

35 Tips for Summer ♦ A Case Study on Foreclosure

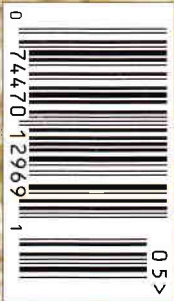
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What's Best for Scotty?

Sizing up a zoo elephant's future



What's **Best** for



Scotty?

Concerns about confining exhibits and higher mortality risks for elephants in captivity raise a big question: What can the Louisville Zoo do to ensure a bright future for its biggest celebrity?

BY JENNI LAIDMAN • PHOTOS BY JOHN NATION

In late March, several hundred people crowded around the elephant exhibit at the Louisville Zoo to watch Scotty the African elephant celebrate his second birthday. The youngster marched around the yard while the zoo loudspeaker blared an endless loop of “Baby Elephant Walk.” On command he sat upright and raised a chubby leg; he stood on a small table in time-honored circus fashion and posed; he lay down and got back up again. Then he followed two adult elephants to his birthday “cake” of straw and vegetables and occasionally dashed beneath his mom’s trunk to grab a morsel and run away. Meanwhile, the two bigger elephants tore the cake to bits and grabbed most of the good stuff.

Little boosts a zoo’s gate receipts like a new baby, especially among the “charismatic megafauna,” the big animals people love to see. Elephants are as mega as they come, and Scotty is nothing if not charismatic. But



On his second birthday, Scotty shows his human admirers a trick or two.



these days, the birth of an elephant is about more than annual attendance figures, or even the desire by zoos like Louisville’s to increase the number of homegrown animals so visitors can appreciate their wild counterparts. Instead, elephants are emerging as the newest symbol in the ethical battle over animal captivity. As in other fights over keeping wide-roaming species such as polar bears captive, or caging our closest relatives, the great apes, the argument is emotional and difficult. It asks whether any zoo, even the very best with the most dedicated staff, is capable of raising and providing a proper environment for Scotty and elephants like him. It points to mistakes in the past and problems in the present.

It can make a guy like Dave Campbell, the Louisville Zoo’s elephant-area supervisor, seem like he’s operating in the eye of a hurricane. Lured into elephant training when he saw the zoo’s onetime keeper, Robert “Smokey” Jones, letting an elephant go for a swim, Campbell has devoted his life to the animals. When Mikki, Scotty’s 23-year-old mother, was ready to give birth in 2007, he spent months living in the elephant barn to make sure everything went perfectly. These days, his teenage daughter, Mallory, will call him and ask, “How’s my little brother?”

