



toronto
ZOO

2017 Environmental Initiatives Report

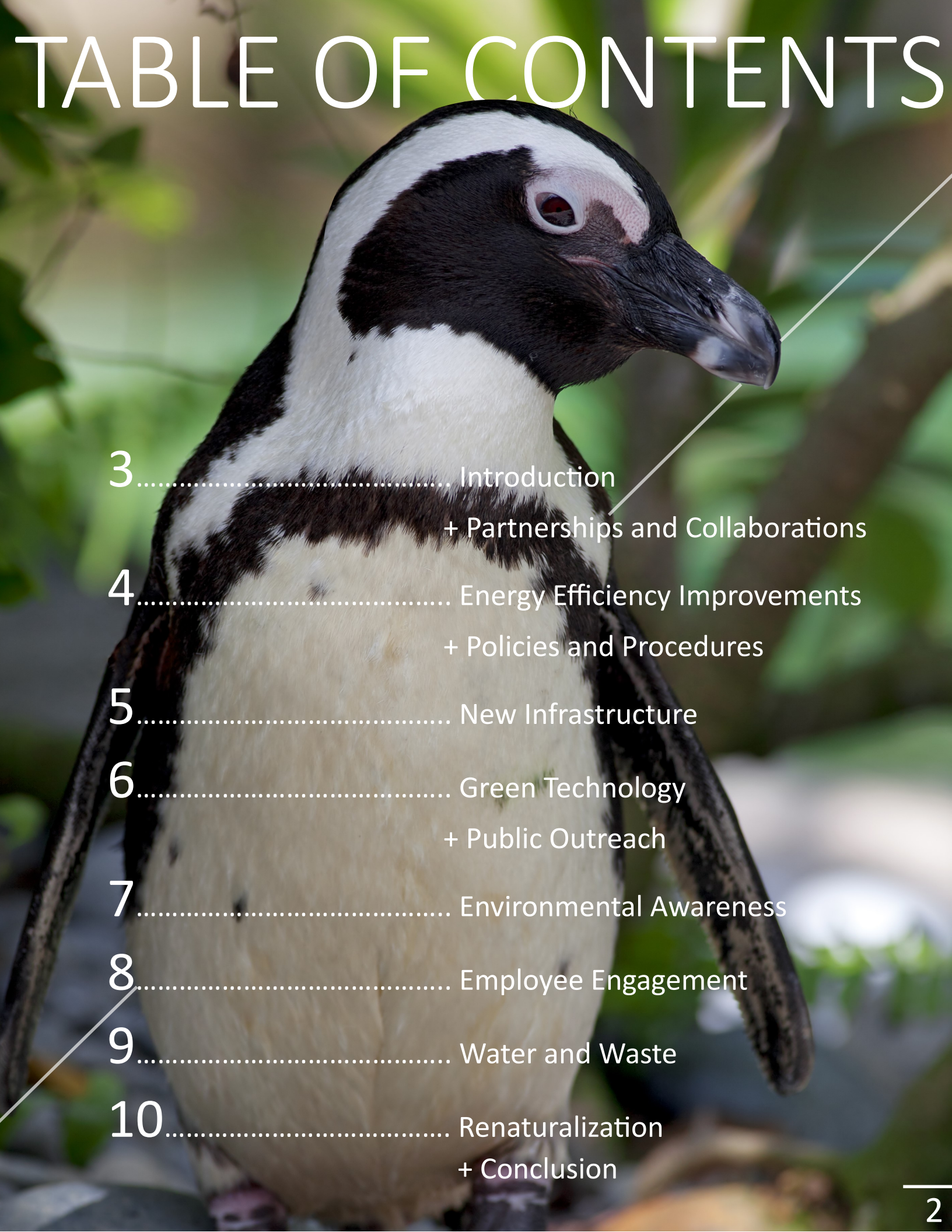


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INTRODUCTION

In 2007, the Toronto Zoo created its first Green Plan which addressed the Zoo's major environmental impacts and provided steps towards a greener solution. Since then, the Zoo has been working hard to continuously create new goals and complete new projects, in conjunction with the development of its Environmental Management System (EMS). The majority of the goals set forth in the 2007 plan have been realized and most of these initiatives have been orchestrated by the members of the Green Eco-Zoo Team (GEZT), pictured right.

