



Waste Not, Want Not

MANAGING WASTE AT
AZA-ACCREDITED
FACILITIES

BY HILLARY RICHARD



were sending \$100,000 worth of manure to the landfill and decided to compost on-site and then sell to the public. The Zoo holds Fecal Fest twice a year with bulk sales, where gardeners and farmers can fill up trucks and buckets with composted zoo doo. It is so renowned as a fertilizer that they have introduced a lottery system. The Fall Fecal Fest had 1,200 entries for 400 spots.

“It’s a couple of weeks of people having fun with it and telling stories about how they’ve been gardening with it for 30 years,” said Kaitlyn Welzen, Woodland Park’s recycling and compost coordinator and current Doctor Doo.

The demand, alongside the Zoo’s goal of getting to zero waste (commonly agreed to be 90 percent waste diversion) by 2022, inspired the Zoo to upgrade its standard composting process last August. Previously, the Zoo used a quarter acre site for standard herbivore non-primate waste, which took three to six months to compost. With a new upgraded composting facility, compost is ready in 60 days—where it is sold at the Zoo store in two-gallon buckets as part of a container deposit program to cut back on single-use plastics.

For health reasons, most zoos can only compost non-primate herbivore waste. With its new upgraded composting system, Woodland Park is able to work with the Seattle Health Department to explore ways to safely compost the remaining waste. Adding in carnivore and primate waste would increase the Zoo’s annual 624 tons of compost material by 30 percent.

“The best way to reduce waste is to assess where you are. Waste audits are a great way to look at what you’ve sent to the landfill. There are a lot of different, creative fronts to recycle from—like traditional curbside recycling, municipal composting, manure composting, but also smaller ways like finding reusable alternatives to your zip ties, for example,” said Welzen.

In addition to working with the city of Seattle, Woodland Park partners with TerraCycle (which has a number of free specialty recycling programs for items like Brita filters and cigarette butts) and EcoCell (which accepts handheld electronics from the public to refurbish or recycle). Since mining is an enormous threat to wild gorilla habitats, EcoCell

donates to gorilla conservation—which allows Woodland Park to educate visitors in their gorilla area.

Oklahoma City Zoo in Oklahoma City, Okla., has a similar manure and composting program, called Zoo Poo. And just like at Woodland Park, the public went wild.

“Zoo Poo isn’t really anything new but we started marketing it to the masses and we were really surprised at how quickly it took off,” said Barry Downer, deputy director. Since 2018, the Zoo has partnered with a local landscaping company that hauls a 30-yard dumpster of Zoo waste to its facility and composts it. The Zoo then repurchases it at a reduced rate and sells it to the public as Zoo Poo. Downer estimates that the Zoo spent roughly \$10,000 to get the program up and running and that in one year they’ve made back about \$8,700 in sales.

“The public thinks it’s amusing and interesting at the same time. We only use herbivore waste and closely monitor any animals on medication so that their waste stays out of it. It’s as clean of poo as you can get,” said Downer.

The Zoo has a Green Team of volunteers that is constantly evaluating what the facility could do to effectively push sustainability. Recently, the team cleaned up a lake adjacent to the Zoo and repurposed the plastic waste into an Earth Day art installation in the marine mammal habitat. They are working on no-waste fundraisers and events, as well as replacing worn out benches with ones made from recycled milk jug materials.

“What we’re finding out is that even though the upfront cost tends to be a little more than you want to invest, the long-term cost and public perception makes it very worthwhile,” said Downer.

In recent years, plastic has become Public Enemy Number One on a social awareness level. The Monterey Bay Aquarium in Monterey, Calif., is tackling this issue from a number of angles in an effort to get to net zero waste. The Aquarium partners with Service

Waste is a pervasive aspect of life, and working with animals and the public certainly compounds the issue. There’s the obvious, of course—the physical waste well-fed animals generate regularly—but on further inspection, waste is an issue everywhere: cafes, gift shops, vending machines, events, offices, energy, meetings, presentations, and the list goes on.

