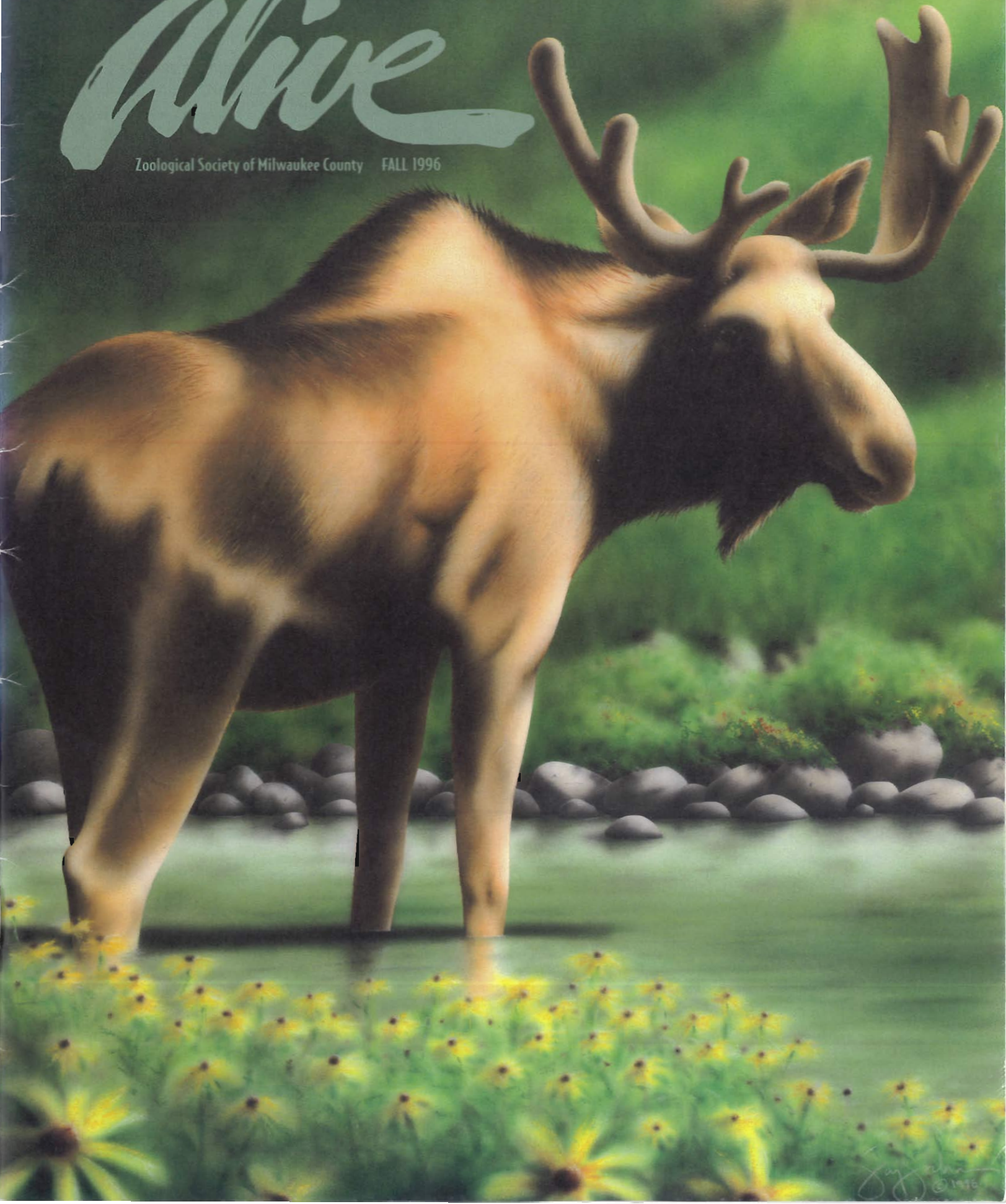


# Alive

Zoological Society of Milwaukee County FALL 1996



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PRESIDENT'S LETTER



With school in full swing and a little more time on our hands, many of us can now invest more time in observing wildlife. Birdwatching is among my favorite pastimes and is an avocation of many of the Zoological Society's Conservation/Research Committee members.

All of us share a deep concern for the habitat loss and other environmental problems that beset migratory species as they fly from summer to winter homes and back again. Our concern motivated the Zoological Society's financial support of the Wisconsin Breeding Bird Atlas, a five-year project that started last year to map the distribution of all of Wisconsin's 220+ breeding bird species. We're proud to be supporting this program, which puts about 700 people in the field to help confirm the decline in some bird species and help explain why. If you have the interest and the time, we encourage you to volunteer to help.

Over the past several years, our Conservation Committee also has put significant financial resources behind the work of dozens of graduate students through the Zoological Society's Conservation Student Grant Program. On November 9, we invite you to learn more about the expert attention 17 of these fine students are lending species—from grassland and forest songbirds to the timber wolf—during a free series of presentations, "Prospects for Our Future: Students in Wildlife Conservation." If you have an hour or the day, you're welcome to stop in to meet our presenters.

The Zoological Society is proud to be supporting the important work of our grant students and all Wisconsin Breeding Bird Atlas volunteers. We hope the stories on both programs in this issue of *Alive* not only generate an interest in the species we feature but also an awareness of the role we can play in saving their habitat.

Gil Boese, Ph.D., President  
Zoological Society



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

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# Alive

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BATTLING BACK FROM THE BRINK

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Educating visitors to the Milwaukee County Zoo and enlisting the help of local Brazilians in the conservation of golden lion tamarins is making a difference to the species' survival.

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ON THE COVER

Late Summer Velvet - Moose  
by Jay Jochem







# Moose in Milwaukee

Few mammals are as magnificent as the moose.

At more than seven feet tall, a fully mature moose may weigh more than 1,500 pounds. That monumental size, however, is a double-edged sword. It has made the moose a prince of the forest, recognizable to all, but also prized by big-game hunters as well.

Indeed, hunters pursued moose with such vigor earlier this century that the animal was virtually wiped off the map in the eastern United States. Moose were left clinging to the fringes of the northern woods of the continental U.S. from Maine to Montana.

But thanks to awareness and conservation efforts, including decades of work at

the Milwaukee County Zoo, the moose has made a tremendous comeback. Today, officials here hope to re-establish a breeding program for the species to provide other zoos with moose.

The story of moose and Milwaukee stretches back through the decades to the very beginning of the Zoo. In fact, at one time moose inhabited the richly forested areas of northern Wisconsin. An occasional moose still wanders into the state from wild, remote sections of Michigan's Upper Peninsula and northern Minnesota. But such sightings are rare. Your best chance of meeting a moose is right here at the Zoo.

Bess Frank, the Milwaukee County Zoo curator of large mammals, reports that the three moose living here are among the Zoo's most popular residents. The immense popularity of the television series, "Northern Exposure," with its trademark moose meandering through town, has added to the animal's appeal, Frank speculates.

"They're one of my favorites here," Frank says, "and I think people really like to see them. It's probably because there are so few people who ever get to see them in the wild. This is also a state where people are interested in seeing wildlife."

In their natural setting, moose are as impressive as they are imposing. With stilty legs and barrel-like body, the male moose, known as a bull, can brandish a thick set of antlers six feet wide.

They tend to frequent deep forests studded with crystal lakes and rivers. Moose, fine swimmers despite their ungainly appearance, often immerse themselves in pools, browsing on aquatic plants while shaking off biting flies.

