A Global Vision
2018 ANNUAL REPORT
A Global Vision

It’s not always easy to see the impact of the Detroit Zoological Society – much of our work takes place behind the scenes or in distant lands. That’s why we are delighted to share this 2018 report, highlighting many of our critical achievements here at home and around the globe.

Every day, more than 300 DZS staff bring dedication and hard work to their jobs to help fulfill our mission of Celebrating and Saving Wildlife. This report tells stories about the contributions their commitment has made to wildlife conservation, animal welfare and rescue, humane education and environmental sustainability.

None of this would be possible without the support of our donors, members, visitors, volunteers and board. You are the engine that propels our work and the force behind all we do to not only help wildlife, but also to provide accessibility, inclusion, diversity and equity initiatives that help position the Detroit Zoological Society as a contributing member of the world community.

We are grateful for your support and your belief in all we do, and we look forward to continuing to partner together to impact our region, our nation and our world.

Lloyd A. Semple
Chair, Board of Directors

Ron L. Kagan
Executive Director/CEO

Lloyd A. Semple

Ron L. Kagan

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Halfway across the world in the eastern Himalayas, amid rugged and remote forests, the round faces of red pandas peek out from nests among dense branches. Black, white and rust-colored fur camouflages the animals high up in fir trees. While a bushy tail helps them keep their balance, fur-covered paws enable them to climb tree trunks or grab bamboo for a meal. Today, almost 50 percent of the red pandas’ natural habitat is gone, putting them in a critical position on the endangered species list. It’s estimated that fewer than 10,000 red pandas remain in the wild.

The Detroit Zoological Society (DZS) is working to help red pandas thrive. These initiatives start in Metro Detroit and reach across the globe, and reflect our commitment to animal welfare and conservation for all species, especially at a time when human activities threaten extinction on an unprecedented scale. Our work is possible thanks to partners and supporters who help us every step of the way.

Let us give you a tree-top view of how the invaluable support of our community is advancing our work near and far.

**A Red Panda-ramic View**

Standing on the canopy walkway high up in the middle of the new Holtzman Wildlife Foundation Red Panda Forest at the Detroit Zoo, visitors can now come eye-level with three red pandas: 3-year-old male Ravi, 4-year-old female Ash and 14-year-old female Ta-Shi.
As a kid, Jonathan Holtzman fell in love with wildlife through visits to the Detroit Zoo. Today, he is the founder of the Holtzman Wildlife Foundation, which made a $500,000 gift to improve the home of red pandas at the Detroit Zoo.

"Together, we have the power to inspire people to make the world a better place for humans and for wildlife," Holtzman says.

"We are grateful to the Holtzman Wildlife Foundation for its partnership with the Detroit Zoological Society over the years," says Ron Kagan, executive director and CEO for the Detroit Zoological Society. "This gift enables us to enhance the care we provide to the red pandas at the Detroit Zoo and significantly furthers education efforts that support the critical conservation work for this endangered species and its wild habitat."

In addition to the Holtzman gift, more than 250 individual donors gave nearly $60,000 during the DZS’s Giving Tuesday campaign on November 27, including a generous matching gift from longtime supporters Sandy and Lee Marks.

The red panda habitat expansion is just one example of what is possible when organizations and individuals in our community share a passion for making a difference in the lives of animals everywhere.

We are beyond grateful to our community of supporters!

The new Holtzman Wildlife Foundation Red Panda Forest is a reimagined 14,000-square-foot expanded habitat, which opened in December 2018. This larger and more stimulating naturalistic environment is designed to promote the red pandas’ overall well-being in every respect.

The plentiful trees provide a complex arboreal pathway for the animals, and there’s more land for exploration and new nesting places. In warm weather, misting areas cool the red pandas. During the rare times they are not in the outdoor habitat, they have a new indoor living space with heated and cooled areas, nest boxes and branches.

The Zoo’s more than 1.3 million annual guests benefit from the new educational opportunities of this expanded habitat, with pathways that bring them closer to the animals and interactive learning experiences built into the design. They can read compelling messages that detail the habitat loss and population decline of red pandas in the wild, while discovering both the Holtzman Wildlife Foundation’s and the DZS’s efforts to preserve this endangered species in Nepal. Visitors to this new habitat will also see our commitment to environmental sustainability through the more than 200 plants used to create a living “green” roof in the habitat that absorbs rainwater and provides natural insulation to reduce energy consumption.

