

Lincoln Park Zoo

IN THIS ISSUE

Volume 15, Number 1 · For Members of Lincoln Park Zoo



FEATURES

2 Wild City

You might think the "Chicago ecosystem" offers few surprises, but zoo scientists are spotting plenty of unexpected wildlife in this urban range.

4 Climbing the Canopy

Monkeys skitter, jaguars prowl and sloths...stay put as we take a trip up into the canopy of the South American rainforest.

Where Rainforest Still Rules

The wilds of the Goualougo Triangle are one of the most pristine places on Earth, a zoo study site and an untouched home for gorillas and chimpanzees.

8 A Sweeping Savanna

The grasslands of the Serengeti offer an iconic setting for predator and prey—and a home base for a zoo vaccination campaign saving people and animals alike.

10 Peaks and Valleys

Venture into the highlands of China's Qionglai and Jiajin mountains, where red pandas climb and snow leopards leap after their prey.

12 Island Hopping

Island ecosystems are fragile—and amazing—places. We hop from Guam to Aru to Japan to take in one-of-a-kind wildlife and efforts to save it.

14 Learning Begins at Home Back in Chicago, we see how zoo educators use a local focus to grow the next generation of conservationists.

DEPARTMENTS

1 Perspective

President and CEO Kevin Bell highlights how zoos around the globe connect visitors with wildlife—and are increasingly working together to save it.

16 Plant Provenance

Native and exotic species share space in the zoo's gardens, where horticulturists aim for interest in all four seasons.

18 News of the Zoo

Chimpanzee close-ups, updates on new zoo buildings and a look back at the brilliance of ZooLights Presented By ComEd and PowerShares QQQ.

Wild File
Baby monkeys stand out, snowy species head outdoors and the zoo animal hospital makes a move.

2*O* Membership Matters

Save the date for Members-Only Morning, SuperZoo-Picnic and a summer series of member tours.

21 Calendar

Step into spring with fun zoo events, including our new Food Truck Social!

Continue Your Visit Online

Visit Ipzoo.org for Lincoln Park Zoo photos, videos and up-to-date info on events and animals. You can also find us on Facebook, Twitter and Instagram!

We'd Like to Hear from You!

Send your feedback on this issue of Lincoln Park Zoo magazine to magazine@lpzoo.org.

Cover: Meller's chameleon Rango represents Madagascar wildlife.

Above: A Rio Fuerte beaded lizard.

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QUESTIONS?

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Staff are on hand during normal business hours—

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or visit us online at

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perspective

A Letter from President and CEO Kevin J. Bell

A Global Reach



Lincoln Park Zoo is a Chicago institution, but our reach is worldwide. The zoo is a gateway to global wildlife, introducing guests to species as diverse as the biggest cats on the planet or

birds whose wild populations number fewer than the words on this page.

Zoos have come a long way in how they represent the world's wildlife. Whereas zoos once measured success by the number of animals they displayed, modern zoos focus on providing immersive, engaging habitats for carefully chosen species. This trend is evident in our newest buildings, naturalistic, state-of-the-art homes like Regenstein Macaque Forest and the upcoming Walter Family Arctic Tundra and Robert and Mayari Pritzker Penguin Cove. At the same time, we use the connections created at Chicago's free zoo to support conservation efforts around the globe.

As we'll see in these pages, a tour of some of the world's signature ecosystems reveals zoo scientists on the ground, doing their part to help wildlife and people alike. In the Goualougo Triangle, one of the most pristine ecosystems on Earth, zoo

experts study gorillas and chimpanzees that have barely encountered humans. A network of motion-triggered cameras captures great-ape behavior and tool use even as researchers investigate the impact of sustainable logging on these species, building a blueprint that could boost conservation across Africa. Just this fall journalists from Al Jazeera English made the difficult journey to the remote Republic of Congo to share this amazing conservation success story.

Zoos worldwide are also starting to harness their cumulative connection with wildlife and visitors by working together to protect species that need saving. In October I traveled to the United Arab Emirates to meet with zoo directors from around the globe for the 70th annual conference of the World Association of Zoos and Aquariums. Together we saw the release of "Committing to Conservation—The World Zoo and Aquarium Conservation Strategy."

This strategy establishes conservation as a core focus for all zoos and aquariums, and it outlines a systematic approach to share conservation messages with the 700 million annual visitors we cumulatively welcome every year. That's a big number, and it tells us that people everywhere want to connect with wildlife. Zoos are in a perfect position to act on this interest, whether they're here in Chicago or elsewhere on the globe.

Kevin J. Bell President and CEO

The zoo's border-crossing wildlife conservation efforts have global impact, from preventing disease transmission to African lions in the Serengeti to recovery planning for Bali mynahs, a species nearly extinct in its native Indonesia.







The Chicago ecosystem. For those not in the know, the words might seem more like a punchline than a series of niches and native species. "What do you get when a pigeon roosts on a bus shelter?" some wiseguy might ask, little knowing the richness of the region's natural spaces—and the variety of the wildlife calling them home.

But the Chicago ecosystem is marked by diversity, both in an unspoiled and a developed sense. Wetlands, forests, lakes and prairies once stretched across the region, offering habitats for unique species to bloom. Many of these natural areas are now developed—Illinois, the "Prairie State," has just 1 percent of its original prairie intact. But preserves remain to shelter some native species, and the "concrete jungles" that cover most of the region today have produced a unique ecosystem of their own.

"I like to think urban areas are a unique ecosystem type," says Seth Magle, Ph.D., director of Lincoln Park Zoo's Urban Wildlife Institute. "Like forests, cities vary from place to place based on underlying factors. Chicago and Denver, for instance, have different ecoregions and different layouts. But they also share some similarities, including a subset of species that are uniquely urban adapted: squirrels, robins, that sort of thing."

