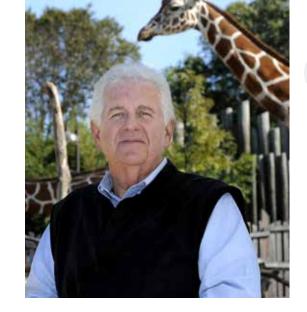


Maryland Zoological Society, Inc.

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Because of your attendance and your generosity, the Žoo is thriving like never before.

Midway through each summer, the fiscal year ends and we get to see how we're doing by the numbers. Let me just tell you that fiscal year 2017 was an amazing year! I want to thank you all for that. We hosted 505,723 guests during the fiscal year that ended June 30, 2017, and you supported the Zoo with additional donations in ever-increasing numbers. Because of your attendance and your generosity, the Zoo is thriving like never before.

Let me share a few more numbers. In FY 2017, we hosted 85,760 Maryland students, teachers, and chaperones on school field trips. The Education Outreach team delivered 869 programs to 46,009 people in Baltimore City and 17 Maryland counties, as well as Pennsylvania, Virginia, and Washington, D.C. And our fantastic volunteers, totaling 1,164 strong, donated 40,198 hours of time to the Zoo.

Now let me focus on a particular range of numbers, from one to many thousands. Our animal care staff went to great lengths this summer to try to save one male giraffe calf born on June 15 here at the Zoo. During that month-long effort, thousands called or e-mailed their support or posted warm thoughts and wishes to young Julius and his caretakers. I want to thank each and every one of you for that-those simple gestures mean the world to us. We remain saddened by the loss of Julius, but I am incredibly proud of all Zoo staff for the professionalism, dedication, and compassion that they demonstrated in the face of this challenge.

You can read more about the giraffe case in this Zoogram and also find out about a Zoo swan taking flight over Iowa, a sandhill crane meeting her match in the Marsh Aviary, and a young zebra joining the herd at the Watering Hole. As always, there is much going on here at the Zoo and plenty more to look forward to this fall. Please visit us soon!

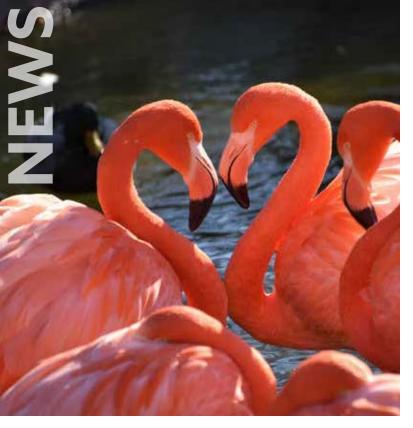
Don Hutchinson President/CEO

Worlfthusa









FLAMINGO FLOCK

Flamingos are captivating birds not only because of their fluorescent pink hue but also because of their tendency to chatter and bicker. You may notice more chattering than usual among the Zoo's flamingos, as six new birds have recently joined the flock. Five females and one male arrived at the Zoo from Florida in June and are now boisterously carrying on with the rest of the flock

along the Safari Boardwalk in *African Journey*. All that chatter is perfectly normal for flamingos, which are naturally social and gregarious birds that typically congregate in large numbers.

NEW ZEBRA

And now there are three! Next time you stop by the African Watering Hole, count the stripes and you'll notice that a third zebra has joined the herd. "Addie," a two-year-old female plains zebra, was born at the Idaho Falls Zoo in Idaho and arrived here early last summer, at the recommendation of the Association of Zoos and Aquariums (AZA) Plains Zebra Species Survival Plan (SSP). Fellow female plains zebras "Stella" and "Phoenix" took an immediate interest in Addie, which was a great sign, and all three seem very comfortable in each other's company.



POLAR BEAR DENNING

Starting in October, Zoo visitors may not see much of female polar bear "Anoki," and for very good reason. She will be denning over the winter, as is natural for pregnant female polar bears. This is not to say that Anoki is pregnant—but she may be. In February, she was successfully inseminated with sperm donated by a male polar bear living at another AZA institution. Only time will tell if Anoki is actually pregnant, but no matter what, she has made history. She is now the first polar bear at The Maryland Zoo to undergo artificial insemination, at the recommendation of the Association of Zoos and Aquariums (AZA) Species Survival Plan (SSP) for Polar Bears. What will winter bring? Stay tuned!

