

Alive

A meerkat is the central focus of the page, standing upright on a piece of wood. It has greyish-brown fur and is looking towards the right side of the frame. The background is a soft, out-of-focus natural setting.

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- Meerkats & More in the Night & Day Building
- Shark Snacks & Fun for Kids
- Toothy Tales From Zoo Dentist
- 4 Bonobo Babies Born Last Year
- Just the Right Pace in Education

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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Education has been a passion of mine for as long as I can remember. I'm pleased the Zoological Society of Milwaukee (ZSM) runs one of the best zoo education programs in the country. The secret to our success is our tailor-made classes for children with different learning styles (page 4). Our committed instructors in the Conservation Education Department design classes that offer a variety of activities for children ages 2-14. Some children are experiential learners, some are visual learners, and others are auditory learners. Each class has components that cover different learning styles, making sure children get the most from this wonderful Milwaukee County Zoo setting. Our education efforts extend far beyond Milwaukee. In Africa's remote Salonga National Park in the Democratic Republic of Congo, the ZSM operates the Bonobo & Congo Biodiversity Initiative (BCBI). At Etate, a BCBI research station, park guards are taught basic reading skills and learn how to use hand-held GPS devices, read maps and conduct animal surveys. One Congolese man, a former teacher, has become the lead researcher for BCBI. He quickly learned how to use all the technology for BCBI's critical work (page 12). And when schoolchildren periodically visit Etate, he turns into a teacher again. Whether it's educating children at the Zoo or educating adults and children at the ZSM's Salonga research station, the ZSM tries to make every educational experience an exceptional one.

Robert Davis

Dr. Robert (Bert) Davis,
 Chief Executive Officer

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 2014 Zoological Society annual appeal.

Zoo visitors reach into a 14,000-gallon pool to touch sharks and rays.

Special Exhibit

Saving Rays

The smell of the sea wafts through the air. A waterfall splashes into a 14,000-gallon pool. It feels as if you've travelled to an exotic locale. As you gaze into the waves, dozens of sting rays and sharks seem to be flying under water. Some even come up to get a rub as you dip your hand into this indoor pool at the Milwaukee County Zoo. As you watch bamboo sharks and southern sting rays swim by, you may think about their life in the wild. While the ocean is a vast place, 25 percent of sharks and rays face extinction. The animals you see are acting as conservation ambassadors.

According to a recent International Union for the Conservation of Nature (IUCN) study, 260 of 1,041 species of cartilaginous fish (which include sharks, sting rays, and skates) are at risk of becoming extinct. How could this be? We contacted Dr. Jeremy Vaudo, a biologist who's an expert on sting ray and sharks. He's a research scientist at Florida's Nova Southeastern University's Guy Harvey Research Institute and Save Our Seas Shark Research Center. "Several factors put sharks and rays at risk," he says. "Sharks and rays are slow-growing, late-maturing, and have few offspring." With overfishing, "you have more animals being removed from the population than are entering it." Unfriendly fishing practices such as bottom trawling – using a net that catches anything in its path – lead to many shark and ray losses as they become "bycatch." Another problem is habitat loss. "Many of the at-risk species are coastal species that regularly use near-shore areas like estuaries, bays, and mangrove habitats for food and breeding," says Dr. Vaudo. When humans encroach on these areas, habitats are damaged, lost or can only support a small population. "The smaller the population, the greater its risk of extinction."

So why is shark and ray conservation important? "These animals play critical roles within the ocean ecosystem, and each fills a very different and important niche," says Billie Harrison, area supervisor of the Zoo's Aquatic & Reptile Center. Take the tiger shark. "These sharks are crucial to the quality of sea grass beds as they prey on animals that would quickly deplete the beds," she says. And rays? "Sting rays contribute to nutrient cycling because they often bury in the sand," says Dr. Vaudo. Nutrients in the water settle into sand at the ocean bottom, and sting rays that burrow help release nutrients back into the water. "These nutrients are then available for the bacteria and algae that need them to grow."

What can you do to help sharks and rays at risk? "The first step is to educate yourself," says Dr. Vaudo. Among non-profit groups that support shark and ray conservation are seafoodwatch.org, iucn.org, and sharksavers.org. The next step is to make choices when you eat fish, says Harrison. The Zoo recently became a

Sting Ray & Shark Bay

Sponsored by Sendik's Food Markets
Open May 24-Sept. 1; admission \$2
Otto Borchert Family Special Exhibits Building
Milwaukee County Zoo

Conservation Outreach Partner with the Monterey Bay Aquarium Seafood Watch. This program helps people learn which fish and seafood are "sustainably harvested" by fisheries that use friendly fishing practices such as pole fishing. These fisheries minimize bycatch and maintain habitats that are important for sharks, rays, and many other fish species. When you buy sustainable seafood, you help reduce practices like bottom trawling. Find more information in the Zoo's Aquatic & Reptile Center.

"As wild animals, sting rays and sharks should have our respect," says Harrison. "Meet them at the Zoo and experience that for yourself."

Dana Christen

A cownose sting ray



Instructor Rachel Hahn laughs with Jack W. during Zebras class.

Just the Right Pace

As you walk into the room with paper-tree-lined walls, you're greeted by a herd of black, white, and rainbow-striped zebras. Some are quietly reading books while others are running in a zigzag pattern to evade lions. Several zebras are swatting bubble "flies" with clay oxpecker birds. Others are finding their mothers by matching the stripes on their rumps. This is not an African savanna. The "zebras" are actually 4- and 5-year-old children wearing costumes they made in a Zoological Society of Milwaukee (ZSM) Zebras class.

You might think that so many activities would overwhelm a child. Just the opposite is true: Each child gets to choose. "There's a big spectrum of how children learn," says Patty Trinko, assistant director of the ZSM's Conservation Education Department. Kids will gravitate toward activities that fit with how they learn. Some children are kinesthetic learners, meaning they learn by doing. They enjoy the thrill of popping bubble "bugs" with a clay bird representing the oxpecker that sits atop African rhinos and eats annoying bugs. Others are visual and learn by seeing; these kids

delight in matching the stripe patterns of different zebras. Auditory learners enjoy circle time, when they can listen to a ZSM instructor explain the parts of a zebra. "We plan a variety of activities so that children and their adults can go on an adventure," says Trinko.