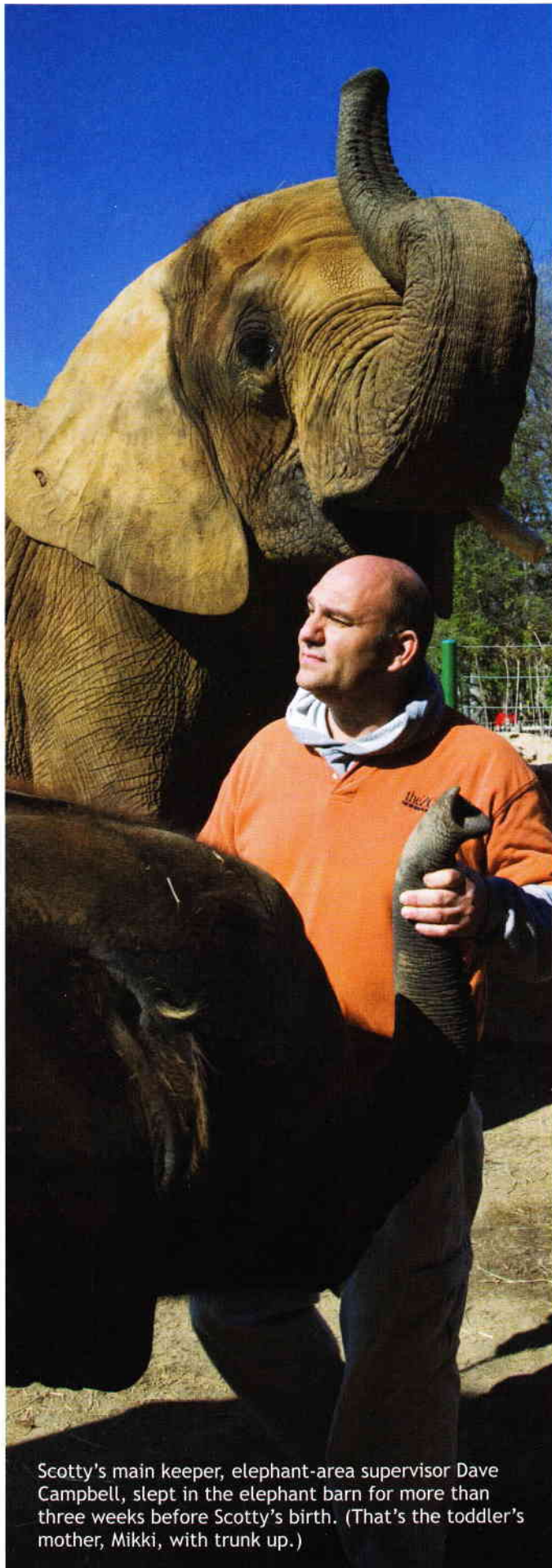
On about day 600 of Mikki’s long pregnancy, Campbell threw a mattress in the corner of the elephant barn. At least theoretically, Mikki could have given birth any day then. Campbell wasn’t going to leave her alone to sort this out by herself. If she’d ever seen a baby elephant before, it was when she was a baby herself in Zimbabwe. Now she was having one. Instinctual maternal behavior does not always take over at moments like these. It’s not unheard of for zoo animals to reject and even attack their newborns. Mikki is a good elephant, Campbell says. She’s companionable with Punch, the 39-year-old Asian elephant she lives with. But this was new territory for everyone. So Campbell spent his evenings tidying up, baby-proofing the barn and watching reruns of “Mama’s Family” on the single television station he

could pick up. He wanted to keep everything clean, just in case the infant surprised him and Dr. Roy Burns, the zoo’s chief veterinarian. Elephants produce about 200 pounds of feces a day. It kept Campbell busy.

Critics attack almost every aspect of zoo elephant keeping, condemning animal-training methods, postage-stamp-size exhibits, ill health, short lives and high infant mortality. “Zoos nationwide are failing to provide an environment that meets the needs of elephants — the physical needs, the medical needs, the emotional needs,” says Susan Roy of the California-based organization In Defense of Animals. In the last 10 years, nearly a dozen city zoos have either gotten out of the elephant business or announced they will when their animals die, including Detroit, Chicago, Philadelphia and San Francisco. While most facilities deny they are bowing to activist pressure, the heat can be intense. In Defense of Animals publishes a list annually of the “Ten Worst Zoos for Elephants.” Last year it listed Houston, San Antonio and Los Angeles as 1, 2 and 3, respectively. Then the organization joined a star-studded battle to stop the Los Angeles Zoo from upgrading its elephant facility. Protestors who said the zoo’s lone elephant belonged in a sanctuary, not a zoo, included celebrities Bob Barker, Lily Tomlin and Cher. Onetime Guns N’ Roses guitarist Slash favored expansion. Slash won. The L.A. City Council approved the expanded elephant exhibit in January.

The Louisville Zoo intends to continue its commitment to elephants too, director John Walscak says. “We’d like to build a new facility by the time Scotty is 15, 16 years old.” Eventually, Scotty will be 11 feet tall, too big to go through the 10-foot doors at the elephant barn. By that time also, he’ll have to be separated from Mikki and Punch, which will make giving all the elephants adequate time outdoors more com-





Scotty's main keeper, elephant-area supervisor Dave Campbell, slept in the elephant barn for more than three weeks before Scotty's birth. (That's the toddler's mother, Mikki, with trunk up.)

plicated in the one-acre elephant exhibit. A bigger, stronger elephant also requires a bigger, stronger enclosure. Once Scotty reaches sexual maturity, there will be an additional behavioral challenge, the elephant version of rut (sexual excitement) called musth, which occurs at first intermittently and eventually once a year. During musth, elephants are notoriously single-minded and aggressive. Testosterone levels may be 60 times higher than they are the remainder of the year. Any new elephant exhibit would be built to deal with all those factors.