POP-UP LABS

How do you transform energetic young students into patient, skilled scientists? Ask them to help you collect data! This is what Zoo educators stationed at newly-minted "Pop-Up Labs" are discovering. At face value, a Pop-Up Lab is a Zoo educator somewhere on grounds with a clipboard and a guiding question: "How long can a crocodile hold its breath?" or "How often do rhinos wallow?" In essence, though, a Pop-Up Lab is a fun new way for kids to observe, hypothesize, calculate, analyze, and record data on the behavior of Zoo animals. Pop-Up Labs are targeted to students on field trips and align with Maryland state curriculum standards. It's science with a Zoo twist.



The male sandhill crane in the Marsh Aviary is getting to that age when a companion would be nice. He belongs to a typically monogamous species, which means that he is inclined to pair up and stay with the same female for life. But how does he find her? One way is by calling, and that is what three-year-old "Garrett" has been doing recently. "The keepers have seen some behavior indicative of him looking for another sandhill crane," reports Jen Kottyan, the Zoo's avian collection and conservation manager. "He's been doing vocalizations that suggest that."

Given the messaging from the Marsh Aviary, the recent arrival of a second sandhill crane could not have been better timed. "Allie," a seven-year-old female, arrived at the Zoo in June. She was found in the wild in Florida with an injured wing and was subsequently deemed non-releasable due to the extent of the injury. She has been living at SeaWorld Ontario, where she was rehabilitated, until a permanent home could be found for her.

The two cranes spent time getting to know each other behind the scenes before going into the Marsh Aviary together. From the moment they met, they seemed compatible. "When he first saw her," recalls Kottyan, "he went right over to the mesh that divided them, and she did the same, and they mirrored each other's movements as they walked back and forth." Before long, they were calmly and contentedly sharing space.

This pair is not currently recommended to breed, but companionship is something they both seek. If they accept each other as mates, which seems likely, they will "sing" and "dance" in typical crane fashion to show it. They may run, bow, jump, flap their wings, and even throw grass or sticks to impress each other. They will call to each other to reinforce their pair-bond, and you may witness what's known as a unison-call ceremony. Both birds stand perfectly still with wings folded and meld their calls in a synchronous song. It's their way of saying that they are single no more.

YOUR NEXT VISIT

Fall is a beautiful time to visit the Zoo, and a fun time, too. So let's get festive. Put on your lederhosen (or not) and join us for OktoBEARfest, our annual fall festival big on music and beer. Then put on your Halloween costume and come back for ZooBOOO. Sign up for a Zoo Snooze Overnight and wear your bunny slippers. Ring in the holidays at a Breakfast with Santa, and if you feel like it, yes, wear an ugly Christmas sweater. Or just come as you are and enjoy a day with the animals.

The Zoo will keep regular visiting hours through the end of December. During the months of January and February, we will be open to guests Friday through Monday. Please visit www.MarylandZoo.org for updates on programs and exhibits and for other timely announcements.

DAILY ACTIVITIES

Please check the Zoo information board in Schaefer Plaza for updates on the day's activities.

Goat Corral: Brush, pet, or just visit with goats in the Farmyard.

Creature Encounters: Start your visit—and meet Animal Ambassadors—at the Zoo's outdoor education center.

Education Stations: Stop by stations throughout the Zoo to engage in fun learning activities.

Penguin Feeding: It happens twice a day—talk with a Zoo educator about black-footed penguins while keepers dole out fish!

Keeper Chats: Keepers talk about the animals in their care and are happy to answer your questions.

Jones Falls Zephyr: All aboard the Zoo train. Open daily, weather permitting. \$

Carousel: Take a spin on our vintage carousel. \$

Giraffe Feeding Station: Up close and personal with giraffes. \$

\$: fee to participate

SEPTEMBER

Where the Wild Things Art Paint Night

Make an animal-inspired masterpiece.

September 13 5:30 p.m.- 8 p.m. **Penguin Education Center**

Animal Craft Safaris

Make an animal craft. September 14 & 24 11 a.m. - 11:45 a.m. **Penguin Education Center**

Breakfast with Chimps No food fights, please.

September 16 8:00 a.m. - 9:30 a.m.

