pool. She also takes time to answer zoogoers' important questions. *Is that penguin a boy or a girl?* (Males wear colored bands on the right wing; females, on the left.) *What do they eat?* (Capelin or silversides, two types of fish.) *Which penguins are "married?"* (Mating pairs are tagged with same-color bands. They don't marry like people do as pairs often break up.)

"I really enjoy penguins and I love talking to the public," says Kagy, who has worked at the Zoo almost 26 years. As a single mother of two teenagers, Kagy relates to children at the Zoo. She encourages excitement about birds by explaining what their behaviors mean. "Penguins have their own personalities; you have to understand them and their quirks."

A big part of Kagy's job is observing birds and looking for changes in feeding behavior. Such changes can be signs of illness or of potential breeding/mating behavior. In 2002 nine of the Zoo's Humboldt penguins died from an outbreak of West Nile Virus. "It was a heartbreaking time for all," says Kim Smith, curator of birds. "Carol was one of the primary penguin keepers and spent a lot of time caring for the birds." Since then Zoo staff have used vaccines

Bonobos: Passage of Power



Machiavelli could have orchestrated the transfer of power now under way in the world's largest captive group of bonobos. Certainly the scenario taking place in the Stearns Family Apes of Africa Pavilion is a surprise to less devious minds. To the amazement of keepers at the Milwaukee County Zoo, Brian – a psychologically troubled 16-year-old male who once was the most emphatically rejected member of the troop – seems to be on course to assume

leadership from the most beloved, Lody.

Lody, 32, has been the dominant male in this matriarchal colony since he arrived in November 1986. Together, he and Maringa, the dominant female, have constructed a thriving community. In the zoo world, Milwaukee's band of 20 bonobos is not just the largest but also is regarded as among the healthiest socially. The behavior of Milwaukee bonobos has been described as startlingly similar to that observed among wild bonobos in Democratic Republic of Congo (formerly Zaire). This equatorial African country is the only natural home for these endangered great apes. Even though Zoological Society conservation efforts in the central Congolese rain forest have begun to yield results, the species is threatened continually by war, civil unrest, illegal logging, poaching and the poverty of the human population.

Both Lody and Maringa were very young when taken to a private zoo in the Netherlands. Although captured as orphaned infants, they evidently retained enough memory of their mothers' teachings to be able to mature as bonobos instead of as human-imprinted zoo babies. In the Netherlands they received warm, nurturing care from the zoo's director and his wife. Such care mirrors the constant attention given infants by bonobo mothers in the wild and has helped give these two bonobos a treasure of emotional stability, says Dr. Harry Prosen, consulting psychiatrist to our Zoo. Although bonobo society is primarily matriarchal, the dominant male has an important leadership role. Dr. Prosen has been impressed by Lody's wisdom as he has led by example to reinforce group mores. Principal bonobo keeper Barbara Bell calls Lody and Maringa "rock-solid bonobos," even "tribal elders," responsible for much of the success of the Zoo's group. So she and Dr. Prosen are watching the leadership dynamics with interest, particularly given Brian's history.

Dr. Prosen was head of the psychiatry department at the Medical College of Wisconsin when called to address the

