

# Annual Report

Inspiring passion to conserve the natural world



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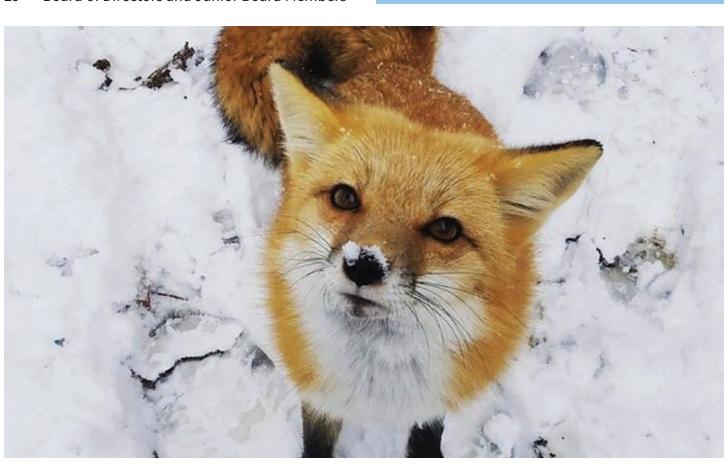
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# **MISSION STATEMENT**

**INSPIRING PASSION** TO CONSERVE THE **NATURAL WORLD** 

# **VISION**

**CREATING A GLOBAL COMMUNITY WHERE ALL** PEOPLE VALUE WILDLIFE AND WILD PLACES



# A Word from the President

#### Dear Friends of the Zoo,

The Birmingham Zoo had another successful year in 2017! North America's largest cat species, the jaguar, is once again represented in the Zoo's animal collection, and the grounds were invaded by Pirates. As always, the Zoo continued to uphold a standard of excellence in animal care, and several Zoo staff members traveled the globe participating in vital conservation initiatives. Major construction milestones were achieved in 2017, including the opening and dedication of the brand-new Henley Park. I sincerely hope you'll stay a while and enjoy the new open space in the center of the Zoo on your next visit.

To further conservational efforts on a local and global level, the Birmingham Zoo continues to develop its Passion into Conservation Action (PiCA) grant program for Zoo employees. This program provides necessary funding/grants for Birmingham Zoo employees to travel locally, nationally and internationally to support other nonprofit organizations that share in the common goal of preserving the world's animal populations. The Zoo awarded six grants in 2017, sending its staff members to Alabama, Florida, Costa Rica, Namibia, South Africa, Zimbabwe, Nepal, and Mongolia.

Your Birmingham Zoo is passionate about safeguarding endangered and threatened animals and plays an active role in partnering with other institutions accredited by the Association of Zoos and Aquariums (AZA), as well as the Species Survival Plan® (SSP) program. Developed in 1981 by the AZA, SSP initiatives help ensure the survival of species by enlisting the resources of zoos and aquariums nationwide. The Birmingham Zoo participates in many of these plans, including programs for the Caribbean flamingo, Eastern indigo snake, Malayan tiger, and red panda.

Finally, I reached a personal milestone in 2017 with the announcement of my retirement from the Birmingham Zoo. Soon, I will hand the reins of the Zoo off to others and will take time to travel, spend time with my children and grandchildren and seek out my next big adventure. It has truly been an honor work alongside our donors, volunteers and staff to see the Zoo grow since I took the role of CEO in 2004; together, we've seen attendance records broken, several major phases on construction completed, and so many critical conservation initiatives begun. It's hard to believe that so much has been accomplished in such a short period of time. Thanks to you and the community, I see many more bright things in the future for this organization and the dedicated staff members who are committed to conservation.

We look forward to 2018 and all that lies ahead with the completion of the new front entrance and welcome plaza, as well as the new Asian Passage habitat. Most importantly, I want to thank you for your support, whether it is a through a Zoo membership, a donation, or a visit with family. You, our friends and supporters, truly make a difference to the Birmingham community and your Birmingham Zoo.

Cheers.

William R. Foster, DVM

President & CEO



# What's new at the Zoo?



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AND FEATURED PARTNER



# Pirates! Presented by Shipt and Featured Partner — DC Scientific Pest Control

Just in time for the Birmingham Zoo's busiest season, Pirates invaded the Red Diamond Express Train Ride! Legions of life-size animatronic pirates could be seen playing music and games, planting plants, and doing laundry, as well as a host of other actions designed to teach train-riders about water conservation. Most of the water on Earth is salt water, leaving only 1% of the water supply for landlubbers to share. Throughout the year, the pirates entertained guests with their antics, along with several appearances by their animatronic animal friends: gibbons, parrots, snakes, and even a Komodo dragon! The Zoo hopes that by spreading a message of water conservation, citizens of Alabama will practice water-saving techniques such as checking faucets for drips and leaks and turning off running water while lathering hands or brushing teeth. Conserving precious water resources is especially important in Alabama, a state with more fresh water fish species than any other in the United States.

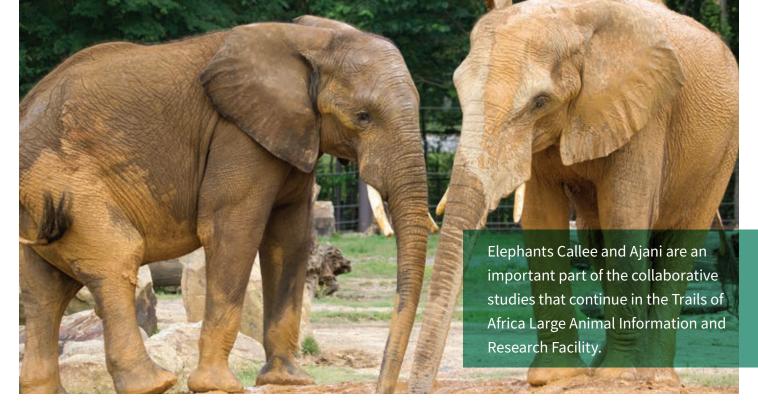
# Trails of Africa Trails of Africa and Africa West

In the Trails of Africa (TOA) hoofstock and pachyderm areas, the animal care staff has continued to set the bar high for animal welfare. The TOA department has celebrated many accomplishments this year, including reaching training goals, participating in various world animal days, and continuing to support conservation efforts at home and abroad.

One of the most notable achievements was introducing the Zoo's zebra herd onto the savannah yard with the giraffe and ostrich. The zebra took to the yard immediately and now spend most of their time on the savannah. In 2018, TOA staff will be taking steps to more permanently combine the zebra habitat and savannah yards to make a much larger, more functional, habitat. The ostrich have also experienced a different habitat as well. The empty area next to the red river hog habitat has provided an excellent place for the ostrich to explore a new space and to learn how to participate in feedings from guests. This experience is in the trial run stages and is an effort to offer a fun interactive activity to Zoo visitors. The red river hogs have also had periodic access to this empty habitat and have had training sessions with the Trails of Africa team without barriers. This area has given Zoo staff members the chance to work with the hogs on an individual basis, as well as allow them a new area in which to explore and forage. A future goal will be to expand the current red river hog home into this area to provide more room for them to exercise, as well as open up the possibility of the addition of another species.







In addition to working towards training and welfare goals, the TOA team successfully hosted several conservation events such as World Giraffe Day, Bowling for Rhinos, World Rhino Day, and AZA Saving Animals From Extinction (SAFE) Day. Just over \$1,200 was raised on World Giraffe Day and donated to Giraffe Conservation Foundation. This year's Bowling for Rhinos event, a joint project between TOA staff and the Birmingham Chapter of the American Association of Zoo Keepers, was the most successful year yet! The fundraiser was hosted at Vestavia Bowl and offered bowling, a silent auction, and door prizes. The event raised more than \$5,500 for rhinoceros conservation in Africa and Asia. World Rhino Day was also celebrated by TOA on September 22. This day offered a variety of conservationbased animal chats and family friendly activities. The team also participated in over 60 additional Zoo-hosted events over the course of 2017, including behind-the-scenes tours, Spire ZooSchool, donor events, weddings and VIP encounters.

The TOA team also participated in continuing education opportunities and learning from other Animal Care Professionals nationwide. Kate Clemens, TOA Animal Care Professional, attended the Rhino Keepers Workshop in Denver, Colorado, hosted by the International Rhino Keepers Association. Topics covered by the workshop focused on assisted reproduction and the husbandry and management of rhinoceros in zoos. Amy Toman, TOA Animal Care Professional, attended the Giraffe Care Workshop in Colorado Springs, Colorado hosted by the Cheyenne Mountain Zoo. The conference focused on giraffe training, hoof care and husbandry of giraffe. Toman also received her second PiCA grant for the 2017-2018 cycle. Her grant was awarded to continue giraffe research in Northwest Namibia, Africa, with the Giraffe Conservation Foundation.

This continuation of the giraffe survey provided important updates regarding the status of giraffe in Namibia. In 2017, the International Union for Conservation of Nature (IUCN) downgraded the conservation listing of giraffe from least concern to vulnerable based on the Giraffe Conservation Foundation's population assessments across Africa.

Kiwanis Giraffe Encounter (KGE) was once again a successful interactive guest experience. During the encounter, guests had the opportunity to hand feed the giraffe, take pictures, and enjoy informative chats from the staff and volunteers. This encounter ran for four hours daily, weather permitting, March through July, and for the months of August through October, the encounters were available on Saturday and Sunday. New in 2017, KGE was made available for Member Mornings every Wednesday from August to October. Over the course of the year, the Birmingham Zoo sold over 25,000 tickets for the giraffe feeding encounter with proceeds helping cover the cost of Zoo operations.

