



SPRING/SUMMER 2021

LINCOLN PARK ZOO

FOR WILDLIFE. FOR ALL.



Looking Forward

Caring for chimpanzees,
creating an inclusive place for all,
matchmaking at the zoo, & more

FEATURES

The Complexities of Care / 8

When Regenstein Center for African Apes reopens, guests might spot new combinations of chimpanzees on any given day—including individuals who usually thrive behind the scenes. Discover the art and science behind creating chimpanzee group combinations.

A Zoo for Everyone / 12

Lincoln Park Zoo is committed to creating an environment that is welcoming and inclusive to all. Learn about the zoo's recent accessibility and inclusion initiatives, as well as what is on the horizon for inclusivity at the zoo.

Matchmaker, Make Me a Match / 14

The Association of Zoos and Aquariums (AZA) Population Management Center (PMC) is a scientific team based at Lincoln Park Zoo. These scientists are known as the matchmakers of the animal world. Give it a try and see if your matchmaking skills are up to par.

Our Impact Depends on You

Who funds Lincoln Park Zoo? You do! Zoo members, donors, and visitors help cover around 80% of our annual operating costs to keep this nonprofit, privately managed institution open and free every day and support its mission of wildlife conservation, animal care, and learning. Support the zoo at lpzoo.org/donate.



DEPARTMENTS

Perspective / 3

Wild File / 4

The Price of Extinction / 5

Green Scene / 19

Zoo Family Album / 20

Field Note / 21

*Cover: Victoria crowned pigeon
Photo by Chris Bijalba*

**LINCOLN PARK ZOO
MAGAZINE**

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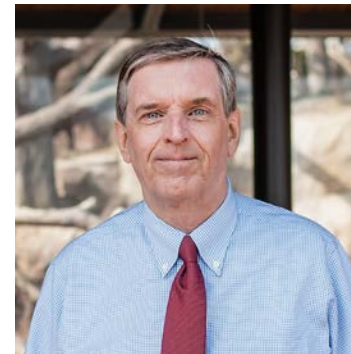
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Our Gratitude, by the Numbers

It's hard to believe that more than a year ago Lincoln Park Zoo closed our gates to help mitigate the spread of COVID-19. The challenges of the last year have been new and abundant, but so have the opportunities. And, perhaps most importantly, so has the support.

With COVID-19 guidelines in place and our on-grounds capacity limited, we have been humbled and honored by how strongly our community has shown up for us. While we're not out of the proverbial woods yet, we are cautiously optimistic that with your support we will continue a strong recovery. In our last fiscal year, you supported the zoo with:

- More than 2,100 new members, together contributing more than \$220,000 to support the zoo staying free and open (once again!)
- 177 new Wish List supporters generating nearly \$10,000 so animals could enjoy special food and enrichment items
- Almost 500 new participants in the ADOPT program providing some \$35,000 to support the critical work we do to care for animals every day
- Approximately \$70,000 in donations from our member preview weekend and "Beers & Bears" reopening weekend hosted by the Auxiliary Board to help the zoo start back strong

We marked another big milestone in 2020, as well: Our volunteer program celebrated its 50th anniversary (and, believe it or not, we have a volunteer or two who have been with us for most of that time!). Despite being closed for 15 weeks in 2020, total volunteer hours added up to 12,062, which translates to a value of around \$328,000 to the zoo. In such a difficult financial landscape, this support is essential. Volunteers—not just this year, but every year—help us monitor animal behavior, build animal enrichment, provide information to guests, groom our gardens, support education, and monitor operations to ensure a great guest experience. Happy anniversary to the volunteer program and to all our wonderful volunteers!

We are so excited to be open again and seeing smiling families on zoo grounds. We remain dedicated to guest safety and are keeping a close eye on city and state COVID-19 regulations. And as we continue to evolve and reopen, we do so with a refreshed understanding of just how lucky we are to have you as part of our zoo family.

For Wildlife. For All. ■

KEVIN J. BELL
PRESIDENT AND CEO

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BY SABRINA CYNOVA

New Chick on the Block

There's a new chick on the block at Regenstein African Journey.

African spoonbills Luke and Annabelle welcomed their second offspring amid the zoo's temporary winter closure. On January 22, a healthy male chick hatched as part of the African Spoonbill Species Survival Plan®.

"African spoonbill chicks grow quite fast, with the chick becoming full grown and ready to leave the nest in about just six weeks," says Curator of Mammals Mike Murray. "It's extraordinary watching the chick grow in size and strength."

The zoo looked to its members and the general public to help name the feathery addition through a special contest. After Lincoln Park Zoo members submitted unique names and Animal Care staff narrowed down the list to their five favorites, more than 1,300 participants voted on the final name.

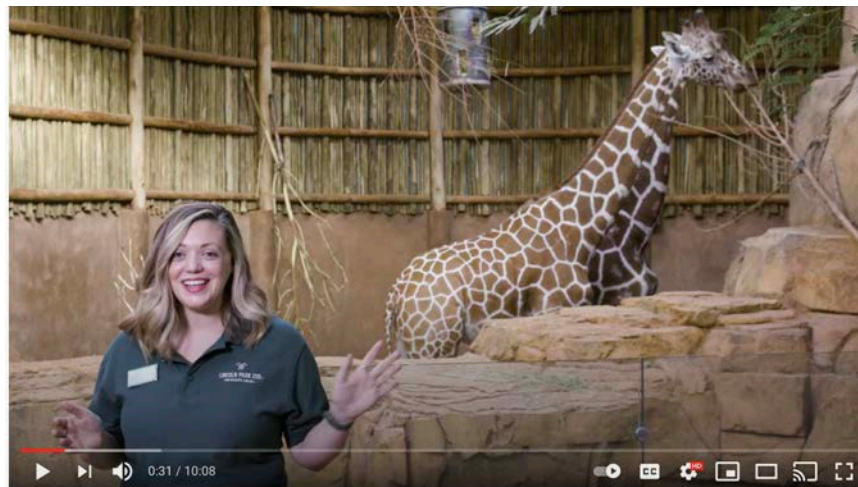
The African spoonbill chick received the name Kijiko (kee-jee-ko), the translation of "spoon" in Swahili.