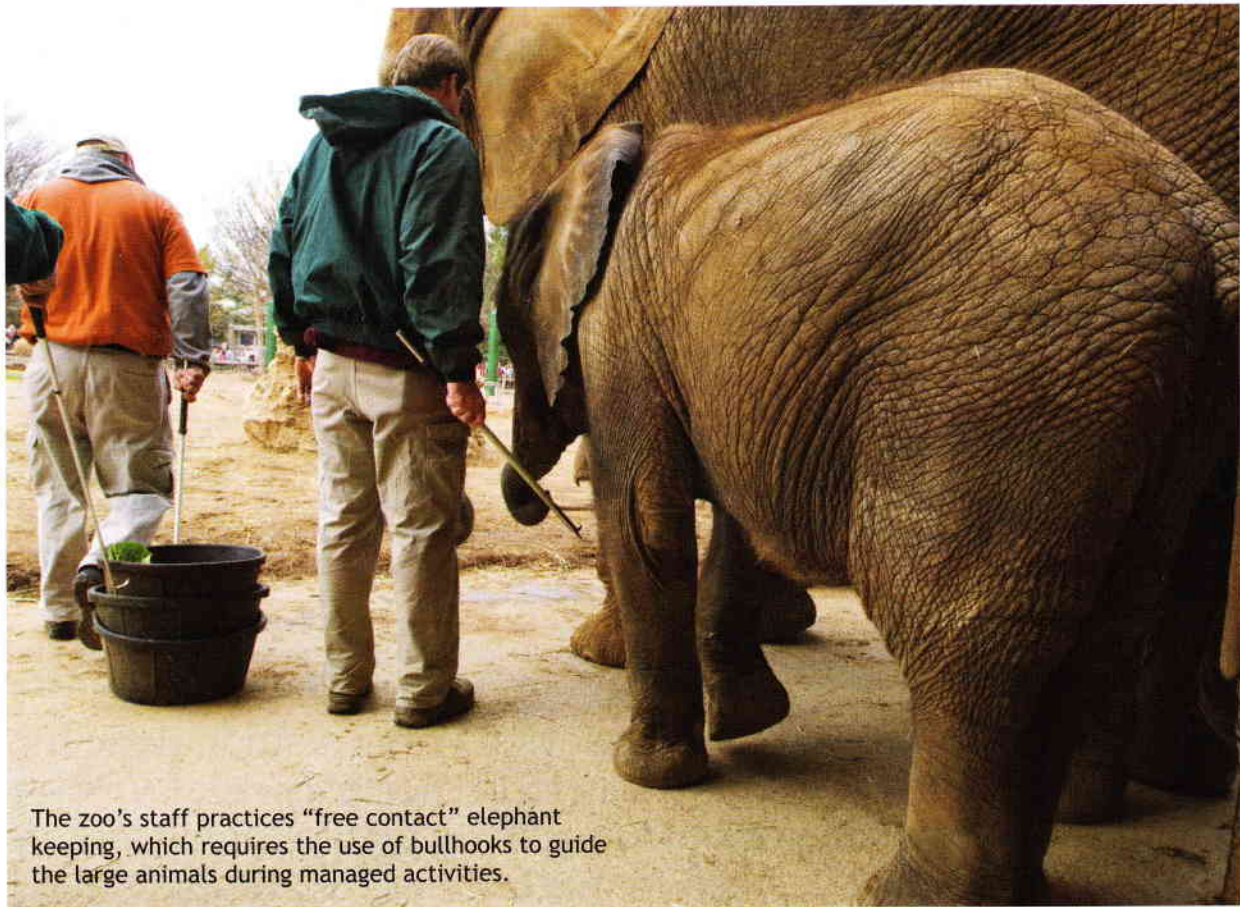
Plans like those in Louisville, and L.A.'s stance in the face of vocal opposition, is why zoo elephant expert Mike Keele, deputy director of the Oregon Zoo in Portland, says he sees not a retreat from elephants, but a growing commitment to elephants by zoos. Keele leads two advisory groups on elephant issues in the national Association of Zoos and Aquariums (AZA). "People say zoos are getting out of elephants, but that's not the trend I see," he says. "We're getting better about defining what it takes to provide optimal care." Zoos leaving the field have simply faced facts about the level of commitment necessary to house elephants, he says. In the meantime, a few zoos, including Portland's, are going one better than creating a new exhibit. That city recently passed a bond issue to allow it to buy a couple hundred acres off zoo grounds for the care of elephants.