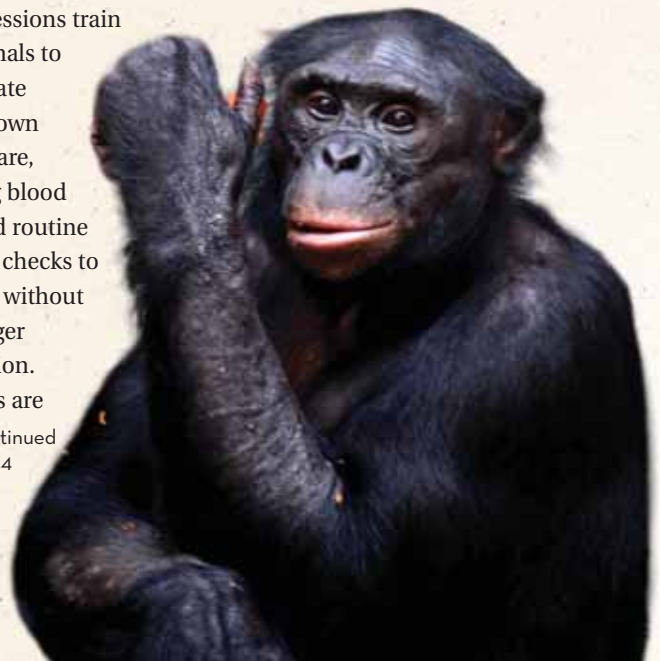
emergency posed by the arrival of 7-year-old Brian in 1997. Brian had been confined alone with his father at the research facility where he was born. Normally a young bonobo is in the constant care of his mother. Brian was transferred to Milwaukee in hopes that he would find stability. At first, the hope seemed faint indeed. Because he did not have a normal bonobo childhood, Brian had no idea how to act like a bonobo. When he made advances to the dominant females, he got it so wrong that they beat him bloody. Separated from the females for his own protection, Brian paced. He clapped his hands. He fidgeted. He abused himself. He didn't sleep. He didn't eat. Bell was frantic to do something that might ease this obvious psychic pain.

Dr. Gay Reinartz, conservation coordinator for the Zoological Society and coordinator of the Bonobo Species Survival Plan for North America, called Dr. Prosen. Intrigued by the puzzle of treating a disturbed, but non-human patient, Dr. Prosen devised a treatment plan similar to that used for emotionally disturbed humans. He advised keepers on how to create a stable home for Brian, he prescribed medications for a while, and he advised one-to-one interactions with other bonobos. It worked. Gradually, Brian abandoned his self-mutilating behavior, learned the subtle norms of group behavior and, incidentally, made international headlines. (Brian's story has been told in such publications as the Sunday Times of London and Der Spiegel in Germany.) Surprisingly, in devising a safe, predictable environment in which Brian could heal, Dr. Prosen received major assistance from one bonobo, Lody. The leader spent time with the outcast. He shared the best food with Brian, postponing his own meals to groom Brian. When a mischievous youngster (Murph) stole Brian's treat, Lody gave Brian his own.

Brian eventually even began to participate in enrichment sessions Bell calls Bonobo School.

These sessions train the animals to participate in their own health care, allowing blood tests and routine medical checks to be done without the danger of sedation.

Bonobos are
Story continued
on page 24





A Partnership That's Changing Africa

Africa – it's home to some of the most endangered primates in the world: gorillas, chimpanzees, bonobos. It's also home to intense poverty, poaching, and political instability. Wildlife conservation on that continent faces immense obstacles. Yet conservation there has been gaining ground, partly with the help of the Zoological Society of Milwaukee (ZSM) and its conservation coordinator, Dr. Gay Reinartz. Her efforts to protect bonobos, the rarest of the great apes, brought her to the attention of one of the world's leading conservation groups, the World Wildlife Fund (WWF). As a result, WWF has partnered with the Zoological Society on African projects.

Dr. Reinartz has been studying bonobos in Africa's Congo River Basin for years while also training Congolese to conduct research and set up anti-poaching programs. In 1996 she met Dr. Richard Carroll, director of WWF's Office for Central Africa and Madagascar Programs, including the Congo Basin Forest Partnership, when he was in Milwaukee. "We talked to her about her work in Congo," says Dr. Carroll. "WWF had been interested in supporting bonobo conservation. I wanted to support someone who was doing active work in bonobo land. Gay was getting things done on a very practical level. I really saw that she was the leader,

both in captive bonobo conservation and in field work to protect the bonobo in the wild."

Dr. Reinartz is also head of the Bonobo Species Survival Plan for captive bonobos in North America, and she works with the European counterpart to help manage the genetic diversity of bonobo groups so that they may survive into the future.