## **Trails of Africa - Large Animal Information and Research Facility (LAIR)**

In the Trails of Africa LAIR, collaborative work with the South-East Zoo Alliance for Research and Conservation (SEZARC) continued from 2017. Animal Care Professionals continued work to collect semen samples monthly from the Zoo's elephants, and two samples were successfully frozen. One frozen sample from Callee was sent to Louisville Zoo and was used in an attempted artificial insemination of a female there. Callee and Ajani are both 17, an age in which they would not be breeding in range country, so the TOA team has seen a decrease in their ability to give viable semen samples. Staff members have also



been working with the elephants to train them to put their front feet up on a metal tub during collections. This elevation of their front half is thought to simulate more of a "natural" breeding stance.

Birmingham Zoo's bachelor herd remains stable with three healthy male African elephants. Bulwagi's tusk, which was operated on in 2016, continues to be maintained with daily flushes of the pulp cavity. With the help of the Animal Health Center, TOA staff members have been able to use an endoscope to view the entire tusk cavity to look for signs of returned infection. The endoscope can also be used to get a better view of the lateral crack and how it is growing. Good news for Bulwagi: so far, no evidence of further infection has been seen!

Every elephant care professional is required to complete the Principals of Elephant Management 1 course to become familiarized with the AZA standards of elephant care. This week-long class teaches information that is very valuable in the training and husbandry of elephants. The class is also an excellent opportunity for networking with fellow elephant caretakers and an opportunity for professional growth. In 2017, Kent Costell successfully completed the class. Jess Durante is scheduled to attend in 2018

Trails of Africa elephant staff members' involvement in the community and with guests has continued through a daily elephant chat. These chats served as an opportunity for the TOA team to show off some of the elephants' behaviors and talk with guests about the Birmingham Zoo's elephant program, the plight of their wild cousins in range country and the Zoo's conservation efforts. TOA staff also participated in the Spire ZooSchool program on Tuesdays. This program offered a chance to connect with local school groups, to teach about the Zoo's elephants and to explain how the Animal Care Professionals became involved in this field and what inspires them to continue working in the field of elephant care.

### **South America/Primate Department**

In 2017, many of the habitats in the Primate Department at the Birmingham Zoo received a facelift as Animal Care Professionals prepared new homes for animals already at the Zoo as well as new arrivals. One habitat was painted, propped and planted for the cotton top tamarins and sloth, which were successfully introduced to each other in March. In June, the Zoo's De Brazza's monkeys and Cape porcupines were integrated into the same habitat. This habitat had been propped and landscaped to accommodate the two species, including the construction of a log wall to divide the space. New species were brought into the department, including howler monkeys acquired from San Antonio Zoo and Cleveland Metroparks Zoo in October, and a giant anteater named Carlito from Santa Barbara Zoo in July.

One of the most notable changes to the South America/Primate Department was the addition of a three-year-old jaguar named Khan from Jacksonville Zoo. When Zoo staff first learned that a large habitat in the building needed to be filled, they first researched which animals might be a proper fit. Based on the layout of the space and information in the Animal Care Manual provided by the AZA, it was determined that with modifications, such as the overhead netting that was installed, the habitat was suitable for a jaguar. The SSP for jaguars was looking for new zoos, and recommended that Khan be moved to Birmingham. In preparation for Khan's arrival, lead Animal Care Professionals from the Zoo traveled to Jacksonville to meet Khan. Jacksonville Zoo shared medical and behavioral information, and allowed Animal Care Professionals responsible for the area Khan is now in, to experience his daily routine.

Khan was moved into his new habitat in May, and was a hit with guests of all ages throughout the rest of the year. He was even featured in the Zoo's annual La Celebración, celebrating Hispanic Heritage Day in September. If you are lucky, you may catch him swimming in one of the pools in his habitat, or walking along tree trunks near the large windows overlooking his territory. The Birmingham Zoo was excited to become a new face for the jaguar SSP, as jaguars are the only big cat of the Americas and are currently listed as "Near Threatened" by the IUCN.

In addition to all the animal changes in the department, several human adjustments were made as well. Two new Animal Care Professionals were hired, and Dane Jorgensen presented at the First International Giant Otter workshop at Cali Zoo in Cali, Colombia in May. The South America/Primate Department staff continued to greet guests and answer questions daily.

### **Bird Department**

The year of 2017 was one of "beak" performance for the Birmingham Zoo Bird Department. Throughout the year the Zoo welcomed many new additions who pipped and squawked their way into our hearts. A baby tawny frogmouth named Gizmo was incubated, hatched, and hand raised. Gizmo has a future as an ambassador animal for the Zoo's Programs Department, and spent months getting used to human interactions. It was also an excellent year for the lorikeet breeding program as eight chicks were hatched. These lorikeets will all be living in the



Schaeffer Eye Center Lorikeet Aviary very soon. Many other bird species that are part of SSPs were hatched as well, including: laughing kookaburra, jambu fruit dove, Victoria crowned pigeon, pheasant pigeon, and crested screamer. The Zoo is also excited to announce that our own Zoological Manager, Alan Yester, is now managing the nation's population of Cape thick-knees as SSP Studbook Keeper.

Unfortunately, this year brought the Zoo a few losses as well. Over the summer, the Zoo's Bird Department worked with doctors from the Sports Medicine department of Children's of Alabama to craft a brace for an older male kori bustard after he suffered a right leg injury. Despite Animal Care Professionals' best efforts, he succumbed to his injury and passed away. This fall, the Zoo also lost a beloved member of the family, Goober, a 23-year-old African white-backed Vulture. Goober was loved by keepers and visitors alike for his charismatic nature and affection for sticks. He was one of less than a dozen African white-backed vultures in the United States, and he will be sorely missed by both the Birmingham Zoo community and many Animal Care Professionals in zoos across the nation.

In addition to hatching chicks and saying goodbye to old friends, the Bird Department welcomed many brand-new faces! This spring the Zoo introduced two blue-faced honeyeaters, large Australian song birds with striking blue cheeks, into the large central bird habitat. The domed bird habitat has become a home for nesting pairs of shimmering violet-backed starlings, and behind the scenes in our Avian Breeding Center, a pair of Forsten's lorikeets have joined the flock. Forsten's lorikeets can be recognized by a dark purple patch on their neck and a deep red-colored chest. These Indonesian parrots are considered Vulnerable in the wild. If the Zoo's breeding program is successful, guests should be able to view Forsten's lorikeet chicks in the Schaeffer Eye Center Lorikeet Aviary in fall of 2018.

Throughout 2017, the Bird Department staff reached out beyond the Birmingham Zoo to participate in continuing education and scientific inquiry. Throughout the year, Michelle Duplichien, an Animal Care Professional, participated in a scientific study on house sparrows known as Sparrow Swap. This program involved collection of invasive house sparrow eggs that are analyzed for environmental contaminants. Her study of sparrows will continue into 2018. In January, Duplichien and Anna Turkett traveled to the Houston Zoo for a four-day intensive Avian Egg Incubation Workshop. In March, Turkett



traveled to San Jose del Cabo, Mexico to give a presentation at the annual National Association for Interpretation International Conference. This presentation featured using viral media such as the Pokémon Go craze in interpretive settings and was well regarded by attendees. During the summer the Zoo's Bird Department and Night Staff ventured to Ruffner Mountain to aid with the annual Bat Blitz, a bat surveying project that aids in conservation of Alabama's native nocturnal creatures. In August, Turkett visited the headquarters of the International Crane Foundation in Baraboo, Wisconsin. There, she became part of the inaugural class of whooping crane Ambassadors, specially trained educators who will work with the International Crane Foundation to raise awareness for the endangered cranes. Finally, just before the year came to a close, Cindy Pinger, Bird Department Curator, and Michelle Duplichien traveled to Dauphin Island to attend training for the Alabama Coastal Bird Survey program.

2017 was an incredible year for the Bird Department because of the time staff spent every day to ensure excellent guest experience, crucial conservation work, and the best possible care for the Zoo's avian residents. Each day, Bird Department staff cleaned over 100 dishes, gave out over 50 pounds of food, and spent time with over 300 birds. They trimmed the nails and beaks of over 60 lorikeets in one day, and sifted for rocks through hundreds of pounds of mud for flamingo nests. From March to October Animal Care Professionals worked hard to welcome over 100,000 guests to meet the birds in the Schaeffer Eye Center Lorikeet Aviary. During the harsh snow and ice storm of early 2017, many Animal Care Professionals were unable to safely drive, so two of the bird Animal Care Professionals walked over two miles to the Zoo in icy conditions to care for the animals. The Bird Department looks forward to bringing even more hard work, dedication, and passion into each day of 2018!

### **Predator Department**

In 2017, several staff members in the Predator Department were awarded PiCA grants to further their knowledge and research on the animals they serve every day. For a detailed list of PiCA recipients, see "PiCA Grants Program" later in this report. Some Predator Department staff members had work published in nationally recognized publications. Scott Kayser and Kelli Grigg wrote an article published in Felid TAG Times entitled "Training and Challenges: Dealing with Cancer in an Aging Tiger." They shared their experiences in dealing with the Zoo's own Malayan tiger, Kumar, who was successfully treated for cancer once Animal Care Professionals noticed a difference in his daily behaviors. Travis Coty wrote an article for AZA Connect entitled "Birmingham Zoo Blood Draw Training Success."