In the last 10 years, nearly a dozen city zoos have either gotten out of the elephant business or announced they will when their animals die.

"That would be an improvement," acknowledges In Defense of Animals' Roy. "Elephants are free-ranging animals in the wild. They walk tens of miles a day. Their bodies evolved to walk long distances," she says. When zoo exhibits are small, elephants suffer from a variety of ailments, the most prevalent being arthritis and foot disease. "It probably also contributes to the reproductive problems that elephants suffer," she says. Louisville Zoo staff say they're ahead of the game. Their elephants have never had foot problems, keepers say. And now they have a proven breeder in Mikki.

Dr. Dennis Schmitt, a veterinarian and professor of agriculture at Missouri State University, has midwifed the births of nearly 50 elephants and aided in the conception of about half of those calves with an artificial-insemination technique he perfected. In 2005, Mikki was one of the elephants so inseminated. A long tube was inserted into her vagina and up three feet or so to about the level of her tail, where it made a 90-degree turn. The vet fed an endoscope through the tube, which allowed him to see what he was aiming for: the center of three holes in the hymen, each the width of a pencil. (Unlike most mammals, the elephant hymen doesn't rupture until childbirth.) Through that entry Schmitt delivered a cocktail of sperm from at least two bull elephants. Throughout Mikki's pregnancy, zoo staff drew her blood to test for the hormone that sustains pregnancy, progesterone. Somewhere around day 625, Campbell noted Mikki's teats swelling. At about the same time, her progesterone plummeted. Zoo veterinarian Burns knew it wouldn't be long then. While keepers kept the expectant mother calm, Burns greased his arm and reached into the animal's rectum up to his shoulder to palpate the uterus. He could feel the shape of the growing infant. Ultrasounds of Mikki's belly in recent weeks had caught the calf as it floated by. Now the baby would move into position for its long slide to earth, where he would emerge between Mikki's back legs. When it looked like the calf's birth was imminent, Schmitt flew to Louisville to help with the delivery.

Scotty holds his trunk high above him and opens his mouth in a smile to greet Campbell. The elephant is waiting for his jellybean. When Scotty was still tiny — tiny for an elephant; he was 285 pounds at birth



The zoo's staff practices "free contact" elephant keeping, which requires the use of bullhooks to guide the large animals during managed activities.

— Campbell lined up a row of goodies and let the infant choose a favorite. Jelly beans won. The candy is the youngster's pay for doing what the keepers ask. Campbell touches Scotty's foot with a pointer called a bullhook, or ankus, and Scotty lifts it for inspection and gobbles another jellybean. Campbell gives Scotty another jellybean and the five-foot-tall elephant with two-inch-long eyelashes stays put while strangers pet him. A few feet away, Mikki and Punch have a snack. About half of all North American zoos don't allow keepers to go into the yard with elephants the way Campbell and the other three Louisville keepers do. This hands-on approach is called "free contact," but many believe it's too dangerous for keepers and bad news for animals. Between 1990 and 2006, elephants in the United States killed a dozen people: six keepers at zoos, five circus trainers and one employee of an elephant sanctuary in Tennessee. All worked elephants without physical barriers. (In 1993, when the Louisville Zoo still gave elephant rides, an elephant named Kenya injured a zoo-goer and the rides were never offered again.)