Yet more and more, moose and humans are coming in contact with one another in an unlikely area — the suburbs of



**Melrose, the Zoo's 2-year-old female moose, is named after the Boston suburb where she was captured. A televised news report of Melrose's capture caught the attention of Milwaukee County Zoo curator Bess Frank when she was in Boston for a wedding. Her surprise discovery ended a three-year search for a mate for Milwaukee's male moose, Bullwinkle.**

Boston and other New England cities. Those encounters, unfortunately, have not always been healthy for either party.

"It's just like the urban deer problem in many parts of the country," Frank says. "In this case, there are more moose, and there are more people living in the same area. And more and more, we're moving into their habitat. Massachusetts is a state of about 8,000 square miles and more than 6 million people."

Sadly, there are an increasing number of automobile collisions with moose in Massachusetts. Stories now abound of moose meandering through New England towns, leaping over fences and browsing on shrubbery and back yard gardens. At times, state conservation officials are called on to tranquilize the terrified animals and haul them to local zoos.



The moose pauses on a commuter train track before being tranquilized by police in Melrose, Mass.

"Most of these moose tend to be young animals that are dispersing," Frank says. "People just happen to be in the way of normal migration patterns. When moose walk into unfamiliar territory like a city they're often going to get into trouble."

That was precisely the fate of Clifford's mother. Clifford is the Zoo's newest moose. In May, his mother was hit and killed by a car. Clifford has been raised by hand since then.

"He's growing up fast," Frank reports. Milwaukee County zookeepers have a

## GEOGRAPHY



Boston, Massachusetts

Range of the Moose in the U.S.

Photos below courtesy of Officer Ed Apataki, Stoneham Police Department, Mass.



long history of successfully raising moose. "Our work with moose makes it one of the species that we're best known for," Frank says.

As early as 1914, moose have been residents at the Zoo. And the tall, shaggy mammals have been permanent residents since about 1950. Frank notes that the heyday for Milwaukee County Zoo moose came — somewhat ironically given the relationship between moose and motorist —

continued on next page

Bullwinkle, the Milwaukee County Zoo's 10-year-old male moose



John Durrell feeds the Zoo's newest moose, Clifford, whose mother was hit and killed by a car. Clifford has been raised by hand since then.

## ON THE JOB John Durrell, Zookeeper

Just the sound of John Durrell opening the gate sends Clifford squealing in delight.

The sight of Durrell, a zookeeper with an oversize baby bottle filled with ewe's milk, is almost too much for Clifford. At 115 pounds, Clifford is one big baby. But for a moose, he's right on schedule. "Hi, fella," Durrell says softly to Clifford, who was orphaned when his mother was hit by a car.

"He responds to people," Durrell explains, as Clifford, his eyes closed, head tilted to the sky, gulps in the sheep's milk. "Of course, if you come in with this bottle, that's all he'll respond to."

For Durrell, feeding Clifford is just part of a job that he has come to love. Durrell is the Milwaukee County Zoo's primary keeper of its three moose.

Durrell, 37, recalls a lifelong interest in animals. Born and raised in Milwaukee, he graduated from Riverside High School. "I remember bringing home anything I could catch: bugs, snakes, frogs. My mom would let me keep them — as long as I left them in the garage or basement."

Eight years ago, Durrell passed the tests and interviews required to become a keeper. He started out in what was then the Children's Zoo. Soon after, he moved on to the North American exhibit — home to most of the bears, wolves and moose.

"I like the animals here and I like being outdoors," Durrell says. "For me, it's the best of both worlds. I'm quite content here."

during the metro area's highway-building boom of the 1960s.

Moose in captivity, Frank says, live and grow best when they dine on fresh vegetation. As crews cleared briar, bramble and tree for new roadways, the Zoo happily accepted the green gifts.

Construction workers felled so many trees and collected such a bounty of leaves that a cooler was used as a larder for the Zoo's moose. "That period was our most successful," Frank says.

At one point in the mid-1960s, the breeding population of moose here was healthy enough to support an effort to release several of them in Michigan's Upper Peninsula. But finding enough fresh feed for the Zoo's animals became more of a difficulty, says Gil Boese, president of the Zoological Society. Crews had difficulty keeping up with the moose's appetite.

"One of the big drawbacks was finding enough browse," Boese says. "It demanded cutting browse daily during the summer as well as packaging more in cold storage for the winter months."

Word that an Alaskan firm had created a feed for moose in pre-package pellet form piqued the interest of Zoo officials, Boese recalls. Cuttings from local trees were shipped to Alaska and a pellet specially designed for Milwaukee's moose was created. "They sent us the pellets and the formula for making them," Boese says. "And we went into moose-pellet manufacturing."

And the moose accepted the pellets as a substitute for browse. That is, Boese says, until officials found out that the moose found more to their liking a commercially produced sweet pellet designed for deer. "The moose preferred that pellet to ours," Boese said. "So that's when our major ven-

ture to produce moose pellets came to an end.

"But it was successful. Our pellet helped bridge the gap between a diet of browse and the commercial feed. And the commercial pellets make it more economical to raise moose here."

Today, Frank says, Zoo officials once again would like to raise a breeding population of moose. The Milwaukee County Zoo grounds and the moose were made for each other, she says. "I think the moose yard is one of the prettiest in the Zoo," she says.

With the proper feed and moose-raising know-how already in place, zookeepers plan to begin a moose propagation program soon.

"We're hoping to start breeding the moose again," Frank says. "It may begin as early as next year. Ultimately, we'd be trading the animals to five or six other zoos, mostly in the northern tier of states."

ALICE

## Tracking Our Birds

About 700 people who thought they were bird-watchers are finding out what it REALLY means to watch birds.

They are part of the Wisconsin Breeding Bird Atlas, a five-year project that started in 1995 to map the distribution of all of Wisconsin's more than 220 breeding bird species. Since the project may confirm the decline in some bird species and help explain why, the Zoological Society has given the atlas \$15,000 in grants so far.

"Most of us who watch birds look at them fairly fleetingly really," says Bettie Harriman, president of the Wisconsin Society for Ornithology and director of the bird-atlas project. But with this project, birders have to slow down and carefully observe birds to determine if they are nesting here, rather than just stopping over on their way elsewhere.

Each bird observer is assigned at least one 9-square-mile area, or block. In spring and summer the birders walk through parts of their area (with owners' permission). On a field card containing 235 bird names, they mark down each bird observed, if the bird "probably" is mated, the kind of habitat the bird is found in and, possibly, how abundant that species is in the area. The best observations are ones that confirm the bird is raising young, for example, seeing birds building a nest or seeing an actual nest with babies.

The goal, says Harriman, is to catalog all the birds in an area and to confirm that at least 50% of them are breeding. It takes patience. The observer may have to stay in a small area for hours, either sitting or walking through it again and again, until there's definite evidence of breeding.



American Robin making her nest



A nest of Loggerhead Shrike babies

Most observers are volunteers, but Zoological Society grants allowed the project to hire one paid "atlaser" in 1995 and, along with other grants, nine more paid observers this season. They covered 100 blocks. "Altogether," says Harriman, "we have more than 30,000 records of species at individual localities. This is a great start."

Some of their initial observations found the American Robin. Blue Jay and Red-winged Blackbird (in order) to be the

most common species. They also noted that the Bell's Vireo, a small, tropical bird that comes north to breed, was observed near Horicon Marsh where it's not usually found, and in unusual numbers in La Crosse County.

When it's finished, the atlas and its bird-distribution maps will be published in book form and on CD-ROM. Its findings may be used to make land-management decisions. To volunteer for the project, which runs through the year 2000, contact Harriman at 5188 Bittersweet La., Oshkosh, WI 54901.