Having multiple activity areas that appeal to different learning styles allows kids to go at their own pace, especially during activity time at the start of class. This freedom is a type of unpressured learning the Conservation Education Department excels in. "Learners process information in different ways and at different paces," says Trinko, "Unpressured time to engage in learning is essential for a child to explore new concepts and to build excitement for learning." With the beginning activity time over, the kids gather for circle time. But if a child isn't ready to join the group, it's OK. He or she has the option to quietly continue a favorite activity and join when ready. "Sometimes we just don't feel like sitting down and listening," says Trinko, adding, "None of it's wrong."

Top photos:

Kristin Warner of Pewaukee, blows bubbles as her son, Jack, 5, tries to pop them with his clay oxepecker bird.

Jack matches his picture of a baby zebra butt to a mom's butt stripes.

Bottom photos:

Quiet time in class: Jack reads a lions book.

Children in a Junior Zookeeper camp pose near Gypsy the horse.

Photos by Richard Taylor



Kristin Warner is a Pewaukee mother who has attended Zoo Classes with her son, Jack, 5, since he was 2.

"The classes offer a new way of learning, but in a predictable environment," she says. "There is a wide variety of kids with different learning styles." Warner has seen firsthand the range of activities that



Zoo Classes offer for varying ability levels. Jack is a kinesthetic learner, she says, and "one of his favorite things is finding out what will be in the sensory table." That's a kid-sized table with animal-themed objects for kids to play with. In a September 2013 Zebras class that Warner attended, the sensory table held small zebra toys atop a piece of grassy sod. Jack set up the zebras in a circle. In circle time, he had learned that zebras arrange themselves in a protective circle to confuse lions (because zebra stripes tend to blur together). Another example: each class has a bookshelf. "Jack can read (see him above with book), but other kids may not be able to yet. But just having books there introduces the kids to literature, which is so important," says Warner.

The Conservation Education Department makes accommodations for children with disabilities in all classes and camps. "We don't have to alter too much," says Trinko, because our class structure already is designed for individual differences. For students with special needs, instructors work closely with parents. "We ask parents, 'What works at home? At school?'" Knowing what the parents do at home helps ZSM instructors make a comfortable and familiar environment for kids. "It also helps to have the parent tell the child the schedule so they know what to expect," says Trinko. "Clear transitions are important for all kids." This is especially true for kids on the autism spectrum. Knowing what will come next, when activities will change and what to expect for the day is paramount for



these kids. "We don't want the frustration level to get too high that it can't go back."

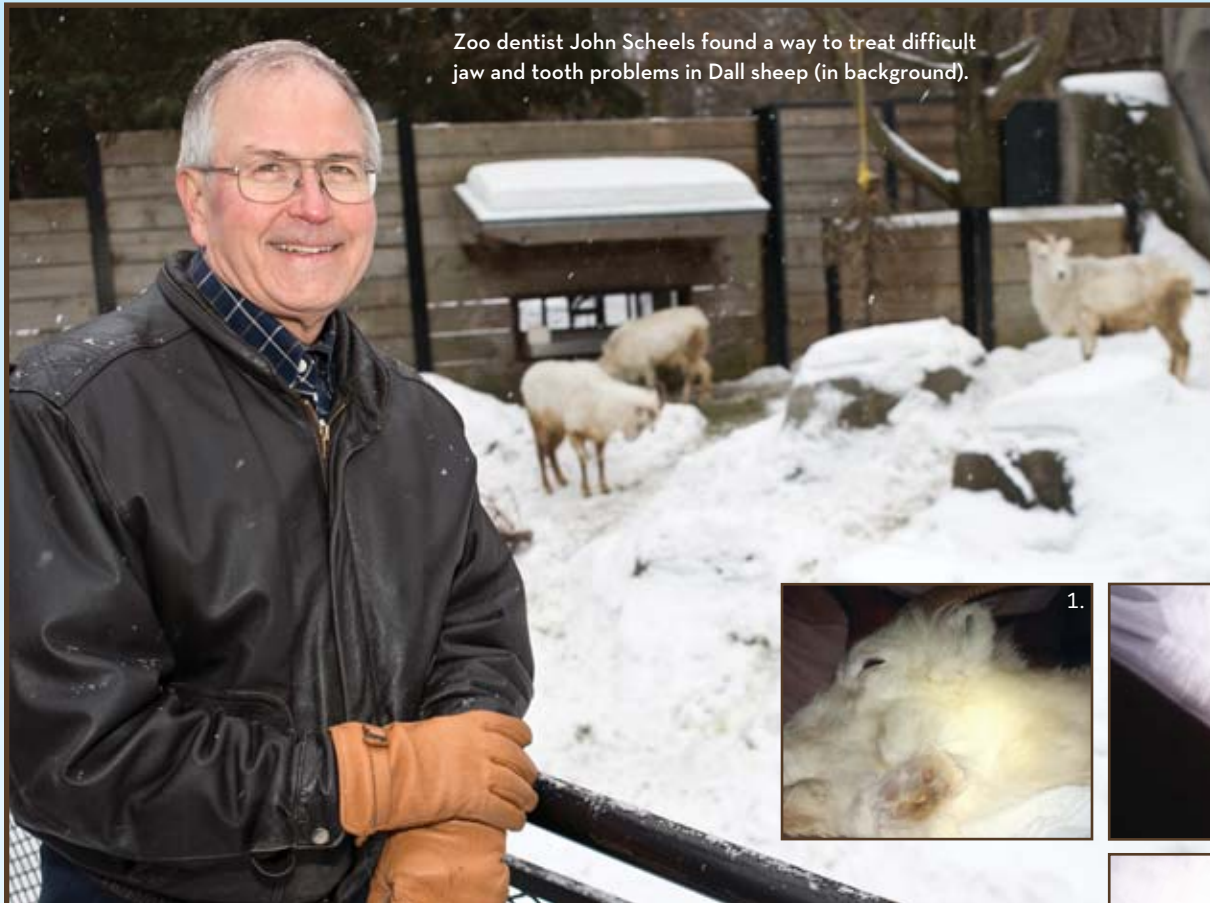
In an August 2013 Junior Zookeeper camp, a girl with Down syndrome lingered at the horse barn area after her group had finished "cleaning" the stall of Gypsy the horse. She was given extra time to take in the transition back to the classroom by getting one-on-one time with the tour leader. The rest of the class stayed nearby with high school assistants and enjoyed observing Gypsy in her yard. In a short time, the girl was ready, and the whole group walked back to the education center together. The small delay was absolutely fine, says Trinko. Any child who needs extra time or one-on-one attention can get it because the staff-to-child ratio in ZSM education programs is very high. In a summer camp of 24, for example, it's normal to have an instructor and three other adults (a mix of college-age interns and Zoo Pride volunteers) plus one or two high school-age assistants.