Photo by Chris Bijalba

50th Anniversary of Volunteer Services

The zoo's Volunteer Services celebrates its 50th anniversary this year. Thank you to the zoo's dedicated volunteers that help further Lincoln Park Zoo's mission of connecting people with nature. Volunteer Services is proud to work with more than 300 devoted volunteers. Despite the zoo being closed in 2020 due to the global pandemic, hard-working volunteers still managed to donate 12,062 hours of time!



Staying Connected

Throughout the zoo's temporary "hibernation" from January–March, Lincoln Park Zoo launched an interactive video series: Stay Tuned to the Zoo. New episodes aired every Tuesday and Thursday on the zoo's YouTube channel, bringing the zoo to animal lovers across Chicago and beyond. From discovering how the zoo cares for the western lowland gorillas at Regenstein Center for African Apes to learning about enrichment of all sorts, viewers received an inside look at the zoo's world-class animal care.



Photo by Chris Bijalba



Photo by Chris Bijalba

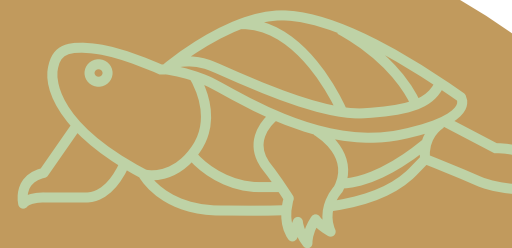
Additions of All Shapes and Sizes

Lincoln Park Zoo remained an urban oasis teeming with life. At Kovler Seal Pool, Jersey, a female grey seal, joined fellow grey seal Charles and harbor seals Slater and Storm. She can be spotted bonding with her fellow pool mates. Over at Regenstein African Journey, two female African painted dogs became companions for resident painted dog Mikumi. The sisters, Georgia and Frida, are quite the inquisitive pair and immediately bonded with Mikumi.

Various bird species also arrived at the zoo. The African penguin colony at Robert and Mayari Pritzker Penguin Cove increased by three (see page 6). At McCormick Bird House, a male Victoria crowned pigeon joined the free-flight area (see cover). This species hasn't resided at Lincoln Park Zoo since the 1980s. And a female hadada ibis now resides in the wetlands area.



Photo by Chris Bijalba



Act Today to Ensure Wildlife Thrives Tomorrow

You can help ensure Lincoln Park Zoo remains free and open to all and support the zoo's expert animal care, learning initiatives, and global conservation efforts by including a future gift for the zoo in your estate plans.

Simple ways to make a big impact include giving through a will or trust, or naming the zoo as a beneficiary of your IRA or life insurance policy.

To learn more, or to let us know you have already included the zoo in your plans, call 312-742-9570 or email heritagesociety@lpzoo.org.

A Spotlight on Turtles

The Blanding’s turtles, spotted turtles, wood turtles, and mid-land painted turtles at Pritzker Family Children’s Zoo are basking in the warmth of new ultraviolet (UV) lights.

These cold-blooded turtles, like most reptiles, require UV rays in order to thermoregulate their body temperature. In the wild, they would simply bask in the sunlight. At Lincoln Park Zoo, Animal Care staff designed the original habitat with multiple UV lights throughout the terrestrial portion of their space.

However, the zoo’s Animal Care staff is constantly evaluating and enhancing welfare—looking for new opportunities to improve care and then making those adjustments to improve quality of life. According to Dan Boehm, the curator of Children’s Zoo and two other areas, staff recently identified that the turtles couldn’t bask in the aquatic portion of their habitat, which covered half the space.

Enter Lincoln Park Zoo and Heritage Society member Dr. Marilyn Ezri, who funded the installation of UV lights overtop the habitat’s waterways, more than doubling basking opportunities and providing the turtles with more choice. According to Boehm, the turtles immediately began basking in these new spaces and even basking on the same logs, a common behavior in the wild for all four species.

“This is exactly what you want to see when we make improvements,” Boehm says. “There’s a lot of science and evaluation and follow-up that goes into all of these decisions, and this was truly a team effort between Children’s Zoo staff and our animal welfare scientists.”



Photo by Chris Bijalba



Photo by Chris Bijalba

A Cool Colony

Waddle you know? Three new female African penguins have joined the colony at Robert and Mayari Pritzker Penguin Cove, bringing the total to 21 penguins. The three new arrivals–Nessi, Rosie, and Luna–have completely integrated into the colony.

With additional flippers comes new pairs and budding romances.

Oliver, the first chick raised at the zoo, and Luna are a new pair. They have claimed a nestbox and have been spotted building a nest together.

Cecil, another chick that hatched at the zoo in 2018, and Rosie spend quite a bit of time together. Animal Care staff do not know if the two are officially a pair quite yet, but they are often spotted side by side.

Aje and Nessi enjoy spending time with one another and are often seen swimming together in the morning. Although not a true pair yet, only time will tell.

Be sure to stop by Robert and Mayari Pritzker Penguin Cove to catch them in action. Feathers are bound to fly with this colony of 21 bright-eyed birds. In the meantime, learn how to identify each penguin by band color with this chart.