# GOLDEN LION TAMARINS Battling Back from the Brink

Think of it as basic training for primates.

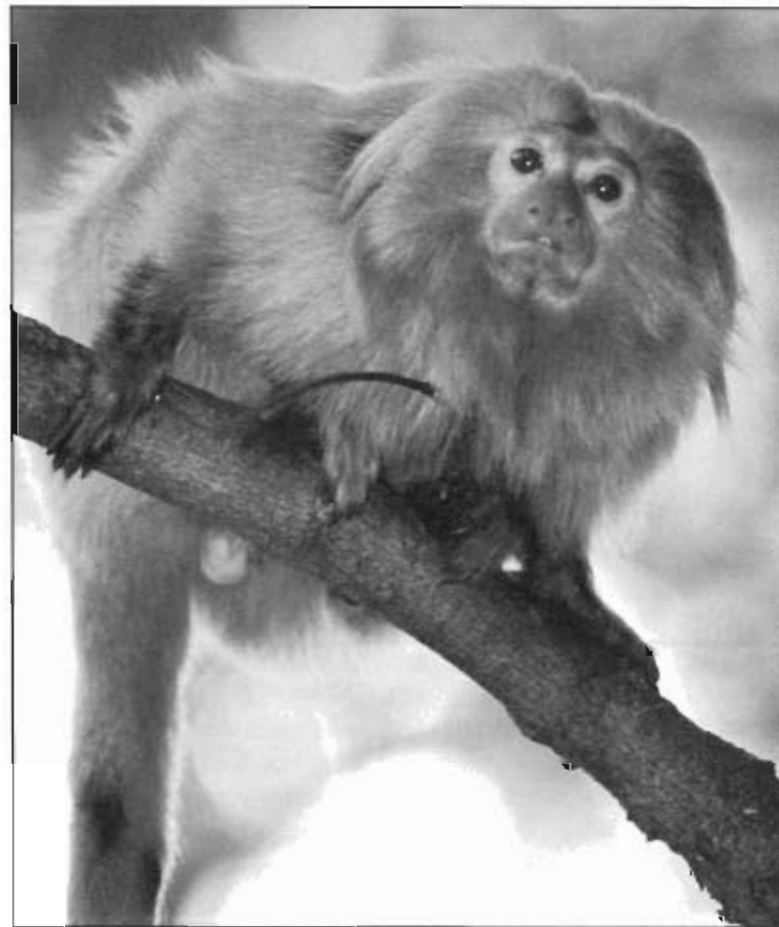
Imagine the ropes and branches of trees at the Milwaukee County Zoo as an obstacle course, and the auburn and blond golden lion tamarins as eager recruits training to battle back from the brink of extinction.

Their ability to master the wilds outside their cages holds the key to their survival.

Consider that less than 25 years ago, there were fewer than 70 golden lion tamarins in captivity. Today, there are more than 500 of the one-to-two-pound, foot-and-a-half-long primates in zoos. And, most important, more than 70 have completed training and been reintroduced to their native habitat in the rain forest of Brazil since 1983.

Scientists believe that the genetic diversity of tamarins in captivity could be spread among the tiny, but growing, remaining wild population, which may have suffered from inbreeding.

One of Milwaukee County Zoo's finest, Claudette — a dainty name for such a rugged pioneer — was released in the wild in 1992. What conservationists have learned from our trailblazer and others will serve Jago and Natalie, Milwaukee County Zoo's latest trainees, scheduled for possible release in Brazil next year.



To ensure successful reintroduction of the golden lion tamarin to the rain forest of Brazil, the tamarins at the Milwaukee County Zoo are allowed to run through the Zoo's forest canopy on ropes that mimic jungle vines. There's no danger of the tamarins escaping because they like to stay close to their home nest.

"A lot of lessons have been learned about the reintroduction of these animals," says Milwaukee County Zoo Curator Bess Frank. "For one, we know now that young animals adjust much better than adults."

Ensuring successful reintroduction of the golden lion tamarin, which earns its name from the silky leonine mane, also has meant sending it to Jungle School. Here at the Zoo, the tamarin is released from indoor exhibits and allowed to run on ropes that mimic jungle vines and roam through the Zoo's leafy forest canopy outside the Aquatic & Reptile Center. Because there is

plenty of food for them and because tamarins like the security of staying near their home nest, there is no danger of them escaping the Zoo.

Like their wild relatives, the free-ranging Milwaukee tamarins will eat an occasional insect and discover pathways through the leaves and branches. Zoo Pride volunteers track the tamarins' movements, and radio collars help keep close tabs on their location in the trees.

The idea is for the animals to deal with a natural environment, one where they fend for themselves and are cautious of predators. Tamarin survival is not assured in the wild.

"The first tamarins that were released didn't really know how to climb vines," Frank says. "They were used to cages that

had static furniture in them. Now the tamarins are expected to find their own food. We try to make their surroundings as close as possible to the wild. They also



Photo by James M. Dietz, ©Smithsonian Institution, 1987



Since World War II, huge swaths of the rain forest on Brazil's east coast — home to the tamarin — have been felled for farming and development, with only an estimated 2% of the original forest remaining.

learn to be wary of predators."

Jago and Natalie, apparently, have found the great outdoors to their liking. Frank says she often hears radio calls from volunteers scrambling to keep up with their furry charges.

The "great outdoors," however, aren't as great as they once were. Since World War II, huge swaths of the rain forest on Brazil's east coast — home to the tamarin — have been felled for farming and development, with only an estimated 2% of the original forest remaining. So it is not just the tamarin that is in danger of extinction but, rather, the whole rain forest ecosystem. The

tamarins' primary range is within a few hours' drive from the teeming metropolis of Rio de Janeiro.

But thanks to the efforts of many, the attitudes of the tamarins' human neighbors toward the primates and their rain forest home are changing. People are ready more now than ever to receive the primates. Extensive education efforts have paid off. And government tax credits also have been extended to those who own land where the tamarins live. While it may be a stretch to say that private landowners of rain forest



## GEOGRAPHY



Brazil



Photo by Lew Ann Dietz, ©Smithsonian Institution, 1987

TOP: As part of the golden lion tamarin conservation education program in Brazil, information about the tamarins and the importance of conserving them is disseminated in classrooms and on television and the radio.

LEFT: A Coleman cooler has been modified into a nest box for the Milwaukee County Zoo's tamarins. It resembles tree hollows that would be their home in the wild.

habitat consider resident tamarins a status symbol, the tamarins have gained greater acceptance.

"People who own land are beginning to understand the importance of conservation and the tamarin's place in the rain forest," Frank says.

Just as people have grown used to the return of the golden lion tamarin, the released tamarins themselves are more at ease in their surroundings. Frank reports that since the first tamarin class graduated from Jungle School in 1984, successive graduates

have flourished in the Brazilian rain forest.

"They've been very successful," Frank says. "Captive-born tamarins have found mates among wild-born tamarins. Some of the released tamarins must have given birth to a second and third generation. They've been very successful."

"For the first time, the reintroduced golden lion tamarin population has hit a positive growth rate, which

continued on next page





Bob Seidel takes a break from monitoring the tamarins to talk with zookeepers about the golden lion tamarin conservation program.

## ON THE JOB

Bob Seidel, Zoo Pride Volunteer

When your quarry is the size of a squirrel and darts quickly through dense foliage, it's tough to keep your eye on the prize.

That's why Bob Seidel, along with devoted leaders on his committee, has organized about 40 Zoo Pride volunteers to track the whereabouts of the Milwaukee County Zoo's golden lion tamarins.