The Holtzman Wildlife Foundation and the DZS support and collaborate with the Jane Goodall Institute Nepal and the Red Panda Network to conserve red pandas in the wild as part of a commitment to wildlife conservation around the world. The DZS engages in a cooperative breeding program through the Association of Zoos & Aquariums, which has resulted in the birth of nine cubs at the Detroit Zoo over the past nine years. All of the cubs have moved on to other accredited zoos to enhance the genetic diversity of the population.

We are unwavering in our dedication to Celebrating and Saving Wildlife. With your support, we are increasing our impact and helping animals all over the world. ■
A Big Leap for Endangered Frogs and Toads in 2018

More than 11,000 Puerto Rican crested toad tadpoles left Detroit in June, headed for the El Talionlal biological reserve as part of a federal program to restore this critically endangered amphibian.

DZS amphibian staff spent more than 12 hours counting and packing the tadpoles into padded and insulated shipping boxes for their journey. Heavy-duty fish-shipping bags were doubled up and filled with water and oxygen to keep the tadpoles healthy and safe en route.

Approximately 24 hours later, the tadpoles were released in their new home: a pond located in a well-protected forest in Puerto Rico.

“As the tadpoles develop and grow, they will add to the wild population and one day, hopefully, produce many more thousands of tadpoles,” says Dr. Ruth Marcec-Greaves, director of the National Amphibian Conservation Center at the Detroit Zoo.

A few months later, in October 2018, 25 dusky gopher frogs bred at the Detroit Zoo were released in Mississippi’s Ward Bayou Wildlife Management Area.

Once abundant throughout Louisiana, Mississippi, and Alabama, dusky gopher frogs are nearly extinct. This species has an estimated population of fewer than 150 adults left in the wild, making it one of the top 100 most endangered species in the world.

The DZS worked collaboratively with three other zoos to release a total of more than 300 dusky gopher frogs.

In 2018, we also sent 577 Wyoming toad tadpoles to the Red Buttes Environmental Lab for release in a protected wetland in Wyoming’s Laramie Basin. Since 2001, we have released more than 9,460 Wyoming toads into the wild as tadpoles, toadlets and adults.

AMPHIBIANS IN CRISIS

Nearly half of the world’s known 7,878 amphibian species are threatened with extinction due to habitat loss, climate change, pollution, infectious diseases and other factors.

That’s why the DZS is committed to the conservation of amphibians across the globe through its National Amphibian Conservation Center.

They may be among the smallest animals you’ll encounter at the Detroit Zoo and Belle Isle Nature Center, but they are also among the most important. Amphibians are critical indicators of the health of ecosystems around the world.

The National Amphibian Conservation Center is dedicated exclusively to the conservation and well-being of amphibians. This award-winning, state-of-the-art facility is home to a spectacular diversity of frogs, toads, salamanders, newts and caecilians.

WILDLIFE CONSERVATION
Mayor of Amphibiville Jumps Into Second Term

Amphibiville is the Detroit Zoo’s 2-acre village home to the National Amphibian Conservation Center and the Cotton Family Wetlands. In 2018, 12-year-old Trinity Favazza of Shelby Township was sworn in as Mayor of Amphibiville for an unprecedented second term. In this role, Trinity participates in all amphibian-related events at the Zoo, including FrogWatch training to become a citizen scientist and contribute to field conservation science. Trinity received the U.S. Environmental Protection Agency’s 2018 President’s Environmental Youth Award for her work to protect local wetlands and raise awareness of amphibian conservation.

Newt Beginnings

Striped newts are native to the southeastern United States and have experienced a significant population decline in recent decades. To ensure this species’ survival, the DZS last year released more than 60 stranded newts born at the Detroit Zoo in three wetlands in Florida’s Apalachicola National Forest near Tallahassee.

DZS amphibian staff will continue to raise newts at the Detroit Zoo and release them to protected areas in Florida and Georgia.

Striped newt
Notophthalmus perstriatus

A Giant Undertaking

Japanese giant salamanders can grow to more than 4 feet long, weigh up to 88 pounds and live about 50 years. Five of these animals reside at the Detroit Zoo: three males named Bob, Dieter and Sven; and two females named Hatsue and Helga. The species is listed as Near Threatened by the International Union for the Conservation of Nature. The DZS plans to participate in a cooperative breeding program with a partner zoo in Japan, eventually releasing zoo-born salamanders to their native habitat.