Penguin Band Colors



Madiba

Aiden.....	Blue/Pink
Aje.....	Teal
Cecil.....	Pink/Black
Dudley.....	Orange
Erik.....	Blue
Harvey.....	Blue/Yellow
Lesedi.....	White/Gray
Liam.....	Green/Purple
Luna.....	Pink/Purple
Madiba.....	Red
Mandela.....	Green
Maria.....	Orange/Red
Maynard.....	Blue/Black
Nessi.....	Orange/Green
Oliver.....	Yellow/Brown
Phil.....	Orange/Yellow
Pilchard.....	Purple
Preston.....	White
Sunny.....	Pink
TJ.....	Black
Rosie.....	Red/White

Photo by Julia Fuller



Photo by Chris Bijalba

The Price of Extinction

BY BETH KRAUSS

There are more than 30 endangered species in Lincoln Park Zoo’s care, from Jamaican iguanas to polar bears. This spring, Lincoln Park Zoo is teaming up with brand powerhouse Energy BBDO’s Chicago team* to invite zoo guests and supporters to pay a small price and help change their picture.

The Price of Extinction is a new campaign that arrives to zoo grounds and digital media on Earth Day, April 22. Guests can purchase an artful zoo “pass” in honor of their favorite of five species: polar bear, Jamaican iguana, African penguin, western lowland gorilla, or eastern black rhinoceros. The price of each collectible pass is determined by an algorithm based on the amount of time the species has spent on the IUCN Red List—the definitive, science-based evaluation source of a species’ endangered status. Each pass lets people interactively “take away the threat” and features hand-drawn art by illustrator Chiara Vercesi alongside compelling facts about threats facing the species, as well as ways guests can Take Action With Us to save them.

The zoo’s goal, together with Energy BBDO, is to connect the experience of viewing endangered animals to helping them survive—and to illustrate how the longer we wait to save species, the more likely they are to become extinct, and the more it costs us to bring them back from the brink.

Guests can make a donation to get their pass at the zoo’s Gift Shop or online at shop.lpzoo.org.

For more information, visit lpzoo.org/takeaction.

**Energy BBDO donated their time and creative services to Lincoln Park Zoo for this campaign as part of their commitments to environmental conservation and supporting local nonprofit organizations. We at Lincoln Park Zoo are so grateful to Energy BBDO for their partnership and contribution, and we hope you like this campaign as much as we do!*



Polar Bear: \$9.50
38 years on the IUCN Red List
Status: Vulnerable



African Penguin: \$15
30 years on the IUCN Red List
Status: Endangered



Eastern Black Rhinoceros: \$30
20 years on the IUCN Red List
Status: Critically Endangered



Western Lowland Gorilla: \$33
34 years on the IUCN Red List
Status: Critically Endangered



Jamaican Iguana: \$42
30 years on the IUCN Red List
Status: Critically Endangered

The Complexities of Care

Photo by Todd Rosenberg

When Regenstein Center for African Apes reopens, guests might spot new combinations of chimpanzees on any given day—including individuals who usually thrive behind the scenes.

BY CHRIS PULLAM

The next time you visit Regenstein Center for African Apes, things will be a little different.

And the time after that? Well, that depends on the chimpanzees.

For the past 15 years, male chimpanzee Hank's group has flourished in view of guests while another group thrived in a behind-the-scenes habitat with its own private outdoor space. But once the building reopens to the public, guests might see new combinations of chimpanzees in the front-of-scenes habitat on any given day—and that fluidity might not change any time soon.

"Chimps themselves are biologically flexible," says Stephen Ross, Ph.D., director of the Lester E. Fisher Center for the Study and Conservation of Apes. "In the wild, they don't live in static groups that stay the same over the course of their lifetime. That dynamic inspired the

flexibility and design of the building, allowing us to appropriately care for this species at Lincoln Park Zoo."

Caring for Fission-fusion Species

As a fission-fusion species, chimpanzees naturally splinter and merge into different social groups over time. This fluidity has always existed at Regenstein Center for African Apes, albeit to a smaller degree. Although guests have mostly only seen Hank's group, many of the individual chimpanzees have "met" behind the scenes, sometimes in an off-exhibit space that prevents physical contact but allows them to get to know each other through sight, smell, and sound.

"We always knew that, at some point, we might need to get creative and flexible with the group compositions," says Curator of Primates Jill Moyse. "This idea might go counter to what people usually think of in term of zoos. People think, 'here's an exhibit and here's the group,' and that's the group they expect to see when they visit next time. But there's a lot of more that goes into caring for these species, and different species have different needs."

Staff from across the zoo—from curators and veterinarians to researchers and animal welfare scientists—will all

collaborate in order to guide the formation of each group. Ultimately, however, the chimps will have final say on both the pace and the final composition.

A longtime partnership with Chimp Haven, a national chimp sanctuary that introduces dozens of new chimps each year, and Ross' role with the Chimpanzee Species Survival Plan® provide Lincoln Park Zoo with valuable insight into the introduction process. But even with all that information, it's impossible to predict exactly how two chimpanzees—let alone five or six—will react during their first encounter.

"Chimpanzees don't always act the same, depending on who they're with," Moyse says. "Eventually, you have to put them together based on what they're telling you they're comfortable with and then hope for the best. Sometimes, they surprise you in a good way. Sometimes, you have to try again, but you gained some valuable knowledge that will inform your next step."

Moyse and Ross hope to eventually form new "healthy and stable" groups. However, they stressed that the decision on timing isn't really up to them.

"At the end of the day, we'll do whatever it takes to set the animals up for success," Ross says.

Considering Atypical Backgrounds

Historically, many of the chimpanzees living in the off-exhibit space have had atypical backgrounds or required special attention because of that history or other factors, such as age. Some were pets, and others came from the entertainment industry or labs.

"In a lot of cases, these individuals were learning how to be chimps for the first time," Ross says.

The off-exhibit space, according to Moyse, has given these individuals the chance to learn species-specific skills—and sometimes meet other chimpanzees for the first time—in a more private area.