"They're pretty quiet from six in the evening until dusk," Seidel says. "But if you get a good watch, say, 6 to 9 a.m., you'll see them move all over the place. Zip, you'll see them go straight to the top of the trees."

The tamarins' facility with ropes and fondness for trees isn't all for fun. The tiny primates are practicing for their return to the Brazilian rain forest as part of an international re-introduction effort. Eight-year-old Jago and four-year-old Natalie are scheduled to embark for Brazil sometime next year if all goes well.

Seidel's volunteers monitor the tamarins, jotting down their activities and whereabouts every 10 minutes and informing Zoo visitors about the program. It's not uncommon during a watch to see Jago snare a fly and eat it. "He just takes off sometimes," says Seidel. "And she'll stay around the house hollering at him to come home."

Seidel, 65, of Milwaukee has been a Zoo Pride volunteer for 11 years. He formerly worked at Perry Printing and says being at the zoo keeps him in touch with people and nature.

"I just like working with the animals and the public," Seidel says. "I enjoy being at the Zoo."

means that future releases of captive tamarins are not a high priority for increasing population size," adds Primate and Small Mammal Curator Jan Rafert. "However, releases will continue to augment the genetic diversity of the wild population."

For tamarins, much like humans, family is a priority. The primates tend to live in extended family groups of a monogamous pair and their offspring, from zero to three litters. A litter usually consists of twins, giving a normal range of two to eight individuals, Rafert says.

Tamarins form tightly knit family groups. Typically, the female loses about a quarter of her body weight after she gives birth (remember, she usually gives birth to twins). She needs help raising the young, and the father and siblings typically take turns carrying the babies on their backs.

Natalie and Jago, for their part, are busy readying themselves for future release. Frank observes that already they appear better prepared than Claudette was at the time of her release.

"Claudette in '92 was not quite as adventurous as this pair," Frank says. "This male (Jago) is very adventurous. I think it's all we can do to keep track of him."



The golden lion tamarin has become a symbol for conservation in Brazil. Thanks to extensive education efforts and tax credits for those who own land where tamarins live, the tamarins have gained greater acceptance among Brazilians.

## KIDS!

When you are finished reading this page, get out your crayons and color the animals, just like in your coloring books.

PULL-OUT SECTION

# Alive

## for kids and families

ZOOLOGICAL SOCIETY OF MILWAUKEE COUNTY FALL 1996

## Antlers, horns and what?



### ANTLERS

Antlers are bony structures like horns that are found on the heads of animals in the deer family. Unlike horns, however, antlers are shed, usually in midwinter, and then regrown every year. In addition, they are solid bone, with no outer sheath or covering. Generally, only males have antlers, but the exceptions are female caribou and reindeer.



### HORNS

Horns have a bony core with an outer covering that is made up of one of two substances: a keratinlike material (similar to the stuff that makes up your fingernails), or a mass of hair, like a rhino horn. Horns grow from the base, and each year creates a new ring of horn. Annual rings can be counted and used to help determine the age of an animal. Horns are not shed. While it is rare for antlers to be found on female animals, in the world of horns it is more of a mix. In some families both male and female have horns; in others, only the male has the horn.

### WHEN IS A HORN SOMETHING DIFFERENT?



When it is on a pronghorn. The pronghorn is the only remaining species of the subfamily Antilocaprinae (or multihorned family). Pronghorns have true horns, but, unlike other horned animals, their outer covering is shed and regrown annually. The Milwaukee County Zoo does not have pronghorns, but if you travel in the Western United States, you may see them in the grasslands.



**Danielle Jones, Age 12**  
Milwaukee, WI

Dear Danielle,  
I am glad you asked: "Why do camels have humps?" We get that question often. A camel's humps store energy-rich fats, not water, as many people think. This stored fat helps keep camels from starving when food is scarce.

**Andy Mueller, Age 7**  
Oak Creek, WI

Dear Andy,  
You wanted to know the difference between wasps and hornets. The truth is, all hornets are wasps, but not all wasps are considered hornets.

**Betsy Mastoris, Age 8**  
New Berlin, WI

Dear Betsy,  
We needed to do a little research to find the answer to your question: "How big is an eagle's egg?" According to the Wisconsin Department of Natural Resources, a bald eagle's egg is approximately 3 inches long. Eagles lay eggs in clutches of two.



**Justine Beck, age 7**  
Neenah, WI

Dear Justine,  
Excellent question: "How much does a giraffe weigh when it is born?" A male giraffe on average is slightly larger than 6 feet tall and weighs about 224 pounds, while the female baby weighs about 209 pounds but is almost 6 feet tall.

**Michelle Manthley, age 5, of Hartland and Pamela Penza, age 7, of Kenosha**

Dear Michelle and Pamela,  
You both wanted to know: "Why do bats hang upside down?" To answer this question, we needed some help from a zoologist named Nate at the Milwaukee Public Museum. Nate indicated that bats hang upside down to help with their flying. It takes less energy to release their toes and open their wings when they're hanging. Animals are adapted to their functions so they can save energy. A bat is a good example of this.



Dear Curious Corner Questioners:

Thanks for all your questions. We hope more of you can join in the fun. Send your questions to: Curious Corner, Zoological Society, 10005 W. Bluemound Rd., Milwaukee, WI 53226.

Your exploring partner,  
**Dr. Marisa Zoology**

As a family, read the feature stories in this issue of ALIVE on the golden lion tamarin, the longear sunfish & the moose. Then see if you can complete the activities below.

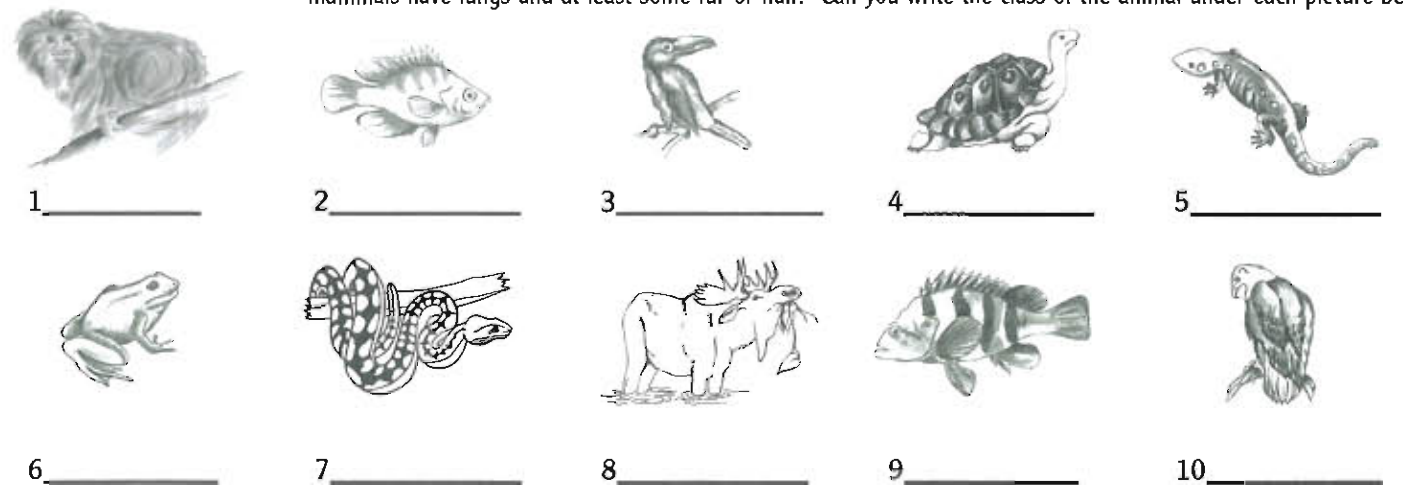
**EXPLORING AROUND THE WORLD**

On the world map below, write down the name of the animal (golden lion tamarin, longear sunfish, moose) next to the numbered line in the area of the world where the animal lives. After reading other articles in ALIVE, you may wish to add more animal names to the map.