The sound of a rushing waterfall greets visitors at the National Amphibian Conservation Center as they enter an immersive new space, home to Japanese giant salamanders.

The former Rainforest Immersion Gallery was transformed into a 1,850-square-foot space that is twice the size of the aquatic amphibians’ previous dwelling. The renovated space debuted in 2018 and features naturalistic elements resembling the giant salamanders’ native landscape in Japan.

The goal was to make the salamanders’ home large enough to accommodate all five individuals who live at the Detroit Zoo and, at the same time, create a peaceful retreat for visitors to observe the salamanders as they swim and explore their new space.

- Scott Carter, DZS chief life sciences officer
Feathers in Our Cap

Each summer for the past 18 years, DZS Curator of Birds Tom Schneider has organized a large group of bird care staff from the Detroit Zoo and other zoos across the country to travel to northern Michigan and work on behalf of the endangered Great Lakes piping plover. Under Schneider’s leadership, the team incubates eggs and raises chicks from abandoned piping plover nests or broods. The chicks are cared for until they fledge and are then released to join wild plovers and bolster the population.

In 2018, Schneider received the United States Fish and Wildlife Service Recovery Champion Award. The award is given annually to individuals who have made significant contributions to the recovery of federally listed endangered species. The DZS was also awarded the Fred Charbonneau Bird Conservation Award by Detroit Audubon in 2018. The award recognizes our extensive bird conservation programs for multiple species — including black terns, common terns, piping plovers, peregrine falcons, penguins and Kirtland’s warblers. The DZS was also recognized for our contributions to the Urban Bird Treaty and Urban Bird Summit, and making buildings and habitats safe for birds.

(Pictured) Tom Schneider, curator of birds, and his team at the Detroit Zoo. Schneider has been named a 2018 Endangered Species Recovery Champion by USFWS for his many years of helping to organize captive rearing efforts for Great Lakes piping plovers.

GREAT LAKES POPULATION

In 1986, the Great Lakes piping plover population was listed as endangered.

BREEDING PAIRS

Once home to nearly 800 pairs of piping plovers, the Great Lakes area is now home to only 75 nesting pairs, an increase from the 32 pairs recorded in 1986.

HABITAT LOSS

Many of the coastal beaches traditionally used by piping plovers for nesting have been lost to commercial, residential and recreational developments.
Conservation Expeditions

7,000 miles isn’t too far to go to help.
Three hundred miles off the eastern tip of South America on the remote Falkland Islands, the Detroit Zoological Society is conducting the most comprehensive wild animal health and welfare study we have ever undertaken. The estimated 800 miles of coastline is a critical habitat for four species of penguins and numerous other seabirds and the perfect ecosystem for us to explore the impacts of infectious disease, pollution and tourism on populations of wild penguins.

Blood samples from two species of penguins were collected from nearly 100 individuals living in different areas of the Falklands during a 2018 expedition. The samples were sent to four laboratories and the DZS’s Center for Zoo and Aquarium Animal Welfare and Ethics, which includes our cutting-edge endocrinology lab. Here, almost 7,000 miles from the penguins’ native habitat, scientists are gaining a greater understanding of the current health status of the penguin colonies in those areas.

What happens when there’s not enough ice?
The effects of climate change and warming temperatures are especially evident in Antarctica, where the reduction in the number of ice-producing days per year is having a devastating effect all along the food chain – from algae to krill to penguins and other seabirds. To better understand these effects, Flo Yates, a DZS animal care staff member, spent six weeks living and conducting research at the U.S. Palmer Station in Antarctica during the 2018 austral summer. This is the second time a member of the DZS life sciences staff has been invited to participate in this important scientific research in Antarctica. The DZS partners with Polar Oceans Research Group, which has been conducting studies on the ecological effects of climate change and all aspects of the global environment for more than 40 years. This is truly a remarkable and singular opportunity for a member of our staff to contribute to this long-term ecological research project.

In the wilds of Armenia.
In the Caucasus region between Asia and Europe, bordered by Turkey to the west, Georgia to the north and Iran to the south, sits the Republic of Armenia, formerly part of the Soviet Union. In 2018, the DZS launched two conservation projects there, one that focuses on Eurasian otters and the other on brown bears. Numbers of Eurasian otters have fallen dramatically in the region to the point where they are now classified as Endangered in Armenia. The DZS is gathering data on their status and work on preserving their populations.