The key to creating a successful classroom environment, adds Trinko, is communication and collaboration – with parents, with Zoo staff and with all the ZSM staff and volunteers in the classroom. What does that mean for the kids? "It means she or he is comfortable, confident, and happy," says Trinko. "We want every child to leave with that feeling."

Dana Christen



Animals Need a Dentist, Too



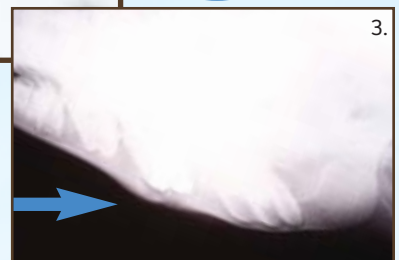
Zoo dentist John Scheels found a way to treat difficult jaw and tooth problems in Dall sheep (in background).

Three photos below provided by Dr. John Scheels:

1. This Dall sheep has “lumpy jaw,” a reaction to a tooth infection.

2. This radiograph shows extra bone growth causing a jaw lump in a Dall sheep.

3. A Dall sheep after extra bone was removed, going through the back end of the jaw. This was taken months after surgery, when the jaw had healed.



It’s a case of a gorilla toothache. Six people are recruited to carry Maji Maji the gorilla from the Apes of Africa building to a van and then from the van to a hospital table. Before this 350-pound male ape is moved, while he’s still awake, zookeeper Claire Richard uses a syringe to give him an anesthetic prepared by a veterinarian. A gorilla accepting a shot? It’s possible because of all the training Richard has done with Maji over the years. He is used to getting help from her. He’s in pain. He has fractured a canine tooth that now has an abscess. So Maji is off to see the Zoo’s dentist, Dr. John Scheels, at the Animal Health Center. There he gets additional anesthesia, and Dr. Scheels starts a root canal.

“I cleaned out the abscessed tooth and put in a rubber filling that was about 2½ inches long,” he says. “Then I put in a silver filling at the end to seal it off.” Years ago this procedure might have taken hours. That was before Dr. Scheels did a groundbreaking study of the jaw of the late Samson the gorilla, who for three decades was the Zoo’s most popular animal. It was the first time anyone had photographed and documented the roots of a gorilla’s teeth. “I do root canals in about 50 minutes now, about the same time as for a human. This is routine stuff now.”

It may be routine here, but dentists from zoos around the world often seek out Dr. Scheels for advice. That’s because he has spent decades solving dental problems and then documenting treatments for zoo animals. “The Milwaukee County Zoo is fortunate to work with one of the top zoo dentists in the world,” says Zoo veterinarian Vickie Clyde of Dr. Scheels. “His knowledge is incredibly vast.” In fact, Dr. Scheels has helped develop the field of exotic-animal dentistry. What’s amazing is that he’s done this in his “spare” time, when he’s not working with human patients at his Wauwatosa dental clinic. He studies the jaw and bone structure of each species he works on – more than 90 species. That can be difficult when there’s scant dental data on some species. “For example, he read up on the dental anatomy of giant sloths, which are extinct, to find out information about our current species of sloths because there wasn’t much written about them,” notes Dr. Clyde.

Dentistry is fairly new in the world of animal medicine. "I started the veterinary dentistry courses at the University of Wisconsin-Madison School of Veterinary Medicine in 1986," says Dr. Scheels, who was an adjunct professor there for 12 years. In the 1990s, vet dentistry finally became a specialty. "They focus on dogs and cats, however," he adds. "Exotic-animal dentistry is still unusual. When you're working with pets, you can handle them and see them again in a few days." You usually can't handle wild animals unless they're under anesthesia.

That brings us back to Maji the gorilla. Before operating, Dr. Scheels wanted to look inside Maji's mouth while he was awake. That would mean practically head to head. Dr. Scheels asked Claire Richard if he could come to the Zoo on his lunch hour to check Maji's teeth. Yes, she said. After all, she has trained the gorilla to open his mouth for her.

"Claire held his mouth open with a tongue depressor," says Dr. Scheels. "I got really close and got to look right at him. It's incredible. Zookeepers are the front line of animal health care," he adds. "Imagine: Your patients can't talk to you. And if they have an injury, they want to hide it from you. The keepers pick up on those subtle things." Plus, keepers do reward-based training with animals to help them participate in their own health care and avoid anesthesia.

There's a big bulge in the jaw of a Dall sheep. Call it the case of the "lumpy jaw." These mountain-climbing sheep, which have their own small mountain at the Zoo, often develop a problem of extra bone growth in the jaw. It happens in hooved animals (sheep, horses, impala, llamas, cattle) and in other herbivores such as kangaroos, says Dr. Scheels. The animals get an infected tooth and then have an overreaction in which the jaw bone grows and swells. Primates and carnivores don't have this reaction. "We at the Milwaukee County Zoo were among the first to find successful treatment methods for 'lumpy jaw,'" he says. "It's really significant, but it was really hard work. Going back in history, I found a fellow who had this all figured out in 1936 on sheep. He analyzed the problem, but he didn't talk about treatment. I consulted with my veterinarian friends in London and San Diego to come up with treatments. We did fillings and root canals from the back end, through the jaw. We treat it very aggressively." Dr. Scheels shows X-rays of the sheep's jaw before and after treatment (see photos). The extra bone has been cut off. The sheep has recovered. "The keepers now spot abscesses early," he says, so that jaw bone growth can be treated before getting too large.

A tooth infection is serious, says Dr. Scheels, because it can lead to chronic pain and potentially to a system-wide infection that can kill the animal. Humans can die from tooth infections, too, he adds, but humans are easier to treat. "Animal teeth are harder to remove than human teeth because animal teeth are stronger and anchored

more tightly within the jaw. Humans have evolved to eat a softer diet. In animals, we do root canals only on the most significant teeth: the canines and certain others. If we take out a tooth, it leaves a huge void. When the tooth is gone, the bone shrinks around where the tooth was. It can make the jaw weaker. Sometimes the jaw can fracture." That's why he thinks carefully about removing a tooth. Says Dr. Clyde: "He has studied the pathophysiology of each species so that he knows not only when it's good to do something but also when it's good NOT to do something."