From left to right: Elvira DiNuzzo, Elaine Christens, Kyla Greenham, Nia Gibson, Pallavi Sathiskumar, Avila Sanchez, Jaquie Kostoff, Graham Birtles, Phil Rock.

Missing: Anna-Marie Burrows, Eric Cole, Heather Kalka, Lauren Ogle, Leona Mitchell, Paul Gellatly, Peter Simpson, Peter Vasilopoulous, Susan Eberth, Tanya Barrett, Taryne Haight, William Romberg, Zanis Valdmanis, Matthew Berridge, Brent Paradis, Micheal Cautillo, Michelle Hiltz.



PARTNERSHIPS & COLLABORATIONS

To achieve the goals of the 2007 Green Plan, Toronto Zoo has reached out to create partnerships and collaborations with like-minded organizations, such as Polar Bears International (PBI), which allows the Zoo to be an Arctic Ambassador Centre. As part of being an Arctic Ambassador, the Zoo provides displays that showcase "green energy" such as Geothermal Energy, and workshops that explain climate change for youth.

GEZT members are part of the Ontario Biodiversity Council (OBC), the Biodiversity Education & Awareness Network, and Partners in Project Green's Waste Management Committee. The Zoo supports innovative educational programs and hosted two interns from Seneca College's Sustainable Business Management program. These are just a few of the many organizations we have collaborated with for green initiatives:



POLICIES

The Zoo's Environment First Policy recognizes the Toronto Zoo's responsibility to act as a leader in sustainability by implementing practices and actions that benefit wildlife and the environment.

A looming threat to wildlife right now is the palm oil industry. The production of palm oil plays a large part in the economy of countries where palm oil trees are grown, but it also has a devastating effect on the animals and plants living in those countries. One such example of an animal greatly affected by palm oil farming is the orangutan. A palm oil audit has been initiated and is the first step in achieving our goal of becoming a sustainable palm oil facility by 2025.



ENERGY EFFICIENCY IMPROVEMENTS

The Toronto Zoo's long term goal is to reduce greenhouse gas emissions by 95% below 1990 levels by 2027. Many changes have been made to help reach this target. In the last few years, 15 on-demand hot water heaters replaced 16 of the original storage tank hot water heaters. The new heaters do not have to run 24 hours a day, which saves a lot of energy. Heat-recoverable ventilators were installed in the Zoo school portable, improving air quality without increasing energy consumption. Multiple Variable Frequency Drives (VFDs) were installed in both the Indo-Malayan Pavilion and the Africa Rainforest Pavilion, reducing energy consumption by 50% and 30% respectively. The Toronto Zoo also participated in Earth Hour by turning off all non-essential lights, and offered educational activities to celebrate Earth Day.



NEW INFRASTRUCTURE

The new eco-friendly Wildlife Health Centre (WHC) was completed in spring 2017, and is equipped with many built-in eco-friendly designs. All windows of the building are bird conscious, meaning that they discourage bird strikes by having a visible dot pattern. Lighting in the facility is mostly occupancy-censored and LED, which reduces energy needs.



A green roof spanning 5,200 ft² covers most of the roof area, with the rest being an energy-efficient white roof. This is one of four green roofs at the Zoo, spanning a total of 12,673 ft². The building has a double foundation wall constructed with continuous insulation sandwiched between the walls, reducing heat loss. All washroom fixtures have a “low-flow” design.

The landscape surrounding the WHC is designed with a water-filtration system which features an oil/grit separator unit that filters out 80% of the suspended solids from the rain water. The plants are drought resistant, reducing irrigation needs, and 31 out of 35 plant species used in the landscaping are native species. These are just a few of the many green aspects of our new building. Overall, the WHC is the most energy efficient and sustainable operational facility at the Zoo.