For example, guests have rarely seen Kibali, whose arm was amputated due to an injury. Since the surgery, she has adapted well by learning new behaviors in the off-exhibit space.

The building's newest residents, Eli and Susie, were rescued from an unaccredited sanctuary through Project ChimpCARE and arrived at Lincoln Park Zoo in spring 2020. Another historically off-exhibit chimpanzee, Cookie, was also rescued



Photo by Todd Rosenberg

through the initiative after being born in a lab.

Project ChimpCARE was founded by Ross in 2007 to improve the welfare of all 1,300+ chimpanzees currently living in the United States. Through the initiative, he has conducted a nationwide census to find every chimpanzee in the United States, facilitated efforts to rehome former pet and performing chimpanzees to accredited sanctuaries and zoos, and played a role in enhancing protections for chimpanzees by including them as species protected under the Endangered Species Act.

Thanks to these efforts, he actually learned about Eli and Susie more than a decade ago and was eager to work with Lincoln Park Zoo and the Association of Zoos and Aquariums (AZA) when the opportunity arose to rehome the chimpanzees to a more appropriate and stable home.

According to Ross and Moyse, they will know they've succeeded in creating new chimpanzee groups when every individual at the zoo can coexist in a natural manner. That doesn't mean eliminating aggression—a perfectly normal behavior for the species—but balancing that with relaxed


social behaviors.

"Even Hank and Optimus, the males in the other group, they still have their squabbles even after all these years," Moyse says. "But they always eventually reconcile and make peace with each other. When we get to that point with all the chimps in each group, especially among some of the historically off-exhibit chimps, that will be a success."

The Chimpanzees of Lincoln Park Zoo

Chimpanzees typically live in groups with multiple adult males and females.

Patrick
Male



Born March 17, 1987, at Busch Gardens (Tampa, Florida)

Patrick is a playful chimpanzee who can be recognized by his slim frame and large ears.

Cashew
Female



Born August 18, 1984, at Lion Country Safari (Loxahatchee, Florida)

Each chimpanzee builds a nightly nest from material in their habitat. Cashew's nests are the largest and most extravagant.


Kibali
Female



Born August 24, 1980, at Lincoln Park Zoo

In 2014, Lincoln Park Zoo veterinarians amputated part of Kibali's right arm due to an injury. She adapted well by learning new behaviors after the surgery.

Nana
Female



Born January 20, 1994, at Lion Country Safari (Loxahatchee, Florida)

Nana is particularly skilled at crafting tools. She carefully frays the ends of sticks to "fish" for food in the zoo's artificial termite mounds.

Hank
Male



Born November 30, 1990, at Lion Country Safari (Loxahatchee, Florida)

Hank has often played the role of peacemaker, resolving disputes between troopmates.

Magadi
Female



Born February 5, 1991, at Lincoln Park Zoo

Magadi lived at Henry Vilas Zoo in Wisconsin from 1995 to 2013. Transfers between accredited zoos are part of the Chimpanzee Species Survival Plan®.

Kathy
Female



Born September 2, 1990, at Lion Country Safari (Loxahatchee, Florida)

Kathy is sociable and eager to participate in cognitive research sessions with zoo staff.

Zachary
Male



Born December 31, 1986, at Busch Gardens (Tampa, Florida)

Zachary is more reserved and often prefers to spend time alone.


Eli
Male



Born February 4, 2009; rescued and brought to Lincoln Park Zoo in 2020.

Eli and Susie were bred to be sold and used in the entertainment industry. They were rescued through Project ChimpCARE.

Optimus
Male



Born February 9, 1999, at Lion Country Safari (Loxahatchee, Florida)

Optimus can be recognized by a distinctive bald spot on his wrist.

Cookie
Female



Born March 3, 1983, at Southwest National Primate Research Center (San Antonio, Texas)

Cookie tends to be assertive with her troopmates.

Susie
Female



Born April 18, 2006; rescued and brought to Lincoln Park Zoo in 2020.

Susie and Eli were bred to be sold and used in the entertainment industry. They were rescued through Project ChimpCARE.

Members of Hank's group, shown in the green boxes, have lived in the front-of-scenes space for most of the past 15 years.

Take Action With Us

BY STEPHEN ROSS, PH.D., DIRECTOR OF THE LESTER E. FISHER CENTER FOR THE STUDY AND CONSERVATION OF APES, & JILL MOYSE, CURATOR OF PRIMATES

If you are a supporter of Lincoln Park Zoo's work to end the trade of primates as pets and performers, then you already know better than to buy one as a personal pet. But what can you do when you see these inappropriate images and videos online?

Scientists at the Lester E. Fisher Center for the Study and Conservation of Apes have published several papers that clearly demonstrate that seeing images of chimpanzees and other primates in unnatural and inappropriate settings can skew humans' perception of these species. Even something simple, like observing a primate in contact with a human, can make people more likely to consider them as a personal pet.

What can we do about this? One lesson comes from a very unlikely source: the global pandemic.

Think of these images and videos as a virus, something that causes more harm the more we allow it to spread. So we take action to stop the transmission—we pause before posting. Instead of exposing these videos to others, take a second to think about whether the clip is appropriate and responsible. Is the animal under appropriate care? Are aspects of the video likely to create the false impression that the primate might make a good pet? Is conservation of the species a goal of the piece?

Instead, we can select educational and accurate portrayals of animals as a fun way to promote responsible depictions of animals. In doing so, we can all play a part in curbing the spread of these inappropriate and harmful images from going viral and doing more harm to the species we all care about.

Learn more at lpzoo.org/action.



Photo by Ian Nichols

A Zoo for Everyone

Creating an inclusive place for all is an ongoing process. Discover the accessibility and inclusion initiatives Lincoln Park Zoo has recently implemented, as well as what is on the horizon for inclusivity at the zoo.