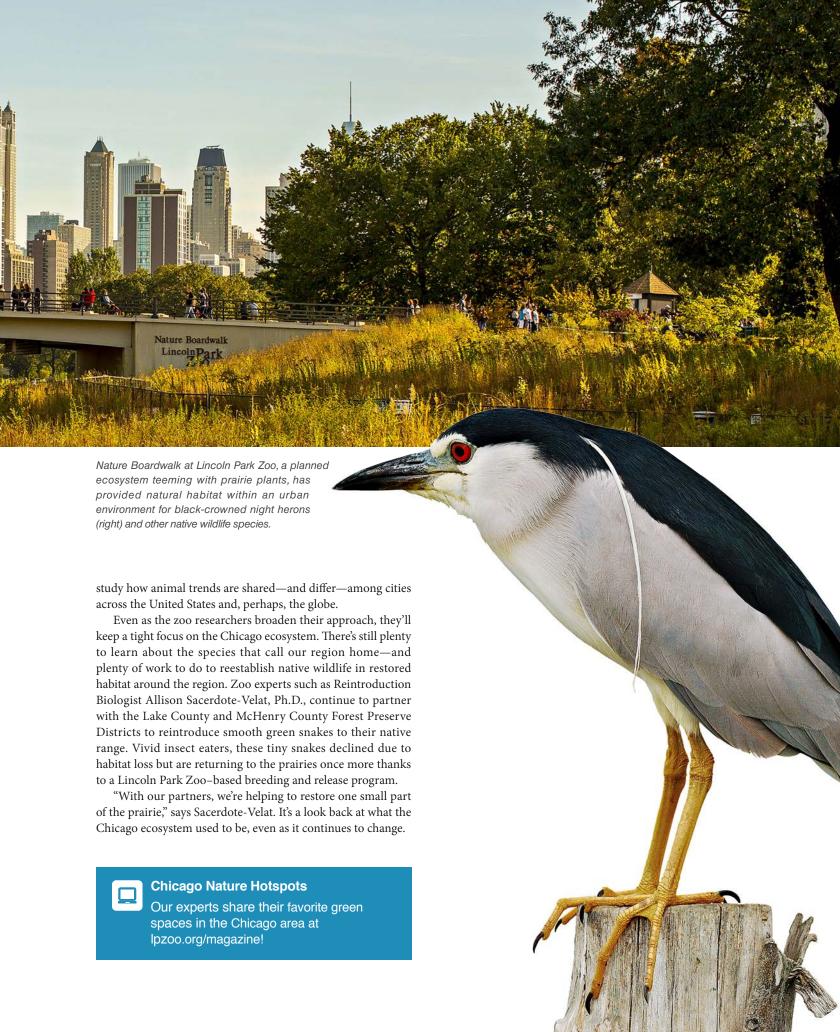
Defining the species that call Chicago home has been a priority for the Urban Wildlife Institute (UWI). For five years, UWI scientists have deployed a series of laser-triggered "camera traps" in green spaces along the urban continuum, from downtown parks to suburban forest preserves. The millions of photos they've captured are building an unprecedented portrait of an urban ecosystem.

"We're seeing more biodiversity than we expected," says Magle. "In the suburbs, we're seeing species we didn't think would be able to survive near cities, animals such as mink and flying squirrels. Even in dense urban areas, we're seeing wildlife we wouldn't have expected."

The black-crowned night herons that have roosted near Lincoln Park Zoo for nearly a decade now are one of the most notable examples. These birds, which are endangered in Illinois, have established noisy roosts in spots including the Pritzker Family Children's Zoo, Nature Boardwalk at Lincoln Park Zoo and large stretches of Lincoln Park. "People didn't think they'd nest in such an urban area, but there are more every year," says Magle. "It's not 'a mistake," as we initially thought. It's a strategy that seems to be working for them."

Magle emphasizes that "surprise" sightings of unexpected animals in cities are only going to increase. "That's the pressure we're putting on wildlife," he says. "Think how accustomed we've become to spotting coyotes in the city."

To match the growing focus on urban wildlife, Magle and his team are extending their scope beyond Chicago. In January, teams associated with Butler University and the University of Wisconsin–Madison installed their first camera traps. The Indianapolis team has already spotted species including coyotes and red foxes. Magle hopes to recruit more cities into the initiative this summer, with the ultimate goal being to build a nationwide pool of urban wildlife sightings. This will let experts





It is the Amazon rainforest, and most of its life is found in the canopy—the overlapping branches and leaves of closely spaced trees rising more than 100 feet above the ground. Hundreds of species occupy a single acre of forest, providing plentiful fruits, seeds and insects for monkeys, toucans, bats and more. Emergent canopy trees—giants like kapok, Brazil nut and bigleaf mahogany—burst through this layer, towering another 100 feet above and providing nests for huge harpy eagles that prey on primates, sloths and macaws below.

Poison dart frogs, green tree boas and bridled forest geckos thrive in the hot, damp understory, a tangle of shrubs and palms growing in the shade of the taller trees. Among the ferns and seedlings of the forest floor roam jaguars, tapirs and giant anteaters. The rivers at their roots house more than 5,600 known freshwater fish species—from giant catfish to red-bellied piranha—as well as otters, caimans and turtles.

Which Amazon inhabitants can be found at Lincoln Park Zoo? Pied tamarins, black howlers and Goeldi's and Bolivian gray titi monkeys live at the Helen Brach Primate House, and Regenstein Small Mammal–Reptile House is almost a miniature rainforest itself. In that building's Gallery area you'll find dyeing poison arrow frogs. These colorful amphibians, adept tree climbers with expanded finger discs, are ordinarily toxic, although the frogs at the zoo lack this protection, which is unnecessary in their secure space. "The toxins in their skin come from formic acid in ants, but we feed them crickets here," says Diane Mulkerin, curator of the Pritzker Family Children's Zoo and Regenstein Small Mammal–Reptile House.

Nearby, another rainforest representative is the zoo's male golden-headed lion tamarin. He's recently been paired with a female as part of a breeding recommendation from the Golden-Headed Lion Tamarin Species Survival Plan®, a shared management effort by zoos throughout the Association of Zoos and Aquariums. This small primate species' survival may depend on such zoo-based conservation efforts. Because of deforestation, their wild population has dwindled to about 200 individuals in the Brazilian state of Bahia. Living about 10 to 30 feet above ground in the wild, they never come down to the

ground to forage. Instead, they leap on all fours among branches and find shelter in tree cavities—as they do in the zoo's exhibit.

"The introduction for this pair went well," says Mulkerin. "Eva has already figured out how to get Paco to bring her fruits and insects he earns from voluntary training with the keepers."

Regenstein Small Mammal–Reptile House's lush Ecosystem wing is home to a green aracari, a representative of the world's smallest toucan species. Nesting in tree cavities in the canopy, these colorful birds use the serrated edges of their large bills to grip and gather fruit. Nearby, two white-faced saki monkeys—a mother and her son—use their long, bushy tails for balance during great leaps among branches. The big hops help them avoid predators in the wild as they forage the canopy, understory and forest floor primarily for the seeds of fruits.

Finally, near the building's exit, the zoo's Hoffman's two-toed sloths, a nocturnal species, rest during the day and move about upside down at night, foraging as they would in the wild. No predators threaten Hersey and Carlos and their baby, Aysan, born last summer, but their inactivity and slow movements are natural defenses against the birds of prey that would hunt them in their native rainforest. The greenish tint to their fur is similarly defensive; it provides camouflage and comes from eating leaves their specialized, multichambered stomachs can digest.

Possibly the only green-hued mammal on Earth, sloths are a perfect representative of the rainforest's riches.





Where Rainforest Still Rules BY JAMES SEIDLER You don't get more wild than the forests of the Goualougo Triangle. This remote region in the Republic of Congo—and Lincoln Park Zoo study site—could show up in the thesaurus under "untouched." Elephants trample through underbrush as chimpanzees and gorillas forage in the treetops above, some still barely having come into contact with humanity.





A young western lowland gorilla (left) forages among the treetops in the Goualougo Triangle, where Lincoln Park Zoo Research Fellow Dave Morgan, Ph.D., (at right in photo above) studies wild gorillas and chimpanzees (above, right) with tools such as motion-triggered cameras.