To help prevent tooth problems, Dr. Scheels has worked with Zoo vets on animal diets. "The Zoo has had three male moose, all from the same family line, with tooth problems. I talked with people at a moose-research organization in Minnesota as well as at the Minnesota Department of Natural Resources. Dr. Roberta

Wallace, Milwaukee's other Zoo veterinarian, talked with the Minnesota Zoo. What we discovered is that the diameter of the browse branches for moose should not exceed 1 centimeter. We were giving them branches that were too thick."

Dr. Scheels, who started at the Zoo in 1981, also has dealt with a lack of dental equipment for zoo animals. "When I began," he wrote in a 1987 *Alive* article, "I contributed basic instruments and supplies from my personal practice. ...Lighting consisted of hand-held flashlights. We developed dental X-ray film in coffee cans. ... The Zoological Society funded purchases of basic and specialized

instruments." He acquired a portable X-ray machine, an ultrasonic tooth cleaner, and quality lighting. "Also, I have created instruments for animals. I have a patent from 1993 on a mouth prop for dogs and cats, and I modified it for larger animals. I also modified a human syringe to help fill root canals on large animals. Every year I sell some of these to zoos."

While Dr. Scheels is paid for his expenses (such as a dental assistant) and supplies, most of his time at the Zoo is donated. For his decades of contributions, the Zoological Society of Milwaukee lists him in its highest donor level, the Platypus Circle President's Diamond category. Says Dr. Scheels, who praised the high-quality care provided by the Zoo's long-time veterinarians and vet technicians, "It's really an honor to work here."

Paula Brookmire



Under supervision of Zoo veterinarians, John Scheels does a root canal on Maji Maji the gorilla. Keeper Claire Richard (in back) and Dr. William Scheels (John's son) help. Photo by Mark Scheuber

Note: Dr. Scheels will give a presentation on Oct. 9, 2014, in Milwaukee at the national conference of the Association of Zoo and Aquarium Docents and Volunteers. For more photos and information on dentistry at the Zoo, go to zoosociety.org/dentist.

Day Turns to Night

North American
river otters



We've all heard it: "Remember to turn off the lights before you leave." Yet there's one place in the Milwaukee County Zoo where zookeepers do just the opposite. On the night side of the Small Mammals Building, before zookeepers leave for the day, they make sure lights are timed to go on at 8:30 p.m. That's because this is the only Zoo building that houses nocturnal animals. Zookeepers do this to "flip" the animals' circadian rhythms. "A circadian rhythm is a roughly 24-hour cycle that determines the sleeping and feeding patterns of all animals," says Rhonda Crenshaw, area supervisor for the Small Mammals Building. "Humans are not exempt; that's why most of us get tired and go to sleep at night." By creating a light-filled environment at night, nocturnal animals will sleep. Then the nocturnal side of the building is darkened during the day, and the animals become more active. That way zoogoers can watch the animals' nocturnal behaviors during the day.

Care for nocturnal animals is slightly different from that of diurnal (daytime) animals that live in the other half of the building. "Cleaning an exhibit can be a bit more difficult at 'night,'" says Crenshaw. "Sometimes we use a bypass switch to provide light if we need it, especially if you have to see up close to inspect an injury." The animals are used to it. "There's generally no reaction," she says. Other than that, maintaining the 11 exhibits on the diurnal (day) side and 12 exhibits on the nocturnal (night) side is more or less the same. Animals must be fed and exhibits cleaned and hosed down. All the animals receive enrichment items such as toys or new scents that keep their minds active and encourage natural behaviors. Care might be the same, but if you look closely you might notice morphological differences between nocturnal and diurnal animals. We've chosen three exhibits on each side of the building to highlight some of the animals.



Day (Diurnal) Side

North American river otter

Two of the Zoo's friskiest mammals, Oscar and Buddy, live here. Theirs is the largest exhibit and the only aquatic exhibit in the building, making it the most difficult to maintain. Cleaning takes 15 to 20 minutes, and the water must be recycled once a month. "They love snow," says zookeeper Cassandra Manteau. "We bring in buckets of it from outside and put it in the exhibit. They roll in it, slide in it." Another favorite toy, oddly enough, is a metal ladle. "I think they like the drag it creates when they swim with it," she adds. Otters in the wild are not strictly diurnal; they also can be nocturnal and crepuscular (active at sunrise and/or sunset).

Male golden lion tamarin and female Goeldi's monkey

You might think a mixed-species exhibit would present challenges since each animal has its own needs. Not a tamarin and Goeldi's monkey. "They interact as if they were the same species," says Crenshaw. They're about the same size

Goeldi's monkey



Meerkat





Straw-colored fruit bats

Rhonda Crenshaw holds a potto with tamarins in the background.



Night Side

of the Small Mammals Building

and their ranges overlap in the Amazon River Basin. Both spend their lives in trees and share a similar diet. They “snuggle up to each other, groom each other and play with the same enrichment items,” she says. Items include live crickets to chase and catch, and a puzzle-feeder requiring them to move certain panels to get at raisins. These activities simulate natural behaviors in the wild and keep their minds active.

Meerkats

“They are mischievous,” says Manteau. “They are the most animated animals on the day side.” Some of their favorite activities are shredding newspapers and cardboard, and hunting insects. They are burrowing animals that live underground, which is why they shred various items - it encourages their digging instinct. Meerkats are found in the Kalahari and Namib Deserts in southern Africa. When you visit them, you’ll probably notice one of the meerkats perched on a log. “There’s always one on the lookout for predators.” Meerkats make various alarm calls indicating different predators, such as birds of prey and jackals.

Nocturnal Side

Straw-colored fruit bats

These fruit-eating flying mammals - bats are the only mammals that can fly - love kebabs. But unlike traditional kebabs that include meat and vegetables on a skewer, these kebabs are made of skewered fruit and greens. These bats have a keen sense of smell. “They love to smell perfume and spices,” says Manteau. “Some will approach us to smell the shampoo scent in our hair.” Speaking of aromas, imagine cleaning

an exhibit with more than 73 bats. Says Crenshaw: “It doesn’t look like it because they’re all bunched up together. But there’s a lot of guano to clean up.” (The other exhibit requiring a lot of waste disposal is the cotton-top tamarin exhibit, home to a family of eight.) Straw-colored fruit bats are found in the lowland forests and savannas of sub-Saharan Africa, from Senegal in the west to South Africa in the south to Ethiopia in the east. They can live in colonies of more than 100,000!