Wild About Primates Day

Get to know your animal cousins.

September 16 10 a.m. - 4 p.m.

Musical Petting Zoo

Cue up the Baltimore Gamers Symphony Orchestra! September 16 10 a.m. - 2 p.m.

Stroller Safari

On the move with our youngest visitors.

September 21 11 a.m. - 11:45 a.m.

Wild About Rhinos Day

Horned-snout wonders September 23 10 a.m. - 4 p.m.

OCTOBER

Wild About Penguins Day Web-footed wonders of the

southern hemisphere. October 15

10 a.m. - 4 p.m.

Animal Craft Safaris

Creative fun for kids.

October 19 & 29 11 a.m. - 11:45 a.m. **Penguin Education Center**



Zoo Snooze Family Overnight - SOLD OUT

Enjoy the Zoo after dark. October 21-22

6 p.m. - 9:30 a.m. **Penguin Education Center**

Stroller Safari

Zoo fun for little ones.

October 26 11 a.m. - 11:45 a.m. \$ R

ZooBOOO!

Dress up and enjoy an early Halloween.

October 27-29 10 a.m. - 4 p.m.

NOVEMBER

Wild About Polar Bears Day Celebrate the bear that goes to sea.

November 4 10 a.m. - 4 p.m.

Zoo Snooze Family Overnight

Don't forget your sleeping bag!

November 11-12 6 p.m. - 9:30 a.m. **Penguin Education Center**

Zoo Zoom

Run for (and through) the Zoo. November 12 7 a.m. - 11 a.m. \$ R

Animal Craft Safaris

Feathers, glue, and a popsicle stick?

November 16 & 26 11 a.m. - 11:45 a.m. **Penguin Education Center**

DECEMBER

Breakfast with Santa

Holiday fun on the Mansion House Porch.

December 2. 9 & 10 8:30 a.m. - 10:00 a.m. \$ R

Zoo Snooze Family Overnight

Indoor camping with a twist. December 9-10

6 p.m. - 9:30 a.m. **Penguin Education Center** \$ R

Animal Craft Safaris

Bringing out the child artist in everyone.

December 14 & 31 11 a.m. - 11:45 a.m. **Penguin Education Center**

Stroller Safari

Zoo fun for little ones.

December 21 11 a.m. - 11:45 a.m. \$ R

\$: fee to participate R: reservation required







strategy is not without risk, as it exposes cygnets to possible predation and other natural dangers. However, it is the only way to get them ready for life in the wild.

"They need to learn from their parents how to forage on a large open pond, how to protect themselves, what to do to fend off predators," explains Jen Kottyan, the Zoo's avian collection and conservation manager. "If we were to handrear them, they would not learn from their parents how to be a swan and they would never survive in the wild."

This year and last, the Zoo's swans produced a clutch of five cygnets. Not all survived, but those that did have been parented well. This includes superior protection. "Dad is absolutely amazing," says Kottyan. "When we go anywhere near that pond, he's got his wings out, he's calling, he's hissing, he's running at you." And it's not just humans he's willing to confront. "A frog surfaced from the bottom of the pond one day," recalls Kottyan, "and I saw Dad hightail it across the water and start striking at it while Mom got all the cygnets out of the water."

The cygnets fall right into line, on land and in water, and mimic their parents' behavior. They swim, they preen, they skim the surface of the pond for aquatic insects, they eat plants, and they forage for bugs in the grass. They also stick together as a family and have learned to defend themselves. Even when they were smaller than mallard ducks, they felt

every bit the trumpeter swan. "If you went near them, they would stretch up tall, they would open their bills, and they'd be hissing," Kottyan proudly recalls.

Give them time to reach full size, and this defensive behavior will be truly intimidating. Adult trumpeter swans are the largest birds in North America and the largest swans in the world, with few natural predators. They are beautiful to behold, and powerful. Given the chance, they take care of themselves, as history is proving. The Zoo looks forward to this year's cygnet getting that chance when it joins its wild flock in a few short months.



Iowa school children attend release of trumpeter swans in May 2017.

WHAT'S FOR DINNER?

Instead of forks and knives, birds use their highly adapted beaks as feeding tools. Look at a bird's beak and guess what it eats!