As stewards of the environment and protectors of creatures of all kinds, Association of Zoos and Aquariums-accredited facilities have found some creative ways to tackle this issue.

In Seattle, Wash., Woodland Park Zoo’s flagship waste diversion program, called Zoo Doo, has garnered such a cult following that demand wildly outweighs supply. It started in 1986 as a cost saving measure when the Zoo realized they



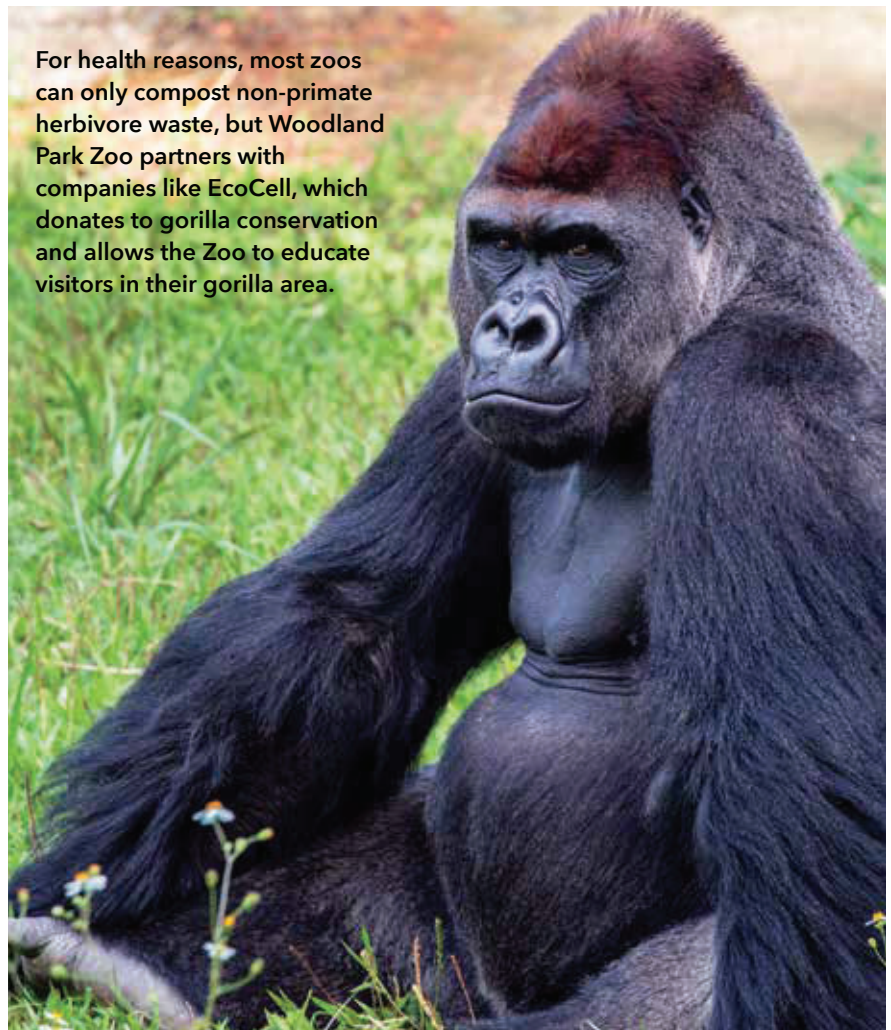


Systems Associates, an AZA commercial member that works with nearly 40 AZA-accredited facilities.

“We work with some of the leading green locations like Cincinnati Zoo, Denver Zoo, Hogle Zoo and Monterey Bay Aquarium. What we’ve been able to do on the retail side with single-use plastic packaging has been industry leading,” said Andrew Fischer, the vice president of sustainability and conservation for SSA who currently works with Monterey Bay Aquarium on merchandizing. Fischer engages with vendors to reduce excess plastics in gift shop items, like blister packs, plastic covers and other things that often get thrown away immediately. In addition to looking better without plastic covering, merchandise that is more visible and tactile sells better. The culinary side has been more of a challenge, but Monterey Bay has removed all single-use plastics from their coolers, opting instead for aluminum cans or glass bottles for water and soup crackers without plastic bags.