In 1999 WWF was asked by six countries surrounding the Congo River Basin to develop a coherent conservation plan for the basin, says Dr. Carroll. "So in April 2000 [in Gabon] we brought together 160 experts on biodiversity, the biological sciences and the social sciences. Gay Reinartz was one of the participants we invited. This was a gathering of the best minds in biological sciences and social sciences."

At a Heads of State Summit organized by WWF in 1999, six African heads of state signed a 12-point voluntary commitment to conservation in the Congo River Basin. They agreed to protect at least 10% of their land in federal parks or preserves and to control illegal logging and poaching. "This is precedent setting," says Dr. Carroll. "This is the first of its kind, and the highest level

Story continued on next page ►

Above: Dr. Gay Reinartz says hello to Maringa, the matriarch of the Zoo's bonobo group.

Partnership (continued)

of commitment (on a presidential level) made to conservation in Africa.” One of the countries making the commitment was the Democratic Republic of Congo (DRC), where the Zoological Society’s research station is located in the country’s federally protected Salonga National Park.

“The Zoological Society of Milwaukee has been the pioneer, especially in Salonga National Park, now the world’s second largest rain-forest park,” says Dr. Carroll. “The Zoological Society, Gay and her staff have stuck in there through thick and thin, over the difficult years in the DRC and have maintained a conservation presence. The ZSM’s work is founded on very good science – good survey and research work – and the organization is committed to involving and training the local people to do the conservation work. The Congolese scientists, especially the ones trained by Gay, are really the heroes of local conservation.”

At the Gabon conference in 2000, the experts outlined a map with 11 key priority areas [called landscapes] for conservation across the Congo River Basin, which covers six countries and a little less than 2 million square kilometers, says Dr. Carroll.

“This is the world’s second largest contiguous forest outside of the Amazon. This priorities map became the basis for the Congo Basin Forest Partnership, announced by U.S. Secretary of State Colin Powell at the World Summit on Sustainable

Development in 2002.” Besides WWF, the other main conservation organizations in this partnership are the Wildlife Conservation Society, based at the Bronx Zoo in New York City; Conservation International; and the African Wildlife Foundation, based in Washington, D.C. Overall there are 29 conservation and development organizations supporting the partnership.

In 2003 WWF asked the Zoological Society to be a sub-grantee in this partnership. “We consider ZSM as a partner in the Salonga landscape,” says Dr. Carroll. WWF funnels the funds it receives from the U.S. Agency for International Development (US AID) to the Zoological Society so it can continue its work in Congo. “The work that Gay is doing in the DRC also is supported by UNESCO,” adds Dr. Carroll. “ZSM had the contract with UNESCO. We’ve helped take on that logistical burden.”

The Congo Basin Forest Partnership has grown to 10 African countries whose heads of state have formalized their conservation commitments in a treaty, says Carroll. “Other countries have seen that conservation is the way of the future and a way to get international attention. The President of Gabon created 13 new national parks where they had zero before. President Kabila in the Democratic Republic of Congo has committed to increasing the federally protected areas in his country from 9% to 15%. Cameroon is rapidly reaching that 15% level. Conservation has now become a very high-level commitment in Africa.”

Thanks to the World Wildlife Fund and its partnerships with groups such as the Zoological Society, smaller conservation groups have the opportunity to create a niche in the world of global conservation.

by Paula Brookmire 

Right: Bonobos are but shadows in the treetops when researchers come across them in Africa.

Photos by ZSM staff


Bonobos: Passage of Power (continued)

intelligent, and the sessions also keep them challenged while building trust of and cooperation with keepers. In glimpses, Bell noted that Brian, whom she was not supposed to look at directly, was “practicing on his own whatever behavior we were working on.”