Draw a line from the bird to the correct beak description.



HUMMINGBIRD



ROBIN



PELICAN



GOLDFINCH

FLESH SHREDDER

Sharp, hooked beak tears and shreds prey

NECTAR SIPPER

Long, thin beak dips into flowers to extract nectar

INSECT EATER

Short, pointed beak pulls insects from soil or bark

SEED CRACKER

Sturdy, conical beak cracks open nuts and seeds

HOLE DRILLER

Long, chiseled beak drills holes in trees to get insects

FISH SCOOPER

Long, hooked bill with expandable pouch nets fish

FOOD FILTERER

Bent beak with built-in filter sifts food from water

PRECISE STRIKER

Long, pointed beak strikes and spears prey



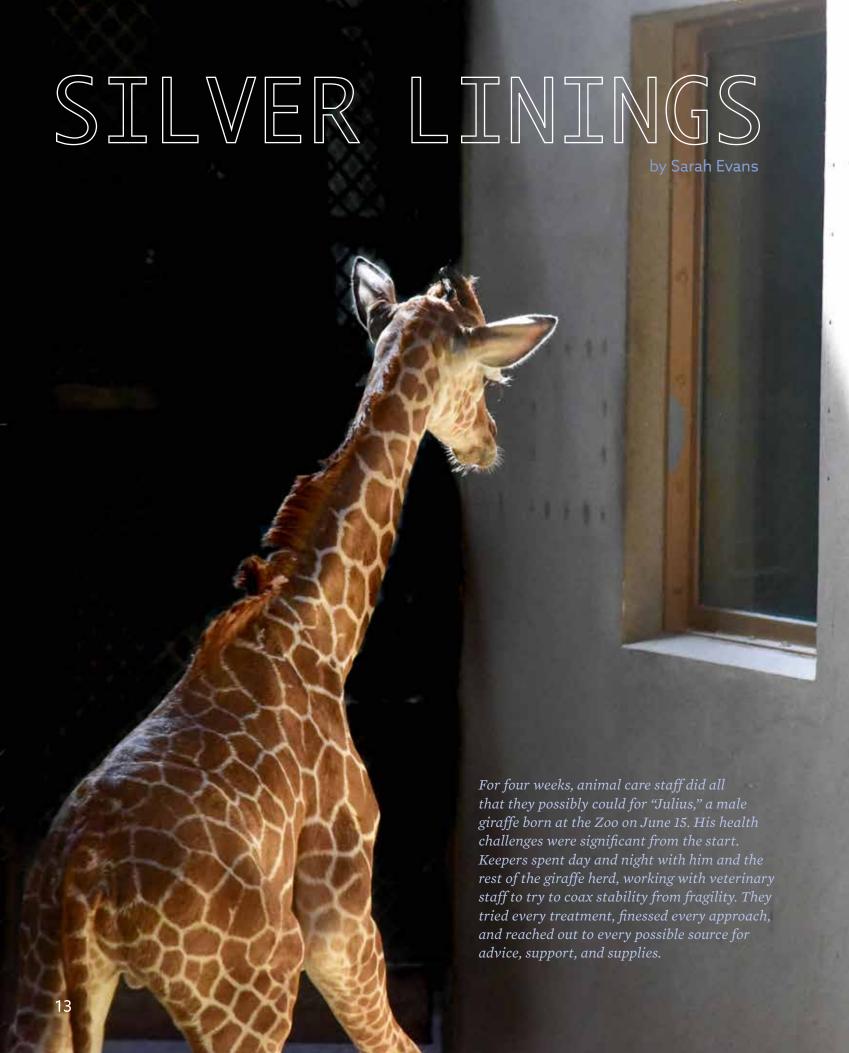
HERON



EAGLE







They would have done the same for any other animal at the Zoo. "You're in this field because you care about every single species," says Dr. Ellen Bronson, the Zoo's senior veterinarian and Director of Animal Health, Conservation, and Research. Whether it's a tiny owl or a multi-ton elephant, a decades-old tortoise or a newborn giraffe, "we give all Zoo animals the same level of exceptional husbandry and veterinary care every single day."

In the end, though, it is not always about saving a life. It is about advocating for the patient and knowing when it is no longer fair or right to continue to push. Despite intensive medical interventions and extraordinary keeper care, Julius continued to decline. On July 14, Zoo veterinarians and animal managers jointly made the difficult decision to humanely euthanize him.

