



Green Initiatives at Tampa's Lowry Park Zoo

Introduction

Zoos and aquariums play an important role in both in-situ and ex-situ species and habitat conservation. However, with decreasing natural resources and increasing evidence of climate change, zoos have had to evolve an even greater role in conservation by promoting sustainable practices in all aspects of their business. For over twenty years, Tampa's Lowry Park Zoo has had a strong commitment to recycling and minimizing waste. In an effort to look even closer at its overall environmental impact, the Zoo formed a Sustainability Committee in 2012 that includes a representative from each department. It meets bimonthly to set goals, research solutions and maintain accountability. Below are some of Tampa's Lowry Park Zoo's accomplishments and goals to become a more responsible steward of the environment, now and in the future.

Recycling/Waste Management

Tampa's Lowry Park Zoo has had a recycling program since the mid 90's. There are more than 100 recycling bins throughout the Zoo that are available to both public and employee behind-the-scenes areas. The Zoo currently recycles plastic, glass, paper, cardboard, aluminum cans, and fluorescent light bulbs. In addition, the Zoo's Maintenance Department recycles construction pallets and scrap metal whenever possible.



The Zoo recycles nontoxic yard waste from its 63 acres as browse to feed many of its animals, including elephants, colobus monkeys, rhinoceros and many more. With more than 1000 animals, animal waste is also a very large component of the Zoo's overall waste profile. The Zoo's horticulture team has a small compost pile for fertilizing on-site plantings, but the Zoo has partnered on a larger scale the mid 1990's with Sweetwater Farms, a local organic farm. Sweetwater uses the Zoo's animal fecal waste to produce fresh organic produce for the community and is an education center that shares the Zoo's message of sustainability and responsible environmental leadership.



The Zoo's animal care staff are also masters of materials "reuse" to provide enrichment for the animals. What may look like trash can become a toy, puzzle or a playground for a variety of animals. An old fire hose can become a swing or a puzzle feeder for the primates, and an old bucket filled with water and produce makes great ice pops for the rhinos. In keeping with the idea that "one person's trash is another person's treasure," the Zoo holds occasional "garage sales" filled with used event decorations and holiday props rather than throwing them away.



The Zoo continually works to reduce its use of paper by converting to computer-based systems to complete many administrative functions such as paperless time sheets, hiring and online purchasing systems. Though animal records and transaction paperwork are still partially paper-based, the Zoo is converting its animal record keeping system to a new web-based program called ZIMS (Zoological Information Management System) to decrease its need to print reports.

Water Management

As a 63-acre zoological facility that includes many animal exhibits with prominent water features as well as water play areas and fountains, the Zoo works constantly on ways to reduce water usage. In 2007, the Zoo installed remote controlled lifting floors in each of the three critical care tanks of its David A. Straz Jr. Manatee Hospital. This allows the staff to raise a manatee up on the floor for medical treatment without having to drain the pool. Because each of these pools holds about 16,000 gallons of water and a single manatee might require multiple treatments each day, these invention of the moveable floors has not only saved a tremendous amount of water but also reduced stress to the animals.



Other water saving initiatives include changing to low flow water fixtures in both public and employee bathrooms and proactively reporting and repairing leaking fixtures, faucets, pools and hoses throughout the Zoo. The Zoo also purchased sonar and pipeline cameras for the purpose of locating and repairing leaking infrastructure. Upgrades to both the manatee and stingray filtration systems have also decreased the need for water changes to maintain water quality. Upgrades to the Stingray system resulted in a 25% drop in purchase of salt since they were completed in 2012. The Zoo plans to add a filter system to the 90,000 gallon elephant pool to help reduce the need to drop and fill the pool for cleaning.



Funded by the Environmental Protection Agency Gulf of Mexico program, the Southwest Florida Water Management District, and the City of Tampa, the Zoo is developing a comprehensive water resources master plan its current 63 acres and the remaining 40 acres of Lowry Park. Launched in August 2014, the project will provide an inventory, needs assessment and feasibility study of options to reduce the Zoo’s water consumption, enhance its ground and surface water management, reduce nutrient pollution, and possibly develop waste-to-energy systems. The Zoo also enlisted the University of South Florida’s (USF) new EPA Center for Reinventing Aging Infrastructure for Nutrient Management (RAINmgt) to help develop the Zoo’s management capacity to make informed decisions about the Zoo’s future. RAINmgt has designated the Zoo as a community demonstration site for their research thrusts in point source pollution, diffuse source pollution, and the socioeconomic implications of nutrient management. This process will lay the groundwork for systems design and construction in subsequent years, as well as inform the Zoo’s master planning for the next 25 years.

Energy Management

In 2010, through a partnership with TECO Energy and USF, and a grant from the Florida High Tech Corridor, the Zoo installed a 15-kilowatt solar array on the elephant shade structure. This solar array provides USF researchers and TECO an opportunity to learn more about solar energy and smart grid technologies. This system also features an informational signage near the solar array, as well as a “solar tree” display, which serve as an educational tool for students and the community.



In October 2012, the Zoo asked TECO to audit its energy use. This audit identified a working list of potential energy saving opportunities to help the Zoo cut costs and become a more responsible energy consumer. In 2013, the Zoo began replacing all T-12 fluorescent fixtures with more energy efficient T8 fixtures, and incandescent lamps with more energy efficient compact fluorescent

lamps or LED lamps. The Zoo's Maintenance Department continues to improve preventative maintenance and make systematic upgrades to pumps, filters, and HVAC systems greater efficiency. Future goals include getting all HVAC systems onto one automated system with programming and remote control, and installation of more motion-activated light switches that turn off automatically when no one is present. TECO is also working with the Zoo to harden its power systems and reduce vulnerability to outages for operational sustainability.

Purchasing

A goal of the Zoo's Green Team is to evaluate current purchasing with an eye to sustainability. The team is starting with a review of the Animal and Food Service Departments to ensure purchasing of sustainably harvested seafood and products containing palm oil. Based on these initial efforts, the Team will develop a Zoo-wide sustainable purchasing policy, including a "Do not purchase" list with sustainable options. In the evaluation of seafood purchases for animal food, the team found that purchasing was consistent with Monterey Bay Aquarium's "Seafood Watch" best choices list.

Awareness

The Zoo hosts over a million guests a year and it is our goal to inspire them to treasure the natural world and act wisely on its behalf. Through animal exhibits, keeper talks, conservation themed events and educational programming, the Zoo tries always to tie species and habitat conservation to what people can do in their daily lives to conserve resources. Zoo staff is always looking for new ways to enhance the visitor experience and ensure they leave the Zoo with a better understanding of their role in protecting the planet. As the Zoo continues to become more sustainable in its daily operations, it is important to share these accomplishments with our guests and our community to inspire others to make changes to become better stewards for the environment.