As in other parts of the world, brown bears in Armenia are coming into conflict with human beings more and more often as the human population increases and land development encroaches on their habitats. The DZS is conducting interviews and placing trail cameras in and around villages to assess the distribution of bears in the region and the threat to human life, livestock and crops attributed to bear conflicts.
Animal Welfare & Rescue

The Detroit Zoological Society is an internationally recognized leader in advancing captive exotic animal welfare through best practices, scientific research, policy, and training, and has a long history of providing sanctuary to animals in need of rescue.

When Bat Zone in Pontiac, Michigan, had to suddenly close its doors in early 2018, the DZS stepped in to provide sanctuary to more than 61 animals. Fifty-four bats of three species – African straw-colored fruit bats, short-tailed fruit bats and Jamaican fruit bats – moved to the Detroit Zoo, along with five southern flying squirrels, a Linne’s two-toed sloth and a Cranwell’s horned frog.

The DZS also worked closely with other accredited institutions around the country to find appropriate homes for the more than 200 other animals who were displaced by the closure.

“This was an unfortunate situation but we are glad we did everything we could to help place animals in facilities capable of ensuring their lifetime care,” says Dr. Randi Meyerson, DZS deputy chief life sciences officer.

Molasses, or “Mo”, the Linne’s two-toed sloth, and the five African straw-colored fruit bats can be seen in The Hangout near the rhinos and Japanese macaques at the Detroit Zoo.

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Mr. America perches on a thick pine branch, his talons dark and sharp against the soft wood. It is easy to imagine this majestic bald eagle spreading his wings and launching himself skyward, soaring against a backdrop of clouds. But Mr. America sustained injuries that prevent him from being released back into the wild. He was rescued in Indiana after an injury to his wing, which had to be amputated. He made a full recovery and found sanctuary at the Detroit Zoo in January 2018.

“We’re happy to offer sanctuary to this rescued, non-releasable eagle and provide him expert care and a great place to live,” says Scott Carter, chief life sciences officer for the DZS.

Mr. America joined another rescued non-releasable male bald eagle named Flash, who sustained a wing injury in 2009 on Alaska’s Kodiak Island. Today, they are safe and cared for in their American Grasslands habitat overlooking the Zoo’s picturesque Pierson Lake.

The Eagle Has Landed

Bald eagle numbers in the U.S. were estimated to be between 300,000 and 500,000 in the 1700s. Numbers were once as low as 500 nesting pairs in the lower 48 states. Bald eagle numbers have rebounded since and now boast more than 5,000 nesting pairs.
The Center for Zoo and Aquarium Animal Welfare and Ethics

From Good Care to Great Welfare

Not every professional-development workshop has participants crawling around a warthog habitat or being lifted 18 feet off the ground in a bucket truck to overlook a giraffe landscape. But when the workshop’s goal is to better understand and support animals in human care, that’s precisely what participants do.

In October 2018, the DZS’s Center for Zoo and Aquarium Animal Welfare and Ethics (CZAAWE) hosted its annual workshop to help animal care staff better understand the animals’ perspectives and experiences, address the challenges that living in the care of humans imposes on animal welfare, and develop the skills necessary to assess and improve animals’ overall well-being. “From Good Care to Great Welfare” is held over five days each year and welcomes animal care staff from around the world.

“We are committed to understanding how animals living in zoos can thrive, not just survive,” says Dr. Stephanie Allard, CZAAWE director and DZS director of animal welfare.

Case in Point

When the DZS created CZAAWE in 2009, one of the main goals was to increase knowledge about the welfare of animals living in the care of humans. CZAAWE developed an online resource center, which is regularly updated, to ensure information about animal welfare and ethics can be easily found. Dr. Matt Heintz, an animal welfare research associate for the DZS, stays up to date on newly published articles and case studies, and is responsible for growing this incredible resource. Recently published case studies include:

- Using infrared thermography to assess animal welfare
- Understanding the importance of personality in herpetological (turtle) reintroduction programs
- Increasing the amount of leafy branches to impact gorilla welfare
- The effects of cataract surgery on crested penguins

Otterly Amazing

A 1-month-old female otter pup was in bad shape in June of 2018 when hikers discovered her along a trail in Hoonah, Alaska. She had a laceration and puncture wound on her side, and she was alone. After receiving care for her injuries, the Detroit Zoo was selected to be her new home because the DZS has extensive experience with North American river otters and could offer a recently renovated and expanded space.