As Lody has aged and had some health problems, Brian has assumed Lody’s place. “They still get along fine,” says Bell, “but their roles are reversed. Brian eats first and Lody second. Frankly, I think Lody just doesn’t want to be the leader anymore.” A buff and handsome Brian (who has gained 40 pounds since reaching sexual maturity) has cultivated the tolerance and even the affection of the ruling females. Grouped with Viaje and Laura, “he wouldn’t allow Viaje to breed her,” Bell says. Challenged by Lomako, Lody’s son and presumed heir to the leadership role,

Brian delivered an unexpected but decisive beating. Lately, however, he has abandoned “the road rage approach,” says Bell.

So far the real powers of the group – the dominant females – have accepted the new leader. “But there are checks and balances built into this group,” says Bell. “Nobody can get too far out of line with the power chicks in charge.” Also, Brian can expect continued competition from the irrepressible Murph, who, although more than a year younger, has one advantage that may outweigh Brian’s larger size. Brian has no mother in the group. Murph’s mother is Laura, one of the troop’s divas, and, among bonobos, power usually descends from the female line.

-By Jo Sandin 

Saving Animals, Helping People

It's hard to fence in huge rhinos and elephants on large tracks of land in Africa. Yet if these animals are not protected, they will be killed for their valuable horns and tusks. Conserving them can be expensive and even controversial if there are poverty-stricken people living nearby. One place that has been successful at helping both animals and people is the Lewa Wildlife Conservancy in Kenya. The Zoological Society of Milwaukee (ZSM) and its partner, the Foundation for Wildlife Conservation, Inc. (FWC), have been contributing to Lewa's success since 1984.

The relationship started with Dr. Gil Boese, now FWC president. In 1973 he brought a safari group to a 55,000-acre ranch called Lewa Downs in the foothills of Mount Kenya. Part of the ranch had been converted to an eco-tourism camp. Dr. Boese got to know Lewa owners David and Dehlia Craig and their children. Impressed with their operation, Dr. Boese over the years brought many safari groups and two filming projects to Lewa. In 1983, with the help of family friend Anna Merz, the Craigs created a rhino sanctuary on their land starting with a few rhinos already there. With government approval, they brought in additional rhinos from national parks in an effort to save them from poachers.

In 1995 the ranch became Lewa Wildlife Conservancy, a sanctuary not only for rhinos but also for the even more highly endangered Grevy's zebra (there are fewer Grevy's left in the world than black rhino and Lewa is home to 20% of them) as well as elephants, giraffes, Burchell's zebras, waterbuck, lions, leopards, cheetahs, eland, sitatunga (endangered swamp antelope), impalas and more. What has made Lewa a leader in Kenya, however, is its combination of conservation, community development and commerce. While stopping its cattle operation, Lewa has developed several camps and tourist quarters, from resort quality to rustic. In 2004 it had more than 2,500 tourist bookings just for its safari camp. This eco-tourism money and private donations provide more than 340 permanent jobs at Lewa.

Under its director, Ian Craig, Lewa also has used eco-tourism money to better the lives of the pastoralists who live in the area, many in poverty. The conservancy has built schools, medical centers and vocational training centers for adults. Ian's wife, Jane, set up a lending institution and education programs to help women start small businesses. Lewa directly supports eight elementary schools and more than 100 children in higher grades.

The Zoological Society and the FWC have helped fund fencing around the property, security staff, a communications center and radios (funded in partnership with Milwaukee's Derse Foundation), housing for staff, a tourist entrance to Lewa, and a water-impoundment system for a school that serves children of villagers and of Lewa staff. "There was no water at the school," says Dr. Boese. "The government was bringing in a system of water from Mount Kenya's glaciers. It allowed Lewa to divert

water to the school, but a large catchment basin needed to be dug for the water. The schoolchildren's parents came with pieces of scrap metal to help dig." The water also would allow them to create a garden at the school to provide food for the children. With funding from the FWC and Dr. Boese's safari participants, the system was in place within a year.

"We also built a classroom and an all-purpose room for the school complex and funded another room for vocational programs," he says.

Lewa Conservancy also asked Dr. Boese for help with strategic planning. "Whenever I arrived, they would take me around to see parts of their operation, and I would discuss how they could increase marketing, fund-raising and how operations could come together." He has been on their board of directors (U.S. branch) since 1992.