“The zoo and aquarium worlds are really trying to move the needle on plastics. Sustainable products are past a trend—they’re a reality. Behind-the-scenes plastics are the next level for institutions to attack,” said Fischer.

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However, total waste reduction comes with plenty of challenges—especially when there are so many operationally critical components that produce waste. For example, the Monterey Bay Aquarium needs to use PVC pipes to construct some of the water flows for its living collections, and certain species require food that can't be sourced locally. Then there are health code regulations, like OSHA's requirement to provide non-communal cups and single-use bottles for employees, which is at odds with the Aquarium's non-disposable drinkware in its kitchens and break rooms. On the guest side, there's a constant debate over paper towels and hand dryers in the bathrooms.

"Ultimately the hand dryer would be the best environmental option because we're running off of carbon-free renewable energy sourced from solar and wind, but from a health perspective research shows that paper towels are better at limiting exposure of germs. So that's a tricky one. What we end up doing is letting folks choose their own option," said Claudia Tibbs, the sustainability and operations manager of Monterey Bay Aquarium.

Plenty of facilities have found clever ways to reduce waste just through inter-departmental communications. Monterey Bay Aquarium created a communal office supply inventory program so that departments can share items like pens

and paper clips instead of constantly ordering more. The horticulture team at the Houston Zoo in Houston, Texas, works with the animal care staff to repurpose tree trimmings and mulch from the grounds into safe wood shavings for exhibits. The Denver Zoo in Denver, Colo., digitized and streamlined their food ordering process to take advantage of bulk purchasing and reduce packaging.

Denver Zoo staff members have gone so far as to create zero waste building challenges with the goal of getting to 90 percent "zero waste" certified. A team periodically audits each participating building's sustainability strategies and output in order to help them improve. Currently, 13 of the 18 buildings that have signed up are certified.

"Getting certified helps people feel empowered and encourages others to see new opportunities to reduce waste. It's similar to safety—people report things in a friendly manner for the greater good," said Jennifer Hale, the senior director of safety and sustainability at Denver Zoo. The Zoo aims to improve the waste diverted to landfills from the current 70 percent to 90 percent by 2025.

Having a passionate, excited staff is critical—but so are external partnerships. The Denver Zoo has a full-scale composting program and also works with a local waste management company to do hauling and recycling. She suggested that communities without citywide recycling programs available to them seek out major companies and corporations that are looking to fund these kinds of initiatives.

Elizabeth Bagley, director of sustainability at California Academy of Sciences in San Francisco, Calif., credits their impressive waste management to "great partnerships with the people who do our recycling and people who write our laws." The Academy partners with Recology to handle the waste and compost from their 1.3 million guests per year. They also pay a full-time hand-sorter on site in order to ensure all waste is separated properly.

On their journey towards zero waste, the events team whittled down their list of approved vendors and caterers for their



more than 150 annual events. This led to a conversation with the sustainability directors from 20 major corporate donors, including Google, Oracle, and LinkedIn.

"Sustainability and events people rarely work together. A big part of our discussion was around waste and its complexities, like compostable bioplastics," said Bagley.

"Organic matter regenerates the soil. Bioplastics do not regenerate the soil. We don't want it, farmers don't want it, it doesn't break down so it ends up in the landfill," she said. "People will pay more for it because it says it's compostable, but it's not doing what they think."

Like other facilities, the Academy uses its store to drive conversations and model sustainability. Reusable metal straws are a successful upsell at the cash register, because people can see them up close and ask questions.

"Recycling is very confusing right now. Work with your local resource recovery teams to better understand your area and what they're dealing with. They'll help you be better stewards and partners," said Bagley.

Waste will always be a complex fact of life—but that doesn't mean it can't be managed through initiatives at every level.

"It's really everybody's job to model these best practices. It's impossible not to think about your actions when you are part of an organization like a zoo or aquarium that is doing so much on behalf of our environment and inspiring people to take care of the planet," said Tibbs.

Hillary Richard is a writer based in Bloomfield, N.J.



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