**ZOOLOGICAL DISCOVERY**

Only 5% of the animal world belongs to the group of animals known as vertebrates (animals with backbones). Vertebrates are divided into five main classes: fish, amphibians, reptiles, birds and mammals. Most of the animals in each class share some features: Most fish have gills and scales, most amphibians have moist skin and start out with gills, then later develop lungs, most reptiles have scales and lungs, most birds have feathers and lungs, and most mammals have lungs and at least some fur or hair. Can you write the class of the animal under each picture below?



ANSWERS: 1) mammal, 2) fish, 3) bird, 4) reptile, 5) amphibian, 6) amphibian, 7) reptile, 8) mammal, 9) fish, 10) bird

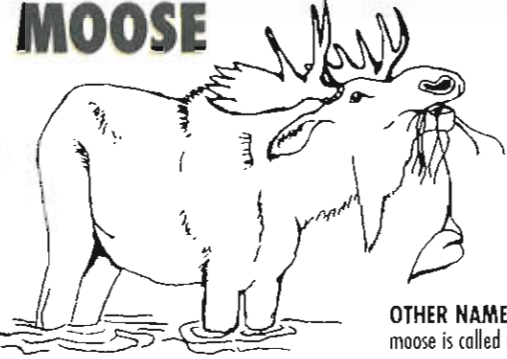


In today's pages, we start a new feature: **collectible animal cards**. Unlike baseball cards, these cards have pictures of animals that can be colored in by you! The cards below – the **first in a series** – feature animals that have horns or antlers. Color in the animals, cut apart the cards and you are on your way to creating your own animal card collection. (Note: Don't cut out the cards till you have completed the activities on the back-side of the page.) All the animals in this series will be **animals you can see at the Milwaukee County Zoo**.

**NOTE**  
Education programs now are listed in your Wild Things newsletter.

M A M M A L

### MOOSE



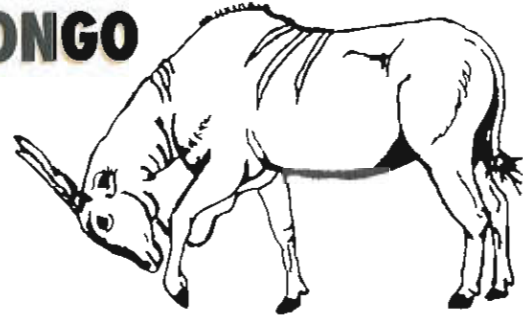
**OTHER NAMES:** In Europe, the moose is called an elk.  
**SCIENTIFIC NAME:** *Alces alces*

The largest member of the deer family, the moose is around 6 feet tall at the shoulder and weighs about 1,250 pounds. It is easy to identify with its large overhanging muzzle and a characteristic flop of skin beneath the throat (colled a bell). Only the male has those huge antlers. Moose are found in wooded areas of northern Europe, north-central and northern Asia, and northern North America.

- STATUS:** since the mid-1900s moose have expanded their range in North America.
- DIET IN THE WILD:** shrubs, tree foliage and aquatic vegetation.  
**ZOO DIET:** special moose pellets (as much as they need).
- FUN FACT:** Their favorite habitat is moist areas with lots of willow and poplar trees.

M A M M A L

### BONGO



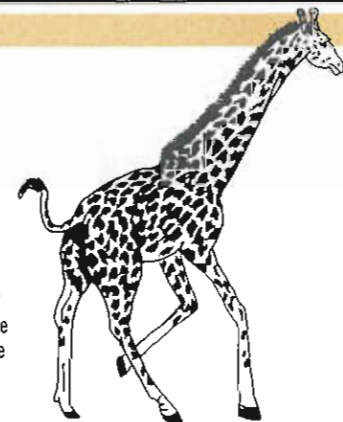
**SCIENTIFIC NAME:** *Tragelaphus euryceras isaaci*

The bongo is a bright chestnut red to a dark mahogany with whitish stripes and a black belly. The average size of a bongo is 6.8 feet at the shoulder; average weight is around 400 pounds. Both males and females have horns. They are found in the dense forests of central Africa.

- STATUS:** the population is currently stable and protected by local African governments.
- DIET IN THE WILD:** tips, shoots, leaves and twigs of many plants  
**ZOO DIET:** Every day each bongo eats about 13 pounds of high-fiber pellets, an apple, a carrot and one flake of alfalfa.
- FUN FACTS:** Shy and swift animals, they quickly disappear when startled. Laying their distinctive spiraled horns on their back, they can run quickly through thick and tangled underbrush.

M A M M A L

### RETICULATED GIRAFFE



**SCIENTIFIC NAME:** *Giraffa camelopardalis reticulata*

The giraffe is the tallest living land animal. The average total height for a male is around 17 feet; females are slightly smaller, with the height at the shoulder about 10 feet and their average weight around 1,750 pounds. The record running speed for a giraffe is 34 mph. Its long flexible tongue can extend to 17 inches. They are found in open woods and grasslands of Africa, south of the Sahara Desert.

- STATUS:** due to the creation of preserves and parks in Africa, these animals are no longer in danger of extinction.
- DIET IN THE WILD:** leaves, shoots, flowers and fruits of trees, shrubs and vines. **ZOO DIET:** Each giraffe eats about 13 pounds of high-fiber pellets, some fruit, and 2 flakes of alfalfa daily.
- FUN FACTS:** The horns of the male and female giraffe are unlike those of other mammals. They are present at birth. The horn is a bony core that at first is separate from, but later is fused to, the skull. The horns are covered with skin and hair throughout a giraffe's life.

### New Camps North of Madison

You're probably familiar with the Zoological Society's popular summer camps at the Zoo, but did you know about the ones NOT at the Zoo?

Yes, for the first time last summer the Society held day camps off the Zoo grounds, at the MacKenzie Environmental Center in Poynette, north of Madison. The goal was to reach out to our members in the south-central part of the state, who find it difficult to drive to Milwaukee for camps.

Kids ages 6 to 10 could sign up for one or two days or a whole week of programs including animal studies and crafts. The MacKenzie Center was a perfect location, with its own mini-zoo; wildlife preserve; a variety of habitats including prairie, ponds and grassland (where bison roam); unusual museums; and a lodge for hands-on activities.

On July 14, families could come to day camp at MacKenzie. Activities included collecting and identifying leaves, creating a family environmental crest, and designing an animal from your own footprint. A nature scavenger hunt required everyone to use four of their five senses, e.g., view a spider web, hear an insect buzzing, smell a flower and feel tree bark to identify the tree.

During the weekday camps, July 15-19, each day had its own theme and activities. On Monday it was forestry, and children made recycled paper and toured a logging museum on the grounds. Tuesday's theme was grassland and prairies, and children toured the bison preserve and made Native American designs on paper that resembled buffalo hide.

On Wednesday, the theme was Wisconsin history, with tales of Paul



Children play a game called Trolley in camp at MacKenzie Environmental Center.

Bunyan and the state's lumberjack tradition. Children also toured an area at MacKenzie used to raise 50,000 ring-necked pheasants that the Department of Natural Resources is introducing into the wild for hunting.