BY SABRINA CYNNOVA
ILLUSTRATIONS BY ASHLEY BEDORE



Lincoln Park Zoo is committed to creating an environment that is inclusive and welcoming to all. Accessibility and inclusion initiatives promote and help achieve full, just, and integrated access to all zoo experiences. From installing automatic doors across grounds to fully captioning digital offerings, Lincoln Park Zoo continues to remove barriers to connecting with the zoo.

Accessibility at the zoo is an ongoing process—always growing and adapting. The zoo has recently implemented various accessibility initiatives and has plans on the horizon to further inclusivity at the zoo.

Newly Automated

With Lincoln Park Zoo being 152 years old, many of the buildings on grounds are historic in nature. After conducting a series of access audits with people who identify with disability communities, the zoo identified opportunities to increase accessibility across grounds. Thanks to a generous

grant from Bank of America, the zoo was able to install automatic doors at Park Place Café, Regenstein Small Mammal-Reptile House, Helen Brach Primate House, and the Member Center at Searle Visitor Center, making these important spaces accessible to all visitors. The zoo hopes to finish installing automatic doors at other buildings soon.



Plentiful Programming

Inclusive programming and offerings at the zoo ensure that everyone has the ability to connect with nature.

One such offering is a social narrative, a learning tool that presents a skill or experience in sequential order to teach and support children with cognitive or sensory processing disorders. Currently, Lincoln Park Zoo has a social narrative about visiting the zoo during COVID-19.

A robot at the zoo? It's true! The zoo offers tours conducted with a telepresence robot, named Keo, for guests unable to visit the zoo due to health concerns or limited mobility. For guests who are blind or have low vision, sensory tours and description tours with a Lincoln Park Zoo staff member are also available.

From DreamNight, an annual event for families impacted by critical illness, to The Mayor's Office for People with Disabilities (MOPD) job shadowing,

Lincoln Park Zoo hosted and participated in various community programs this past year. By partnering with MOPD, zoo staff gave students insight and first-hand experience to a wide range of careers at the zoo. Due to the ongoing pandemic, DreamNight transformed into DayDream and was held virtually. Other programming included phone and Zoom calls with senior communities and a three-hour virtual program for youth who are blind or have low vision. During on-grounds ZooLights, a Virtual ZooLights was available for children impacted by cancer and adults living with dementia.

Recently, Lincoln Park Zoo has significantly increased its direct work with accessibility organizations.

Adapting with the Times

With the global pandemic has come increased safety protocols at the zoo, such as facial coverings for those above the age of 2 who are medically able. To communicate with guests who are Deaf or hard of hearing while adhering to safety recommendations, Lincoln Park Zoo staff members wear clear masks to allow for lipreading.

During its temporary winter "hibernation" from January–March, the zoo launched a new YouTube web series, Stay Tuned to the Zoo (see page 4), to keep animal lovers from all over the world connected to the zoo. All episodes from both seasons were fully captioned and auto-translation was available in more than 50 languages.

A Job for All

Accessibility at the zoo requires participation from all staff members, from Communications to Animal Care.

"Ensuring the zoo is a welcoming place for all individuals is a shared responsibility across the whole zoo," says Hart Prins Fund Accessibility & Inclusion Manager Bill Green. "It's truly a team effort."

In 2020, Lincoln Park Zoo launched a four-part accessibility and inclusion training program for staff and volunteers. The required training was available in both English and Spanish and illustrated what accessibility at the zoo looks like, how staff and volunteers can work together to increase it, and why the zoo values it.

An Ongoing Process

Accessibility and inclusion are long-term, everchanging processes that Lincoln Park Zoo is fully committed to. Looking toward the future, the zoo hopes to integrate accessibility into all zoo experiences. On the horizon, Pepper Family Wildlife Center is slated to open in fall 2021. This historic building was redesigned with accessibility in mind from the very beginning of its reenvisioning.

"Accessibility at the zoo is an ongoing process that Lincoln Park Zoo is consistently working toward," says Green. "Just like the zoo's tagline—For Wildlife. For All.— we will continue to work together to create a place where all individuals have the ability to connect with wildlife."

To learn more about the zoo's accessibility and inclusion initiatives, go to lpzoo.org/accessibility. For questions or assistance planning your visit, email access@lpzoo.org.





Matchmaker, Make Me a Match

BY JILLIAN BRAUN

In a room filled with warm light and optimistic keepers, an egg the size of a quarter lies silently in an incubator, a crack forming along its top. After years of planning, 23 days of incubation, and 36 hours of hatching, a tiny, pink bird with darkened eyes emerges from its shell. A Guam kingfisher—a bird that has been extinct in the wild since 1986—has hatched at Lincoln Park Zoo. A miracle, yes, thanks to the dedicated Animal Care staff who got this chick to this moment. But also the result of data collection and genetic and demographic analysis by population biology scientists!

The Association of Zoos and Aquariums (AZA) Population Management Center (PMC) is a scientific team based at Lincoln Park Zoo. These scientists are dedicated to maintaining genetically diverse and demographically stable populations with behaviorally healthy individuals for the long-term future of zoo and aquarium populations. In non-scientific words? PMC scientists are the matchmakers of the animal world.

But what does that mean and what does that look like for the 240 AZA-accredited zoos and aquariums?

Data Collection and Studbooks

First things first: In order to sustainably manage a population, all individuals in the population need to be identified and recorded. Enter, studbooks. ‘Studbook’ is a term to describe the record of all the individual animals in a population, including their ancestry, births, and deaths. Some of these detailed records across AZA zoos date back to the 1860s!

Over time, these studbooks have become more advanced and not only share information about an animal’s ancestry and sex, but also their behaviors, breeding, name, transfer locations, and more. They hold essential information that serves as the foundation for the PMC to make informed recommendations.