The loss was felt deeply within the Zoo and beyond, among the dozens of outside professionals who contributed to this extraordinary case and among the thousands of people who followed it on social media. As animal care professionals and wildlife advocates, though, we take the long view. We recognize that over the course of his short life, Julius became an invaluable ambassador for his species. He gave a core group of staff tremendous experience in giraffe medicine and husbandry care, experience that they could not have gained any other way. That experience translates into knowledge that will ripple outward to influence outcomes for other giraffes at this zoo and elsewhere. "The collective experience, not just from the veterinary side but also from an animal keeper and care side, is just going to make us stronger with every [future giraffe] calf that we have," says Dr. Samantha Sander, the associate veterinarian at the Zoo who helped lead this case.

A COMMUNITY OF CAREGIVERS RESPONDS

In tending to Julius, Zoo staff entered uncharted medical and husbandry territory. The animal care team had completed a detailed birth management plan in advance, as is done with every animal pregnancy, anticipating and preparing for every potential outcome. "But when you get down to the nitty-gritty," explains Sander, "you

want all the ideas. Not just some. All." Every person on the case began working the phones to get advice from their many and varied contacts in animal management, veterinary medicine, and human medicine: Doctors Bronson, Sander, and Rettenmund, General Curator Mike McClure, Mammal Collection and Conservation Manager Erin Cantwell, Area Managers Sydney Larsen and Jess Phillips, every keeper, every technician. "In this sort of situation, you want to know that you're covering absolutely every base," says McClure.

Such collaboration is typical when dealing with wildlife or zoo animals because more often than not, you cannot look up answers in books. You have to rely on a network of colleagues, a profession built on shared knowledge, and a willingness to think outside the box in order to solve problems on a daily or weekly basis that you have never confronted before. If something isn't working, you keep tweaking.

From the beginning, the problem for Julius was that he never nursed successfully from his mother, Kesi. "The first 24-48 hours after birth is the critical time for giraffe calves to get the antibodies from mother's milk," explains Cantwell. "After the 48-hour window, the only other option for antibody transfer is a plasma transfusion from the blood of an adult giraffe."

When Julius did not respond adequately to supplemental feedings of antibody-rich colostrum, Zoo staff contacted the Columbus Zoo and Aquarium, which maintains a giraffe plasma bank. Without hesitation, Columbus agreed to donate the necessary plasma and even to drive it halfway. Kaitie Kessler, an Animal Hospital keeper, left home that evening and drove to West Virginia to pick it up. "It was an impressive community response," recalls Sander. "It was a case of 'This is what needs to happen, so we're going to make it happen.""

A few weeks later, when Julius needed a second plasma transfusion, Sander called her Columbus Zoo contact again. "I can't get the plasma to you in time," Sander recalls her saying, "but Cheyenne Mountain is on Colorado time and their Fed-Ex is still open. Try them." Cheyenne Mountain Zoo is the only other zoo in the





country to maintain a giraffe plasma bank. Sander called, and they too agreed to donate plasma. One of their vets happened to be flying to Philadelphia the next day. She brought the plasma in her carryon bag and handed it off to McClure at the airport.

Both plasma transfusions succeeded in temporarily stabilizing Julius. Neither could have been given without the immediate cooperation of colleagues from other zoos.

ZOO STAFF EXPLORES EVERY OPTION

Meanwhile, keepers and managers in the Giraffe House were focused on getting Julius to drink from a bottle. With giraffes, this is a notoriously difficult challenge. Cantwell, McClure, Sander and others sought advice on bottle-feeding from everyone they could think of, including Dr. Cooper Williams, a large animal veterinarian and long-time consultant for the Zoo who contributed invaluably to this case as he has to

so many others over the years. "From there it just bloomed," recalls Sander. "Again, it was just this amazing, collaborative community effort," she says, with each bit of advice adding to the team's collective knowledge: adjust the formula recipe just so, place a towel over the calf's eyes to calm him, I-don't-know-if-this-is-going-to-help-or-not-but-try-it.