Furthering education was also a theme for the Predator Department in 2017. Bobbie Cavanaugh, Predator Department Zoological Manager, attended an AZA class called "Managing for Success: Organizational Development." Scott Kayser attended the Annual AZA Felid Tag Meeting, as the AZA SSP Studbook Keeper for Pallas' cats, and took a class on population management for his studbook. Travis Coty became the AZA SSP Vice-Coordinator for black-footed cats in addition to crosstraining with Erin Miller to work with sea lions. Kelli Grigg also cross trained with the Primate Department.

Shifu, one of the Birmingham Zoo's red pandas was transferred to Henry Doorly Zoo in Omaha, Nebraska, and a new red panda named Parker arrived in December to join Sorrel in their habitat. Parker was transferred to Birmingham on a recommendation from the red panda SSP, and the Zoo hopes to see red panda cubs in the near future! Also new to the department is Mischa, a Pallas' cat from Columbus Zoo. Mischa arrived in December, and the Zoo is excited to once again be a home for this unusual Asian species.

# **Education Department**

83% of teachers who attended Teacher Night were more likely to reserve a Zoo field trip.

### The Zoo as an Educational Resource

The School Programs section of the Education Department had quite a successful year as staff worked to inspire a passion to conserve the natural world. In addition to providing high quality educational experiences for students from around the state in a very unique setting, Education staff worked to establish the Birmingham Zoo as a premiere educational resource for teachers.

Three Education team members attended the annual Alabama Science Teachers Association conference in March. This event, held at McWane Science Center, brought in hundreds of teachers from across the state to network, attend sessions and learn about opportunities available to their students. Zoo staff spoke with hundreds of teachers regarding opportunities at the Zoo to enrich their curriculum and solicited feedback on challenges teachers face in creating successful field trips. The Zoo will send regular emails to these contacts to keep them thinking about the Zoo as a resource for their classroom. Education staff also presented two sessions to showcase specifically how they can use the Zoo as a resource for their curriculum.

### **Teacher Night at the Zoo**

Teacher Night at the Zoo continued to improve and serve the teachers of Alabama. In 2017, 131 individuals representing 20 school systems, four private/independent schools and three universities from across the state attended this special event. Survey results revealed that 83% responded that they were more likely to reserve a field trip as a result of attending Teacher Night 2017, 97% responded that they would attend a Teacher's Night at the Zoo event in 2018.

#### Responses from teachers included the following;

"The Birmingham Zoo is constantly changing in very positive ways. The continuation of the Teacher's Night at the Zoo ensures that we, the teachers, know about these physical and program changes and how they impact our course of study. Being able to know how the Zoo programs will be incorporated into the course of study ahead of time helps with planning and time management. Thank you for this opportunity."

"Teacher Night at the Zoo is a great way to network with other educators in our region. This night sparks conversations that allow for collaboration and how to utilize the Birmingham Zoo



and its features with our students. I was unaware that there were check out resources for classrooms, but because of this event, I was made aware of this and other great activities that would benefit the students that we teach. Because of Teacher Night, I connected with two other teachers in my school district which led to a STEAM [science, technology, engineering, art and math] professional development on Columbus Day."

### **Professional Development** and Program Statistics

Education staff had the good fortune to attend multiple professional development opportunities in 2017. These included Playful Pedagogy, Project Wet, STEM (Science, Technology, Engineering and Math) at the Zoo hosted by the Minnesota Zoo, and Teacher Workshop in Conservation Science hosted by San Diego Zoo Institute for Conservation Research. These opportunities not only provided professional growth for staff but also have led to implementation of new and innovative programs at the Zoo. The Zoo's school-oriented programs (ZooSchool, Zoo After School, Home School and reserved programs for school groups) continue to improve and be met with positive feedback from participants. In 2017 the Zoo served

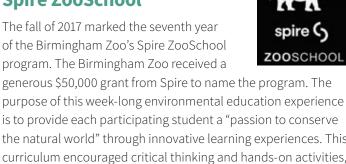




4,300 students in reserved education programming. The Zoo saw a 66% gain in the number of groups that visited the Zoo on a field trip in addition to a reserved education program from 2016 to 2017.

# Spire ZooSchool

The fall of 2017 marked the seventh year of the Birmingham Zoo's Spire ZooSchool program. The Birmingham Zoo received a



is to provide each participating student a "passion to conserve the natural world" through innovative learning experiences. This curriculum encouraged critical thinking and hands-on activities, as well as real-world applications in an environment outside of the standard classroom. During this week-long learning experience, students were able to focus on conservation, environmental and animal interaction-related topics. The program served seventh grade students in Birmingham City Schools free of charge to students, schools or school system, and offered them exposure to the environment and wildlife through innovative, experiential learning opportunities. The Birmingham Zoo's Spire ZooSchool continued to improve and evolve throughout the school year. This year significant steps were taken toward expanding the curriculum to include more integrated STEM activities that also incorporated 21st century skills (critical thinking, creativity, collaboration and communication). These additions have been met with positive reviews from teachers and students. Based on assessment data, almost all students participating (94%) agreed or strongly agreed that Spire ZooSchool taught them about conservation. Similarly, 93% of students reported that Spire ZooSchool pushed them to think on a higher level.

"Spire ZooSchool combines two great resources — Birmingham City Schools and our Birmingham Zoo — in a program that will



enrich lives and strengthen the community where we live and work," said Spire President, Ken Smith. "We are proud to be supporting this important education initiative."

In May, the Birmingham Zoo hosted a professional development day for teachers, principals and administrators who would be bringing their students to the grounds of the Zoo in the 2017-2018 schoolyear. This was the first year that all schools participating were represented and had administrators present.

In 2017, the Zoo was awarded a \$91,000 Environmental Protection Agency grant. Water conservation was the focus of the grant and a large portion of the funds will go to support the ongoing work done in Spire ZooSchool. In



addition to Spire ZooSchool, the grant will fund a series of public service announcements (PSAs) highlighting the work done by the Birmingham Zoo to conserve water and protect waterways. In the fall of 2017, the first PSA ran daily on eight different cable networks for a total of 250 airings. The focus of the PSA is the Birmingham Zoo's work on a North American river otter survey on the Cahaba River.

## **Participating Schools**

Arrington Middle School Bush Hills Academy Hayes K-8 School Hudson K-8 School Jones Valley Middle School Ossie Ware Mitchell Middle School Washington K-8 School Spire ZooSchool Donors Ard Contracting, Inc. BBVA Compass Bank Foundation

Children's of Alabama City of Birmingham Honda Manufacturing of Alabama, LLC Kinder Morgan Foundation Redmont Park Historic District Foundation Spire

Susan Mott Webb Charitable Trust U.S. Environmental Protection Agency Wells Fargo

# Volunteers

The Birmingham Zoo was honored to be a home away from home to the more than 300 volunteers who donated their time in 2017. Zoo volunteers not only added to the guest experience. but also were fundamental to the operation of special events throughout the year. When they were not busy with their assigned tasks, they spent their time furthering their training, enabling them to add value to many Zoo programs.

In 2017, volunteers also participated in the implementation of a new training framework that utilizes volunteers as interpreters within the Zoo. The first addition of training that launched in January was a brand-new Guest Interaction Guide which educated volunteers on enhancing the Zoo's guest experience. Throughout the year, volunteers also attended several new "Zoo Guide" trainings, including a Trails of Africa Zoo Guide and a Jaguar Zoo Guide. The main objective of these courses was to equip individuals to staff the Zoo's Chipangali Research Station as well as the Jaguar Habitat that opened in May. Education Department staff also focused on rebranding volunteers who greet guests to serve as Information Ambassadors in several dedicated locations throughout the Zoo.

Adult volunteers also participated in the strategic planning process to have a voice in the future direction of the Zoo. As participation in the Birmingham Zoo's volunteer programs increases, the Zoo will continue to add additional trainings and opportunities to meet the demands of an ever-expanding program. During 2017, more than 1,500 individuals were involved in the program and over 100 group volunteers contributed over 7,800 hours of their time and were instrumental to the success of special events both large and small. It was an especially busy year for special event volunteers with the addition of several large events including the Magic City Wine Fest and Eggstravaganza. One community group that deserves a special mention is the group of BBVA Compass Bank Volunteers, who sent volunteers to serve in nearly every large event throughout the year.

Zoo volunteers assisted with a massive amount of Zoo tasks, from summer camp to service as Zoo Guides, Information Ambassadors, special event volunteers and everything in between! In 2017, volunteers collectively served over 33,000 hours "Inspiring Passion to Conserve the Natural World." Volunteers continue to demonstrate the Zoo's mission at work while they donate a most precious resource to the Birmingham Zoo: their time.