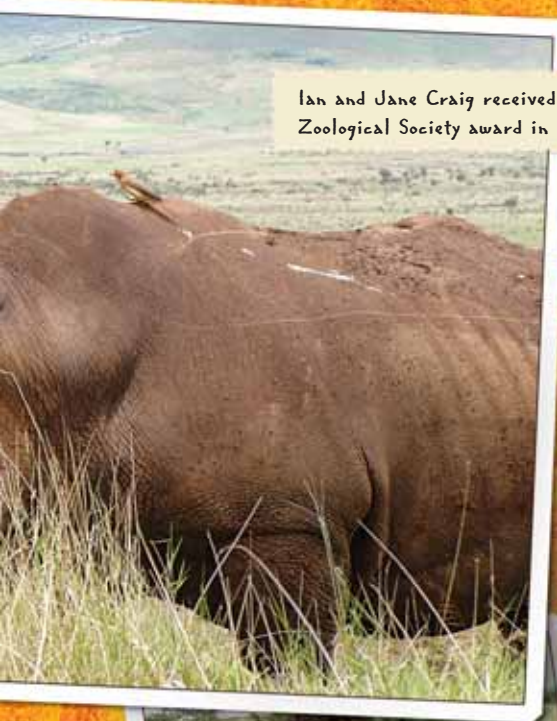
Their conservation efforts have been very successful, he says. As of Nov. 9, 2005, Lewa had 43 black rhinos (which are endangered) and 36 white rhinos (listed as vulnerable but not endangered). "There has been no poaching on the conservancy," says David Parkinson, deputy director of Lewa, "even though a neighboring sanctuary has lost 30 rhinos in the last three years – a sad tribute to Lewa's effective anti-poaching operations. Lewa now is advising this sanctuary on security, and since Lewa has done this, they have not lost a rhino." New buildings are going up. And their commercial and conservation success has been an inspiration for other conservancies. In 2004 the Northern Rangelands Trust was created. It is a trust of 10 community-based conservancies, two private conservancies, government agencies and conservation groups. Lewa, because of its leadership, is the administrative base for the trust.

"Conservation of large tracks of land to save animals brings economy and opportunity to the area," says Dr. Boese. "You can't put animal conservation above the welfare of families and their children. The two have to be worked together. Lewa has done that remarkably well by using the resources from eco-tourism to protect animals while developing cottage industries, schools, medical centers and jobs."

-by Paula Brookmire

A white rhino at Lewa Conservancy in Kenya has a yellow-billed oxpecker on its back.





Ian and Jane Craig received a Zoological Society award in 1999.



Judy Derse of the Foundation for Wildlife Conservation (FWC) visits a rhino at the Zoo. The FWC's support of rhino conservation in the wild helps the Zoo meet national requirements for exhibiting rhinos.

Photos at right & left by Richard Brodzeller



Hands-on Conservation

Judy Derse takes conservation personally, and she takes a hands-on approach to it. She has traveled from her home in Oconomowoc, Wis., to the war-torn city of Kabul, Afghanistan, to dedicate a crane exhibit she helped fund in the re-opened zoo. She has traveled to northern Kenya to train the staff at Lewa Conservancy (see accompanying story) to use security cameras and radios to protect elephants and rhinos. As president of the Derse Foundation, which has a mission to help wildlife and habitats, she has been a strong supporter of the Zoological Society of Milwaukee (ZSM), which shares her foundation's mission. She is on the ZSM's Associate Board and on the board of the Foundation for Wildlife Conservation, Inc. (FWC), ZSM's partner.

Derse was introduced to Lewa Conservancy when she was on an African safari led by Dr. Gil Boese, president of the FWC. Lewa's abundance of wildlife and its conservation efforts intrigued her. So, in 2002 she returned.