"It's one of these jewels that remains on the Earth," says Steve Ross, Ph.D., director of the Lester E. Fisher Center for the Study and Conservation of Apes, who visited the Goualougo Triangle in 2014. "It's similar to how it was hundreds, if not thousands of years ago. We don't have many places like that left."

The pristine nature of the forest makes it a perfect spot for studying wild chimpanzees and gorillas, and the Goualougo Triangle Ape Project has been doing that in the heart of the wilderness since 1999. Lincoln Park Zoo Research Fellow Dave Morgan, Ph.D., is co-director of that effort with his wife and research partner Crickette Sanz, Ph.D. Together with a team of local research assistants and support staff, they've wandered the wilds of this ancient forest, using motion-triggered cameras to record never-before-seen ape behaviors in addition to studying how sustainable logging in nearby forests may help preserve these vital ape populations.

The research team maintains a low-impact presence in the forest, relying on tarps, tents and solar power to fuel their activities. All supplies are trekked in, and garbage trekked out, ensuring that the research footprint doesn't overwhelm the very habitat they're working so hard to study and save. "The scientists are very diligent about not damaging this ecosystem," says Ross. "Even the trails they use are invisible to the untrained eye. Believe me, if you're out there on your own, you can't tell the difference between a path and the forest around it."

How do the zoo's experts get to the Goualougo Triangle in the first place? The arduous process involves a flight to Brazza-ville followed by a jaw-rattling drive to the Congo River, where barges and canoes bring rare visitors to the gateway to the forest. From there, it's a grueling all-day hike through the swamp to base camp, offering travelers to the region a chance to immerse themselves in its wonders.

"You walk in past some of the largest trees I've ever seen," says Ross. "There's a lot of water in the area as well, with small rivers and bais (swamps) throughout the forest. You take off your

shoes to wade through the bais, and that leaves you knee deep in the swamps, not sure what's in the mud beneath you."

The labyrinthine path to the Goualougo Triangle is one of the factors protecting it. The 95,000-acre region is protected, having been incorporated into neighboring Nouabale-Ndoki National Park by the Congolese government in 2012. As Ross notes, the waterways surrounding the area prevent incursions from humans looking to grow crops or clear cut lumber.

The protected status is good news for the chimpanzees and gorillas studied by Morgan and his team, but they aren't the only wildlife to call the Goualougo Triangle home. Dwarf crocodiles paddle through the waterways as red river hogs root through the underbrush for fruit. De Brazza's monkeys, black-and-white colobus and Allen's swamp monkeys also join the treetop chorus of Goualougo species that are represented at Lincoln Park Zoo.

The animals are not easy to spot in their native habitat. "You can see signs of animals—pig scat, the occasional bird call," says Ross. "But because there are so few people, it seems like the animals hear you coming and clear out."

Sounds carry far in the pristine forest, which is alive with plenty of noises of its own: the buzz of insects and frog calls, even the crash of elephants trampling through the vegetation. Visitors who've made the trip from noisy Chicago report that they have trouble sleeping amidst this chorus.

That liveliness is what makes the Goualougo Triangle so vital to protect. "With increasing urbanization around the world, we simply have fewer and fewer places that remain untouched by humans," says Ross. "The Goualougo Triangle is one of them, and Lincoln Park Zoo is proud to be part of the effort to protect it."



Trek to the Forest

See what it's like to travel to the Goualougo Triangle with zoo scientists at lpzoo.org/magazine.

A Sweeping Savanna

BY CRAIG KELLER

East Africa's Serengeti region seems almost mythical. A seemingly endless savanna, it teems with countless wildlife species, from dwarf mongooses to elephants, lovebirds to flamingos, chameleons to crocodiles. And, of course, powerful predators ever in pursuit of swift prey: the lions, leopards, hyenas and cheetahs that hunt gazelle, zebra, eland and kudu.

This ancient ecosystem spans 12,000 square miles from southern Kenya's Maasai Mara National Reserve to northern Tanzania's Ngorongoro Crater. The Serengeti's grasslands—dotted with rocky outcrops called kopjes that shelter small mammals, reptiles and insects—are nourished by volcanic soils and highly cyclical, seasonal rainfalls that determine plant growth and the resulting migrations of grazing species that depend on its availability.

The Serengeti is a model for global conservation, but balancing the needs of its wild inhabitants and surrounding human communities requires active management. Black rhinos once roamed the region but now don't due to poaching. In 1994, a third of the lions in Serengeti National Park died from a canine distemper outbreak fueled by flareups of the disease in domestic dogs living in villages along the park's fluid borders. That fol-

lowed the extinction of African painted dogs in the park from rabies, canine distemper and hunting by farmers protecting livestock.

Still, thanks to careful intervention, this iconic ecosystem is on the upswing. The lion population recovered. Encouragingly, about a half dozen painted dog packs now live in the park thanks to a gradual, managed reintroduction in the wake of the species' sudden reappearance about 15 years ago in northeastern Tanzania.

Part of the credit for the recoveries of these predator populations is due to the Serengeti Health Initiative. This massive effort, led over the past decade by Lincoln Park Zoo, aims to create a disease-free buffer zone around Serengeti National Park by inoculating domestic dogs in the region against rabies, canine distemper and parvovirus. More than 1 million dogs in a 6.2 mile zone of villages have been vaccinated. Rabies among domestic dogs, wildlife in the park and people in these communities has been virtually eliminated.

"Successes like the reestablishment of wild dogs in the Serengeti highlight the need to maintain the vaccination program," says Serengeti Health Initiative Research Coordinator



Anna Czupryna. "Monitoring for potential outbreaks ensures this growing population of critically endangered carnivores can continue to thrive."

Animals aren't the only beneficiaries. "Mitigating rabies exposure eliminates not just human deaths," adds Czupryna, "but also the burden of post-exposure medical treatment and even livestock loss—major hardships for communities already struggling with poverty."

The Serengeti Health Initiative isn't solely focused on vaccination. The initiative provides continuing education for local members of the vaccination team. It also involves village leaders and district livestock officers in data collection (household questionnaires, vaccination coverage, dog ecology), which provides training and employment opportunities for residents.

Of course, nature doesn't always neatly comply with intervention efforts. Researchers affiliated with the Serengeti Health Initiative have learned that canine distemper virus might now be established among several wild carnivore species. No longer solely spread by domestic dogs, the virus may be creating new vectors to infect carnivores including lions. One theory is that the virus is transmitted among species scavenging the same carcasses.

Still, the comprehensive vaccination program is a boon for public and wildlife health alike. And zoo scientists continue to study how to improve the region's conservation outcomes. To better understand how reintroduced painted dogs are coping in the Serengeti, for instance, Davee Center for Epidemiology and Endocrinology Director Rachel Santymire, Ph.D., devised a fecal-collection field kit using samples from the zoo's painted dog pack at Regenstein African Journey. It processes feces in the field via an ethanol solution, filter paper and test tubes.