### **Special Thanks** to the Zoo's 2017 Volunteers

Volunteers with the most hours logged: **Teen Volunteer:** Savannah Mitchell (286 hours) Adult Volunteer: Julia Mazanec (524 hours)

#### **Teen Volunteers**

Gabrielle Accas Micah Alexander Harlan Alford Shanise Allen Charles Anthony John Peter Aufdemorte Halle Bakir Maddie Beaubien Taylor Bice Rahul Boddupalli Skylar Bozeman-Jones Coleman Braddock Kozbi Bradford Hannah Bray Elijah Briggs, Jr. Juliet Cabraja Sarah Cain Fabian Calderon Allison Carter Madison Casev Melody Cavinder Suneeti Chambers Zachary (Zac) Chandler Naomi Chaves Nikhita Chintareddy Tv Clark Livi Clegg Cameron Collier Heather Crittenden Zoe Cupps Yash Daasari Jessica Daniels Katelyn Dates Amani Davis Lindsay Davis Cate Dawson Jaimee Deese Tiffany Deloach Will Devine Chance Dominguez

Tristan Dominguez Perry Dowell Addison Downey Dede Driscoll Sydney East Isabella Esman Kaitlyn Esman Justin Estes Benjamin Estrada Parker Evans Charlie Ferguson Niviah Ferguson Jaylen Fields Caspar Fournier Ana Maria Freeman Russell Furlong Jacobi Gilbert David Gleason Hanna Grimes Matthew Grubbs Samuel Guilsher Briva Hall JaKira Hall Marie Harris Benjamin Harrison Taylor Hosmer Deja Huntley Maisha Igbal Anna Irwin Gabby Jarvis Natalie Jeffers William Johnson Apryl Jones Makayla Jones Adonija Kipruto Nina Kirkland Skyler Klotz Alana Knight Jonathan Knight Walden Knott

# Volunteers

Iris Koltuniak Anna Kramer Lizann LaBresh Raleigh Ladner Caroline Lee Mary Ellen Lipscomb Anna Claire Littleton Josie Lyons Faith Mabry Ashley Manasco Abigail Mays Carson McKelvin Jillian McKenzie Annie McWhirter Adrianna Merchant Hunter Mickle Margot Midkitt Dianna Miller Mary Ryan Mitchell Clamentra-Isis Moody William Mueller Erick Mugi Jeff Murai Katherin Njau Maddie Owens William Palacios Bev Perkins Julia Perz Abigail Picot Gabriel Pigg William Pigg John Pounds Madhav Praveen Kathleen Prine Vignaulla Puliatti Gianna Quarello Emily Rabbideau Leila Radney Joya Rembert Colton Reynolds **Emily Rivas** Sydney Roberts Santiago Rodriguez Kevin Rojas Lillian Roman Kaylin Roscoe Leigh Russel

Taylor Smith Trenton Stewart **Emily Strickland** Dillon Strong Aalivah Studstill Emily Teel Arjun Thopay Ryleigh Thornton Abigail Tillery Shea Tillette Tulley Torbert Jack Trench Perrin Upshaw Cayleen Wakefield Jamerya Wallace Evan Wang Sam Wasko Savannah Wasko Claire Watts Natalie Watts Lauryn Wedgworth Zaida Weiblev Will Whitten Deia Williams Markayla Wilson Matheu Woodall

#### **Adult Volunteers**

Hannah Yi

Ivan Adams Sheila Alexander Susan Alexander Kinyetta Alfred Dottie Ammon Elizabeth Anderson Linda Barnard Sushma Basavaraju Jenine Bastas Sarah Bebb Limor Bernstock Amanda Boren Raphael Bosso Saharie Bowman Michael Brewer Tiffaney Brewer Carolyn Brockman Marcus Brown Naomi Buklad George B. Butler, Jr. Candi Canterbury

Lane Carlee Jacqueline Castrichini Wendy Chen James Christian

Megan Clark Saskia Clayton Olivia Colbourne Tvelr Compton Nicole Constance Maggie Cooper Joan Crawford Zachary Crothers Teresa Dambach Rosa Deck Jennifer Dehart Ellen Deramus Kathrvn Dix John Doggett Natalie Dunlay Morgan Ellison Janeice Everhart Molly Frazier Brian Frick Jasmine Gardner Dawn Gentry Frances Gilroy Mary Grover Rachel Grubbs Isabella Guevara Coleman Haines James (Jim) Harris Hayley Haynes Alexis Helton Lauren Hendrix Meredith Hickey Sally Hirschberg Collin James Howell Devin Howton

April Irvin Hunter Ivey Alicia Jay Travia Johnson Marie Kaemmerer Terri Kangeter Sarah Keith Jonathan Kennard Asnlyn Kenwright Madeline Khuri Virgil (Ray) Kicker Indira Kolluri Bhimani Hannah Lacy Shari Lee Brittany leserra Sarah Lewis Lauren Lindsey Dale Mashburn Heather McAfee Denise McClay Jake McGill Cameron McPhail

Olivia Medlin Larissa Middleton Elise Mikell Krvstal Moore Alejandra Murillo-Farias Stanton Nelson Jackie Nix Nita Oliver Devin Orkin Ronald Ozeki Marissa Pang Steve Parillo Jennifer Parker Sheena Patton Qiona Payton **Emily Pentecost** Hanna Perz Megan Plott Chloe Pyler Laquita Pollard Jeannine Pope-Carter Nicole Pou Sameer Punjani Rebecca Rhea

**Emily Risher** Danielle Roderich Stephanie Salvago Tejas Shekar Eric Simons Leanne Singer Becky Smith Helen Catherine Smith Jennifer Smith Arian Spradley

Scott Spruiell Rob Stephenson Bernard Stern Eugene Szymborski Amanda Terry Marcella Thompson Becki Vance Joanie Varden Dawn Vareb Haley Waites Katherine Walker Ernesha Walker-Taylor Dona Ward

Whitney Watson Whitney Wells Valdez Cheryl Williams Hunter Williams Latasha Williams Derek Wingate Lauren Wood Trudy Wyatt Gabrielle Yejo

Marvin Russel

Morgan Scaife

Kylie Scroggins

Wesley Shaver

Andrew Smith

Reagan Smith

Olivia Smith

George Simpson

Ian Schultz

# Conservation

### **PiCA Grants Program**

Since 2012, the Birmingham Zoo has awarded 35 grants, totaling almost \$120,000 toward the conservation of species at multiple levels. In 2017, the Zoo awarded nine PiCA grants to Zoo employees to travel to Alabama, Florida, Costa Rica, South Africa, Zimbabwe, Namibia, Mongolia and Nepal. 2017 marks the Zoo's fifth year of awarding PiCA grants. Each year, grants are awarded to employees for projects that will benefit conservation of wildlife species, the Birmingham Zoo, and the employee's professional development.

#### **United States**

Tyler Eads, Zoological Manager, Junior League of Birmingham-Hugh Kaul Children's Zoo **CAHABA RIVER, ALABAMA** 

#### **North American River Otter Latrine Survey**

Tyler Eads conducted a North American river otter survey on a portion of the Cahaba River outside of Birmingham located

on the Cahaba River National Wildlife Refuge. Little is known about the population of river otters within the state and this project aided in determining abundance of North American river otters within Alabama. During March and



April of 2017, Zoo staff from multiple disciplines conducted 10 separate surveys by kayak and walking shoreline. Evidence of latrine sites or other markings were documented via sighting and by trail cameras.

### Kelli Grigg, Animal Care Professional, Predators **OSCEOLA NATIONAL FOREST, FLORIDA**

#### **Red-Cockaded Woodpecker Translocation**

Kelli Grigg assisted a multidisciplinary team of biologists with the red-cockaded woodpecker (RCW) Translocation project in Osceola National Forest in Florida. RCWs are an endangered species in their longleaf pine ecosystem. Considered a keystone species, around 27 species of animals utilize the cavities they create in trees, making them vital to healthy species diversity of the forests they inhabit. Kelli assisted principal researcher

with locating and mapping nests, monitoring chick growth, banding birds and later translocating suitable birds from 2017 hatching to other habitats throughout their native region.



"I'm a Florida-native, born and raised, but through my PiCA grant, I got to experience the full richness of the state's biodiversity. Twelve-hour days in the Osceola National Forest meant I saw not only the red-cockaded woodpeckers I was there to help preserve, but also a vast array of mammals, reptiles, plants, and other bird species that call Florida 'home.' It gave me a whole new appreciation for my home state."

-Kelli Grigg

#### **Central & South America**

#### Emily Layman, Animal Care Professional, Programs **COSTA RICA**

#### Animal Rehabilitation at Toucan Rescue Ranch

Emily Layman traveled to Costa Rica and was able to share her talents and skills with the Toucan Rescue Ranch (TRR). TRR's mission is to rescue, rehabilitate and when possible, release Costa Rican wildlife. The ranch works with a model that focuses on conservation, education and research so a brighter tomorrow is promised to the incredible animals of Costa Rica's rainforests. Emily brought the relationship she developed with TRR back to the Zoo and started a conservation campaign of "One Can Save a Toucan" to continue to educate the public on conservation efforts during La Celebración, the Birmingham Zoo's Hispanic Heritage Celebration.

#### **Africa**

#### Travis Coty, Animal Care Professional, Predators **SOUTH AFRICA**

#### Research on Small African Felids

Travis Coty traveled to Karoo Cat Research and Cat Conservation Trust in Cradock, South Africa to participate in training and release programs for small African felids. 2017 marks Travis's third trip to work with researchers at Karoo Cat Research. This year's focus was on perfecting trail camera set up for photo documentation of black-footed cats in the area. Results from this trail camera survey will go toward development of identifying wild individuals by capturing better still images of black-footed cats.

