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TAKEPART FEATURES

When You Walk Into a Zoo, Are You Helping Animals or Hurting Them?

Amid a global extinction crisis, wildlife biologists are calling on animal parks to do more for conservation. Can city zoos shift from just displaying animals in time to save species in peril –and themselves?



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Bio



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A few years ago Los Angeles Zoo spent \$42 million on a new, six-acre enclosure for Asian

elephants. After several years of construction, the new facility opened amid a hail of publicity, with banners draped from streetlights across the city for weeks ahead of time, and a red-carpet cocktail reception for VIPs and celebrities on the big night. Proud zoo officials pointed out the waterfall and pond for the elephants to bathe in and shower themselves with, and an “enrichment log” where food is hidden. A pavilion evoking Thai architecture displayed conservation efforts and the ways visitor donations help elephants in the wild.

Despite such accoutrements, the zoo soon found itself in court defending accusations that the exhibit was inhumane. A judge later **ruled** that keepers can't use electric prods on the animals, but stopped short of closing the exhibit.

The more scientists learn about animal behavior, the more zoos seem in conflict with zoology. And zoos' original mission to exhibit animals is

becoming an anachronism now that exotic beasts can be viewed at a click of a mouse and cable TV nightly provides more reliable game viewing than tourists typically get on \$500-a-day safaris.

Meanwhile, wildlife is in crisis: Between habitat destruction, poaching, and a host of other threats, populations are crashing and species are disappearing at a record clip. The historical rate of species extinction is about one in 1 million per year; today it's one in 1,000, an increase by a factor of 1,000.

Yet if you ask leading scientists working in the field saving animals if zoos as a whole are doing enough for conservation, you'll get an emphatic no. Even some zoo directors admit they are failing the animals that are their *raison d'être*, as the main interface most people have with live undomesticated animals is fast becoming irrelevant, bearing about as much resemblance to the natural world as Disneyland has to Detroit. Zoos present wildlife as though tigers and [sifakas](#)

were as plentiful as chipmunks and squirrels, though an honest re-creation of the situation in the wild would present visitors with a long walk through mostly empty space. A visit to a zoo can be an eerie and disconcerting experience for anyone who knows about the Anthropocene extinction crisis, like that of a hipster plopped down in Branson, Mo.



A condor soars over Hopper Mountain National Wildlife Refuge in southern California. Moments earlier, it was in a dog crate in the back of

an SUV. After a long drive from Los Angeles Zoo, where the bird received medical treatment, a U.S. Fish and Wildlife Service official rereleased it into the wild. (Photo: Lauren Wade)

Zoos originated as displays of power by monarchs and existed mainly as such from ancient Egypt to Bourbon France. The Enlightenment saw the first use of captive animals for research (or what passed for research in those days), a practice that expanded during the Victorian era, with its fascination with exploring the natural world. The first zoos in the U.S. reflected this duality; one was in New York's Central Park, near the mansions that were starting to go up along Fifth Avenue, and soon after the New York Zoological Society, today known as the Wildlife Conservation Society and a leader in conservation science, opened a zoo in the Bronx.

Considering their origin, it shouldn't be surprising that zoos have not done more conservation. Also, boards of directors often consist of local rich guys who see the city zoo as a

community resource—more similar to the symphony orchestra or the parks department than to the World Wildlife Fund. Zoos are complex organizations juggling a mix of responsibilities: caring for animals, ensuring the safety of visitors and staff, maintaining buildings and vehicles, entertaining three-year-olds, and not going broke—all, in many cases, while being accountable to local bureaucrats and politicians. Field biology is also complex and expensive, so on top of all this, it's a big ask.

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Perhaps the biggest hindrance to zoos' greater involvement in stemming the extinction crisis is that when the news about wildlife is so frequently bad, it's especially difficult to get the message of urgency to visitors who didn't spend \$50 to get bummed out on a Saturday. "People leave their homes, and the intent is not to save animals in Africa—it's to have a family outing," says Paul

Boyle, senior vice president for conservation and education at the Association of Zoos and Aquariums, the accrediting body for zoos in the U.S. and six other countries. “So we can’t fly in the face of that.”

Zoos are in a unique position to help. They can bring their knowledge to the field (and many do). They can raise money: Every year, 180 million people come through their doors—more people than attend every NFL, NBA, NHL, and MLB game combined—with their wallets already open. Anything from support for anti-poaching enforcement to programs to convince humans who share habitat with threatened wildlife the importance of preserving the animals would be welcome, say field conservationists. Yet at many zoos, Boyle says, only 1 percent of the budget goes to conservation. He says AZA is pushing members to get to 3 percent, but there’s no minimum required donation for AZA accreditation by the association. A boost to 10 percent would send

\$800 million a year to wildlife, which according to the Wildlife Conservation Network and Jane Goodall Institute currently receives 0.1 percent of international philanthropy. (Pets get more.)