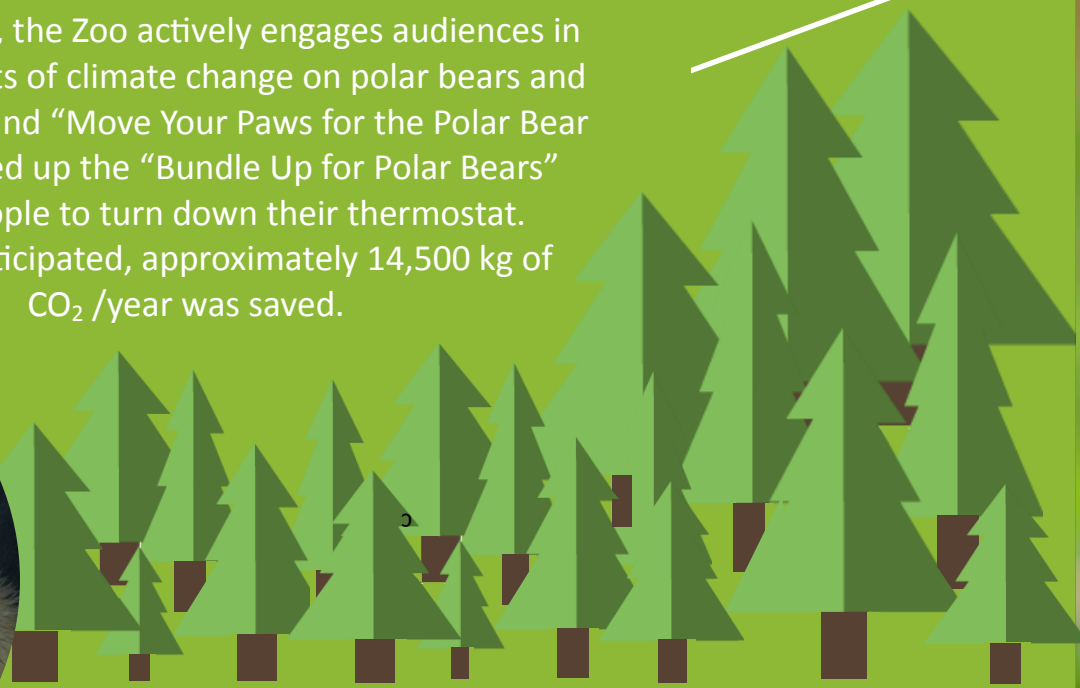


PUBLIC OUTREACH

As an Arctic Ambassador Centre, the Zoo actively engages audiences in better understanding the impacts of climate change on polar bears and their habitat. “Polar Bear Fest” and “Move Your Paws for the Polar Bear Cause” were events that wrapped up the “Bundle Up for Polar Bears” initiative, which encouraged people to turn down their thermostat. As a result of everyone who participated, approximately 14,500 kg of CO₂ /year was saved.



That is the same amount of CO₂ removed as the effort of 375 tree saplings growing for 10 years!



GREEN TECHNOLOGY

Use of the EnergyCAP software program allows the zoo to monitor the energy savings realized by the implementation of green technologies. For example, the use of Ozone Water Sanitization systems have helped to greatly reduce the amount of chemicals and water used for cleaning in certain buildings at the Zoo.

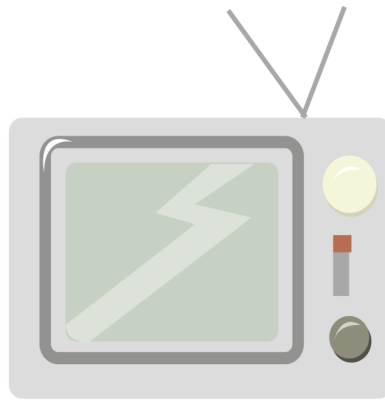
The Zoos lion tailed macaques habitat is kept warm in the winter with clean geothermal energy. Solar thermal panels can be found on the Toronto Zoo's Operation Complex. The panels use the sun's energy to provide hot water for the building. Furthermore, an Ice Bear System has been implemented to air condition the Caribou Café. The system uses energy at off-peak night hours to make blocks of ice, which are used to cool the space during the day. A new water filtration system in the greater one-horned rhino habitat will save over 8 million litres of potable water annually. There is also an ongoing effort to upgrade all possible lighting systems to LED.