"This year was the best experience I had with black-footed cats." We were actually following wild cats that were radio collared and I got to see six different kittens playing and hunting."

—Travis Coty

#### Amy Toman, Animal Care Professional, Trails of Africa **NAMIBIA**

#### Conserving Namibia's Desert Dwelling Giraffe

In November of 2017, Amy returned to Northwest Namibia, Africa, in the Kunene Region to team up for the second time with the Giraffe Conservation Foundation (GCF). She assisted with their project "Conserving Namibia's Desert Dwelling Giraffe." Amy was in the field with Emma Hart, a PhD student from University College Dublin, who coordinates the operation of the on-going field survey of the Angolan subspecies of Southern giraffe. This project is the first ever long-term ecological monitoring on a species or subspecies of giraffe. Since her initial trip in 2015 with GCF, giraffe species as a whole have been reclassified by the IUCN from "Least Concern" to "Vulnerable" based on the research and surveys completed by GCF. In addition to the reclassification of conservation status, GCF is also advocating for the reclassification of giraffe species to separate them from nine subspecies into four distinctly separate species based on their results of DNA analysis from biopsy darting.

### Chris Pfefferkorn, Senior Vice President Erin Miller, Animal Care Professional, Predators Kiki Nolen-Schmidt, Marketing Coordinator Jesse Daniel, Interpretation & Onsite Programs Manager **ZIMBABWE**

#### The Chipangali Large Carnivore Project

In 2017, four staff members from the Birmingham Zoo traveled to Zimbabwe to participate in the Chipangali Large Carnivore project. This project is a collaborative effort of researchers and the Chipangali Wildlife Orphanage near Matopos National Park. While there, Zoo staff participated in field research, including tracking brown hyenas and leopards, with two leopards and four brown hyenas collared during research period. Additionally, Jesse Daniel participated in Chipangali Wildlife Orphanage's enormously successful EPIC Kids program (Environmental Programs Involving Children). EPIC Kids teaches young people about conserving wildlife and appreciating the value of their natural heritage.

"Through this grant, I have met and connected with other Zoo employees from other departments, leaders in conservation, and have made connections literally all over the world. I also was able to travel to Zimbabwe where I received hands-on experience working directly towards conservation thanks to the Zoo."

-Kiki Nolen-Schmidt

#### **Asia**

# Bobbie Cavanaugh, Zoological Manager, Predators

#### **Red Panda and Asian Ecosystem Conservation**

In March of 2017, Bobbie Cavanaugh traveled to Nepal to work with the Red Panda Network (RPN). RPN is committed to the conservation of wild red pandas and their habitat through research, conservation and education, including empowerment of local villages through community-based research. While there, Bobbie assisted Forest Guardians in red panda surveys and habitat monitoring in western Nepal. In addition to field surveys, she also participated in community workshops focused on increasing conservation of red pandas.

Bobbie says a highlight of her trip was when they "got word from the Forest Guardians that they had found a red panda, so we headed off on a one-and-a-half-hour hike straight up the mountain. It was the hardest thing I have ever done and I was exhausted by time I got there. But the minute I saw the red panda with her young one up in the tree, the exhaustion melted away and I could only stand and stare in wonder."

#### Scott Kayser, Animal Care Professional, Predators **MONGOLIA**

#### Pallas' Cat Research and Conservation

In June, Scott Kayser, an Animal Care Professional in the Predator Department, traveled to Mongolia to work with Dr. Bariushaa Munkhtsog, one of the leading Pallas' cat researchers. Kayser assisted him and his team as they monitored the Pallas' cat population and conducted a study on kitten mortality. The



focus of the research conducted during his trip focused on the distribution and genetic diversity of Pallas' cats in Mongolia. Researchers set out trail cameras and collared Pallas' cats with satellite trackers.

"One of the first trail cameras we checked yielded our first image of a Pallas' cat. Truly an amazing moment on its own, however, as we continued scrolling through images, we discovered this Pallas' cat was a mother and had moved her litter of kittens into a den right in front of our trail camera. As we realized this meant there were Pallas' kittens feet from where we were reviewing the footage, we could hear the calls of the Pallas' kittens from the den. Such an incredibly exciting moment for myself and the researchers I was working with."

-Scott Kayser

# **Green Team Initiative**

The Birmingham Zoo's Green Team continued its initiative to "walk the walk" and be a leader in conservation in the Birmingham community. Three on-grounds clean up events were held, including one with the volunteer group Students Today Leaders Forever from the University of St. Thomas in St. Paul, MN. Over 25 bags of trash were removed from Zoo grounds, much of which had been blown off Highway 280. Zoo staff members also participated in a work day in the Birmingham Botanical Gardens by spending a few hours helping in the Kaul Wildflower Garden.

The Green Team encouraged all Zoo staff to get involved by continuing several recycling initiatives in the Zoo offices. These included the recycling of batteries and ink cartridges, as well as the "Turn Off the Lights" campaign, which encouraged staff to turn off lights in unused areas to conserve energy. In addition to getting Zoo staff to participate, the Green Team interacted with Zoo guests throughout the year. The team ran an "Extinction Graveyard" competition for Boo at the Zoo, where departments built models



of extinct animals out of recycled materials for display, and hosted a recycled wreath competition for ZooLight Safari. The public was invited to vote on their favorite displays for each event.

# SSP Species Survival Plans® Scaly Success in the Reptile Department

The Birmingham Zoo's Reptile Department can occasionally be a scary place for many people, particularly those who shy away from snakes, frogs or other scaly animals. However, the work that the Animal Care Professionals do in the Reptile Department is exceptionally important, especially through the SSPs in which the Zoo participates.

SSPs are used to manage species that are typically threatened or endangered by making recommendations to ensure the sustainability of a healthy and genetically diverse population of animals. Many of these SSP programs include species that urgently need to be conserved and protected in the wild. Several Zoo staff members serve as committee members, chairs and SSP coordinators for a variety of SSP species identified by the AZA. The Birmingham Zoo currently works with approximately 100 SSP species, including the Komodo dragon, crowned lemur, squirrel monkey, and over 50 species of birds.

Through SSPs, the Zoo performs vital work regarding the conservation of many reptile species. In 2017, the Zoo sent a



Coahulian box turtle to another institution in the hopes of breeding this critically endangered North American turtle species. In addition, the Zoo

hatched 17 bumblebee dart frogs which will also be sent to other AZA accredited institutions to aid in maintaining a genetically diverse population. Perhaps the most impressive success of the year came when Animal Care Professionals successfully hatched an extremely rare Home's hingeback tortoise.

Home's hingeback tortoises are a species native to Africa and make their homes in the forests and lowlands on the continent. They are a shy, omnivorous species and typically spend most of their time hiding throughout the day. The name "hingeback" refers to the unique hinge that runs along the upper ridge of their shell. These tortoises are the only species that have this band of flexible connective tissue, and they use it to be able to close themselves completely in their shells! This provides excellent protection from predators.

Currently, the species is listed as vulnerable by the IUCN. Because of their shy nature, accurate population numbers are hard to calculate, but it is estimated that the Home's hingeback tortoise has lost nearly 90% of its habitat in the last 40 years to deforestation and intensive harvesting. This little tortoise has also fallen victim to hunting for food, traditional medicines, and the international pet trade. In order to help stabilize the population of these tortoises in zoos around the country, the Birmingham Zoo has actively participated in the SSP. The Zoo hopes that by seeing this species in person and learning about its plight in the wild, many people will be called to action and donate to organizations dedicated to preserving the Home's hingeback tortoise. To donate to the Zoo, please visit www.birminghamzoo.com/donate.

# ZooRun 2017 — Miles for Marine Mammals

Runners from far and wide ran wild through the Zoo on May 20 for Zoo Run 2017, an annual 5K race with a looping course weaving in and out of the Zoo. Proceeds from this race, hosted by the Birmingham Chapter of the American Association of Zoo Keepers, benefitted the Marine Mammal Center (MMC). The MMC is a rescue and rehabilitation center based in Sausalito, California, that cares for injured or sickly marine mammals. The Zoo's own California sea lions, Giovanni and Farley, were stranded as young pups and were rescued by the Center in 2009. Besides rescuing and rehabilitating marine mammals, the MMC also does important research. Studies on cancer in sea lions have been applied to human cancer research, in studying the influence of exposure to carcinogens and the influence on cancer rates. Thanks to generous donors and just over 550 runners, including adults and children, the event was a success. The Zoo sent \$13,593.59 to the MMC to help fund their efforts to rescue marine mammals and further marine research.

## **Special Thanks** to ZooRun 2017 **Sponsors**

#### **Presenting Sponsors:**

The Trak Shak Covenant Classical Schools and Daycare



#### **Featured Partners:**

The Fitness Center La Vie Chiropractique ErgoScience Physical Therapy McKinney Capital/Landscape Workshop Nall-Daniels Animal Hospital



# Scientific Study

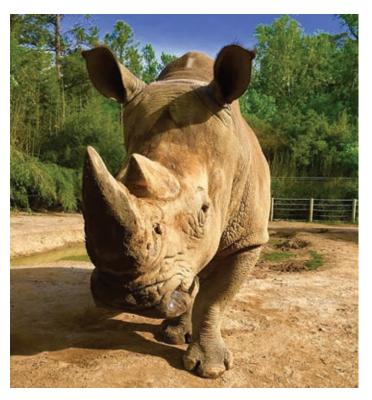
# **Specialized Health Care -**The Importance of Training

Caring for hundreds of individual species of animals at the Birmingham Zoo can be an overwhelming task, but Animal Care Professionals receive help from an unlikely source: the animals themselves! Training animals to participate in their own care is especially important because it decreases the stress animals are under when procedures have to be performed, improves their quality of life and provides both physical and mental stimulation throughout each day. Each animal species receives training according to their own needs, whether that includes presenting body parts for daily inspection or blood draw by Animal Care Professionals, or moving through doors, gates, or other passageways voluntarily. Each and every movement learned has a special purpose.