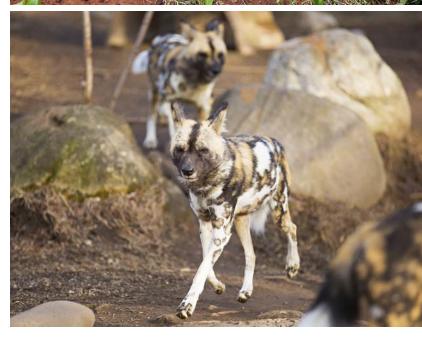
"Instead of bringing back feces, we can bring back extracted hormones, since it's tough to keep fecal samples frozen from Serengeti to Chicago," says Santymire. "Analyzing those hormones would allow us to determine the stress of the dogs' translocation process, and analyzing reproductive hormones can teach us how breeding cycles might affect group dynamics in this highly social species."

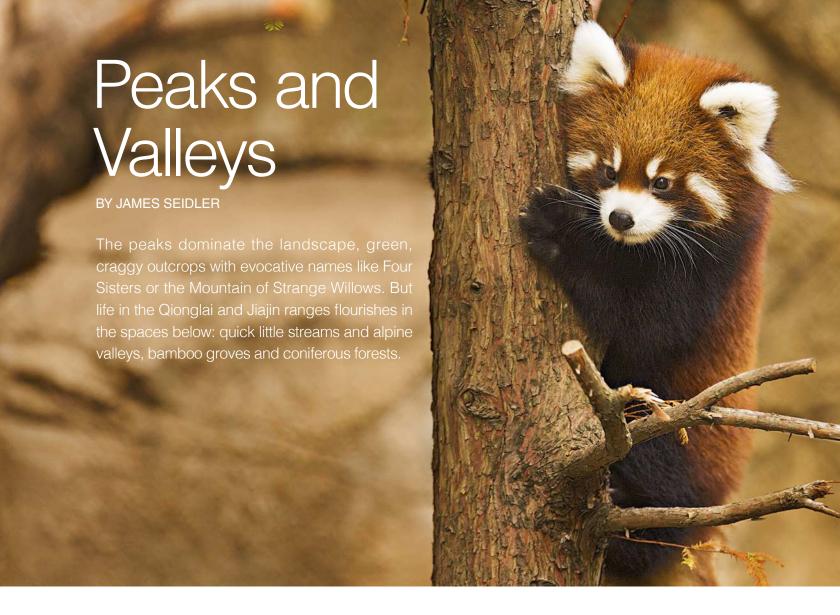
So the next time you visit the zoo's painted dogs, realize that they too are contributing to the Serengeti's circle of life...an amazing interconnection a world away.

Giraffes and zebras browse and graze side by side in the Serengeti (opposite page), while the region's iconic lions (right, top) roam the grasslands seeking prey. Serengeti Health Initiative Research Coordinator Anna Czupryna (middle) and her team vaccinate dogs in nearby villages to prevent rabies and canine distemper transmission, which may help African painted dogs (bottom) repopulate the savanna.









This varied landscape provides niches for some of the world's best-known wildlife. Rich with bamboo, it's home to more than 30 percent of the globe's giant pandas. Hundreds of cubs were born at the region's Wolong Panda Center, although that facility was damaged in the larger devastation of the 2008 earthquake that roiled the region. (A new center is being built in the nearby town of Gengda.)

"Wolong consists of these big rolling hills that are just covered in bamboo," says Senior Vice President Megan Ross, Ph.D., who spent time working with pandas in the region in 1998. "You can see why pandas would thrive there."

While giant pandas are a focus, the ecosystem is home to hundreds of species, everything from Sichuan takin to cinereous vultures. They roam the Sichuan Giant Panda Sanctuaries, a 2 milllion-plus acre area encompassing seven nature reserves and nine scenic parks. More than 5,000 species of plants flourish among climate zones ranging from temperate to tropical. The mountains shelter "relict" species that flourished in paleo-tropical forests that dominated the landscape 2 million years ago, including dove trees and the giant pandas themselves.

Heading Up

What are some species you might see as you climb these hills? Cinerous vultures, which live at Regenstein Birds of Prey Exhibit, could be among the familiar faces. These wide-ranging scavengers inhabit grasslands and mountainous forests from northern Africa through Thailand. In the eastern part of their habitat, they can range up to 14,000 feet in elevation, feeding on carrion.

Another bird that flies among the Sichuan foothills is the collared finch-billed bulbul. These colorful songbirds, which flit and fly at the McCormick Bird House, also range through China, favoring hilled forests from 4,000–5,000 feet. There, the green birds feed primarily on fruits.

The Sichuan takin that graze at the Antelope & Zebra Area are a hearty hillside species, inhabiting elevations from 4,000–14,000 feet. The large goat antelopes live in herds that can reach 200–300 individuals; they migrate seasonally in search of grass and shrubs, climbing in summer and retreating in winter. Thick coats ensure they're well adapted to Sichuan—and Chicago—weather, although animal care staff here offer a little extra cooling in summer. "We shave their bellies in the summer to help them keep cool," says Curator Diane Mulkerin.

The red pandas that call the Kovler Lion House home—



breeding pair Phoenix and Leafa—represent a species that ranges through forests reaching 4,000–10,000 feet in elevation. Like the giant pandas they share a name with (although not much genetic kinship), red pandas feed primarily on bamboo, using a "panda's thumb"—an extension of the wrist bone—to grasp fruits and branches. The species' vivid coloration actually serves as a kind of camouflage in the wild. "Their coloration lets them blend in as you're looking up at moss-and-lichen—colored trees," says Curator of Mammals Mark Kamhout.

Who might be looking up for red pandas? A primary predator is snow leopards, which prowl mountain forests from 4,000–12,000 feet. These well-insulated big cats rely on large leaps to ambush prey such as sheep, boar and deer. Lincoln Park Zoo's snow leopard, Taza, actually lives just two habitats over from the red panda family, a nice bit of symmetry that safely mirrors their wild relationship.

Even with their frosty names, snow leopards are unlikely to venture to the top of the Four Sisters. They prefer to pursue their prey at lower elevations, where it's more plentiful. But even as the mountains shape the landscape, it's the animals that roam them that give the area its unforgettable character, dizzying us with elevation...and species that can't be found anywhere else.



A red panda cub (above, left) blends in with tree bark, a helpful adaptation in the wild for evading predatory snow leopards, represented at the zoo by male Taza (above, right). Green plumage lets a collared finch-billed bulbul (above), another species native to mountainous forests in Asia, blend into leafy habitat at the McCormick Bird House.

Island Hopping

BY CRAIG KELLER

Island species are among the most unique animals on the planet. They evolve more quickly—and surprisingly—than continental species, largely due to the absence of predators or competitors for resources. Flightless birds, giant lizards and miniature water buffalo are among the most unusual examples of island ecology.

But the isolated environments that make these animals unique also make them more susceptible to extinction. Their populations are smaller, with lower genetic variation, and they've often lost defensive adaptations that were no longer needed—until humans and affiliated invasive species show up.

Not every island species goes the way of the dodo. Collaborative conservation and restoration efforts can mitigate threats and create balanced ecosystems where people and native wildlife thrive alongside each other. We take a look at the island homes of three species you can see at Lincoln Park Zoo.