Bush babies

Bush babies, also known as galagos, are small, nocturnal primates native to continental Africa. They have the most obvious morphological adaptation for nocturnal life: huge eyes. Like the straw-colored fruit bats, they also love scents. Manteau says this might be an adaptation for nocturnal living, because you don’t need light to follow a scent. However, many diurnal animals also have great senses of smell. Like most small mammals, bush babies also love insects, especially ones they have to catch. Perhaps the strangest enrichment item for a bush baby in Zoo history was another animal, a springhaas. Simon, a bush baby that shared an exhibit with a springhaas, “would sit on the springhaas’ back and groom it,” says Manteau. “The springhaas just sat there and let him do it.”

Fennec foxes

Fennec foxes are the smallest fox and belong to the same family as domestic dogs and wolves. Not surprisingly, they are fond of dog toys. “But they also like cat toys and toys for human babies,” says Manteau. Because of their powerful sense of smell, fennecs like to investigate various spices and perfumes. From time to time when there are kits (babies) in one of the exhibits, their play makes them each other’s enrichment “toy.” Fennecs are found in the Sahara desert in North Africa. Their large ears help keep them cool by dissipating heat, and their nocturnal lifestyle helps them avoid the hottest parts of the day.



Bush baby



Fennec foxes

Zak Mazur

BITE INTO THIS!

Julia F. views the teeth of a great white shark. This and other animal artifacts are used in Zoological Society classes at the Milwaukee County Zoo.

Shark Search

Use your shark smarts to find all of the species listed below. Circle words that are shark species and cross out words that are not. Some answers might surprise you! Find the answers at zoosociety.org/funstuff.

Alpaca	Bamboo	Bonnethead	Angel	Mako
Panda	Bull	Basking	Frog	Blue
Ram	Rat	Tiger	Reef	Nurse
	Deer	Cichlid	Zebra	Leopard
				Lemur
				Hammerhead
				Whale

Whether you like apples, carrots, or almonds, the shape of your teeth helps you eat your favorite foods. But did you know the same is true for sharks? Sharks eat sea mammals like dolphins, large fish and even other sharks! Rows of triangular, razor-sharp teeth help sharks grip and tear into their prey. Just like you, these fish lose their teeth. But sharks lose many teeth that regrow over time. In fact, some sharks lose up to 30,000 teeth in a lifetime!

Sink your teeth into these shark-themed activities. Create shark “teeth” that you can eat. Make a pocket-sized shark and pin it to your backpack. Search for shark species in a word hunt. For more activities, visit zoosociety.org/funstuff. Starting May 24, you can visit the Milwaukee County Zoo’s special summer exhibit, Sting Ray & Shark Bay, sponsored by Sendik’s Food Markets. You can touch sharks, feed sting rays and observe how they glide through the water. See story on page 3.

Clothespin Shark

Use a clothespin to make this pocket-size predator of the sea! Find a clothespin in your home laundry room or buy some at a hardware store.

You will need:

- Small paintbrush (4 to 5 inches long)
- 1 spring-type wooden clothespin
- Non-toxic gray acrylic paint
- Scissors
- Gray construction paper
- Glue
- 2 pieces ($\frac{1}{4}$ inch by $\frac{3}{8}$ inch each) of red or pink felt or other thick cloth
- Ultra-fine-point permanent marker
- Small googly eyes* (optional)



Directions:

1. With paintbrush, paint entire clothespin blue or gray. Let paint dry.
2. Make a fin by cutting a $\frac{3}{4}$ -inch-high triangle from construction paper. Bend bottom edge of triangle at a 90-degree angle. Glue that edge of the fin to top of clothespin (see photo).
3. Put glue on one side of each piece of felt. Hold open the clothespin while you attach felt to inside of what will be the shark's mouth (see photo).
4. With marker, draw on eyes, gills and teeth. Or, glue googly eyes to each side of the clothespin.



*Googly eyes are plastic eyes used for crafts.

Sweet & Salty Shark Teeth

Keep an eye out if you ever visit the ocean during low tide. You might find a real shark tooth! Meanwhile, satisfy your sweet tooth with these shark-tooth treats.

You will need:

- 1 package (11 ounces) white chocolate chips
- 1 bag (7.5 ounces) Original Bugles snacks
- Microwaveable glass bowl
- Wax paper

Directions:

1. With help from an adult, microwave white chocolate chips at 50 percent power for 30 seconds. Remove and stir. Repeat until chips are completely melted.
2. Immediately dip Bugles point first into melted chocolate. Place on sheet of wax paper to harden, about 10 minutes. **Here's what the treats look like.**