The Birmingham Zoo's double-wattled cassowary, Emil, has been famous for years due to being one of the first cassowaries trained to voluntarily enter a transport crate. Late in the fall of 2016, this husbandry behavior came back into the spotlight as Emil suffered from a prolapse and needed to be anesthetized for a procedure. The Bird Department and Animal Health Center staff worked together to safely anesthetize Emil using his crate training. The Zoo is happy to report that Emil healed well and is back to his normal self!

A major training accomplishment within the Trails of Africa (TOA) Department came in the form of working with the Zoo's female white rhinos to accept transrectal ultrasounds. The TOA team worked extensively with the Animal Health Center and SEZARC to synchronize the rhinos' estrous cycles in an effort to perform artificial insemination. During this process, Animal Care Professionals continued to habituate the females to various objects such as tables, wooden boards, and wheelbarrows. This work increased the rhinoceros' confidence in various situations and has also assisted staff in achieving better husbandry behaviors such as routine blood draws as well as horn and skin care. Unfortunately, since the insemination process has yet to be perfected, the window to inseminate was missed. A second attempt will be made in 2018.

In addition to working with the female white rhinos, the TOA team worked tirelessly with the male giraffe, Jalil, to train him to participate in hoof trimming and allow jugular blood draw. The Animal Health Center is now also able to take radiographs of Jalil's feet to determine where trimming needs to take place,



and the trimming itself is done using a variety of files, hoof knives, Dremels, and grinders. TOA staff members also made strides with the male hippopotamus, Tadpole, to allow his teeth to be trimmed. He previously showed disinterest in training sessions but he became eager for the attention in 2017 and actively participates. A training program was also started with the yellow-backed duiker, Dino, that allows staff to move him around his yard and engage him mentally. Over the course of the months since training began, he became more confident and interactive with all staff members. Kent Costell, an Animal Care Professional, successfully trained Bulwagi, the Zoo's oldest elephant, to voluntarily lay down on his side. This can be a very challenging task to take on with an older male elephant. Bulwagi is currently 36 years old but is still eager to train and learn new behaviors. Callee and Ajani both learned various new behaviors as well, including Callee's "wiggle" and Ajani's "kneel" which both serve as great forms of stretching and exercise.

The theme of training continued into the Junior League of Birmingham-Hugh Kaul Children's Zoo in 2017. Slim and Lenora, the Zoo's two North American river otters, began training in shared spaces with Animal Care Professionals. Until this year, the river otters were worked using "protected contact," meaning that a barrier was between trainer and animal at all times. This advanced training will enhance the ability of Animal Care Professionals to care for the river otters, who already know multiple husbandry behaviors such as voluntary injections, receiving eye drops, and ultrasounds. Animal Care Professionals have also been training the North American black bears, Bety and Sassy, for voluntary blood draws along with staff from the Animal Health Center. This new behavior combined with skills

they learned previously such as voluntary injections, voluntary tooth brushing, and body part presentations, will aid medical staff to provide high quality care to the sister bears.

The Birmingham Zoo is proud to continue providing excellent care for all its animal species. Training can help stimulate animals' minds and bodies, and helps Animal Care Professionals bond more closely with the animals they interact with daily. From sea lions to lions, red pandas to elephants, animals at the Zoo train daily to help make their healthcare as efficient and stress-free as possible.

### **Animal Health Center**

The Birmingham Zoo now employs two board-certified Zoo veterinarians. Dr. Stephanie McCain, DVM, Dipl ACZM, the Birmingham Zoo's Director of Animal Health, was awarded Diplomate status in 2012. Dr. Richard Sim, DVM, the Birmingham Zoo's Associate Veterinarian, was recently named a Diplomate of the American College of Zoological Medicine (ACZM). This board certification exemplifies our commitment to the highest standards for the care of the Zoo's animals. Established in 1983, the ACZM is an international specialty organization recognized by the American Veterinary Medical Association (AVMA) for certification of veterinarians with special expertise in zoological medicine. To be eligible to take the test, veterinarians must have six years of zoo work experience and five first author publications. The test required over 1,200 hours of preparation and historically has a very low first-time pass rate. It is a two-day process that tests all aspects of health for free-ranging wildlife and those in human care including birds, reptiles, mammals,







amphibians, fish and even insects. After passing all the required sections of the exam, the veterinarian is recognized as a Diplomate of the ACZM, or in other words, is board certified in zoological medicine.

#### A FIRST FOR ORANGUTANS

Oliver, the 37-year-old male Sumatran orangutan at the Birmingham Zoo, underwent a successful procedure in 2017 to further assess a heart arrhythmia and to place a remote cardiac monitoring device under his skin. This is the first time this procedure has been performed in an orangutan anywhere in the world.

First diagnosed with heart disease in 2015, Oliver has been on medication for the last two years. During a recent routine cardiac ultrasound, he was noted to have an irregular heartbeat. To determine if these irregular beats were a significant problem for Oliver, the Zoo's veterinarians needed further information, and contacted the Great Ape Heart Project (GAHP) based at Zoo Atlanta to assist with the placement of an insertable loop recorder (ILR). An ILR is a small insertable device that continuously monitors heart electrical signals and records them. ILRs are routinely used in people and the GAHP has experience placing these devices in chimpanzees and gorillas. This device allows the Veterinary Staff to remotely monitor Oliver for an arrhythmia through a Bluetooth connection.

Oliver was anesthetized by the Zoo's veterinarians for the exam and procedure. Bobbie Boyd, RN, RDMS, RDCS, ultrasound advisor for the GAHP, performed a complete echocardiographic examination. Dr. Yung Lau, MD, a pediatric cardiologist working with both the University of Alabama at Birmingham and Children's of Alabama, attended the procedure, and recommended small changes to Oliver's cardiac medications based on the evaluation, but overall Oliver's cardiac function was good. Dr. Ilana Kutinsky, MD, FACC, cardiac advisor for the GAHP, placed the implant under Oliver's skin on the left side of his chest. The ILR is smaller than a AAA-battery, and placement required a small incision in his skin.

Dr. Yung Lau has assisted the Zoo with cardiac evaluations in apes in the past and coordinated the donation of the ILR from the manufacturer, Medtronic. Jennifer Poirier, sales representative for Medtronic, brought the device to the procedure and activated it after placement to ensure it was functioning properly. Use of the ILR over the next few years will enable the Zoo's veterinarians to fully monitor another aspect of Oliver's health.

"The success of this procedure was due to a collaboration between multiple individuals and organizations" says Stephanie McCain, DVM, Dipl ACZM, Director of Animal Health for the Birmingham Zoo. "We could not have done this without the help of all of these people and the Great Ape Heart Project."

#### AN UPDATE ON KUMAR, THE MALAYAN TIGER

The Birmingham Zoo's beloved Malayan tiger, Kumar, was diagnosed with cancer in late March. In the routine daily physical assessment of Kumar, the Zoo's Animal Care Professionals noticed a raised area near Kumar's right hip. Using trained husbandry behaviors, the Animal Care Professionals worked with Kumar to have him present his hip close enough to the safety mesh to allow the Zoo's veterinarians to perform a needle biopsy. This sample was sent to a lab for analysis and unfortunately, the sample showed that Kumar had a malignant sarcoma, a type of cancer that invades the soft tissues.

Kumar underwent a procedure on April 4, 2017 to remove the tumor, and to have a complete physical performed. During the procedure, Kumar had chest radiographs and an abdominal ultrasound performed, which did not show any evidence of the cancer having spread to the other organs. Once that was determined, the Zoo's veterinarians proceeded to surgically remove the tumor on Kumar's right hip. Wide margins around the tumor were necessary to ensure removal of all of the affected soft tissue. This left a large main incision which required multiple smaller incisions on either side to alleviate pressure on the main incision

The tumor was sent off for evaluation to assess if all the cancerous tissue was removed. The histopathology results showed that the Veterinary team was successful in excising the entire tumor. The Zoo also had a special vaccine made that targeted any remaining tumor cells in the body. This is a novel technique in veterinary medicine. The Zoo is happy to report that Kumar has no evidence of tumor recurrence at this time, however, during his follow-up care he was found to have kidney insufficiency. This is very common in geriatric cats, both domestic and exotic. Kumar is on several medications to help manage the disease, however there is no cure. The Zoo's veterinary staff is regularly monitoring his kidney levels and his dedicated Animal Care Professionals keep a close eye on his appetite and behavior.



Footnote: Unfortunately, Kumar's health and quality of life declined rapidly in early 2018 and he was humanely euthanized in March 2018.