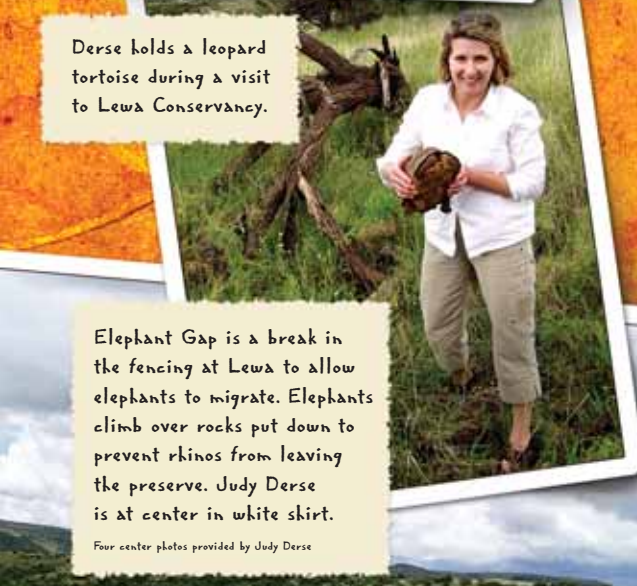
"I brought over a computer, two digital cameras and a PowerPoint projector. They used the cameras to identify the animals. We were able to identify Grevy's zebras, giraffes and rhinos by ear marks and lions by whisker pattern. That was an exceptional experience because I was out in the field teaching the staff how to use the digital cameras as we photographed the animals. I learned how to work at close range with wild animals. As we started to photograph a bull elephant, he gave us a warning by stomping the ground. Then he charged us. We had to run back to the Jeep."

She also taught Lewa staff how to do PowerPoint shows. When Lewa president Ian Craig came to Milwaukee later for a fund-raiser, he gave a really nice PowerPoint presentation, she says. "It was gratifying to see they were able to utilize everything that we gave them."

So in early May 2003, Derse and her husband, Gery Langanbach, headed back to Kenya to teach Lewa staff how to set up and use surveillance cameras to protect against poachers at a place called Elephant Gap. The gap is an opening in a fence that leads to a corridor of unprotected land that elephants traverse from Lewa Conservancy to Maru National Park. "They're in danger when they're in that unprotected area," she says. "Even though it's against the law to shoot elephants or remove their tusks, because ivory is so profitable, poachers will try. The elephants are very smart. They'll actually run between Lewa and Maru because they know they are in danger."

Thanks to Derse and her foundation, which is a member of the ZSM's Platypus Society donor group, rhinos and elephants have a better chance at survival.

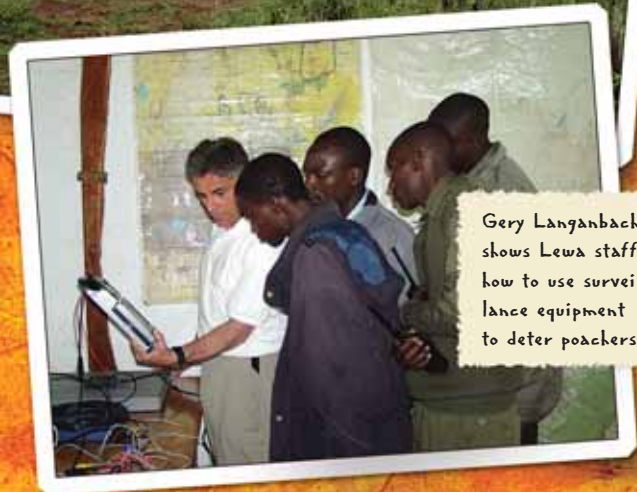
-by Paula Brookmire



Derse holds a leopard tortoise during a visit to Lewa Conservancy.

Elephant Gap is a break in the fencing at Lewa to allow elephants to migrate. Elephants climb over rocks put down to prevent rhinos from leaving the preserve. Judy Derse is at center in white shirt.

Four center photos provided by Judy Derse



Gery Langanbach shows Lewa staff how to use surveillance equipment to deter poachers.