Free contact is dangerous for animals too, some groups maintain. "There's no excuse for continuing free contact," says Roy. "Free contact management is based on a system of physical punishment." The flash-point for the debate is the bullhook — the instrument Campbell used to touch Scotty's foot. "It would not be safe to be around the elephant if that bullhook didn't mean anything to the elephant. That bullhook is a symbol of pain," Roy says. "The only way to be a symbol is if the elephant would have been beaten with it."

Zoo director Walczak rejects both the concern and the implication: "The ankus is a tool; it's an instrument," he says. "Our staff uses the ankus very well and they use it correctly. It's a tool and it's been around a thousand years, like a pen or a scalpel."

Search the Internet for images of bullhooks, and among them you'll see many sharp-edged instruments with curving hooks like small scythes. But the modern bullhook, like the ones used at the Louisville Zoo, has a short tapered metal hook with a point at the top "sharpened but not to an extreme," according to the zoo's elephant husbandry manual. "Both

(the hook and the point) should be sharp enough to guarantee their effectiveness, but not so sharp as to easily inflict injury to an elephant," the manual says. The American Veterinary Medical Association notes, "The guide extends a handler's reach so s/he may touch, push or pull various parts of the elephant's body."

"Using a bullhook is sort of like using a collar and leash with a dog," Campbell says. "It doesn't hurt the animals. It is a guide, and that is how we use it." He says free contact is best for the elephant. He tells the story of two zoos where elephants contracted salmonella, a common bacterial illness spread in bird droppings. One zoo used protected contact, and keepers never went in with their elephants. "The place that had free contact, they went in, chained the elephant up, and stood there day and night with her, with IVs in both back legs and both ears, and that elephant to this day is alive," Campbell says. "The other elephant died out in the yard because it felt like hell and it wouldn't come back in (the barn), and nothing they could do could motivate her to come back in."

Keele of the Oregon Zoo says that there are situations in free contact where an elephant could be hit. "You would only whack an elephant if it tries to kick you, or for aggressive behavior," he says. "It's not able to hurt them. It's more just startling them." Louisville guidelines say keepers must use the handle — not the hooked end — of an ankus if discipline is administered. But there's no question that some zoos have had problems with elephant handling involving clear misuse of the bullhook. The Oregon Zoo had an incident of abuse in 2000. The female elephant, Rose-Tu, had 176 cuts and gashes from a bullhook beating. The zoo fired the responsible keeper immediately and paid a \$10,000 fine. In the 1990s, a video surfaced showing trainers beating elephants at the Milwaukee County Zoo. In 1998, employees of Dickerson Park Zoo in Springfield, Mo., beat an elephant with bullhooks and pieces of wood. The zoo paid a \$5,000 fine for violating the Animal Welfare Act. The El Paso Zoo had two incidents of cruel elephant abuse, one in 1998 and a second in 2006.

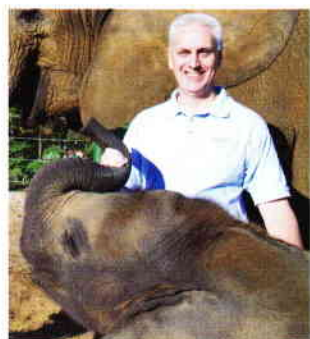
The incidents were "a red flag to the AZA community," Keele says. "We've done an awful lot of introspection." The problems led the AZA



to codify principles of elephant management and institute mandatory elephant-keeper training.