Thursday's theme was water, and children took water samples from ponds and examined the tiny creatures that live in water. Friday's topic was endangered species, and children toured MacKenzie's museum of alien plants and animals — life not native to Wisconsin that was introduced to the state, such as rainbow trout, brought here in 1884. Through several obstacle-course games, children also learned the value of working in teams to help save animals. A game called Trolley had two teams of four kids standing on two-by-fours that looked like skis (see photo).

Using ropes around their shoes, they "walked" together toward a goal.

Zoological Society educator Kerry Scanlan (shown on page 3 with camper Melissa Lemke of Baraboo) directed the camps with help from two Society interns: Jeff Leider of Wauwatosa, a May graduate in biology from the University of Wisconsin-Stevens Point; and Jennifer Meerschaert of Pewaukee, a student at Mount Mary College. The MacKenzie camps were a pilot program. "It was a great experience

for the kids and staff, and we look forward to expanding the program next summer," said Scanlan.



Enjoying a tour of the Zoo's primates are (from left) Donna Haut and Gerry Brouchoud of New Berlin and Robert and Nan Hayek of Shorewood. They were part of a Zoological Society morning workshop for seniors on July 12.





# The Life of a Longear

Perhaps it was the aquarium that Laura Stremick's parents gave to her as a gift when she was in high school.

Or maybe Stremick sees something in finned creatures—specifically, the longear sunfish—that other scientists miss.

"They're not the most glamorous species," Stremick concedes. "But in Wisconsin we have such a rich diversity of fish life. I'd like to see that preserved."

And Stremick is more action than talk when it comes to studying and conserving Wisconsin's natural heritage. As an undergraduate and graduate student at the University of Wisconsin-Milwaukee, Stremick has based her academic career on the life and times of an often overlooked but important species, the longear sunfish.

A fish sensitive to disturbance, the longear's success tells us much about the health of our lakes and streams.

Her hard work, aided by a Zoological Society student conservation grant, has developed important data about the threatened three-inch fish.

Although tiny, the fish boasts the reds and oranges typical of a Pumpkinseed fish but in much more brilliant hues. Befitting its name, the longear has a lengthy black tab behind its gill. It sustains itself on a diet of small, aquatic insects and invertebrates.

"If you caught one, you'd probably throw it back because it's so small," Stremick says. "But you'd probably also be impressed by how beautifully colored it is."

Once well-established in rivers and



**Above: Laura Stremick uses a "backpack electrofisher" method to census fish in the Milwaukee River. The gentlest of all fish sampling methods, this one sends current into the water that attracts fish and temporarily immobilizes them until they are netted. Then, they are counted and released.**

lakes of southeastern Wisconsin, the longear in many areas has succumbed to pollution and the destruction of its habitat. The fish, Stremick explains, requires clean, clear water to survive. But decades of agricultural, residential and industrial pollution has fouled many of the streams and



**Left: Zoological Society student conservation grant recipient Laura Stremick has made the focus of her research the longear sunfish. The health of this fish tells us much about the health of our lakes and streams. Here, Stremick collects fish from the Milwaukee River for her research.**

lakes where the fish once thrived. Also, several dams on such rivers as the Milwaukee, where they once swam freely, have sequestered the fish in isolated populations, preventing normal fish movements and genetic dispersal.

Stremick began studying the fish as a biology undergraduate at UWM. Her research on the presence of the sunfish in portions of the Mukwonago River spawned the concept for a master's thesis.

Stremick would look for the presence



Photo courtesy of Laura Stremick

**Once well-established in rivers and lakes of southeastern Wisconsin, the longear sunfish has been on the threatened species list since 1975.**

and abundance of longear in the Milwaukee River's upper reaches near Kewaskum, Saukville and Waubeka. She had planned to develop basic data—numbers, size and age—of 10 separate populations of the fish. Using a device to temporarily immobilize the fish, she counted and measured them before releasing them back into the river. What she discovered—or more precisely, did not find—quickly changed the focus of her research.

"To my surprise, I found that the populations we had expected to find were pretty much gone," she says. "I found only

two out of the 10 populations that had been known to exist.

"My study took on more of a conservation focus. The longear has been on the state threatened species list since 1975, but nobody had looked at this portion of the Milwaukee River and its populations until my study. What I found gave me great concern and got me thinking that the longear should be placed on the state's endangered list."

Development, both residential and rural, seems to have had a detrimental effect on the longear,



**To discover how many longear live in the Milwaukee River, Stremick (front) and her field assistants use a seine to net the fish. With floats on one end and lead weights on the other, the seine is pulled against the current so fish swim into the seine. Then, researchers close the net, lift it up and crowd the fish into a bag. Stremick takes each fish from the bag and records its species. If she catches a longear, Stremick also records its length and weight, takes a scale sample, then releases the fish.**

## GEOGRAPHY



**MILWAUKEE RIVER**  
**MUKWONAGO RIVER**

Stremick believes. "In dramatic contrast to the Mukwonago River, the Milwaukee River has lost many of its natural and pristine features."

"The limiting factor for the longear is habitat loss and degradation," Stremick says. "The longear is very sensitive to water turbidity. They need good water quality to survive."

Stremick would like to see the information she has collected serve as a foundation for efforts to save the longear.

"Hopefully, my data can be used as a baseline for future research so we can determine what can be done to help them survive," she says. "If it serves that purpose, it will make all of this work very worthwhile."

Stremick credits the Zoological Society's \$2,000 grant for helping her discover the extent of the threat to the longear in the Milwaukee River. "The Society's funding really helped me buy equipment, which always seems to break," she says. "The research was also very data-intensive. Without the Zoological Society's support, it would have been very difficult to do this project."

*continued on next page*



Next up for Stremick: plans to further her work with the longear. A proposal to study the feasibility of re-establishing the sunfish in the headwaters of the Mukwonago River has received preliminary approval from the Nature Conservancy.

Dams on the river, she says, are acting as permanent barriers to longear migration. The proposed five-year study would get underway in March 1997. Researchers would look into the possibility of aiding the longear in setting up breeding populations in suitable habitat on the Mukwonago.

"It may be a case where we have to facilitate migration for the longear since the dams make it impossible for the fish to do it themselves," she says. Stremick, 23, says the next project may serve as the backbone for her effort to earn a



Stremick and her field workers gather around a floating work-up station, where Stremick takes collected longear from a recirculating cooler for measuring, weighing and scale samples. Stremick hopes to see the information she has collected serve as a foundation for efforts to save the longear.

doctoral degree in biology. "I'm interested in seeing this project with the longear through to its completion," she says.

Regardless of where her studies take her, Stremick says she's hooked on conservation. "I feel very strongly that conservation biology is an important area, especially for lit-

tle-known species like this," she says. "I hope that I can continue to work in conservation."

"When my parents bought me that aquarium, I never thought that I'd make a career based on fish. But here I am, and I don't think I could be happier."

## FREE CONSERVATION PROGRAM

On November 9, we invite you to learn more about Laura Stremick's research and that of 17 other graduate students whom you have helped support through the Zoological Society's conservation grant program. They will present their results at a free symposium, called "Prospects for Our Future: Students in Wildlife Conservation," from 12:30 to 5 p.m. at the University of Wisconsin-Milwaukee Union.

Through slide-illustrated talks and poster displays, you'll learn about such projects as: 1) conserving forest and grassland songbirds in Wisconsin, 2) reintroduction of the timber wolf, 3) conservation of fish native to Wisconsin rivers, 4) using invertebrates (such as



mussels and spiders) as biological indicators, and 5) assessing ecological trends and human impact on Wisconsin raptors.