Guam

Stowing away on planes and ships, the brown tree snake—an arboreal species native to the South Pacific—invaded Guam in the 1940s and proceeded to wreak havoc, causing the extinction of most of the island's forest-dwelling vertebrates, who had no defense against the nocturnal reptile predator. By the 1980s, 10 of 12 native bird species had been wiped out, including the Guam rail, a small, brown, flightless ground bird.

Lincoln Park Zoo has long played an active role in the Guam Rail Species Survival Plan*. This shared conservation effort by zoos throughout the Association of Zoos and Aquariums (AZA) has contributed to carefully managed reintroductions in the wild. Senior Vice President Megan Ross, Ph.D., has teamed with scientists from other AZA zoos and the Guam Division of Aquatics and Wildlife Resources in recent years to release rails on Rota and Cocos islands. Snakes are absent from these densely forested islands north and south of Guam, but predatory threats remain in the form of stray dogs and cats and an invasive monitor lizard locals are trying to remove.

While the recovery effort requires local vigilance, its success also depends on a global network of support. "Guam has a captive facility with more rails than the entire population of North American zoos," says Ross. "Our rails are a vital backup against threats like super typhoons that could wipe out the whole wild population."

Aru Islands

Reptiles aren't always seen as cuddly, but they can also benefit from a helping human hand. Take the Aru Islands, a cluster of nearly 100 low-lying islands in eastern Indonesia, where the black tree monitor is among the indigenous species currently

facing a threat from human development.

The islands' broadleaf rainforests, savanna and mangrove swamps are also home to kangaroos, cassowaries, palm cockatoos and four species of birds of paradise. But this unique habitat has natural resources beyond its wildlife. Permits have been awarded to a private company looking to convert half of Aru's forests to sugar plantations—despite protests from Aru's indigenous people and outside supporters.

Increasing tensions between commercial development and land conservation are likely inevitable in our urbanizing world. For the time being, Aru's trees are still standing, even as the black tree monitor at Regenstein Small Mammal–Reptile House represents an uncertain landscape back home.

Japan

Japanese macaques, like our troop at Regenstein Macaque Forest, successfully coexist with millions of people on Japan's three southern islands. The world's northernmost-living non-human primate is well adapted for cold climates, with thick fur, bulky bodies and tiny tails helping them to thrive in chilly settings. Still, the species' common name—snow monkey—isn't necessarily indicative of the weather in its native home.

"Most of them, including our troop, live in temperate forests where it snows maybe once a year," says Steve Ross, Ph.D., director of the zoo's Lester E. Fisher Center for the Conservation and Study of Apes. "The biggest difference between their habitats in Japan is the degree to which winter takes hold."

Winter does take hold more frequently in the northwest area of Honshu, where macaques famously take dips in hot springs to warm up when temperatures plunge and snow falls. The zoo's troop is native to the same central zone on Honshu...another island with a one-of-a-kind setting.

Zoo-based breeding programs provide a safety net for Guam rails (top, left), which have been decimated by invasive brown tree snakes on their namesake island. The zoo's Japanese macaques (top, right) represent an island species that's had more success coexisting with people while the native Aru Islands home of the black tree monitor (bottom) may be imperiled by commercial development.





Learning Begins at Home

BY JAMES SEIDLER

Howler monkeys whooping high in the canopy. Lion prides stalking the savanna. Chimpanzees rushing through the forest, Sichuan takin grazing alpine meadows and kangaroos hopping, springlike, through the bush.

For wildlife lovers, exotic encounters like these fuel the imagination, underscoring that there's a whole world of wildlife out there to appreciate—and protect. For zoo educators, though, these remote species represent a bit of an advanced class in the careful process of getting kids to connect with nature.

Looking Local

"We're trying to introduce students in Chicago to animals in our own backyards," says Director of Education Allison Price. "Chicago is an authentic living laboratory for zoology and biology, and research shows that engaging kids in their own naturescapes may help them be more interested in becoming conservation-minded adults."

This local focus is rooted in special initiatives across the zoo curriculum. The zoo's Partners in Fieldwork program, for instance, links students in select Chicago high schools with scientists in the Urban Wildlife Institute to observe the wildlife inhabiting their schoolyards. Laser-triggered cameras and acoustic monitoring systems are among the tools used to tally local species from raccoons to robins. It's a collaborative process that exposes the students to real science while also building the Urban Wildlife Institute's library of Chicago wildlife sightings.

Similarly, participants in the citywide Young Researchers Collaborative, which targets middle-school science classrooms, do projects comparing species in their neighborhood with wildlife at Lincoln Park Zoo. The year-long process, which includes a mix of zoo and classroom visits, culminates in a Science Celebration at Café Brauer, where zoo scientists share their own work—and hear what the students discovered.

A new program from the Hurvis Center for Learning Innovation and Collaboration is extending the local focus this year. The Chicago Environmental Stewards initiative has zoo educators working with fifth-grade classrooms across the city to promote environmental stewardship in the classroom and raise awareness about local wildlife. The program also harnesses classroom visits and zoo outings alongside expert guidance from Urban Wildlife Institute scientists about how to be "PRO Wildlife: Protect, Restore, Observe." (The tips include everything from not feeding wildlife to building houses for native birds and bats.)

"We do a lot of activities to prompt our stewards to think about how they might affect different animals," says Hurvis Center Director Stephanie Bohr. "The program culminates with a stewardship action on school grounds to benefit local wildlife."

"Individual" Instruction

Of course, a focus on local wildlife doesn't mean kids can't enjoy the unbridled fun of visiting the zoo. The zoo experience remains a critical part of zoo educational offerings, although the emphasis shifts as participants age.

"With older kids, we can focus more on geography and ecosystems and some of the other big wildlife concepts," says Price. "With younger kids, though, it's important to focus on the individual animals in front of them—Kwan the gorilla or Sahar

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Middle schoolers in the Young Researchers Collaborative program cap off their year of wildlife studies at an annual Science Celebration at Cafe Brauer hosted by the Women's Board of Lincoln Park Zoo.



the lion. That moment, and that animal, can be a catalyst that inspires deeper curiosity down the road."

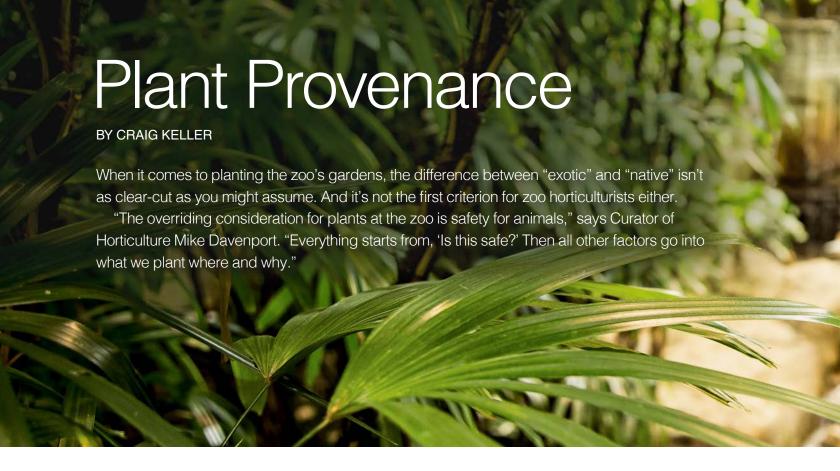
The personal focus doesn't center solely on the animals either. New programs are also piloting using students as peer ambassadors to share messages of conservation and care. Chicago Environmental Stewards, for instance, is exploring whether its fifth-grade participants can mentor younger students about environmental advocacy. Similarly, the Hurvis Center's new Conservation Ambassadors Board has teen participants developing events to introduce peers to zoo conservation efforts.