Mikki remained calm while all around her buzzed. When her calf started to make the sharp turn from the uterus to the birth canal, observers could see the bulge of his advance below Mikki's rectum. Mikki went into labor. Then she stopped. "Horses and elephants, they can turn it off. They can go, 'Oh, a lion. I better not have the baby here. We'll walk another mile or two and then have it,'" Campbell says. The following night, some of the elephant delivery contingent headed out to a restaurant to give Mikki some quiet. Without an audience, Mikki went back into labor. The team returned to the zoo, and around 9 p.m. on March 18, 2007, the baby elephant slid to the earth, rear feet first. When an inspection assured them this newborn was healthy, the keepers used ropes like a hammock and helped it stand on its wobbly legs. Before too long, Campbell says, it "started to run around and act like a nut."

In 2000, Deborah Olson, executive director of the International Elephant Foundation, and Robert Wiese, a population biologist and director of collections at the San Diego Zoo and Wild Animal Park, published a paper in the journal *Zoo Biology* entitled "State of the North American African Elephant Population and Projects for the Future." It was a depressing report. It detailed what the authors termed the "dismal" failure of captive African elephant reproduction. The authors explained that for



Zoo director Walscak (left) says a study done that found an abnormally high mortality risk for elephants raised in captivity involves only long-term data. "I've been in this business 30 years, and I can't begin to tell you the improvements I've seen," he says. "Their data does not reflect the success of the last 15, 20, 30 years."

years North American zoos weren't motivated to breed their elephants because they could always get new elephants from the wild. It wasn't until 1978 that the first African elephant was born in a North American zoo. That animal lived only eight years. In the 21 years between that first birth and 1999, 25 calves were born. Eleven died before their first birthday. Four more died before the age of 15. Birthrates have improved since then. From 2000 to 2008, there were 35 African elephant births in zoos. Of those, 30 percent died. Twenty-four survived.

Without increased reproduction or shipments of animals from the wild (there's been just one shipment, 11 elephants in 2003, during the last 21 years), African elephants could disappear from American zoos, the authors wrote. But the problems the study's elephants faced were significant and systemic. Because female elephants are easier to house and can live in groups, there were only 35 male elephants in zoos at the time. Few showed interest in breeding.

"We just have some male elephants in groups with female elephants who don't seem to be as interested in sex as we would like them to be," says Olson, who is also the official African elephant studbook keeper for North America. One theory is that the captive males are missing an important developmental milestone. In the wild, bulls are shoved out of their natal group as they reach sexual maturity and spend a number of years in loosely knit bachelor groups. "Maybe they need to go through a period where they interact with other young males, they spar a lot, they develop their macho attitude," Olson says. There are a number of plans to develop bachelor herds, including plans for a 350-acre National Elephant Center in Florida, the joint effort of a consortium of zoos.

Advancements in artificial insemination seemed a godsend for zoos. It not only eliminated the need for a libidinous male; it also obviated

the necessity of moving elephants from place to place to create breeding opportunities. But the sperm for insemination aren't dependably motile and don't survive freezing. Obtained not in an ejaculate, but by massaging the organs where sperm and seminal fluid are stored, the ampulla and the prostate, these sperm don't swim. That's why, when Schmitt performs artificial insemination, he'll frequently combine the sperm of a couple of bulls to improve the odds. Scotty was the result of such a cocktail. After his birth, DNA tests revealed the winning sperm belonged to Jack, a male at the Pittsburgh Zoo with a strong track record. He's sired 10 babies, eight of whom have survived.

But if the problems with male elephants were solved tomorrow, reproduction would still lag. Based on wild populations, Olson and Wiese estimated that captive females could reproduce until age 35. With that baseline, they reported, more than half of African elephant females in zoos would pass their reproductive age by 2025. They were too optimistic. Captivity had changed elephants: African and Asian zoo elephants had the reproductive tracts of much older females, their reproductive viability gone by their mid to late 20s.

The improved nutrition of zoo life meant the females were reaching sexual maturity at an earlier age, beginning their thrice-yearly estrous cycle at age four or five instead of age 10. In the wild, a female would be pregnant with her first calf not too long after her first estrous and she'd remain pregnant or nursing most of her life. If she died of old age in her

50s, she'd have cycled only a few dozen times. But a captive elephant cycles more than a dozen times by her 10th birthday. By age 20, she may have cycled more than a wild elephant would in a lifetime. "By the time they're 30, they would have had twice as many cycles as a wild elephant," Schmitt says. Punch, the Louisville Zoo's Asian elephant, didn't have a chance to mate until she was in her late 20s, when the zoo brought in a male Asian, Sabu. They got along famously. They did everything together, pushing and shoving each other in play. But Sabu never bred her. Punch had quit cycling.