Dr. Curt Meine, of the International Crane Foundation in Baraboo, will give the keynote talk at 1:15 p.m. on "Conservation Biology and Conservation Values: The Wisconsin Tradition." Meine is a biographer of Wisconsin naturalist Aldo Leopold. We invite you to attend some or all of the student presentations, which continue throughout the afternoon, with speakers available to answer questions. The event will be in the Wisconsin Room of the UWM Union, 2200 E. Kenwood Blvd., Milwaukee. For more details, call the Society's Conservation Department at (414) 256-2512.

## SERENGETI CIRCLE

### 1996

- \$150,000+
  - Howard Hughes Medical Institute Ed-Ops (Educational-Opportunities) Program
  - Roundy's Pick 'n Save Care For Critters Birds of Prey Show
- \$50,000-\$99,999
  - Ameritech Destination Dinosaur II
  - Kimberly-Clark Foundation Keepers of the Wild
  - Miller Brewing Co. Animal Ambassador Program Birdies & Eagles Golf Tournament Milwaukee a la Carte Oceans of Fun Sea Lion Show Recycled Zoo
- \$20,000-\$49,999
  - The Alvin and Marion Birnsehn Foundation (over a 2-year period) Journey into the Wild: Pets and Their Wild Relatives
  - The Lynde & Harry Bradley Foundation Wisconsin Student Grant Program
  - Covenant Healthcare System (over a 2-1/2-year period) Carousel
  - The Frieda and William Hunt Memorial Trust (over a 2-year period) Bonobo Conservation
  - M&I Bank Seasonal Zoo Brochures
  - St. Francis Bank Zoonobile
  - Tri City National Bank Sponsor an Animal Program Kids 'n Critters Club Sunset Zoofaris Beastly Bowl-A-Thon Feast for the Beasts Pancake Breakfast
- \$10,000-\$19,999
  - A.O. Smith Foundation Fifth-Grade Science Lab
  - Con Agra Fifth-Grade Science Lab
  - Harley-Davidson Foundation Fifth-Grade Science Lab

The Serengeti Circle is an exclusive group of corporations and foundations who support the Zoo and Zoological Society through sponsoring special events, exhibits/attractions, programs and promotions at the \$2,500 level and above. If you would like more information on sponsorship opportunities at the Zoo, please call Patty Harrigan, (414) 258-2333.

- The Ladish Co. Foundation Education Programs
- Land O' Lakes, Inc. (over a 2-year period) Moo To You Exhibit
- \$5,000-\$9,999
  - ANR Pipeline Co. Fifth-Grade Science Lab
  - Beatrice Cheese, Inc. Animal Ambassador Program Fifth-Grade Science Lab
  - Country Time Drink Mixes Snooze at the Zoo
  - Dairy Council of Wisconsin First-Grade Dairy Program
  - Farley's Foods Egg Day
  - Firststar Milwaukee Foundation Discover Wisconsin Exhibit
  - Golden Guernsey Heritage Farm Weekend
  - Jays Potato Chips Kids Night
  - The Halbert and Alice Kadish Foundation Belize Outreach Program
  - Little Caesars Mother's Day at the Zoo Summer Adventure Camps
- Marquette Electronics Foundation Animal Ambassador Program Platypus Society Dinner
- Minute Maid Twilight Safari
- Reynolds Wrap® Aluminum Foil Conservation Weekend
- Scars Holiday Night Lights
- Target Halloween Spectacular
- Warner Cable Communications of Milwaukee Animal Ambassador Program Zoo Ball XIII Entertainment (Music)
- West Allis Memorial Hospital Ride on the Wild Side
- The Irvin L. Young Foundation Bonobo Conservation
- \$2,500-\$4,999
  - Allen-Bradley/Rockwell Automation Fifth-Grade Science Lab
  - Briggs and Stratton Foundation Fifth-Grade Science Lab
  - H. H. Camp Foundation Animal Ambassador Program
  - Chinet Father's Day at the Zoo
  - John C. & Harriett Cleaver Fund Animal Ambassador Program
  - Cooper Power Systems-Power Systems Division Animal Ambassador Program
  - Excelsior Lodge #175 F. and A.M. Animal Ambassador Program
  - Fleet Mortgage Group Inc. Animal Ambassador Program



This summer, Tri City Banks treated Zoo guests to seven evenings of free entertainment and visits with the animals under the stars as part of Tri City Banks' Sunset Zoofaris.

- Charles D. Jacobus Family Foundation Animal Ambassador Program
  - Johnson Controls Foundation Fifth-Grade Science Lab
  - Kaytee Zoo Support Program
  - Milton & Lillian Peck Foundation Animal Ambassador Program
  - Milwaukee Insurance Animal Ambassador Program
  - NFL Alumni Association Kids Day Out
  - Northwestern Mutual Life Insurance Animal Ambassador Program
  - Racine Danish Kringles Breakfast/Lunch With Santa
  - Universal Foods Foundation Summer Camp Peer Mentor Program
  - World Wildlife Fund Environmental Education & Training Partnership Project
- Sponsors committing sponsor dollars for 1996 events and programs after August 31, 1996, will be recognized in the next issue of Alive.*
- ### 1996 IN-KIND SPONSORSHIPS
- \$50,000-\$99,999
    - American Airlines Zoo Ball XIII: CATS Koala Browse Shipments
    - Milwaukee Journal Sentinel Milwaukee a la Carte
  - \$20,000-\$49,999
    - Dairy Council of Wisconsin Moo To You Computer Program
  - \$10,000-\$19,999
    - Direct Marketing Concepts Zoological Society Membership Support
    - Roundy's Pick 'n Save Conservation Weekend Egg Day Father's Day at the Zoo Snooze at the Zoo Twilight Safari
    - Tri City National Bank Zoo 'n You Coupon Book Senior Celebration Support





## ◀ Trumpeter Swans

Lake Evinrude

Born: June 14, 1996

Gliding gracefully on the Zoo's lake are two pure white Trumpeter Swan parents and four gray cygnets. The mother laid five eggs in a nest on Lake Evinrude's island, and four of them hatched. That makes them a lot different from the other 51 swan eggs at the Zoo this year, most of which came from Alaska, were hatched in an incubator and raised with decoy parents until they could be moved to predator-proof enclosures on Wisconsin lakes. All the swans are part of a Wisconsin Department of Natural Resources' program to reintroduce breeding Trumpeters into the state, with help

from the Zoological Society. Kim Smith, aviary curator, says

the DNR has released more than 380 birds since 1988, making Wisconsin's one of the most successful programs in the Midwest. Many have migrated out, but there are now 18 breeding pairs in the state, including Lake Evinrude's. "The male is an incredible parent," she adds. "When snapping turtles have come after a cygnet, he has pounded them on the head. He has never lost a baby."

## Badger ▶

North American Yard

Arrived: May 8, 1996

Scarlett the badger is an orphan. In April 1994, she was found on a roadway next to her mom, who had been hit by a car. A kind woman brought her to the Riverside Zoo in Scottsbluff, Neb., and Scarlett was raised by Zoo director Caroline Meek. Thus, Scarlett likes people. She's now on exhibit outside year-round in the badger area, between the elk and black bear, although she will slow down in winter. Badgers are the state animal because Wisconsin was settled by miners, who spent so much time down in holes that they were called badgers. Badgers are solitary animals, and Scarlett is the only one at the Zoo. She could live to age 10. They're not planning to breed her, says Bess Frank, curator of large mammals.