The Conservation Ambassadors Board's inaugural event, Chimps at Dusk, took place at Regenstein Center for African Apes in January. The teen-organized event shared the chimpanzee-advocacy efforts of Lincoln Park Zoo's Project ChimpCARE with fellow teens via a range of special activities, including trivia and games and a lecture from Steve Ross, Ph.D., director of the Lester E. Fisher Center for the Study and Conservation of Apes. A "Behind the Scenes vs. On the Screen" theme underscored how unnatural portrayals of chimpanzees in entertainment diminishes their welfare and conservation, and it closed by encouraging guests to pledge to avoid products showing chimpanzees in anthropomorphic settings.

It was a familiar message on the zoo's side—and an exciting opportunity to share it with a new audience. If learning is local, it's hard to think of a better portal to knowledge than one's peers.

Conservation Ambassadors Board participants (top) debuted the new program with a chimpanzee-focused evening program while teens in the Partners in Fieldwork program (right) visited Nature Boardwalk at Lincoln Park Zoo to hone their wildlife-monitoring skills.





Defining "Native"

Prioritizing native plants naturally suited to the landscape is a popular horticultural approach these days, and Midwest natives can be found across the main zoo grounds and at Nature Boardwalk at Lincoln Park Zoo. These "locals" include plants bred for vigor, disease resistance, flower color, height and other horticultural attributes—for example, Penstemon digitalis, a native wildflower with green foliage and pure white flowers. There are also penstemon cultivars like "Husker Red" (reddish foliage, cream flowers) and "Pink Dawn" (a dwarf cultivar with pink flowers).

Some plants are hybrids between regionally native plants and plants native to other regions of North America or even Old World species. Take "Obsidian," a heuchera (alum root) cultivar with shiny, almost-black leaves. It's a hybrid of three North American native heuchera species from the Pacific Northwest, Midwest and Southeast. "I don't know if you can call it 'native' or not, but wild cottontail rabbits don't care as they hungrily munch on the leaves," notes Davenport wryly.

The zoo's Main Mall includes 30 taxa in new garden beds, with a focus on plants that can thrive at that site and offer interest through four seasons. Of the 30 taxa, 12 are native selections. Lots of pollinators are attracted to the new plants, including "Pink Cotton Candy," a non-native betony that summons butterflies to its nectar. The beds also feature "Jazz," a selection of little bluestem grass that grows a bit smaller than the straight native, doesn't flop over in autumn rains and has exceptional fall foliage. The Main Mall's new elm trees are a native selection, "Princeton," chosen for its resistance to Dutch elm disease.

Nature Boardwalk at Lincoln Park Zoo is primarily prairie,

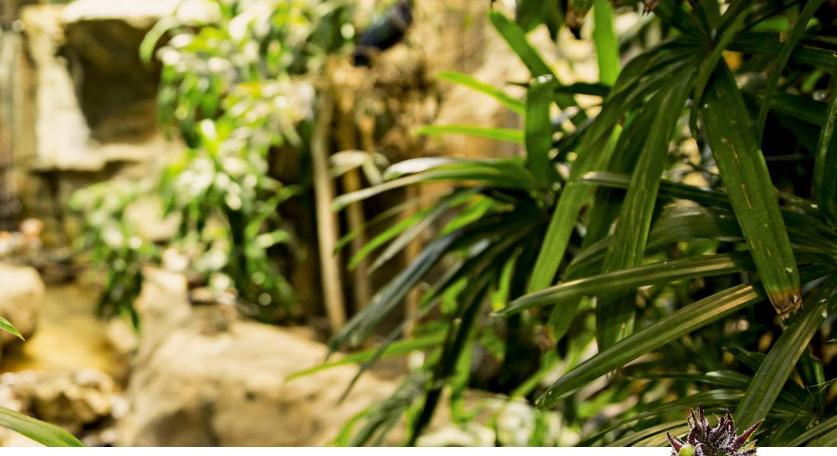


but it does have non-natives. Some trees, like weeping willow and horse chestnut, existed before the ecosystem exhibit's 2010 debut. False spiraea helps prevent erosion on the steep slopes around the Ulysses S. Grant Memorial tunnel.

Just south of the Lester E. Fisher Bridge, zoo gardeners are planting straight native (upper Midwest) species. "We're saving native selections and cultivars for the areas around Café Brauer and donor gardens throughout the zoo," says Davenport.

A Triumph for Elms

The zoo's tree canopy serves many needs: shade for guests and animals, alleviation of flooding and nutritious browse for zoo animals and local wildlife. With the invasive emerald ash borer insect damaging so many ash trees and necessitating ash removals, zoo gardeners are actively planting shade trees around the



zoo and will be for years—even as they prioritize treating some of the top resident ash trees to protect them.

"Our preferred tree replacements skew native, but many factors go into why a certain tree is planted in a certain place," says Davenport. "One of our 'silver bullet' trees is the 'Triumph' elm, a tree bred at Morton Arboretum between a cross of two hybrid elms with parents of Asian origin—clearly an 'exotic' plant. It's been a reliable street tree in Chicago, though, with good resistance to pollution, salt, Dutch elm disease and the elm-leaf beetle."

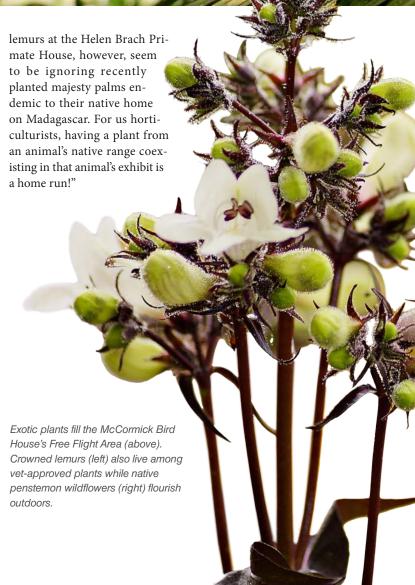
Elms are also non-toxic and provide good browse for the zoo's herbivores. Two large Triumph specimens now rise at the southeast corner of the Antelope & Zebra Area. Besides offering shade for the nearby exhibits, these exotics will provide food for the Bactrian camels for many years.

Tropical Interiors

Every living interior plant at the zoo is exotic, including the palms in Regenstein Small Mammal–Reptile House, the Free Flight area at the McCormick Bird House and Regenstein African Journey. "We've expanded our palette of interior plants to increase diversity," says Davenport. Given these plants' immediate proximity to animals, the choices are guided by Katherine Gamble, D.V.M., the zoo's Dr. Lester E. Fisher Director of Veterinary Medicine.