Greater Kudu

Born: July 12, 2005 • African Waterhole Exhibit

This spring you may see two female kudus, Megan and Melaika, mothering a baby greater kudu in the African Waterhole Exhibit. The lucky little guy is Leo, born at the Zoo last summer to Megan. Melaika also gave birth in July, but her offspring was born with many defects and died shortly after birth. So Melaika joined Megan in nursing Leo, who basks in the extra attention. Leo is an adventurous and fearless animal who often explores the yard on his own, says zookeeper Kim Pankonien. He once spent an afternoon following a Canada goose that landed in the yard's pond! When Leo goes back into his outdoor yard in April, he will have newly sprouted horns. They will be bigger each time you visit him at the Zoo, but he won't get a full set of spiraling horns, used by kudus for fighting, until he is 3 or 4 years old. For 40 years the Zoo has been breeding kudus, antelope found in east, central and southern Africa. Leo is the 79th greater kudu born at the Zoo since 1966 and one of 69 kudus that survived past birth, an excellent survival rate. These hoofed animals do not go outside in winter when it's snowy or icy because they might slip and be injured. They are kept in warm areas in the Zoo's Winter Quarters.

Black Rhino

Arrived: September 2, 2005 • Pachyderm Mall

Bet you can't sneak up on Kalahari, the Zoo's new black rhino! Like all black rhinos, Kalahari is extremely sensitive to sound; so she would hear you coming. Their sharp sense of hearing helps rhinos detect predators; rhinos use their horns to protect themselves and their young. Smell is also an important sense for black rhinos – they mark their territories by spreading smelly fecal matter to ward off other rhinos from invading their space. Black rhinos are often called hook-lipped rhinos because they have a prehensile upper lip that protrudes slightly in the middle and helps them to grasp food. In the wild, black rhinos eat creeping plants, bushes, and branches. At the Zoo, Kalahari feasts on hay and alfalfa along with a mineral pellet diet. Adult black rhinos can get up to 5 feet tall at the shoulders and weigh up to 1½ tons! You wouldn't think such a massive animal could run fast. Think again. Black rhinos can reach speeds of 25 mph and can spin around on a dime! Black rhinos are not completely black. Skin color depends on how much time each rhino basks in the sun and rolls around in mud baths. Kalahari is black, brown, and gray. Although sometimes seen as aggressive, black rhinos are actually very sensitive and shy, says pachyderm zookeeper Ray Hren.

Kalahari is very affectionate, he says, and interacts well in her new home. Black rhinos' habitat ranges from central to southern Africa, mainly in bushy plains, grasslands and forests (see page 26). They are an endangered species because of poaching and the rhino horn trade. Zookeepers hope to breed Kalahari with the Zoo's other black rhino, Brewster.