Because of their skill and their willingness to improvise, and because of the helpful input of so many others, animal care staff accomplished remarkable things that month with the entire giraffe herd. They got Julius through significant medical and husbandry challenges while still respecting his need to be with his mother, supporting her strong maternal instincts, keeping the herd together, and allowing the other giraffes to gain comfort and experience with a newborn calf. "The vets did incredible work," notes McClure, "but none of it would have been possible if keepers hadn't been so skillful in

giving them access to the calf and managing the rest of the giraffe herd so well. It was an amazing collaborative effort."

Ultimately, however, Julius remained in critical condition. When all other treatment options had been exhausted, senior animal management and medical decision makers agreed to try TPN, or Total Parenteral Nutrition, as a lastditch effort. Developed for humans, TPN is delivered intravenously and works to support nutrition until a patient can feed independently. It is an expensive and risky treatment but is known to have helped some giraffe calves at other institutions. Sander began searching for a hospital to provide TPN. She called Dr. Donna Magid, a Johns Hopkins University radiologist and long-time consultant for the Zoo. Within half an hour, Magid had arranged for staff at Mount Washington Pediatric Hospital to help. The hospital customized TPN for this very unique patient and generously donated it to

the Zoo. The team successfully delivered TPN to Julius and this, in and of itself, was a major accomplishment. "To do that in a giraffe calf and know that we were successful," says Sander, "gives us all confidence in what we can do."

KNOWLEDGE IS AN IMPORTANT LEGACY

That confidence matters for the next giraffe calf or other Zoo animal in need. As difficult as this particular case was, it also was valuable. "We invest a lot of time and effort in each individual animal, and in the process we learn more about the species, which allows us to gain knowledge and be in a position to treat the next animal better," says Bronson. Admittedly, though, knowledge can be hard earned. "With tough cases like this one," says McClure, "I always say to staff, 'The good news is, now you're experienced. And the bad news is, now you're experienced."

15 16



The Maryland Zoo in Baltimore is many things: a zoological park, a wildlife conservation organization, a beautiful green space, and a cultural asset for the City of Baltimore and the State of Maryland. It is also a popular and beloved destination that attracts hundreds of thousands of visitors each year. In fact, more than half a million people visited the Zoo in fiscal year 2017!

That is a huge milestone for the Zoo and a huge opportunity for its sponsors. Imagine all of those visitors seeing your company or organization's name at a Zoo exhibit or on the Zoo's train, tram, or carousel. Combine all those looks with the Zoo's strong social media presence (20,000

Facebook followers, 70,000 e-mail subscribers, and counting), and you can rest assured that your company or organization's name will be known far and wide.

Become a Zoo sponsor. Reach new audiences while supporting a dynamic and multi-faceted non-profit organization. It's a win-win!

To design a custom sponsorship package for your company or organization, please contact the Zoo's Sponsorship Office at **sponsorship@marylandzoo.org**. We look forward to hearing from you.

exciting news!
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The Maryland Zoo is pleased to announce that, effective immediately, new Zoo donors are eligible for a Maryland State tax credit.

About Community Investment Tax Credit (CITC)

The CITC program supports nonprofit organizations like The Maryland Zoo by granting State tax credits to nonprofits which they, in turn, use to encourage contributions. CITC tax credits are equal to 50% of the value of the donated money, goods, or real property and are in addition to Federal and State charitable tax deductions. The Maryland Zoo has \$17,000 in tax credits available for Maryland residents

Eligible Contributions

Contributions of money, goods, or real property worth \$1,000 or more are eligible for tax credits to support operational and programmatic costs associated with upgrading the Zoo's Point-of-Sale and Constituent Management database and the incurred costs associated with improving these vital operations.

are not eligible. Individuals and businesses may claim a maximum of \$250,000 in tax credits per year, representing \$500,000 in contributions.

For More Information

Please contact Michelle Boyle at 443-552-5290 or michelle.boyle@marylandzoo.org.



CONTACT THE ZOO

General Information (410) 396-7102

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(443) 552-5310 Volunteers

Group Sales

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Rentals (443) 552-5277

Administrative offices are open Monday through Friday, 8:30 a.m. to 4:30 p.m The Zoo is open 10 a.m. to 4 p.m. daily during the months of March through December and Friday-Monday during the months of January and February. The Zoo is closed Thanksgiving Day and Christmas Day.

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