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IAIN DOUGLAS-HAMILTON, FOUNDER, SAVE THE ELEPHANTS

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Of more than 200 AZA-accredited zoos in the U.S., says Jean-Gaël Collomb, Ph.D., director of conservation programs at Wildlife Conservation Network (a Bay Area-based group that directly funds field conservationists through donations, not the operator of the Bronx Zoo), “I think maybe 40 might actually conceive of wildlife conservation the way I do: field-based, action-

oriented wildlife conservation providing support to those in country trying to mitigate threats to their particular species. Many institutions, because they're breeding an endangered animal, they think that's conservation. To me that doesn't necessarily contribute to protecting that animal in the wild. They think because they sent a zookeeper to the field, that's supporting conservation. But you have no idea if that had any positive impact or whether they just went on a nice vacation. My personal opinion is that if you exhibit animals from all over the world, you have the responsibility to contribute to the conservation of all of those animals in the wild."

What has changed since the 19th century—hell, since the 1980s—is that if somebody doesn't do something fast, many of the zoos' biggest draws will soon be extinct. Collomb says, "If animals disappear in the wild, it threatens the sustainability" of zoos' exhibits, and therefore their very existence as currently constituted. The

population of lions in the wild has fallen by half just since 2001. Cheetahs are critically endangered, and elephant, tiger, giant tortoise, and rhino poaching are out of control. Iain Douglas-Hamilton, founder of Save the Elephants and a pioneering zoologist, said to me at a fundraiser in Los Gatos, Calif., not long ago, “We lost over 35,000 elephants to poaching last year.” And 25,000 the year before that. “If zoos can’t help us, nobody can.”

In a ravine 3,300 feet above sea level in the Topatopa Mountains, about 25 miles east-northeast of Santa Barbara, a baby bird stood on a rock. This does not sound like such a big deal until you know that the bird was a California condor, and that 27 years earlier there were 22 specimens of the species alive. Anywhere. The San Diego Wild Animal Park and Los Angeles Zoo captured all those birds so they wouldn’t get killed along with all the others (poaching, lead

and pesticide poisoning, power lines—the modern world has not been good to this prehistoric-looking species).

The plan was to breed the birds in captivity and reintroduce them into the wild, which the U.S. Fish and Wildlife Service, the leader of the California Condor Recovery Program, did. But the first birds to be released, though they'd been raised for awhile by puppets resembling condors, didn't go out into the world and act like condors; they were gallivanting about on people's back patios, breaking screen doors, showing off for tourists at the Grand Canyon. There were bizarre reports of condors [engaging in group sex and eating underwear](#). So the recovery plan shifted, and zoos began using puppets for a longer period, and releasing the young condors later.



A condor is temporarily held captive in the Sespe Condor Sanctuary in southern California. (Photo: Lauren Wade)

This has been going quite well. The bird on the rock, #717, was the wild-hatched offspring of captive-bred parents who both hatched in 2001 in San Diego and were puppet-reared there. Today Estelle Sandhaus, director of conservation and research for the Santa Barbara Zoo, helps FWS oversee the wild condors. The Zoo is a privately owned facility of nearly 500 animals on 30 acres that saw about half a million visitors in 2013. It

sets aside \$5, or up to 9 percent, of every membership fee to field conservation, supporting the International Snow Leopard Trust and similar groups, in addition to its work on the recovery program.

Condors are some ugly-ass birds, but Sandhaus loves them. “I actually think they’re beautiful,” she said on the drive up through Hopper Mountain National Wildlife Refuge to the Sespe Condor Sanctuary. It’s a severely restricted area of craggy, chaparral-covered hills that produce painterly shadows at dawn and dusk, a sliver of California that’s as close to its pre-Columbian environment as you are likely to find in the U.S.

“But there are a lot of other reasons to care about the condor,” Sandhaus continued. “Some people call them the mammals of the bird world.”

Condors raise their young for up to a year and a half—nearly unheard of among birds. They rely heavily on social learning, which is also highly

unusual, and they play. Moreover, Sandhaus said, “a lot of us feel a responsibility to help recover them because much of their decline was human caused. They’re perfectly suited to this landscape as long as we get the toxins out of their environment.”



Santa Barbara Zoo conservation research coordinator Ria Boner listens to signals from radio tags affixed to birds in the California Condor Recovery Program, which the zoo helps operate under the aegis of the U.S. Fish and Wildlife Service.

(Photo: Lauren Wade)

An hour later, we stood on a ridge above #717's nest. Thermal columns the birds ride in their search for carrion were beginning to carry up the mountainside. A condor nest doesn't consist of nesty stuff the parents have collected but is really just a cave, or sometimes even a rock or a portion of a rock up against a hillside or cliff wall.