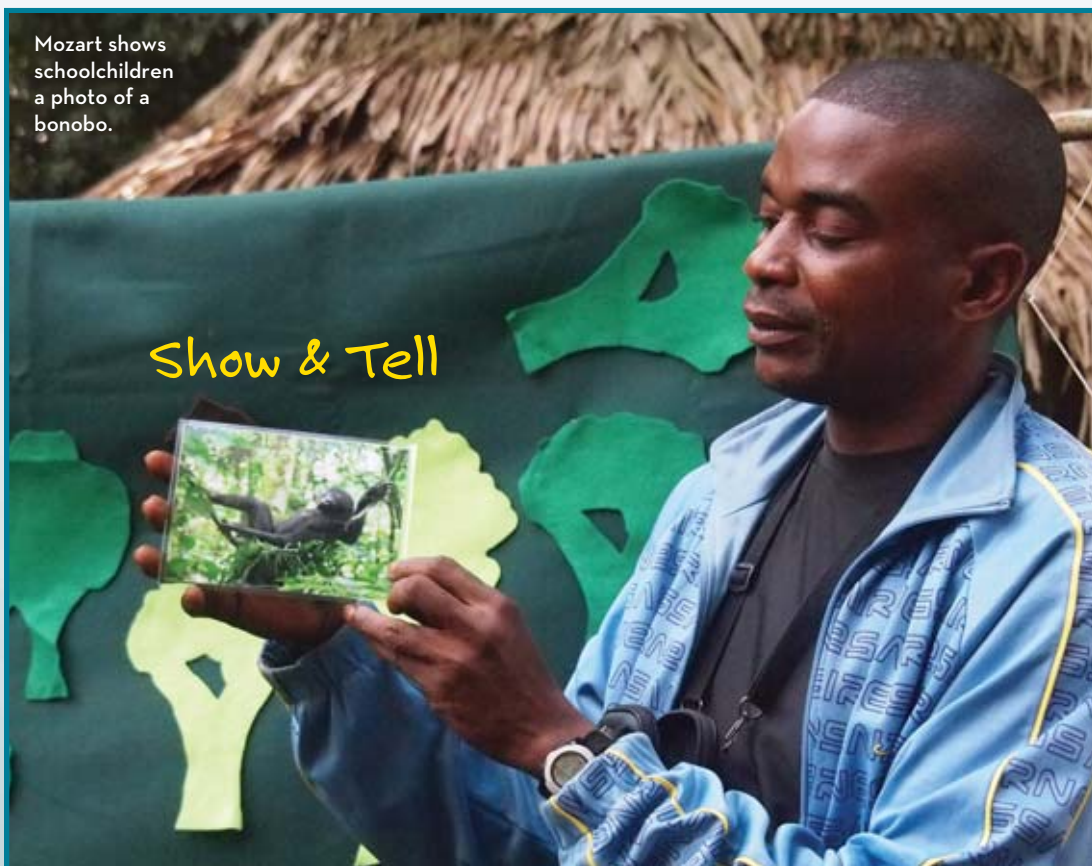
Imagine you're from a village in a remote part of the Democratic Republic of Congo (DRC), an impoverished country beset by decades of civil strife. Education is a possible route out of poverty. To that end you study hard and graduate from high school. You're accepted into a vocational college in the "big city" of Boende, 75 miles from home. Just before receiving your hard-earned diploma in agronomy – the study of producing and using plants for food, fuel, and land reclamation – the country is besieged by civil war and it reaches Boende. All you can think about is survival. In the ensuing fighting the college is destroyed, along with your diploma and academic records. It's as if you never attended college. That's what happened to Ngomo Mozart in 1997.

Yet his education opened other opportunities. Today Mozart, 47, works for the Zoological Society of Milwaukee's award-winning Bonobo & Congo Biodiversity Initiative (BCBI). He lives and works at Etate, BCBI's research station in the DRC's Salonga National Park. His title – researcher in training – belies his many responsibilities. "He's more of a conservation research assistant," says Patrick Guislain, BCBI field projects coordinator. Mozart leads the critical work of surveying and researching endangered bonobo populations.

How did Mozart come to be a conservationist for the Zoological Society of Milwaukee? Guislain offers his opinion: "He's very sharp, learns fast, is very personable, and has determination and drive." Many of these qualities were developed during childhood in Efonde, his home village. Mozart says his family emphasized education and respect for life. "I was well-supervised by my family." His mother was the moral pillar of the household. "Every evening she gathered us kids to give advice on how to live a good life," he says. "She taught us respect for all – no exceptions. And to always remain humble in every situation."

His dreams of being a professional agronomist stymied, Mozart became a high school teacher in a village not far from Efonde. In 2005 he met Dr. Mwanza Ndunda, a Congolese scientist working with a team of Japanese bonobo researchers in the Luo Scientific Reserve, about 217 miles northeast of Etate. Impressed with Mozart, Dr. Mwanza trained him in the basics of field

Mozart shows schoolchildren a photo of a bonobo.



research, and they worked together in nearby bonobo sites, such as the Lomako forest. In 2009 the African Wildlife Foundation invited Dr. Gay Reinartz, BCBI's director and the Zoological Society's conservation coordinator, and Guislain to conduct bonobo surveys and training in the Lomako region. It was here that they met Mozart. Dr. Reinartz interviewed about 30 people to work on the Lomako bonobo survey. "We needed somebody who knew the forest, animal signs, and how to read and write well. Within the group, Mozart showed the most promise. He was well-educated, he was a natural teacher who could lead people, and he was extremely likable – always ready with a smile." She says he quickly advanced in data collection and navigation, and he didn't shy away from cutting miles of trails through the forest. "Two years later we had an opening to hire a survey team leader in the Salonga. Mozart was at the top of our list." Ultimately he was hired and moved to Etate, a two-week bike trek through forest trails from his wife and five children in Efonde.

Conservation work came naturally to Mozart. Growing up in one of the world's largest rainforests inspired an appreciation for nature. There was much lore in his village about bonobos, probably because these apes have human-like qualities.



Above: Mozart is all smiles after getting new boots, a key protection against venomous snakes.

Top Right: A wild bonobo in Salonga National Park.

Right: With no electricity in the forest, Mozart uses a solar-powered computer for survey data.



Nowadays bonobos do not live near Enfonde. But Mozart first heard their shrill calls as a child. “I was walking in the forest with my uncle when I heard them,” he says. “I was afraid.” His uncle taught Mozart about bonobos as best he could. However, much of it was based on myths. “My uncle told me they live in groups and eat fruit and fish. He said they resemble humans and that if you try to capture a baby bonobo the whole group will attack you. He also told me if you point an arrow at them they will put up their hands asking you not to shoot.” Working for BCBI, Mozart learned that many of his uncle’s bonobo “facts” – that they try to use sticks to make fire and create dams in rivers to catch fish – were false. Bonobos can’t swim, and they do not build fires. Still, his uncle instilled a respect for the species. “My uncle told me to never eat bonobo and I never will.”

Guislain says working with Mozart is a pleasure. “He’s a splendid guy, always in a good mood. When Gay and I return to Etate after many months, he smiles and greets us in the Congolese manner, grabbing our shoulders and gently bumping foreheads three times on alternating sides. You can tell by his French that he’s very educated,” adds Guislain, who is from Belgium and speaks French. (The DRC, once a Belgian colony, is a French-speaking country.)

Mozart is always eager to start new projects and is detail-oriented. His duties include keeping records during forest surveys, using hand-held GPS devices to determine geographical locations (waypoints), managing a budget, organizing the survey team, and traveling to other villages to buy supplies for field work. “He has evolved from never having touched a cellphone to knowing how to enter survey data on a laptop,” says Dr. Reinartz. Mozart spends about 50 percent of his time in Etate and 50 percent in the forest. Forest

surveys can be dangerous. Wounds suffered during the remote surveys must be treated seriously. Once, a worm-like parasite got stuck under Mozart’s fingernail, causing severe pain and turning it black. It took a week to get it out. Another time a venomous snake fell onto the backpack of a park guard ahead of Mozart on the trail. “I told him, ‘Don’t move.’ I didn’t mention the snake because he would’ve panicked. I took a stick and flicked it away.” Chuckling, Mozart says the guard thought it was a fly. But deadly snakes are no joke in the DRC, where antivenin is rarely available. Two of Mozart’s brothers died from snake bites while working their fields.