Today, visitors can see the healthy otter — now fully grown and named Kalee — dive and splash in the stream that runs through the Zoo’s Edward Mardigian, Sr. River Otter Habitat. She lives there with three other otters: Sparky, a 5-year-old male born at the Zoo, and his parents Lucius, 13, and Whisker, 16. Sparky could be a potential mate for Kalee.

Kalee is named in honor of longtime DZS board member Alan Kalter and his wife, Dr. Chris Lezotte, who provided the lead gift in 2012 to establish the Kalter/Lezotte Fund for Wildlife Rescue. Since then, the fund has facilitated the rescue of dozens of animals, many of whom have found sanctuary at the Detroit Zoo.

River otter populations have suffered significant declines due to fur trapping, water pollution, habitat destruction, pesticides and other threats. Detroit Zoo visitors can learn about these important semi-aquatic mammals by watching them in the habitat’s underwater viewing area or looking topside to see them snoozing on a sandy beach, frolicking in a waterfall or cruising down a waterslide.

Female river otters typically do not reproduce until they reach 2 years of age, but in the meantime, Kalee is a playful companion for Sparky.

— Scott Carter, DZS chief life sciences officer

North American river otter
Lontra canadensis
Salamander Shelters

The construction crew wore thick gloves and used wire cutters, cement and heavy-duty mesh— all with the goal of building homes for families. But instead of Cape Cods or ranch homes, they built dwellings for egg-laying Detroit River mudpuppies. The homes were constructed at the Detroit Zoo’s Ford Education Center by a hard-working group of teenaged girls from Oakland County Children’s Village.

Mudpuppies are aquatic salamanders, and they’re good indicators of water quality since they can’t survive in polluted or contaminated water. Their presence is a sign of a healthy aquatic ecosystem.

The shelters were placed in the water around Belle Isle with the help of the teenagers who built them. Easy-to-remove roofs will enable DZS staff to lift off the top and check on any eggs without disturbing them. Moving forward, the teens will have the opportunity to work alongside DZS amphibian and education staff to record weather, water quality and shelter placement as well as check on previously placed shelters.

This transformative DZS program was designed to give young women from Children’s Village, a residential treatment and detention center, the opportunity to experience the pride of accomplishment along with a sense of responsibility to their community. Working along scientists in the field, they learn about conservation and gain confidence as they build skills. The program provides the young women with positive role models and exposes participants to career and life paths they might otherwise not have known or considered.
SASHA Farm in Manchester, Michigan is a safe haven for more than 300 farm animals – and one dedicated 10-year-old volunteer. Henry Plummer is the first recipient of the Detroit Zoological Society Humane Youth Award, which celebrates and highlights the work of young people whose compassion for animals has made an impact on their communities. Henry was nominated because of his commitment to protecting wildlife, his vegan lifestyle and his efforts to engage and educate the community in his animal protection activities. This included a birthday fundraising campaign for a SASHA Farm turkey named Lucky.

The Humane Youth Award is a program through the DZS’s Berman Academy for Humane Education, created in 2002 to help people help animals. It is the only program of its kind in any zoo, and is the lens through which all of the DZS’s education initiatives and activities are developed.

Bringing Science to Life

There are four species of penguins at the Detroit Zoo. Can you spot some of the differences among them?

Posing this question to first-graders produces a lot of creative answers.

“King penguins look like they’re the boss of all the other penguins.”

“Gentoo penguins look like they have on too much lipstick.”

More than 4,000 first-graders were brought to the Detroit Zoo in 2018 through a new partnership with the Detroit Public Schools Community District. The partnership pairs immersive science learning with existing classroom curriculum.

DZS Chief Program Officer Diane Miller and the DZS’s education staff also work closely with other school districts in the tri-county area to combine classroom learning with hands-on experiences that bring science to life. The programs build science-processing skills, expand growing vocabularies and generate excitement for wildlife.

“It’s about both the students and the animals,” Miller says, “while building a skill set that supports the teachers.”

There’s a difference between reading a book about a penguin and seeing a penguin in person. It’s easier to teach a child a subject they’re excited about, and the Detroit Zoo makes learning fun.