#### **TOTAL SPECIES BY CLASSIFICATION -**AS OF DECEMBER 31, 2017

CLASSIFICATION	NUMBER OF SPECIES	NUMBER OF INDIVIDUALS
Fish and Invertebrates	7	63
Amphibians	10	45
Reptiles	52	118
Birds	87	301
Mammals	55	129
TOTAL	211	656

# Community Involvement

### **Sensory Friendly Initiatives**

The Birmingham Zoo continues to be recognized as a leader in the Zoo industry as it relates to the Sensory Inclusive Zoo Initiative (SIZI). As the Zoo entered the fourth year of this

groundbreaking initiative, institutions from across the nation have followed in Birmingham's footsteps to create a more inclusive environment for guests with sensory needs. Over the past year, the Phoenix Zoo and Akron Zoo have joined with Birmingham Zoo and KultureCity, a local nonprofit with the mission to inspire the community to join



in creating a world where autistic individuals can be accepted, to launch the Sensory Inclusive Zoo Initiative and several other AZA-accredited institutions are slated to launch in 2018.

Over the past few years, the Sensory Friendly Zoo Initiative has staff training, Sensory Bags, weighted lap pads, Quiet Zones and Headphone Zones integrated into the Birmingham Zoo. Families have come to rely on these efforts to have an inclusive experience. Special Saturdays, the newest program related to the SIZI was launched in the spring of 2017. Funded by an anonymous donor, this program is a series of Zoobased learning experiences for individuals, ages eight and up, with cognitive or physical disabilities whose opportunities for engagement in community programs might otherwise be limited. Caregivers attended classes with participants to provide behavioral support and meet a child's specific needs. Through an ongoing partnership with KultureCity, each Special Saturdays class was designed with the unique learning needs of this population in mind. Using evidence-based teaching and sensory strategies, the Zoo hopes to provide a fun and engaging educational experience that will benefit all participants. Classes continue to be held on the second Saturday of each month and are offered to participants at no additional charge.

In July, the Birmingham Zoo partnered with KultureCity to host Dr. Temple Grandin and Mr. Grant Manier for a discussion and book signing. Dr. Grandin is a leading advocate in the autism community and world-renowned animal behaviorist. Grant Manier, a mentee of Dr. Grandin, is an up and coming artist and autism advocate. The event was an official launch of Grant's book, Grant, the Jigsaw Giraffe — Different is MORE!, a story of a young giraffe born 'different', but who follows his passion despite his challenges. Over 300 individuals attended the presentation.

In September, Dr. Michelle Kong, cofounder of KultureCity, and the team from KultureCity published an article entitled, "A Community-Based Sensory Training Program Leads to Improved Experience at a Local Zoo for Children with Sensory Challenges" in the international medical journal Frontiers in Pediatrics. The article documents the initial research phase of the Birmingham Zoo's Sensory Friendly Zoo Initiative. In October, the Zoo hosted its fourth annual Special Needs Spooktacular - a sensory inclusive night held during Boo at the Zoo Presented by Wells Fargo with over 500 individuals in attendance. Due to the growing popularity of this event, the Zoo also launched its first annual Sensory Inclusive Preview Night during ZooLight Safari Presented by Wells Fargo in December with over 400 in attendance.

# **Onsite Messaging and Interpretation**— **Improving the Guest Experience**

In addition to implementing new programs and experiences for guests to enjoy, the Onsite Interpretation area of the Education Department formed new partnerships with organizations outside the institution to bolster the work the Zoo does for wild animals and wild places.

In order to help create cohesive messaging across all the Zoo's programs and departments, all Education staff participated in ROADMAP (Reaching Our Audiences by Developing Mission Aligned Programs) Guest Interaction Guide and Program Development Process training. ROADMAP outlines have begun to be incorporated in all Education curriculum development.

The Onsite Interpretation Manager was a part of the development team for the gorilla/mandrill habitat renovation to prepare for the arrival of Khan, a young jaguar from Jacksonville Zoo. This team included staff from Marketing, Development, Animal Departments, Education, and Senior Staff. This group produced a charrette, a small model, with three main ideas for the habitat that will be used to develop the surrounding "Giants of the Amazon" habitat to include giant anteater and giant river otters.

The Zoo's Education Department continued to bolster the on-grounds staff presence with a Zoo Guide training series that sought to increase the numbers of volunteers on-grounds each day. With the exception of October and December, at least one of the Zoo Guide training sessions (Trails of Africa, South America, or Reptiles) was offered monthly in 2017. Volunteers



logged 157 hours in Trails of Africa ZooGuide training, 184 hours in South America/Jaguar Zoo Guide training, and almost 30 hours in Reptile ZooGuide training. ROADMAP Guest Interaction Guide training saw 330 hours logged by volunteers.

To help strengthen the on-grounds messaging that supports the Zoo's partnership with the Chipanagli Wildlife Orphanage in Zimbabwe, Onsite Interpretation Manager, Jesse Daniel, traveled to Zimbabwe with PiCA recipients, Kiki Nolen-Schmidt and Erin Miller, as well as Senior Vice President Chris Pfefferkorn. During this trip, Jesse worked with the Environmental Programs Involving Children (EPIC) program, both onsite at Chipangali and off-site at local schools, to introduce local residents to some of the native wildlife that share their home. He also worked with the Carnivore Conservation Institute to track leopards and hyenas in the Matopos Hills region of Zimbabwe. The information gathered during this trip will strengthen the stories that staff and volunteers are sharing about research done in the field at the Chipangali Research Station here at the Zoo.

The Education and Animal Departments launched new Behind the Scenes Tours and Experiences that allow guests to get up close and personal with resident animals and the places they call home. The initial launch of the program was a great collaboration between the departments. Changes were made throughout the year to test the popularity of the program. In the winter of 2017, a new program draft was put in to motion to continue building this program in 2018.

Coinciding with Boo at the Zoo Presented by Wells Fargo in the fall of 2017, a new experience called BooSnooze was added to the Zoo's Nightlife program. The BooSnooze program included admission to Boo at the Zoo Presented by Wells Fargo, a personalized hayride and night walk through Alabama Wilds, pumpkin carving and unprecedented access to the elephant habitat. This program was a huge success and the Zoo plans to add multiple dates to the program in 2018. Kid's Day Out, a day camp for school holidays, was very successful in 2017. A Columbus Day and Veterans Day camp was also offered, serving 64 campers. Wee Ones on Wednesdays was implemented to

coincide with early openings for members on Wednesdays. These free, drop-in activities included nature play, animal programs demonstrations, and treks into the Zoo that focused on different topics each day. During the 12 dates offered, over 200 guests were served, with attendance increasing each week.

### Animal Programs — Bringing the Zoo to You!

One of the biggest highlights of 2017 for the Programs Department occurred when the City of Birmingham was chosen to host the Davis Cup, a premier international team event for men's tennis. The Zoo hosted both the U.S. and Swiss men's tennis teams for the day, and Birmingham Bill, the Zoo's groundhog from the Animal Programs Department, was part of the draw ceremony. In addition to his regular duties on Groundhog Day, Bill also selected the order of the match for the Davis Cup. Birmingham Bill made national and international news headlines!



Zoo to You, an outreach program in which Zoo animals visit off-site locations, participated in numerous events such as: Hoover Days, Breakin' Bread, and the District 1 Music & Movie Festival. The Programs Department collaborated with Fiesta and The Birmingham Museum of Art to celebrate in Hispanic Heritage Festivals, as well as the Zoo's own La Celebración event. Animal Programs staff members were also guest lecturers to the University of Alabama at Birmingham's Animal Behavior class. Zoo to You reached approximately 3,000 people in 2017, and animal programs were presented to more than 6,800 students on the grounds of the Zoo in conjunction with the Zoo School, Zoo Snoozes, Twilight Tours, camps and animal education programs.

Several outreach initiatives continued throughout 2017. The Birmingham Zoo continued to visit Children's of Alabama twice each month to present animal demonstrations for the young patients and their families. Zoo staff presentations were televised via closed circuit television at the hospital at each visit, so each child was able to see the animals, even if they were unable to visit in person.

The Zoo's Wildlife Show was themed in the summer to coincide with the construction of Henley Park. The staff performed "Animals at Work." Audiences learned how animals impact the environment they live in and become construction workers in their own habitats. The audience also learned how they can help their environment. In October, the Animal Programs department performed a second year of the Star Wars: A New Boo wild life show. The show was a huge success in 2016, and the department continued to perform three shows each night at Wells Fargo Boo at the Zoo to accommodate the demand. Collaboration from the Animal Programs, Junior League of Birmingham-Hugh Kaul Children's Zoo, Predators and Reptiles Departments was integral to the performance of a successful show. To create a larger on-grounds presence, the Programs Department increased their animal greetings at various creature carts, animal walks and training sessions in Henley Park. Nearly 7,000 guests were reached this year through these "pop up" greetings.

The Department acquired several new ambassador animals this year. An Eurasian eagle owl and Harris hawk were brought in to increase the number of species represented in the Zoo's wildlife shows and add the element of free flight into the experience. A lesser Madagascar hedgehog tenrec and a three-banded armadillo were also introduced to enhance the Education and Animal Ambassador meet and greet collection. Sadly, the Zoo had to say goodbye to an older ambassador ferret, but two young ferrets were added to the department as well.



### **Dream Night**

The Birmingham Zoo welcomes Children's of Alabama's patients and families to the Zoo throughout the year. In addition, each spring, the Zoo closes to the public for one night and reopens for Dream Night at the Zoo — a special night just for Children's patients and their families.