Mozart’s teaching background makes him valuable in another way. He teaches park guards how to conduct surveys and use the requisite technologies. When schoolchildren from villages near Etate visited for a day in April 2012, Mozart was in his element. “He’s a born teacher – you can tell by the proud way he stood in front of the students,” says Guislain. Adds Mozart: “I love educating children.

They need to learn about nature and to respect it.” Despite his serious demeanor and strong work ethic, Mozart has a lighter side. When asked how he got the name “Mozart” (he has two other names: Daniel and Lokinga), Mozart chuckles. “I got that name as a kid because I loved to sing in church. My brother, through his own studies, learned about Mozart (the composer) and gave me that nickname. Now everybody in church calls me Mozart – including my mother.”

Zak Mazur

Ngomo Mozart does not speak English. Patrick Guislain translated Mozart’s answers to our questions from French to English. BCBI is funded, in part, by the U.S. Agency for International Development.



Head Start for

guanas



Photos provided by Dawn Fleuchaus

The Jamaican iguana is a greenish gray with blue tints, but it looks red after burying eggs in the red earth. Above: Dawn Fleuchaus peers from a blind.

Dawn Fleuchaus peeks out from the gray mesh of a researchers' blind. She's hiding from iguanas. "The female iguanas are very cautious," she says. "If they see or hear people, they usually will run off. So we sit quietly." It's 91 degrees, maybe hotter. She's on the Caribbean island of Jamaica, in a remote, protected area called Hellshire Hills. She'll be inside this hot, humid hiding area for at least six hours. She keeps track of all the Jamaican iguanas that come and go, burrowing, laying eggs, fighting. She's volunteering as a researcher for the Jamaican Iguana Recovery Project, and she has been doing it annually since 2002.

This, apparently, is a zookeeper's idea of a vacation. Fleuchaus, who is area supervisor of the Australia and North America areas at the Milwaukee County Zoo, goes to Jamaica twice a year. She's there when iguanas lay their eggs in May-June, and she's back when the eggs hatch in August-September. She and other researchers collect the newly hatched iguanas. They're all examined, some are released, and about 40 of them go to Jamaica's Hope Zoo in Kingston for three to five years. This gives them a head start. They live in safety till they grow big enough to defend themselves from a feral cat or a mongoose. Then they're released back into the wild.

"The Jamaican iguana is believed to be one of the most endangered reptiles in the world," she says, because it's found only in one small area of Jamaica. "This project has been very successful in increasing the number of wild iguanas." In its 25 years, the Jamaican Iguana Recovery Project has collected and processed more than 1,000 iguanas (over 300 in 2013 alone). The wild population has risen from an estimated 12 iguanas in 2003 to a few hundred. Fleuchaus notes that her conservation work

has been supported by the Zoological Society of Milwaukee and the Milwaukee County Zoo.

A fight starts at the nesting area between two females. There are always two groups, says Fleuchaus. Some iguanas are just arriving at the site to dig a 9- or 10-foot burrow to lay their eggs. Others have just buried their eggs and now, instinctually, are filling in the hole. Sometimes they also fill in other holes with dirt, burying a mom who's still in the burrow laying her eggs. So there's a fight. Then there's the old female Fleuchaus saw last year who has been coming to this same site for years. From the iguana's markings, it's clear she was one of the recovery project's early hatchlings who was "headstarted" and then released in the mid-to late 1990s. This wise elder stays out of the fights. "She sits on a rock basking behind the blind, not in the nesting area. She'll sit there for a number of days until she decides to come in to dig her nest." Iguanas are fascinating, she adds. They come to lay eggs right after the rainy season, when the ground gets very hot. "It's really funny to watch them walking on tiptoes because their feet are hot. They'll dig a little and then tiptoe over to the shade. But they have such a strong urge to nest that they keep coming into the sun to dig their burrow."

There's a new worry for researchers. A Chinese development company wants to build a shipping port on the Goat Islands, which are about 2 miles from the iguanas' only remaining habitat. Even though the nearby refuge is protected, conservationists fear the project will bring hikers and hunters into the area. "Iguanas don't do well with human disturbance," says Fleuchaus. Meanwhile, she's heading back to Jamaica in May to watch the start of a new generation.

Paula Brookmire

Red Panda

Arrived: Oct. 15, 2013

Red Panda Exhibit in the Feline Mall

Sometimes a name just fits. Take Dash, the Milwaukee County Zoo's newest red panda. The young red panda is active, quick, and likes to explore every inch of his exhibit. "He looks like the young, dashing athlete he is," says Danielle Faucett, supervisor of the pandas and of Winter Quarters, where warm-climate animals go in winter.

Dash, born June 6, 2012, joins the Zoo's resident red panda, Genghis. Red pandas are solitary animals, and so even though Dash and Genghis share exhibit space, they alternate their time on exhibit. It's not hard to tell the two apart when you visit. Dash is a lighter red than Genghis, who at 17, "is starting to show his age," says Faucett.

More closely related to raccoons than giant pandas, red pandas belong to their own taxonomic family: Ailuridae. They have some things in common with dogs. At the Zoo, they get puzzle toys



Dash the red panda

What's Gnu?



with food hidden inside, just like you'd buy for your dog. Dash loves them. In fact, "he'll sometimes bypass his bowl of food to see what's in the toy," says Faucett. "He seems to enjoy manipulating the puzzles to get the food out." His favorite foods include grapes, apples, and pears. Red pandas' main food, however, is bamboo grown at the Zoo – "just like they'd eat in the wild." Dash, who's almost 2, is smart as well as quick, says Faucett. He rapidly learned how to move from his outdoor exhibit to his indoor holding area when zookeepers wanted him to. Now Dash is training to stand still for vaccinations. This will make his once-a-year vaccinations in the spring stress-free. "He's a very motivated student." Dash is part of a Zoological Society of Milwaukee Sponsor an Animal special promotion, but just through April 30. To learn how you can sponsor Dash, visit zoosociety.org/sponsoranimal.