As is typical in interiorscaping, insect pests are an issue. Gardeners actively replace plants susceptible to insect damage with others that are more resistant.

"We're also challenged by zoo animals eating or shredding the plants in their exhibits," says Davenport. "The crowned



news of the zoo

Chimp Haven Partnership

In 2015, Lincoln Park Zoo began an unprecedented collaboration with northwest Louisiana's Chimp Haven sanctuary, the National Chimpanzee Sanctuary, which is home to approximately 200 chimpanzees retired from use in biomedical research. This is the first partnership between an accredited zoo and a major chimpanzee sanctuary. Supported by the Arcus Foundation, the team-up aims to harness each organization's commitment to chimpanzees to improve education, research and care.

"We're interested in questions like 'How does the amount of physical space chimps have affect their behavior?;" says Steve Ross, Ph.D., who serves as the director of the zoo's Lester E. Fisher Center for the Study and Conservation of Apes as well as chair of the Board of Directors at Chimp Haven. "Some of these chimpanzees have six acres of forested land available to them. How does that opportunity affect their welfare?"

Fisher Center Research Fellow Bethany Hansen, Ph.D., started working on site at Chimp Haven in October 2015 and has already collected behavioral data on a subset of 50 chimpanzees. Prior to initiating this new position, Hansen spent five years studying wild chimpanzees at the Ngogo Chimpanzee Project research site in Kibale National Park, Uganda.

Researchers plan to install camera traps in that habitat to monitor behavior. Ross says the Chimp Haven team is also assessing ways to build more chimpanzee housing on 200 acres of donated park land. "We want to boost the number of chimps to 300," says Ross. "Currently, many chimps retired from biomedical research are in a queue waiting for an appropriate home. We're collaborating with labs and the National Institutes of Health to figure out when, how and where they can be moved."

Polar Bear and Penguin Exhibit Update

Construction of the Walter Family Arctic Tundra and Robert and Mayari Pritzker Penguin Cove in the northeast corner of the zoo has significantly progressed over the past several months. The side-by-side exhibits for polar bears and African penguins will include immersive viewing features for visitors and exhibit designs informed by observations of the species' natural behaviors in their wild habitats. Critically, the zoo will be able to house polar bears—a solitary species except during breeding and when mothers raise cubs—in two separate areas. Next door, the penguins' behind-the-scenes area, nest boxes, pool and public cove are taking shape. The exhibits are on schedule to open in fall 2016.

Chimp Experts Convene

Researchers at the Lester E. Fisher Center for the Study and Conservation of Apes are looking forward to August, when they'll host not just one, but two international primatology conferences in Chicago.

Chimpanzees in Context, taking place August 18–20, will bring together field biologists from chimpanzee study sites

across Africa and researchers who study chimpanzees in human care. The goal of the interdisciplinary gathering is to discuss contemporary research findings and expand knowledge of chimpanzee behavior and ecology.

Immediately following, the zoo hosts the 26th Congress of the International Primatological Society jointly with the 39th meeting of the American Society of Primatologists from August 21-27. This conference will feature primate-focused research talks by veterinarians, geneticists, psychologists, physicians, neuroscientists, anthropologists, zoologists, conservation biologists, ethologists, zoo professionals, technical personnel and field assistants from universities, NGOs, zoological parks, field stations, sanctuaries and research facilities throughout the world.



Taking place last October over three weekends, the zoo's first-ever Fall Fest included a pumpkin patch, Ferris wheel, fun slide, bounce houses, corn maze and hay mountain. Thousands of guests joined us for the seasonal fun, which will be back in 2016.





Sunny spirits and clever costumes filled the zoo October 24 at Spooky Zoo Spectacular, hosted by the Auxiliary Board of Lincoln Park Zoo. Thousands of merry masqueraders flocked to the free, family-friendly Halloween celebration to trick-or-treat, dance along with performers on the Main Stage and make fun crafts.

ZooLights Presented By ComEd and PowerShares QQQ glowed more brightly than ever, attracting a record 530,000 guests from November 27–January 3. The beloved holiday festival included three special nights—BrewLights Presented By Louis Glunz Beer, Adults Night Out and Members-Only Night at ZooLights—plus three Family Nights with free rides and free kids' meals. Imaginative light shows, visits with Santa and Ice Skating Presented By PowerShares QQQ at the Farm-in-the-Zoo guaranteed crowds of shiny, happy people. Additional generous sponsors included 93.9 MY FM, Aurelio's Pizza, Louis Glunz Beer Inc., Pepsi and XFINITY.

New partnerships and world-class conferences highlight Lincoln Park Zoo's chimpanzee leadership. The inaugural Fall Fest offered outdoor, seasonal fun last October.

wild file

Baby Monkeys Stand Out

Two fall arrivals at the Helen Brach Primate House offered a change of color for their family groups. The first was a little black-and-white colobus monkey, born to mom Kutaka and dad Keanjaha on September 15.

The little colobus, the first at Lincoln Park Zoo since Kutaka's birth in 2004, came out of the womb with fuzzy white hair, a marked contrast from the adults' black-and-white shading. Her coat darkened in the following months, though, going through a salt-and-pepper phase before arriving at a miniature version of mom and dad's colors. Black-and-white colobus monkeys live in forests across Equatorial Africa, feeding on leaves, fruit and other treetop tidbits.

A little Francois' langur also made a big impression when it was born at the Primate House December 2. Babies in the species have bright-orange hair, an adaptation that's thought to encourage parenting from other adults in the group. The color darkens to black in the first three–six months of life, but the early appearance makes new arrivals for the species easy to spot! These endangered primates are native to China, Vietnam and Laos; a multi-chambered stomach helps them digest a leafy diet.

Both of the new arrivals came about thanks to breeding recommendations from their respective Species Survival Plans*. Guided by the Association of Zoos and Aquariums (AZA) Population Management Center at Lincoln Park Zoo, these shared efforts see zoos throughout North America working together to manage healthy populations.

Snow Problem

The paired highlights continued with the snowy showings of two cold-weather species at the Kovler Lion House this winter. Pavel, an Amur tiger, headed out for the first time December 22. The 8-year-old male came to Lincoln Park Zoo from Pennsylvania's Erie Zoo as part of a recommendation from the Amur Tiger Species Survival Plan (SSP)*. No breeding is planned with geriatric female tiger Molly, but the two representatives of this solitary species will split time between the building's indoor and outdoor habitats. Native to Russia's Amur River basin, these critically endangered big cats are accustomed to cold temperatures in their native range—along with deer and elk to stalk.

Two more animals that stepped out into Chicago snow for the first time were red panda cubs Clark and Addison, who had their first flaky exploration December 30. The pair, born June 26, were eager to follow mom Leafa in climbing to eat bamboo treats set out by keepers. Native to mountain ranges from Nepal to China, this endangered species inhabits bamboo and evergreen forests from 4,000-10,000 feet, meaning they're well suited to Chicago winters. As winter shifted into spring, Clark and Addison prepared to "leave the nest" for new homes in other AZA institutions as Leafa and mate Phoenix once again have a breeding recommendation from the Red Panda SSP.