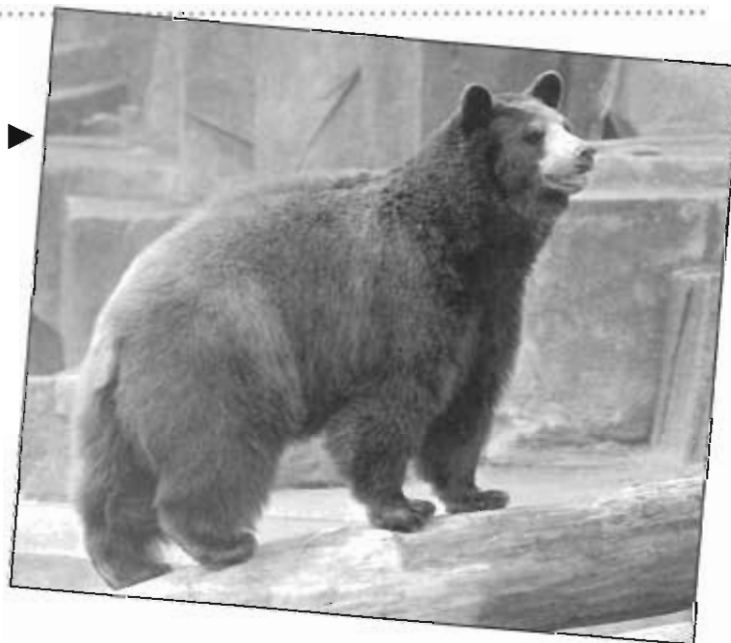


## American black bears ▶

North America/Australia

Arrived: May 2, 1996

The two new female black bears, Cinnamon (with a rust patch on her back) and Dakota (all black), are quite different. "Cinnamon is the more inquisitive one," says Daron Graves, area supervisor, North America/Australia. "Dakota is more skittish." Both bears were born in April 1989 at Bear Country USA, S.D., and moved to Queens Zoo in New York City before coming to Milwaukee. At under 200 pounds each, they are small for adult black bears. Because they are active climbers and foragers, says Graves, "We've had two big trees and a sandpit added to their exhibit." The bears can dig in the



sandpit for toys or food that the keepers bury there. Other plans to enrich the bears' environment include adding a hollowed-out log stuffed with food that they have to dig out, and putting in a structure to provide shade.



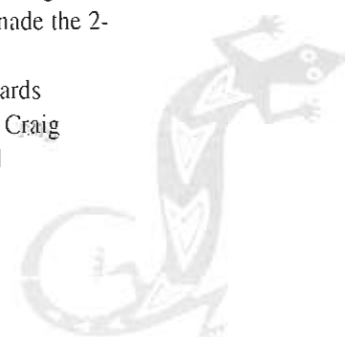
## ◀ Basilisk lizards

Aquatic & Reptile Center

Born: About August 10, 1996

Remember the dinosaurs in old movies, before modern special effects? Moviemakers often used basilisk lizards, which have a ridge all the way down their backs, and made the 2-foot-long lizards look huge. "Filmmakers thought the lizards looked like dinosaurs," says Craig Berg, curator of reptiles and the aquarium. He is happy

to announce "the first hatching of basilisk lizards at Milwaukee County Zoo." The five babies each were about 5 inches long and weighed 1/10th ounce. The 2-year-old parent lizards had come to Milwaukee in March 1995, Mom from Utah's Hogle Zoo in Salt Lake City, and Dad from Oklahoma's Tulsa Zoo. In the Central and South America countries where basilisks live, says Berg, "they are also known as the Jesus Christ lizards because they run on their hind legs so fast that they actually can run across the surface of the water for short distances."







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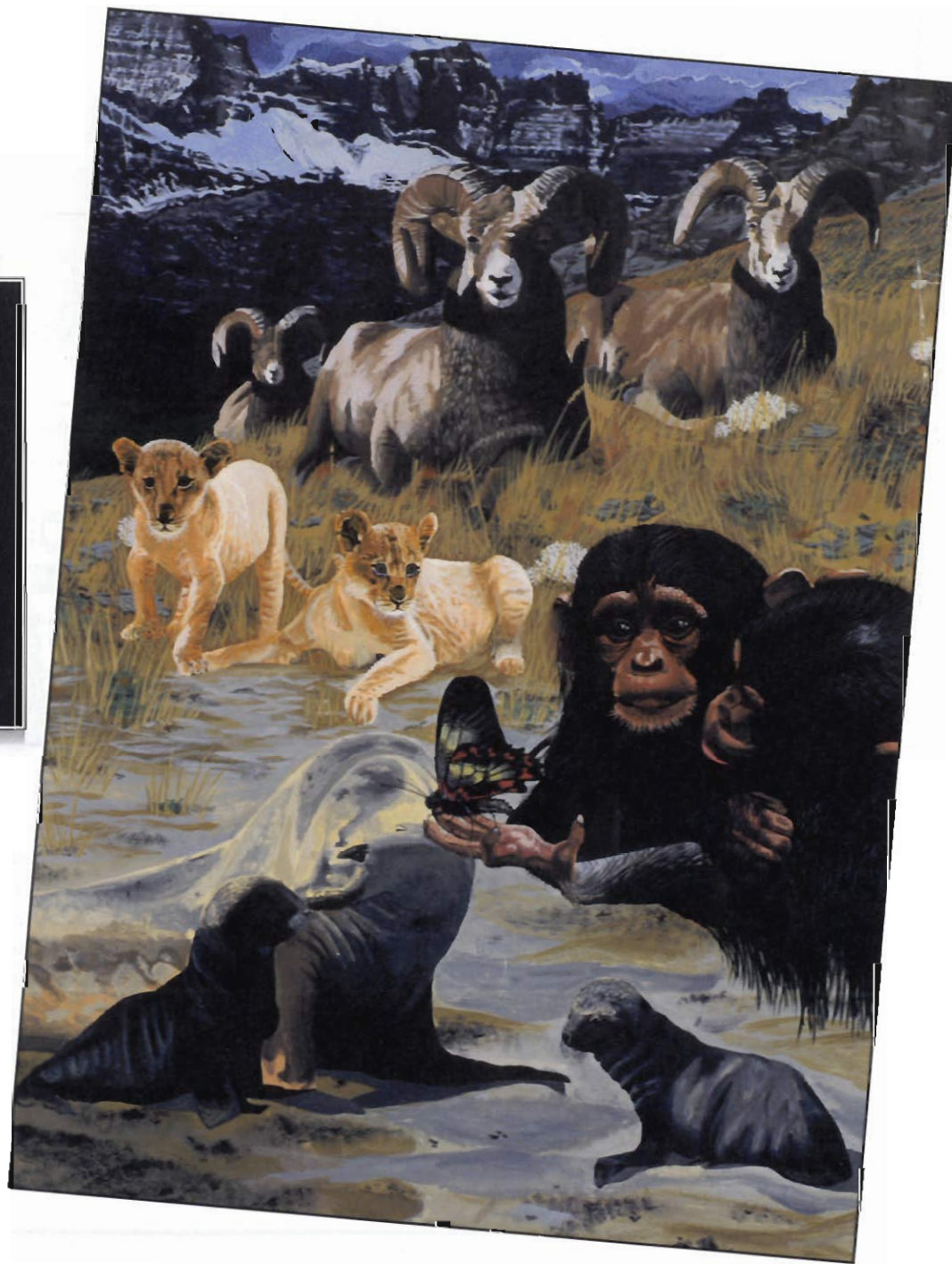
Mailed October 1, 1996

## MOVING?

### Second Annual Animal People's Choice Art Competition

This acrylic painting of a chimp and other animals was one of four top award winners in the Second Annual Animal People's Choice Art Competition, sponsored by the Zoological Society of Milwaukee and the Milwaukee County Zoo.

By David Gleason  
Milwaukee Area Technical College



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