ENVIRONMENTAL AWARENESS

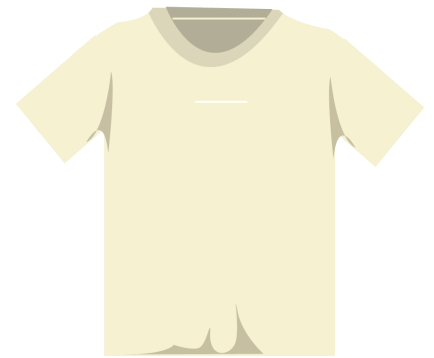


The Toronto Zoo reached a number of audiences in 2017 to promote environmental and sustainability awareness. Party for the Planet was held in celebration of Earth Day, with activities located throughout the Zoo. Many environmental organizations were involved in showcasing the ways in which the public can participate in “green living”.



4000 lbs.
RECYCLED

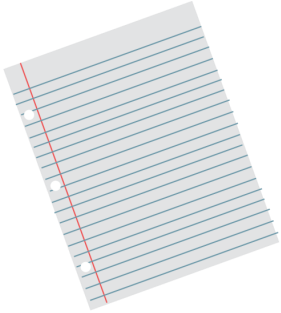
In 2017 the Zoo hosted an e-waste collection, where approximately 4000 lbs. of e-waste was amassed for recycling. To date, the Toronto Zoo has recycled over 35,000 cellphones and donated more than \$29,000 to Great Ape conservation efforts in Africa. The Zoo is currently looking for a sponsor for the expansion of this program.



4,200 lbs. DIVERTED
FROM LANDFILL

The Zoo hosted a textile collection drive, diverting over 4200 lbs. of material from landfills. The Zoo also completed its annual rain barrel sale to bring awareness to water resources. Proceeds from events will go towards a new rain harvesting system for the Horticulture Branch at the Zoo.

ACHIEVEMENTS OF THE TORONTO ZOO STAFF



7000 ft²

LESS PAPER USED

Developing a green culture at the Zoo has been established as a goal of the 2015—2020 Strategic Plan in order to attain, engage, and retain highly motivated staff and volunteers. The Toronto Zoo staff participated in the Partners for Project Green's People Power Challenge. This gave staff the opportunity to participate in both corporate and personal sustainability practices. In the "large corporate" category, the Toronto Zoo placed a close second, receiving \$3,500 towards green initiatives. This challenge increased awareness of, among other things, the consumption of paper in the Zoo. Through new practices, approx 7,000 ft² of paper was saved in 2017.

The Toronto Zoo continues to participate in the TerraCycle recycling program. TerraCycle is an international company with the innovation to divert currently non-recyclable (through local municipal recycling programs) products from landfill by innovative post-consumer waste product manufacturing. Items include air freshener packaging, inkjet cartridges, Brita water filters and cereal plastic packages. To date, the Zoo has diverted more than 7,000kg of waste from landfills through this program.



4.5 Tons

DIVERTED
FROM LANDFILL

Further improvements include: GETZ organized a second textile drive, collecting 4.5 more tonnes of material; reusable plates/cutlery were purchased for educational events; and the wildlife nutrition staff continues to minimize the amount of plastics bags used, all the while purchasing palm-oil-free feeds.

Multiple new timers were purchased for control over when the misters in the exhibits are to run. By allowing the keepers to choose when to shut off the misters without having to be there, approximately 3,600 L/day of water in the summer months was saved.