Red Panda

Arrived: June 30, 2005 • Red Panda Exhibit

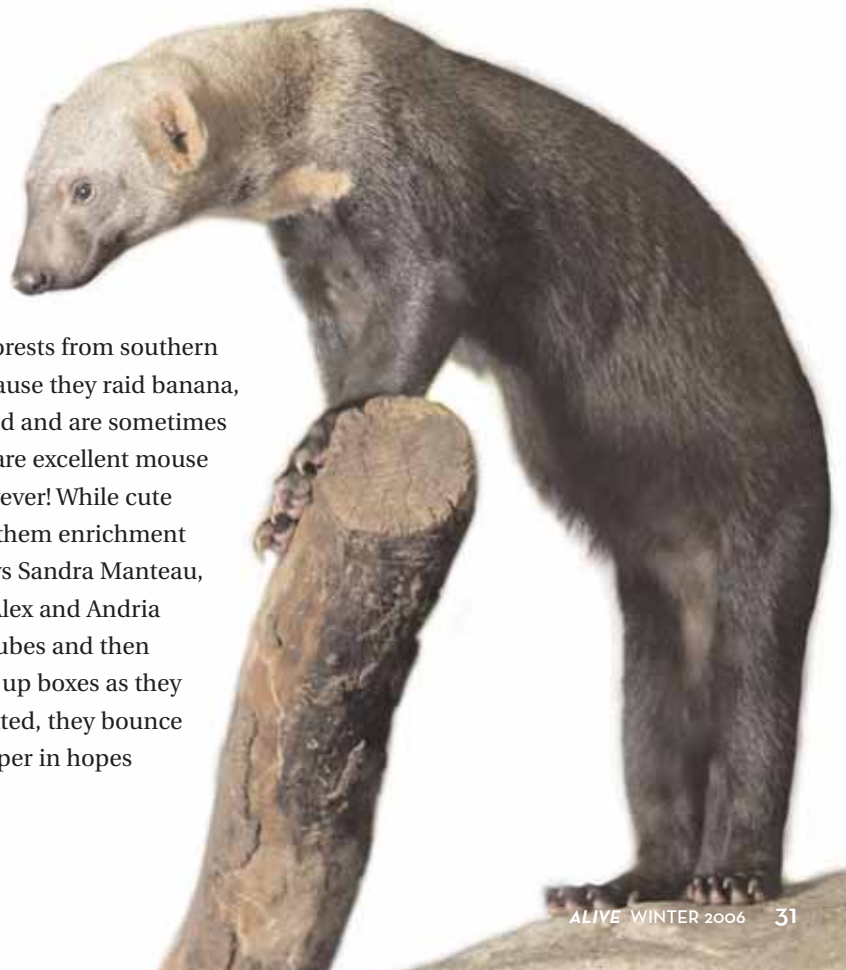
If you've ever seen a red panda, you know they love to climb! They climb up trees and on rocks and anywhere they please. They even have hair on the soles of their feet (where humans *don't*) to prevent them from slipping as they climb. Red pandas also have long, fluffy tails that they use for support and counterbalance when climbing. Their fluffy tails also double as pillows or scarves to keep them warm. You won't find a tail, however, on Poppy, the Zoo's new red panda. Poppy's tail was amputated because of a severe infection she had as a youngster. But Poppy still loves to climb! Like all red pandas, Poppy is most active at dawn and dusk. She eats bamboo shoots and leaves, biscuits, and apples, and her favorite treat is sweet potatoes! Red pandas in the wild eat small mammals, bird eggs, berries and other fruits, tree bark, and roots. Red pandas are one of only a few animals that can eat comfortably in different positions,

including sitting, standing, and lying on their backs. Scientists believe that the two types of pandas (red pandas and giant pandas) are not in the same family. In fact, red pandas may be more closely related to raccoons than to giant pandas. In the wild, red pandas live in the temperate forests of the Himalayas and in some high-mountain areas of China and Myanmar. There are fewer than 6,000 red pandas still living in the wild. They are an endangered species, mainly because of deforestation and the loss of bamboo, their primary food source.

Tayras

Arrived: June 7, 2005 • Small Mammals Building

The Milwaukee County Zoo's two new tayras, Alex and Andria, may look small and unimposing, but these two bushy-tailed animals are a wild and crazy pair. Tayras, part of the weasel family, are exceptionally quick, agile and adventurous. They can swim, run and zip up and down trees in seconds. Tayras are found in the tropical forests from southern Mexico to Paraguay and Argentina. They are hunted because they raid banana, corn and sugar cane fields. However, tayras can be tamed and are sometimes even kept as pets in their native countries because they are excellent mouse hunters. You wouldn't want to keep a tayra at home, however! While cute and playful, tayras are very destructive. "If we don't give them enrichment [objects to play with], they'll pull apart their exhibit," says Sandra Manteau, a zookeeper in Zoo's Small Mammals Building. To keep Alex and Andria busy and active, zookeepers hide their food in toys like tubes and then stash the toys in cardboard boxes. The tayras happily rip up boxes as they search for their meals. Even when Alex and Andria are sated, they bounce off the walls of their exhibit when they see a familiar keeper in hopes of being fed again.



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