Recent zoo arrivals include a black-and-white colobus monkey baby and an adult male Amur tiger. Red panda cubs Clark and Addison explored Chicago snow—and got ready to leave the nest for new homes.

Mobile Clinic

Construction is underway for a new Learning Center next to the C.H. "Doc" Searle, M.D. Animal Hospital across from the upcoming Walter Family Arctic Tundra. The innovative home for learning will feature classroom space and resource rooms for youth and teens taking part in zoo education programs.

While the future is exciting, it's hard to offer expert care in the midst of a construction site, so the Veterinary Services team recreated their clinic at the south end of the zoo this January, taking over the second floor of the Antelope & Zebra Area. High-tech ultrasound and radiography equipment was carefully moved with the help of the zoo's Facilities staff, and everything from the zoo pharmacy to their surgical suite was reestablished, enabling the high standard of care delivered by the experts overseen by Dr. Lester E. Fisher Director of Veterinary Medicine Kathryn Gamble, D.V.M.

membership matters





Don't Miss a Zoo Minute









Want the latest updates on what's new at Lincoln Park Zoo, from zoo babies to upcoming events? Follow along on your favorite platform—and let us know how we're doing.

Rise and Shine

Our next free Members-Only Morning takes place from 8–10 a.m. on Saturday, April 23. Lincoln Park Zoo members will have exclusive access to the zoo before buildings open to the public. The Helen Brach Primate House, Regenstein Center for African Apes and the Antelope & Zebra Area will be featured, with the all-ages fun including hands-on learning, educator chats and special animal enrichment. No registration is required.

Pack a Picnic

The zoo's annual member celebration, SuperZooPicnic, will welcome our strongest supporters from 5–8:30 p.m. on Friday, June 10. Members will receive their postcard invitations in May. Members at the Safari level and above also receive two free tickets to this popular event, where members get the entire zoo to themselves and their guests. The after-hours fun includes animal chats, bounce houses, pie-eating contests, hula-hooping and dancing to a DJ and picnicking on the South Lawn!

Pith Helmet Not Included

We're busy scheduling free, exclusive tours for Safari-level members and above on the following dates:

- Saturday, July 23, 10 a.m., Zoo Detectives (family friendly);
- Sunday, July 24, 10 a.m., Step into Africa (adults only);
- Saturday, August 20, 10 a.m., 21st Century Zoos (adults only);
- Sunday, August 21, 10 a.m., Step into Africa (family friendly)

As with all our special member activities, details and registration will be available in June at lpzoo.org/memberevents, so bookmark that webpage to save a space! Advance registration is required for Zoo Safari Tours.

Merry-Glow-Round

Holiday spirits were high as the zoo held its third annual Members-Only Night at ZooLights. Lincoln Park Zoo members and their guests enjoyed exclusive access to ZooLights Presented By ComEd and PowerShares QQQ as well as free skate rental and ice time at Ice Skating at Lincoln Park Zoo Presented By PowerShares QQQ. The festive fun included Santa, Nadeau ice sculptors, crafts, a musical light show and the glittering joy of ZooLights! Members also enjoyed a 20 percent discount on purchases at Wild Things! gift shop and free rides on the AT&T Endangered Species Carousel and Lionel Train Adventure.

For one lucky member the perks kept coming. Safari-level member Melissa Sandor won a free behind-the-scenes tour at the zoo after filling out our event feedback survey and being chosen at random from respondents.

Members will enjoy up-close animal encounters and other exclusive fun at our next Members-Only Morning April 23, even as they enjoyed free rides on the Lionel Train Adventure at Members-Only Night at ZooLights.

calendar





Guests can make treat-filled enrichment for zoo animals at upcoming workshops and dash past habitats in the 38th annual United Run for the Zoo.

Step Out into Spring

As Chicago shakes off the last chills of winter, Lincoln Park Zoo has plenty of fun activities for families and adults alike!

Have you ever wanted to decorate enrichment for Lincoln Park Zoo's animals? Guests of all ages can this spring with our **Animal Enrichment Workshops**. These crafty sessions (\$5 registration fee) will let participants shape holiday-themed treats for animals on April 9 and May 7 and 8.

Crafts are also part of the fun at our annual **Easter Egg-Stravaganza**, which takes place March 26. This ticketed event lets little ones meet the Easter Bunny and enjoy a pancake breakfast, egg hunt and free rides on the AT&T Endangered Species Carousel and Lionel Train Adventure.

School-aged kids can spend spring break learning at the zoo with our weeklong **Spring Break Camps** starting March 28 and April 18. And families with kids ages 5–12 can **Campout at the Zoo** July 9, 16 and 30 and August 13 and 27. You snooze, you lose; registration opens for members on April 5.

Grown ups looking for a one-of-a-kind activity can take part in our new, after-hours **Lincoln Park Zoo Challenge** on May 6. Reserve tickets today to dress in costume, solve clues and compete for awesome prizes!

Other special spring events include our first-ever **Food Truck Social** on May 21. This tasty get-together features top Chicago eats with live music and special activities. Adults 21 and over can also raise a glass at the **Brew to Be Wild** beer festivals on June 17 and 18, featuring DJ fun and 75+ specialty beers.

Support the zoo—and dance the night away—with our Auxiliary Board's signature fundraiser, **Zoo-ologie**, on May 14. This year's theme, Urban Zoo-Fari, will combine gala elegance with safari excitement.

Finally, if fitness is part of your spring awakening, hit the starting line for **United Run for the Zoo** on June 5. You can also stretch out at Nature Boardwalk at Lincoln Park Zoo with **Yoga at the Zoo Presented By Walgreens**, which begins June 1.

Upcoming Events

March 26

Easter Egg-Stravaganza

March 28

Spring Break Camp

April 9

Earth Day Animal Enrichment Workshop **April 18**

Spring Break Camp

April 23

Members-Only Morning

May 6

Lincoln Park Zoo Challenge

May 7 & 8

Cinco de Mayo Piñata Party Animal Enrichment Workshop

May 14

Zoo-ologie: Urban Zoo-Fari

Learn more and register at lpzoo.org/calendar



PO Box 14903 Chicago, IL 60614 Ipzoo.org Your membership supports everything we do, from animal care to publishing Lincoln Park Zoo magazine.

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Bring the Zoo Home with You

They can't bring a lion or gorilla home with them. But kids can connect with their favorite zoo animal with an ADOPT gift package. ADOPTs include a cuddly plush, certificate of ADOPTion, magnet-frame photo and fun animal facts. They also support care for the zoo's animals! Shop ADOPT at lpzoo.org/ADOPT, Gateway Pavilion or Wild Things! gift shop.

Vicarious Care

You can also support animal care at Lincoln Park Zoo by shopping the zoo's Wish List. Updated monthly, it includes nutritious treats and enrichment items to encourage natural behaviors. Shop lpzoo.org/wishlist.

See What's New

Want new arrival updates, event announcements, photos, videos and more? Find us on Facebook, Twitter and Instagram—and share your own zoo experiences!