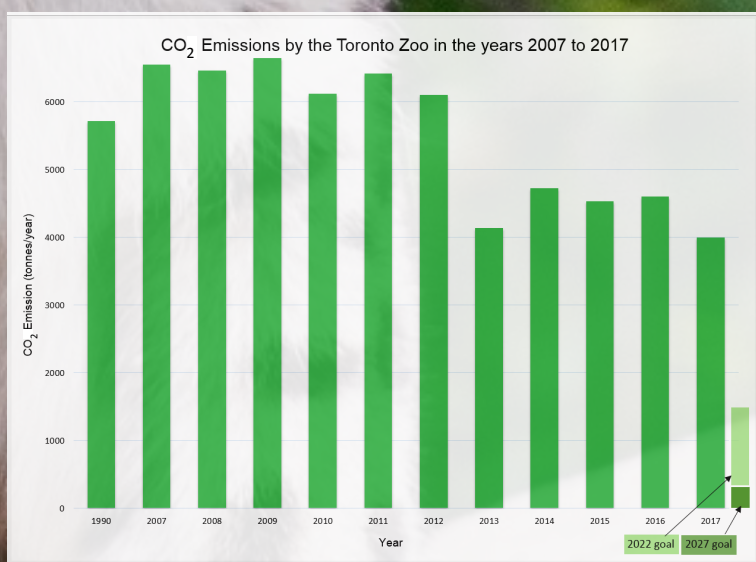
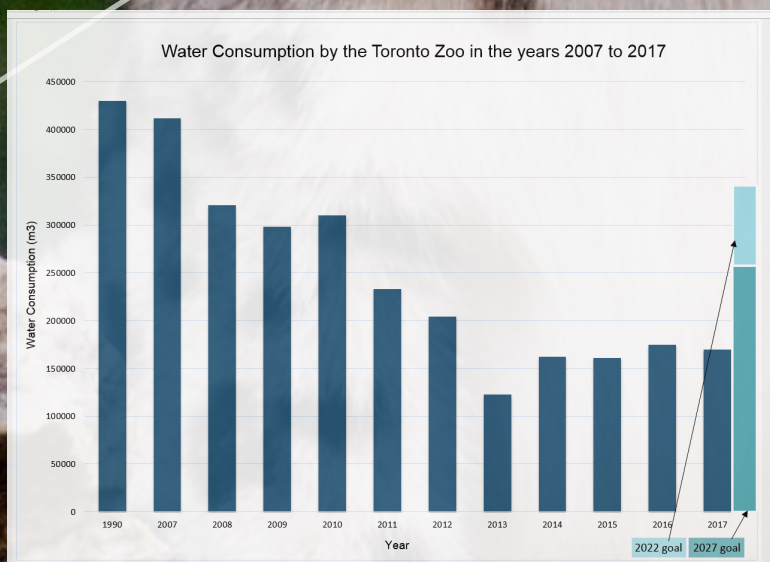
3,600 L/DAY
SAVED

WATER AND WASTE

In 2008, a goal was set to divert 70% of all Zoo waste from landfills. This target was achieved in 2010 and in 2017 the Zoo reached 74% diversion. The new goal is to be a zero-waste facility by 2030.



The Toronto Zoo continues to make progress towards achieving the 2007 Green Plan Greenhouse gas emission and water consumption reductions. In 2017 the Zoo brought its greenhouse gas emissions down to 30% below its 1990 levels, and its water levels down to 60.5% below its 1990 levels, as shown below.



RENATURALIZATION

The Toronto Zoo continues to commit to renaturalization of the Zoo site. In 2017, the Zoo hosted tree and meadow planting, as well as two browse collection events to help support the browse feeding program here. The Zoo staff also hosted two Great Canadian Shoreline clean ups at the Rouge beaches, collecting over 1,500 pieces of garbage and recyclables.

The Zoo continues to be a key member of the Ontario BioBlitz steering committee. In 2017, the Canada BioBlitz 150 program hosted five flagship bioblitzes across Canada, one being right here in the Rouge National Urban Park. Over a 24 hour blitz of species identification, 1,995 scientists identified 1,324 different species in the park.



CONCLUSION

The above noted activities are highlights from the 2017 operating year from the Toronto Zoo. We continue to complete our mission and vision to reduce the carbon footprint of Zoo operations, increase awareness of climate change and sustainability practices and report to the public our actions in achieving the targets of the 2007 Green Plan. Operating procedures, sustainability practices and green initiatives implemented in previous years continue to operate and the Zoo is showing progress towards meeting or exceeding the 2027 targets for greenhouse gas emissions, waste diversion, and water consumption.