Lincoln Park Zoo’s Alexander Center for Applied Population Biology created a sophisticated analysis software in 2006, PopLink, to manage these types of data for use by zoo and aquarium populations. While many of these populations have migrated into a newer software platform, Zoological Information Management Systems, for studbooks, PopLink remains a valued tool used for many wild populations to track

the same types of information key to populations with long-term monitoring.

“The foundation and starting point for healthy management of any zoo or wild population is having high-quality data on the individuals and their history. It becomes much more challenging to help wildlife populations when we don’t have these data,” says Senior Director of Population Ecology and PopLink creator Lisa Faust, Ph.D.

Genetic and Demographic Analyses

With quality studbook data, the PMC can perform genetic analyses to determine the relatedness of individuals and the population’s overall diversity.

Demographic analyses are performed to look at the population size, number of births, and other population events. All of this information is then used as part of the process for forming breeding pairs or groups. Another sophisticated software package, PMx, helps harness the data in studbooks to better understand how many births are needed and which specific animals to recommend for breeding.

“Using genetics and demography to analyze each population allows us to use studbook data to make important decisions about how to scientifically manage each population. Specialized software helps us be efficient in making these important recommendations,” says Kristine Schad Eebes, director of the PMC.

But just because individuals may be great genetic and demographic matches doesn’t mean they are compatible.

“Using genetics and demography to analyze each population allows us to use studbook data to make important decisions about how to scientifically manage each population,” says Eebes.

Natural History

When planning for a population, it’s important to also understand the species’ natural history. Are they a solitary species? Do they thrive in colonies? Does sex ratio matter within a group? There are many factors that help determine the best outcome for an individual animal, which can support the sustainability of a population.

Chimpanzees, for example, thrive in multi-male, multi-female troops. Chilean flamingos practice safety in numbers, so they reside in large flocks. Grevy’s zebra, polar bear, and eastern black rhinoceros males only interact with females when it’s breeding season—and live as solitary animals for the rest of the year. So, in addition to a good match, a zoo must also have appropriate habitats to accommodate pairs, groups, and individuals. With studbook data as the foundation, genetics, demography, and natural history become a solid structure in this metaphor.

Individual animal mate preferences, health, welfare, and personality play a role in the matchmaking process, as well. As much as the PMC is focused on populations as a whole, the individuals’ needs are not lost in the process.

Breeding and Transfer Plans

After taking genetics, demography, natural history, and individual needs into consideration, PMC scientists create Breeding and Transfer Plans for more than 500 Species Survival Plans® (SSP) to cooperatively manage each population.



Photo by Todd Rosenberg

Each SSP has a studbook keeper and a coordinator that represent the population as experts in behavior, husbandry, species life history, habitat space needs, and more. Coordinators also survey the AZA institutions involved in the SSP, often using PMCTrack, another software tool created by the Alexander Center, to understand each institution’s plans for the future, as well as their individual animals’ needs. The coordinator and studbook keeper then work with PMC scientists in a collaborative process to create Breeding and Transfer Plans every one to three years, depending on the species.

“Managing SSPs is a team effort including the coordinator, studbook keeper, PMC scientists, and various advisors with species-specific expertise,” says Schad Eebes. “All of this expertise, knowledge, data, and science go into creating Breeding and Transfer Plans to aid in managing these animal populations.”

These plans have recommendations for each individual animal in the population—they will receive either a breed or do-not-breed recommendation, as well as a hold or transfer recommendation. Then, a complicated and choreographed dance happens between AZA-accredited institutions to see the recommendations to fruition.

Babies, Companions, and New Arrivals

Once a transfer recommendation is provided, the logistics begin, including intra-institution communications, permit acquisitions, travel plans, weather monitoring, shipping details, and more. After these steps are complete following weeks and months of planning, an animal arrives at a new institution and a mandatory quarantine period begins. Then, individuals are carefully introduced to their new environment and its inhabitants, when applicable, while being carefully monitored by care staff. If introductions are successful, breeding displays may follow, and if science, individual animal preference, and the stars align, a new addition to the population may soon follow (see some of the new arrivals to Lincoln Park Zoo on page 5).

The young kingfisher wobbles with its pale translucent wings and bulging dark eyes, opening its two-toned beak in search of a meal. The chick is individual 23830, a descendant of a pair of resident birds at Lincoln Park Zoo. As the chick grows, little pin feathers begin to form around its body, filling in over time with its black-, white-, and burnt orange-colored feathers, blissfully unaware that he is one of only 145 remaining birds of his kind. Saving species is not only a science, but also an art.

Test Your Matchmaking Skills

Chimpanzees are a very charismatic and intelligent species with many individual preferences. In the hypothetical scenario below, try to determine an appropriate Breeding and Transfer Plan to best accommodate this population.

Goal: Provide each individual animal with one of the following recommendations: Hold/Do Not Breed, Hold/Breed, Transfer/Do Not Breed, or Transfer/Breed.

Requirements:

- Chimpanzees must live in multi-male, multi-female troops (two or more of each sex).
- Assume there is only one habitat available at each institution.
- There can only be one transfer and four individual breeding recommendations (two male-female pairs) across all institutions to sustain the population until the next Breeding and Transfer Plan in two years.
- Consider age, sex, health, history of breeding success, and the number of existing relatives in your recommendations.