- Diane Miller, DZS chief program officer

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Belle Isle Nature Center: See What the Buzz is About

The Belle Isle Nature Center installed a Finnish beehive in the summer of 2018 – a lightweight and highly insulated hive that keeps bees warm in the winter when they hibernate. The hive increased the bees’ survival rate for the first winter it was used. The hive was purchased thanks to the generosity of Richard Grinstein, a local jeweler who raised $4,500 through the sale of his original designed bee-themed jewelry. Optik Birmingham raised and donated $300. DZS staff at the Belle Isle Nature Center also began raising mason bees and leaf-cutter bees, which are known as “solitary bees” since they don’t have a large hive or colony, and are independent of a queen. The hives teach visitors that bees aren’t always yellow and black, and many don’t sting. Solitary bees are also native to the area and play an important role in pollinating.

Training Ground
While bees buzz in pollinator-friendly flowers, a reflection area welcomes walkers along a newly enhanced trail at the Belle Isle Nature Center. The teens, ages 16-19, planned the trail as part of a capstone project through the Environmental Stewardship Interns (ESI) program. In this program, students learn about conservation, sustainability and stewardship, all while being paid a wage and trained as staff.

“We recognize their developmental needs as youth and set them up for success with on-the-job training, communication and teamwork,” says Amy Greene, nature centers director for the DZS. “Those are skills that are needed in any work environment.”

Summer Camp
Going on hikes. Sticking hands in clay. Canoeing. Building a sense of place and belonging. These are all activities that students in the DZS’s week-long Belle Isle Summer Nature Camp experience each year. In 2018, the camp added a new section for 8- and 9-year-old students, bringing the total number of campers, ages 5 to 12, to 202.

“The campers are coming from parts of the city with very little green space,” Greene says. “Over the course of the week, the kids go from understanding the space to feeling part of it to caring for it.”

The DZS works with educational partners including Pewabic Pottery, Detroit Audubon and Riverside Kayak Connection to provide a rich variety of camp experiences.

Nature Tots
Nature Tots offers 2- to 4-year-old children and their caregivers opportunities to explore and experience natural materials, stories, arts and crafts, and outdoor play year round. In 2018, the Belle Isle Nature Center staff took Nature Tots “on the road,” visiting local Head Start programs and preschools, facilitating the programming on location and supporting the teachers and parents in understanding that nature play doesn’t need to be complicated to be effective.
Environmental Sustainability

The Detroit Zoological Society continued to make innovative strides on our award-winning Green Journey in 2018 to reduce our environmental impact and create a better future for wildlife and wild places.

Number One at Number Two

The gardens of thousands of Detroit Zoo visitors are blooming thanks to a very special compost made with “number two”. That’s right, they took home some Zoo Poo. This all-natural fertilizer was produced by our anaerobic digester, which converts 500 tons of animal manure and other organic waste annually into a methane-rich gas that helps power the Ruth Roby Glancy Animal Health Complex.

Zoo Poo is a nutrient-rich byproduct of this cutting-edge process and is beneficial for flowers, plants and the earth. Guests at the 2018 GreenFest event took home a complimentary 5-gallon bucket of Zoo Poo, made possible through the support of our partners, Detroit Dirt and The Home Depot Foundation. Varying sizes of Zoo Poo are also available for purchase at Zoofari Market.

The Future is Looking Green

The students of today are creating a better planet for tomorrow. In 2018, the Detroit Zoological Society launched a program to honor their inventive efforts with our inaugural Green Prize award. West Bloomfield High School’s EARTH Club was the first recipient of this honor. The students worked together to develop strategies that would reduce the energy usage in the school’s science department. They switched to LED lights and installed solar panels that would completely power the department. Their project, from inception to execution, exemplified remarkable environmental stewardship. Through this annual award competition, the DZS will continue to seek innovative ideas from students who are helping to create a more sustainable future.

Recycling E-Waste

More than 4,500 pounds of electronics were dropped off at the Detroit Zoo by guests, staff and volunteers during our inaugural celebration of America Recycles Day in the fall of 2018, reducing the amount of e-waste that ends up in landfills. For this event, the DZS contracted with companies that take old electronics, separate commodities such as aluminum, copper and steel, and recycle those parts. In addition, sustainability talks and learning activities took place throughout the Zoo, highlighting the DZS's award-winning green initiatives and sharing important information with guests on the impacts of waste on animals and the environment.