Sandhaus brought me here because this site was critical to the discovery a few years ago that condors were dying after eating bits of trash. Some of the dead were young birds that hadn't left the nest; it wasn't that they weren't adapting to life on their own—it was that their parents were feeding them stuff like bottle caps and pennies they brought home. (Condors travel up to 100 miles a day in search of food—well outside the boundaries of the wildlife refuge.) “Trash ingestion was the most important mortality factor in nestlings,” according to a [published](#)

paper by San Diego Zoo Global's Bruce Rideout et al. in 2012.

After FWS, San Diego Zoo, and others identified the hidden killer, now known as microtrash, Santa Barbara Zoo became involved in managing nests to keep microtrash out. Zoo employees and volunteers set up observation blinds near the nests and climbed down into them—condors are not helicopter parents, and will leave the nest for days at a time, even when raising offspring, checking in via the occasional flyover—to see what was going on.

Microtrash was found in the nests, so the zoo began efforts to reduce through volunteer roadside cleanups the amount of trash available to them. (Why a bird would feed a piece of garbage to its young remains a mystery.) A favored local recreational activity known as “plinking”—area residents pull over from a mountain road and shoot small firearms at cans

and bottles emptied of the beer they have been consuming—has resulted in a lot of microtrash collecting beside roads. The condors all wear radio tags (a technology first applied in wildlife conservation by Iain Douglas-Hamilton, incidentally), so when the zoo finds they are congregating by a turnout, volunteers head to the spot and pick up any microtrash they find. There's also been a substantial education component, seeking to convince area residents to, among other things, clean up post-plinking. When FWS and Los Angeles Zoo staff rappelled with a TSA-issue metal detector into the canyon where #717 now lives, they found the baby had consumed microtrash. The little guy was kidnapped and helicoptered to Los Angeles Zoo, where veterinary surgeons removed the trash and stitched up the baby; officials from FWS returned it to its nest. The parents probably never noticed it was gone, but zoo volunteers continued to train a telescope on the bird postop to look for signs of infection.

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“This discovery and action has been critical to the recovery program’s success,” said Santa Barbara Zoo conservation research coordinator Ria Boner. Before, just 6 percent of wild-hatched birds were living long enough to leave the nest; now it’s 62 percent. “And you can directly trace that to these interventions,” Boner said.

When they were first released, the birds were eating mostly food provided to them as part of the recovery program; scientists weren't sure they'd seek carrion on instinct. Now they're foraging on their own; some condors in Arizona never go to the provisioning areas at all (program officials can tell by the radio-collar data). "We're starting to have new pairs breeding that didn't grow up in the trash era, and one of them did not bring trash to the nest," Sandhaus said.

Yes, getting zoos to do field conservation is a big ask. Yes, it's hard, and it doesn't always succeed right away. But it's totally doable, even by the smallest zoos.

Santa Barbara Zoo is working in its own backyard, which is a way, said several wildlife biologists I spoke to, small zoos like it can make a significant contribution to wildlife.

Edward Louis of Omaha's Henry Doorly Zoo is one wildlife biologist showing how bigger zoos, with more resources, can help in some of the world's most threatened areas. Although he's director of genetic research for a zoo in Nebraska, he spends 8-11 months a year in [Madagascar](#). His programs study biodiversity and biogeography in unique and biologically diverse habitats threatened via multiple vectors, including population growth, political instability, and [logging](#). The Madagascar Biodiversity Partnership is an NGO created out of Louis' work, and it's now a permanent, community-based organization working at four sites on the island to protect habitat by involving resident humans—who find themselves benefiting from the protection of what they had been destroying.

“All four sites had hunting going on,” said Louis when I reached him at his lab in Omaha. “We worked with another NGO to create a coloring and activity book about umbrella species in [the

local language] and distribute copies to five areas with critically endangered lemurs.” It was just a spiral notebook and a pack of crayons, but it got local kids to convince their parents to stop hunting. “Now there’s pretty much no hunting at any of the sites.”

Connecting habitat fragmented by logging, agriculture, and urbanization so that secretive lemurs can thrive is another challenge. The rainforest has been a resource for locals going back centuries; that only became a problem when people started living longer on average, placing more pressure on the resource, and multinational corporations swooped in to harvest timber for sale overseas.



Edward Louis, director of genetic research at Omaha's Henry Doorly Zoo, holds an aye-aye. (Photo: Courtesy Madagascar Biodiversity Project)

Louis' program has planted 40,000 trees to connect fragments of habitat for the black and

white ruffed lemur, a critically endangered species that eats almost nothing but fruit and disperses seeds through its scat. The notion that these animals should therefore be protected as a means of preserving and growing the forest “was an easy message to sell to local people,” Louis said. One population of the species has risen from 30 to 100 since 2009 as a result of his and his colleagues’ efforts, with another 20 surviving to their second year in 2012, Louis reported hopefully. (The organization has also been responsible for the naming of an astonishing 21 new lemur species.)