The Zoo hosts this amazing event for families of children who have special health care needs and are treated at Children's of Alabama. It is an exclusive evening at the Zoo where children with chronic health conditions such as cerebral palsy, spina bifida and developmental conditions can enjoy the full Zoo experience, along with their families, free of charge and without concern for social stigma, accessibility or cost. All the exhibits and ride attractions are open. Special activities and presentations give the children a unique and memorable experience, including: animal interviews, Animal Care Professional talks, animal enrichment demonstrations, face painting, live music, a buffet dinner and more. Zoo employees, including Animal Care Professionals, grounds and maintenance crews and administrative personnel have volunteered their time to staff the event, as have nurses, doctors and other staff from Children's of Alabama.

# Notable Events

### Tails in the Trails Presented by **Zekelman Industries**

Tails in the Trails 2017 soared into the record books as the highest-grossing Tails in the Trails in the event's history. On April 28, 2017, the Birmingham Zoo's Junior Board hosted the party, complete with food from Happy Catering Company, a bar featuring Cathead Vodka, live music by Gentleman Zero and a brand-new online auction. A total of \$93,464 was raised through corporate sponsorships, donations and auction purchases. These proceeds were designated for the Zoo's new golden eagle habitat which will be constructed on the Alabama Wilds area of the Junior League of Birmingham-Hugh Kaul Children's Zoo.





### Zoo, Brews & Full Moon Bar-B-Que

On June 17, the Zoo once again played host for the Third Annual Zoo, Brews & Full Moon Bar-B-Que. Guests enjoyed food from the "Best Little Pork House in Alabama" and listened to live music by Park Band as they sampled a selection of drinks from breweries located throughout Alabama and the southeast. Attendees were also treated to a special Avian Adventure Free Flight Bird Show, access to Pirates on the Red Diamond Express train ride, animal greetings and walkabouts and special kids' activities.

## **Avian Adventure Free-Flight Bird Show**

From June 18 to July 4, the Schaeffer Eye Center Wildlife Stage was the scene for a one-of-a-kind free-flight bird show. Audiences were delighted by this up-close experience that featured a variety of charismatic bird species exhibiting natural behaviors. Colorful macaws, hornbills and owls swooped overhead, flew high above, dramatically returned on cue and posed gracefully for photos. The show was offered free to all Zoo visitors.



# Notable Events

### ZooGala 2017, Mambo with the Macaws -**Presented by IBERIABANK**

ZooGala, presented by IBERIABANK, leapt into the record books in 2017, grossing a best-ever \$402,000. IBERIABANK sponsored the event for the eighth year in a row. Proceeds aided the Zoo with expenses and operating costs. Funds raised by ZooGala are critical



to maintaining the Zoo's high standard of animal care. ZooGala 2017 was a Caribbean-themed event dubbed "Mambo with the Macaws," and was punctuated by thrilling entertainment including flame throwers and live music by Atlanta Steel Pan and Island Music Trio and The Main Attraction. The Chairs were Kelly Aland, Myla Calhoun, and Britt Redden. Honorary Chairs were Kelly and Lee J. Styslinger III. The occasion was catered by Kathy G. & Company and featured a necklace giveaway by Empire Diamond Corporation. An online auction was also held and included exciting travel opportunities, artwork, jewelry, fine wine and dining packages. Additionally, a wine pull was hugely successful, raising funds for the Zoo's PiCA grants program.





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### Boo at the Zoo and **ZooLight Safari Presented by Wells Fargo**

Boo at the Zoo and ZooLight Safari were presented by Wells Fargo for the seventh consecutive year in 2017. For 12 nights in October, the Birmingham Zoo once again transformed into a spooky wonderland full of attractions for families of all ages. New this year, guests were invited to experience the excitement of the all-new Red Mountain Theatre Company Haunted Hayride & Tour in addition to games, strolling characters, Ghoul School and live music every night by Feel the Beat Entertainment at the Monster Mash dance party under the Safari Peak. At the research station, Animal Care Professionals staffed a drop-in Education Station promoting bat conservation and their benefits to the environment. Visitors participated in bat-themed crafts and interacted with biofacts.

In December, ZooLight Safari sparkled as guests strolled through over one million lights. Each night of ZooLight Safari featured performances by the Singing Santa, as well as annual favorites like the Jingle Bell Carousel, Yuletide Slide and Santa's Roller Racers.





# Development Report

The Development Department works to ensure that the Zoo has funding needed to care for its animal collection and its mission to engage the public. In addition to obtaining sponsorships for major Zoo events and programs, the department secured additional sponsorships. Shipt Grocery Delivery was the presenting sponsor of Pirates, the water conservation-focused exhibit, and DC Scientific Pest Control was the featured sponsor. Jaguar of Birmingham sponsored the new jaguar habitat, and RealtySouth renewed their commitment to the Zoo through their official map sponsorship.

The Birmingham Zoo received a Platinum Seal of Transparency from Guidestar, one of the first central sources of information on U.S.



GUIDESTAR

nonprofits and the world's largest source of information on nonprofit organizations. The Zoo also

received a 4-Star ranking for the fifth consecutive year by Charity Navigator and is one of only eight non-profits in the Birmingham metro area to receive this distinction. Additionally, the Zoo is now one of only six zoos or aquariums accredited by AZA in the United States to receive this award for the last five review years.

of the founding fathers of the City of Birmingham. Arthur was instrumental in the formation of the public-private 501(c)3 status of the Birmingham Zoo in 1999, and the Zoo was proud to honor him with the naming of this park. A celebration was held in early September, and major supporters of the park and friends of the Zoo were recognized.

The new park will be used for a variety of events throughout each year, including rentals for private gatherings and large events such as Zoo, Brews & Full Moon Bar-B-Que, as well as daily access for Zoo guests. In April, Alabama Power executive, Jonathan K. Porter, Vice President, Birmingham Division, visited the Zoo to observe the construction site and present Zoo officials with a check. The Alabama Power Foundation awarded a grant to the Birmingham Zoo's Renew the Zoo Capital Campaign for the Phase 1 portion of the capital project, which includes the Henley Park event lawn. Other major supporters of Henley Park include the Linn-Henley Charitable Trust, the Community Foundation of Greater Birmingham, Medical Properties Trust, the Mike and Gillian Goodrich Charitable Foundation, ADTRAN, CS Beatty Construction and the Walker Area Community Foundation.

## Renew the Zoo — **A Capital Campaign Update**

As of December 31, 2017, the Birmingham Zoo's Renew the Zoo campaign raised \$18.2 million, exceeding its increased goal. Though the goal was officially reached, the Birmingham Zoo will continue to push for more funds for the project until construction is completed.

Progress on the capital campaign was highlighted by the grand opening of the Henley Park event lawn. This central park is named after Arthur C. P. Henley, the fourth great-grandson of Charles Linn and third great-grandson of John C. Henley, Sr., two







# Thanks to Our 2017 Donors

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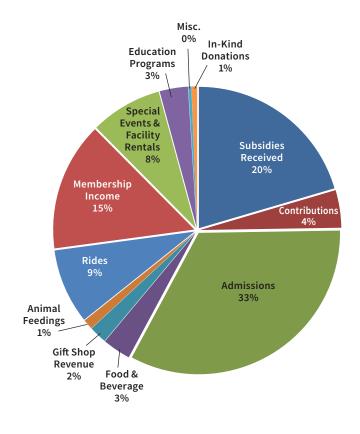
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# Financial Report



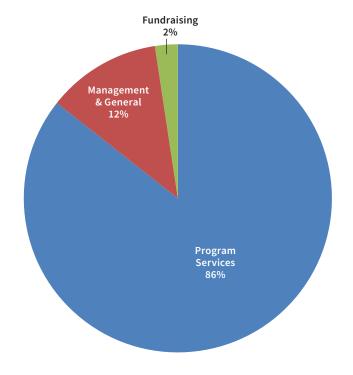
#### STATEMENT OF ACTIVITIES

#### **UNRESTRICTED NET ASSETS Support and Revenues**

Subsidies Received	\$ 2,151,500	20%
Contributions	\$ 452,227	4%
Admissions	\$ 3,484,037	33%
Food & Beverage	\$ 340,345	3%
Gift Shop Revenue	\$ 214,179	2%
Animal Feedings	\$ 122,576	1%
Rides	\$ 903,423	9%
Membership Income	\$ 1,547,570	15%
Special Events & Facility Rentals	\$ 863,215	8%
Education Programs	\$ 340,324	3%
Miscellaneous	\$ 37,199	0%
In-Kind Donations	\$ 67,794	1%
	\$ 10,524,389	
Assets Released from Restriction	\$ 3,891,472	
Total Support and Revenue	\$ 14,415,861	

86% 12%

2%



#### **Expenses**

Program Services	\$ 10,916,965
Management & General	\$ 1,529,071
Fundraising	\$ 304,008
Total Expenses	\$ 12,750,044
Increase in Unrestricted Net Assets	\$ 1,665,817
TEMPORARILY RESTRICTED NET ASSETS	
Contributions	\$ 9,423,949
In-Kind Donations	\$ -
Assets released from restriction	\$ (3,891,472)
Decrease in Temporarily Restricted Net Assets	\$ 5,532,477
Increase in Net Assets	\$ 7,198,294
Net Assets at Beginning of Year	\$ 31,058,040
Net Assets at End of Year	\$ 38,256,334

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