Dana Christen

Red panda photo by Mike Nepper

Bonobo Babies

Born: May 8, June 29, Nov. 21, Dec. 1, 2013

Stearns Family Apes of Africa

Last year was a bumper year for bonobo babies born at the Milwaukee County Zoo. That means this spring and summer will be great times to watch these four cute babies start to explore their world. In winter they just rode on their moms' backs, says bonobo zookeeper Stacy Whitaker. But even by February, when Whitaker was interviewed, the exploration was afoot. "Tamia's baby is coming off her back now, but nobody else is allowed to pick up the baby. However Hannah, Tamia's first offspring, can touch the baby." Given the intense curiosity of bonobos, soon there should be lots of interaction, especially among the youngsters. Deidre gave birth on Nov. 21, and Zomi had her baby Dec. 1, just 10 days apart. Elikia gave birth May 8, and Tamia gave birth June 29. As the warm weather hits – often by May – the bonobos head outdoors for their tree-level playrooms. For the winter-born babies, this will be their first exposure to greenery, bird songs, and the train whistle.

Whitaker has worked closely with bonobos for two years and last fall took over when zookeeper Barbara Bell, who has a national reputation for developing the Zoo's bonobo-training program, retired. "I love working with them," says Whitaker. "You can see the intelligence in their eyes. Yet they require a lot of your attention and effort. We have to monitor their social interactions all day to make sure they aren't fighting. For example, Zuri is a typical teenage boy who can't remember his manners." If he gets out-of-line, keepers need to split him off from some of the others. Whitaker also has to control breeding situations, putting the right ovulating female with the right (genetically matched) male. Lola and Faith are the next ones due to breed. Besides feeding and cleaning duties, keepers manage special diets and medications, train the apes to help with their health care, and provide "enrichment" (toys, food treats, radio programs). "We play with them, too," she says. "We'll chase them back and forth on the other side of the mesh in their holding area. As exhausting as they can make you, the rewards are their trust, their willingness to interact with you and the chance to watch them grow up. It's really cool."

Paula Brookmire



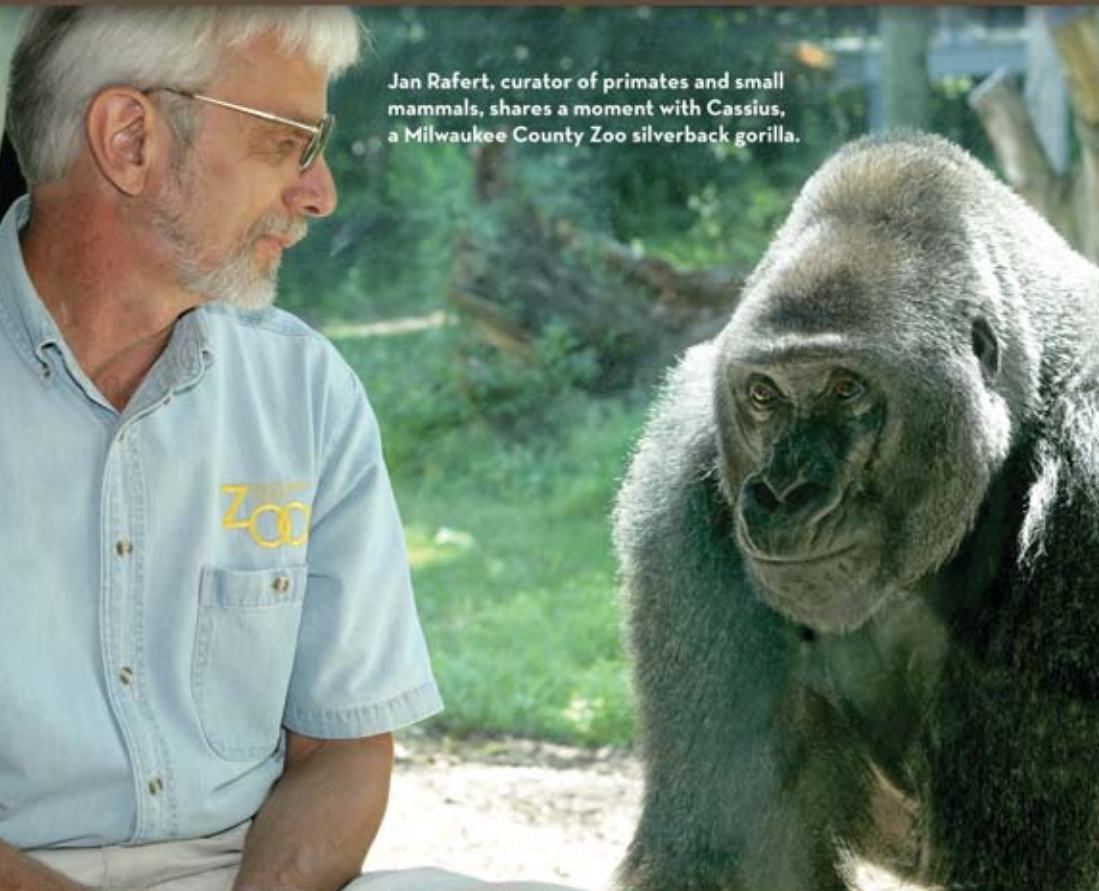
Tamia's baby
Photo by Richard Brodzeller

Remodeling the Gorilla Yard

Habitat Help:

It's breathtaking to see a gorilla at the Milwaukee County Zoo in its indoor habitat. It's even more breathtaking to remove the glass separating you from the gorillas and watch them in their outdoor habitat. You can hear them vocalize, see them pound their chests, and even smell their distinctive musk. To make this a special place for gorillas to play and relax, we hope to include:

- A water feature for splashing and drinking
- Berms to provide protection from the wind and the elements
- Resting platforms to allow basking in the sun and "people-watching"
- New landscape vegetation to provide browse treats in the summer
- Enrichment items (toys and activities) that stimulate the gorillas' natural curiosity



Jan Rafert, curator of primates and small mammals, shares a moment with Cassius, a Milwaukee County Zoo silverback gorilla.

(414) 258-2333 or ForTheApes.com

Some of the funds raised will help upgrade the gorilla outdoor yard, and some funds will provide direct cash support to help all of the Zoo's animals. Donors of \$75-\$249 have their names listed on a sign; donors of \$250-\$499 receive larger recognition on a sign; donors of \$500-\$999 receive individualized recognition; donors of \$1,000 or more receive larger individualized recognition; and donors of \$2,500 receive individualized recognition on a bench to be placed in the Milwaukee County Zoo. To comply with WI Statute Section 440.455, a financial statement of the Zoological Society will be provided upon request.



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