His zoo-supported NGO further works with government to establish land rights: Together they approach local farmers and offer them title to the land, which many subsistence farmers across sub-Saharan Africa and other underdeveloped areas of the globe don’t have, sometimes resulting in quasi-legal “[land grabs](#)” by multinationals and corrupt or unscrupulous

government officials. The farmers must agree in return to plant trees on half their land as permanent forest, plant 35 percent of the acreage for harvestable timber, and plant 15 percent for commercial crops and fruit trees. Other locals are paid to plant trees with vouchers they can trade in for low-polluting, high-efficiency stoves, which obviate their need to cut down the forest while promoting health and wealth. Madagascar Biodiversity Partnership is also installing photovoltaic arrays at schools to power fans it's buying for them. Help people want to help habitat is the idea; the group's motto is "It's all connected."

Louis is among those field conservationists who think zoos should be doing more. This needn't involve forming partnerships with local governments in faraway, unstable countries, and it doesn't require the decades-long process of reintroducing species on the verge of extinction

into the wild. Zoos already have expertise field biologists can use.

Zoos “ought to have to spend 10 percent of their budget on in situ conservation,” said Edward Louis, director of genetic research at Omaha's Henry Doorly Zoo. The Association of Zoos and Aquariums' member organizations collectively contribute 89 cents per visitor. Parking at SeaWorld costs \$16.

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Colleen Begg of the Niassa Lion Project in Mozambique gushed to me about the help she gets from the Houston Zoo. The national park where she works has villages within its borders that predate the park's formation, and convincing

residents to care about lions is a significant challenge. Her partners from Houston “know how to engage people,” she said. “Their enviro education, signage—they’ve been critical at educating our community” about the potential benefits of living amid biodiversity. “And this can spread to other zoos. There’s no reason a zoo can't find a field conservationist it can support.”

Zoos “ought to have to spend 10 percent of their total budget on in situ conservation to get accredited,” Louis said. AZA’s Boyle and the AZA communications official I corresponded with kept telling me that member organizations collectively contribute \$160 million annually to field conservation. I thought that sounded like a big number, but then I remembered another big number they’d given me: 180 million visitors a year. So \$160 million breaks down to 89 cents per visitor. Parking at SeaWorld—*parking—costs \$16.*

Then I headed over to the Wildlife Conservation Society website and downloaded its [annual report](#). In the last fiscal year \$86 million went to global conservation programs. That means more than half the money AZA members spend on conservation comes from one organization.

“My focus is to maintain habitat for these animals; I don’t want to have to bring them into captivity,” said Louis. “The northern sportive lemur, there were only 19 left. Now we have 48, but we lost some forest over the summer. In 10 years everything is gonna be gone, including the species, unless we do something locally.”

When my older daughter was a little past her first birthday, my wife and I realized she hadn’t been to the zoo yet. Just before Ericka’s pregnancy we spent two weeks observing wildlife in Botswana, where I’d spent some time after college doing conservation work. After walking beside wild

elephants and watching a leopard eat its prey, we weren't eager to view animals in captivity. But we figured that was our issue; a kid ought to go to the zoo.

At the giraffe exhibit, a baby giraffe nuzzled its mother along the neck; Vivian, held by her own mother, mimicked the gesture. When we turned a corner and the elephant exhibit came into view, Vivian's jaw dropped. She'd seen pictures of elephants and owned a plastic elephant toy, but I realized only at that moment that she'd had no idea the animals were that size. One showered itself with its trunk, and Vivian, who knew a little sign language, started to make the sign for water. She was so transfixed she couldn't complete the motion. "Wa..." she said. She was dumbfounded.

Do zoos matter? Should they even exist? Some would like to see the practice of exhibiting animals for our amusement banned, and Costa Rica is [planning](#) to do just that.

Iain Douglas-Hamilton believes zoos still have a purpose, and given his CV, it's hard to argue with him: His use of radio tracking is now routine for field conservationists (while he's **continued to innovate**). Data he collected in the 1980s, along with his subsequent political efforts, make him the single person most responsible for the worldwide ban on ivory trading. At 72, he's still working on multiple fronts to **help end the current crisis**.

“I’m very well aware of the downside of maintaining elephants in captivity,” he told me. “An elephant with a small range lives in an area of 100 square kilometers, and a zoo at best can have just a few acres. But many people can’t afford to come on safari. I don’t think some people appreciate the importance of the effect zoos can have in the lives of normal people to bring them to love animals. Zoos can be a conduit for sharing the sense of wonder and understanding of animals that I have.”