		TRANSFER	HOLD	BREED	DO NOT BREED	
ZOO A	Chimpanzee 1					Chimpanzee 1 is female. She is considered geriatric and has lived her whole life at this institution.
	Chimpanzee 2					Chimpanzee 2 is female. She is a young adult and has not produced any offspring, nor does she have any relatives.
	Chimpanzee 3					Chimpanzee 3 is female. She is a young adult and has produced offspring previously. She is the daughter of Chimpanzee 1.
	Chimpanzee 4					Chimpanzee 4 is male. He is the highest socially ranked individual in his troop and has a long line of offspring, including Chimpanzee 5.
	Chimpanzee 5					Chimpanzee 5 is male. He is an adult but has not produced any offspring and has many siblings.
ZOO B	Chimpanzee 6					Chimpanzee 6 is female. Two years ago, she had an offspring (Chimpanzee 10) with Chimpanzee 8. Other than her offspring, she has no other relatives in this population.
	Chimpanzee 7					Chimpanzee 7 is female. She is being treated for health issues that impact her activity levels and behavior.
	Chimpanzee 8					Chimpanzee 8 is male. He is the highest socially ranked individual in his troop. Other than his offspring, he has no other relatives in this population.
	Chimpanzee 9					Chimpanzee 9 is male. He is the lowest socially ranked individual in his troop and a young adult still learning the ropes.
	Chimpanzee 10					Chimpanzee 10 is 2-year-old female. She is the offspring of Chimpanzees 6 and 8.
ZOO C	Chimpanzee 11					Chimpanzee 11 is female. She is a juvenile chimpanzee.
	Chimpanzee 12					Chimpanzee 12 is female. She is an adult chimpanzee and mother to Chimpanzee 13.
	Chimpanzee 13					Chimpanzee 13 is male. He is a young adult, has not previously produced any offspring, and has very few relatives in this population.
	Chimpanzee 14					Chimpanzee 14 is male. He is a geriatric male and has produced many offspring.

Getting frustrated? It’s complicated! Even with sophisticated software and trained scientists, it can take days to determine appropriate Breeding and Transfer Plans. **Find the answers on page 18.**

Answer Key

		TRANSFER	HOLD	BREED	DO NOT BREED	
ZOO A	Chimpanzee 1		✓		✓	She would not transfer due to her age and comfort level at the institution.
	Chimpanzee 2	✓		✓		She would transfer to Zoo C for a breeding recommendation with Chimpanzee 13 since they are both young and have fewer relatives, which improves genetic diversity for the population.
	Chimpanzee 3		✓		✓	She would remain in the troop to maintain the multi-male, multi-female balance. Since she has produced offspring previously and her troop mates do not have breeding recommendation, she will receive a do-not-breed recommendation at this time.
	Chimpanzee 4		✓		✓	He would not breed since he has produced many offspring. As such, he has many relatives and his genes are already well represented in this population.
	Chimpanzee 5		✓		✓	As an offspring of Chimpanzee 4, he has many relatives and his genes are already well represented in this population.
ZOO B	Chimpanzee 6		✓	✓		Since she and Chimpanzee 8 have produced an offspring previously, they would be recommended to breed again.
	Chimpanzee 7		✓		✓	She would not transfer due to health concerns. Her health would be improved prior to a potential breeding recommendation in the future.
	Chimpanzee 8		✓	✓		Since he and Chimpanzee 6 have produced offspring previously, and they have no other relatives in the population, they would be recommended to breed again.
	Chimpanzee 9		✓		✓	He would not breed since the females in his troop already have recommendations. In the future, he may be recommended to breed with Chimpanzee 10 or be transferred to another institution.
	Chimpanzee 10		✓		✓	She would remain in this troop as a juvenile chimpanzee that is too young to breed.
ZOO C	Chimpanzee 11		✓		✓	She would remain in this troop as a juvenile chimpanzee that is too young to breed.
	Chimpanzee 12		✓		✓	She would remain in this troop and would not breed with Chimpanzee 13, as he is her offspring, nor Chimpanzee 14, as he is too old to breed and his genes are well represented in this population.
	Chimpanzee 13		✓	✓		He would be recommended to breed with Chimpanzee 2 once she transfers to Zoo C.
	Chimpanzee 14		✓		✓	Due to his old age and his genes being well represented with many relatives in the population, he would not transfer or breed.

It is important to note that this is a simplified logic puzzle; even more variables are taken into consideration when making breeding and transfer recommendations.

‘Out of This World’

BY CHRIS PULLAM

Lincoln Park Zoo received national accreditation from the American Public Gardens Association Plant Collections Network for its herbaceous perennial hibiscus collection, a vibrant and natural addition to a cherished urban oasis.

Over the past four years, herbaceous perennial hibiscus have taken root throughout Lincoln Park Zoo, becoming the most common genus of all the plants living on grounds. Individual cultivars—blossoming in shades of red, pink, yellow, and white with vibrant names like Mocha Moon, Stardust, and Mars Madness—now add a splash of color to seemingly every available space throughout this cherished urban oasis.

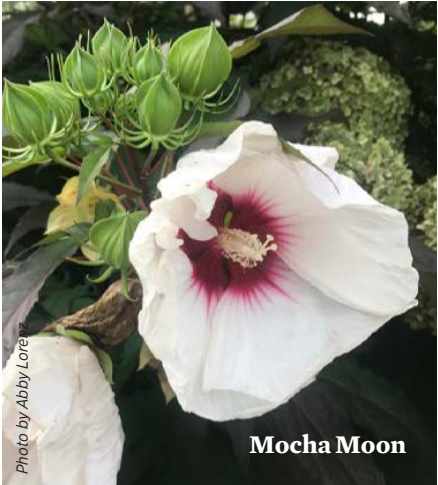
But like all things at Lincoln Park Zoo, they represent much more than aesthetic appeal.

“One of the biggest benefits is being able to show visitors how they can integrate these really beautiful and useful plants into their own landscapes,” says Abby Lorenz, manager of plant records and horticulture programs. “Since all our plants are labeled, you can see the exact combinations in our various spaces. Plus, they’re native to the Midwest, so you know they’ll thrive and support our local ecosystem, and their colors are out of this world.”