Now, the AZA Species Survival Plan for elephants recommends earlier breeding of both elephant species. Mikki was inseminated at age 20, just a little past her prime.

As the newborn elephant wobbled around the barn, Campbell's job was to watch Mikki's response and keep her calm. She was a little frightened. "But we just stood there with her and she was OK with it," he says. She explored the baby tentatively with her trunk, interested though wary. But within 12 hours, the infant was nursing, tricked onto the nipple when keepers squirted a little of Mikki's milk from a syringe, and then quickly switched the calf to the nipple.

When Scotty first came to nurse, Mikki would grow very still, Campbell says. Before long, she learned to move her leg out of the way so the baby could get to the nipple more easily. "Up to this point, she has been somewhat a piggish, selfish elephant. She just loves food," Campbell explains. But Scotty transformed her. "He would nurse, and as soon as he's done nursing, he just lays down and goes to sleep. They're just like babies. They almost fall off the nipple. He would do that on top of the food she was eating and she wouldn't move him."

For all the affection Louisville's keepers have for Scotty, the fact is, survival statistics for zoo-born elephants are discouraging. This December, the journal *Science* published a one-page paper comparing 40 years of data on the life spans of free-ranging elephants in Africa and those born in European zoos. It also compared Asian elephants at a Burmese logging camp with zoo Asian elephants. The paper showed that zoo-born elephants lived significantly shorter lives than their wild counterparts. If human-induced deaths were taken into the equation, wild African elephants lived, on average, 35.9 years. When human-caused deaths were subtracted, wild elephants lived an average of 56 years. Zoo-born elephants lived 16.9 years. Asian zoo-born elephants lived 18.9 years, compared to 41.7 years in the logging camp living with lots of companions and some roaming freedom. While some zoo representatives say the paper doesn't matter because it fails to include North American zoos, Roy points out that a paper published in an AZA journal in 2004, which excluded infant mortality from its calculations, showed that elephants in European zoos actually live about six years longer than those in North American zoos.

The Louisville Zoo's Walczak says that while the paper correctly reflects the long-term history of elephant survival, it fails to account for the ever-improving conditions for captive elephants. "I've been in this business 30 years, and I can't begin to tell you the improvements I've seen. Their data does not reflect the success of the last 15, 20, 30 years," he says. But while the authors of the *Science* paper noted improved survivorship among African zoo elephants, their data determined that, in general, zoo elephants in 2005 had 2.8 times the mortality risk of elephants in wild populations.

Scotty's abundant health makes it difficult to believe he's vulnerable. He races around most days, not worrying about Mom, while Mikki keeps a vigilant eye on him. "You can hear her purr and make little squeaky noise for him," Campbell says. It will be years before Scotty is too big for the elephant barn. Campbell can still take him for long walks and let him get into other mischief. "They actually let us take care of these elephants and put in the time and effort," he says. "If I went back (to the zoo director) and told him, 'I'm gonna take the baby down to the construction site (where a new polar bear exhibit is being built) after everybody leaves and let him play in the dirt when nobody's around,' he wouldn't blink." Has he ever actually let Scotty play on the construction site after hours? "I'm not saying," Campbell says.

That's what really matters for a zoo bringing up Scotty, Walczak says. "It's not just about the space. It's what you do with the space, how enriching you make it, how engaging you make the space, how the staff interacts."

This certainly seems like enough for Scotty right now, as he capers around the elephant yard. Whether it will be enough when he's at his full strength and height is a discussion that may go on for years. ■



The zoo would like to have a new elephant facility by the time Scotty is in his mid-teens and 11 feet tall.