In recent years, the zoo has embraced a science-based focus on plant care and ecosystem planning that mirrors the passion and energy devoted to animal welfare. According to Director of Horticulture Katrina Chipman, this made herbaceous perennial hibiscus a perfect



Mars Madness



Mocha Moon



Stardust

fit for the zoo.

Four of these species are both cold tolerant and native to North America: *Hibiscus moscheutos*, *H. laevis*, *H. grandiflorus*, and *H. coccineus*. Yet as recently as 2016, only a handful existed on grounds. Fast forward to 2021 and the zoo’s gardens now include 75 cultivars of those four species, all ranging in flower and leaf color, size, shape, height, and overall form. They also support Chicago’s local wildlife, such as long-tongued bees, bumblebees, caterpillars, and hummingbirds.

Along the way, Horticulture staff took hundreds of photographs, recorded phenology, and inventoried the collection on a weekly basis to note the life cycle of each cultivar at any given time. And last summer, thanks to their efforts, Lincoln Park Zoo received national accreditation

from the American Public Gardens Association Plant Collections Network for its herbaceous perennial hibiscus.

The accreditation marks only the most recent acknowledgement of Horticulture’s growth—in 2019, the zoo earned Level II arboretum accreditation in recognition of the department’s ongoing effort to identify, label, and monitor the tree and woody plant species across the 49-acre park.

“Our main goal as a department is to continue developing the gardens so people can come and enjoy nature, and so that wildlife can thrive in these natural spaces,” says Chipman. “Pursuing this accreditation was another way that we, as an organization, could inspire people to appreciate the world around them.”



Nancy Shea

Six-time Run for the Zoo and Virtual ZooLights Challenge Participant

What has been your favorite part of Run for the Zoo?

I love being with my friends, seeing the animals, and enjoying the zoo atmosphere and gardens. For the virtual races, it was fun wearing my ears, run bib, and medal and seeing the response from the people!

In 2020, you fundraised on behalf of the zoo. How did you do that?

When preparing for my neighborhood walk, I emailed friends and family in advance asking for donations. Every little bit helps! I told my garden club pals what time I would be walking past, and they all came out to watch and cheer.

How does nature inspire you?

On my first virtual 5K, I saw a deer, and we both stopped to look at each other for a bit. No matter how old I get, I'm still always delighted to see deer. They are so beautiful and peaceful. Watching a hummingbird visit a flower in my yard still feels magical. The antics of squirrels and comings and goings of other critters are nature's entertainment. There's nothing better than enjoying a walk through nature with family and friends!

What are you most looking forward to on your next visit to the zoo?

I always look forward to the faces and reactions of children as they see the animals, especially when it is my grandchild or even my grown-up child.

Do you have a favorite animal?

A sentimental zoo favorite for me are the penguins. They were my sister's favorite. She always wanted us to rent tuxedos and stand by the penguin habitat. She thought it would be such fun to see the reaction of the zoo patrons; I still want to do this in her memory someday.

Scott Jones and Dr. Jennifer Pope

Heritage Society Members

Can you describe your relationship with the zoo?

We've been members of Lincoln Park Zoo for a long time and recently joined the Heritage Society. Scott also served as a volunteer doing statistical analyses to better understand bird populations across accredited zoos.

What does Lincoln Park Zoo mean to you?

We appreciate the high quality of care that the animals receive and value the academic research that the zoo does to enhance animal welfare and understanding. We love going to events at the zoo where we learn something new; we especially liked hearing about the vaccination program for wild and domestic dogs.

Do you have a favorite zoo memory?

We had a private, behind-the-scenes tour of Regenstein Center for African Apes. When Nayembi was an infant, Rollie brought her right up to the mezzanine window and they both settled down for a nap just inches from us. It was a once-in-a-lifetime experience.

Can you share your proudest zoo accomplishment?

We are proud to support wildlife conservation efforts around the world. We're also grateful that Lincoln Park Zoo prioritizes the animal experience. We see this in new exhibits including roaming space and animals opting in to enrichment experiences, and when the zoo focuses on caring for particular populations instead of quantity of species. We were glad to contribute to the Pepper Family Wildlife Center because we can't wait to have big cats back at the zoo! ■

—Jillian Braun



Northern Tree Shrew

Tupaia belangeri

The northern tree shrew is a small mammal found in southeast Asia and some of the surrounding islands. This small mammal, with its distinct nose and gray-olive fur, is a diurnal species, meaning it is most active during the day. Measuring around 10-18 inches, the tree shrew's tail accounts for half its body length, providing balance as it explores its rainforest habitat. When resources are scarce, tree shrews climb into the trees. However, they spend most of their time on the ground, where they feast on insects, beetles, and fruit found on the forest floor. ■

—Jillian Braun

Photo by Chris Bilalba



LINCOLN PARK ZOO.
FOR WILDLIFE. FOR ALL.

2001 North Clark Street
Chicago, IL 60614
lpzoo.org

Calendar of Events

There are many ways to connect with animals, nature, and zoo experts this spring and summer, whether from the zoo or the comfort of home! Visit lpzoo.org/events to sign up for one of the happenings listed below, get more information, or browse other offerings.

Last Thursday of Each Month, April–June at 7 p.m.

Monthly Action Plan

Thursday, April 22, at 6 p.m.

Trash Cocktails for Conservation: Virtual Sustainable Mixology Class

Saturday, June 5–Sunday, June 13

Virtual Run for the Zoo

Thursday, June 10, at 6 p.m.

Animals Have PRIDE, Too: Virtual Chat

Fridays, Saturdays, and Sundays Through July at 10 a.m. and 1 p.m.

Virtual Animal Experiences

Saturday, June 26, at 6:30 p.m.

Adults Night Out