Going Green

- **60,000** The number of plastic bottles we are keeping out of the wastestream annually by no longer selling bottled water on Zoo grounds.
- **ZERO** The number of plastic bags available at Zoo gift shops. To further reduce plastic waste, we encourage guests to bring their own bags or purchase reusable totes.
- **38,000** The square footage of the roof of the Ford Education Center. Rain water from the roof is collected and feeds a rain garden with native Michigan plants.
Flower Power

As the sun peeks out from the horizon and rises up in the sky, a sunflower – a Smartflower, that is – begins to unfold, opening up to greet the day. Its 12 petals trail the sun across the sky, generating energy and cleaning itself as the hours pass.

The Smartflower is a ground-mounted solar-panel system and the latest in our progressive practices that minimize our ecological footprint. It first bloomed near the Detroit Zoo’s Carousel in the spring of 2018 and was not only the first to be installed in Michigan but also the first at any zoo in the country. It generates more than 4,000 kilowatts of electricity annually – enough to power the 36-foot ride as well as other areas of the Zoo.

HOW IT WORKS

Based on the concept of how a sunflower follows the sun, the 16-by-16-foot system features 12 solar “petals” that trail the sun across the sky throughout the day via a GPS-based dual-axis tracker. When the sun rises in the morning, the system unfolds and begins to rotate, producing energy by setting its petals at a 90-degree angle. The petals close when the sun goes down.
ATTENDANCE
The Detroit Zoo welcomed nearly 1.4 million visitors in 2018, and Wild Lights attendance set a new record.

2018 MEMBERSHIP HIGHLIGHTS

517,168 member visits
54,697 average monthly households

MEMBERSHIP HIGHLIGHTS

The Detroit Zoo welcomed nearly 1.4 million visitors in 2018, and Wild Lights attendance set a new record.

Community Impact
The impact of the Detroit Zoological Society reaches beyond the work we do to save wildlife and wild places. It is felt in our community through our commitment to inclusion and diversity, jobs created, students educated, staff involvement and more.

USFWS Award: Piping Plover Recovery Program
DZS Curator of Birds Tom Schneider received the U.S. Fish and Wildlife Service Recovery Champion Award for his contributions to the recovery of Michigan piping plovers.

Fred Charbonneau Bird Conservation Award
Detroit Audubon awarded the DZS its Fred Charbonneau Bird Conservation Award recognizing our extensive bird conservation programs for multiple species.

AZA Education Award
The DZS received the 2018 Education Award for community engagement from the Association of Zoos & Aquariums for, Celebrate Urban Backyards.

Rated Exceptional
The DZS received an “exceptional” designation from Charity Navigator after earning a four-star rating for the seventh consecutive year for sound fiscal management. This designation places the DZS among only 5 percent of more than 8,000 charities rated who have received five or more consecutive four-star ratings.
A Zoo For All

Just as we value and celebrate biodiversity, the Detroit Zoological Society celebrates the diversity of our human community. We are dedicated to offering programs and facilities that are fully accessible to diverse communities and audiences. We are also committed to ensuring that our staff and volunteers reflect the multicultural fabric that is the strength of Southeast Michigan.

Through a project titled Building Capacity in Accessibility, Inclusion, Diversity and Equity, the DZS is developing a clearer understanding of how our community perceives the accessibility and relevance of our campuses and programs. The project will include a series of facilitated roundtable discussions with internal and external audiences as well as a survey of knowledge and attitudes held by members of the DZS Board.

We are grateful for a 2018 grant from the Community Foundation for Southeast Michigan, which is helping us to fully execute on our commitment to making the Detroit Zoo, the Belle Isle Nature Center, and each of our programs accessible and welcoming to all.

A Culture of Caring

The DZS staff showed how much they care in 2018 by rolling up their sleeves and volunteering their time on projects both at the Detroit Zoo and in the local community. The DZS supports organizational renewal trips that make a hands-on difference.

Cleaning Up. At the Rouge River, staff removed 26 shopping carts, one bedspring, two fences, one tire, 80 bags of garbage and 218 cubic yards of non-native species from the river and riverbank to make this area cleaner and safer.

Fighting Hunger. At Forgotten Harvest, staff rescued more than 27,000 pounds of food, providing people in need with fresh and nutritious food.

Building Hope. At Life Remodeled, staff mowed fields, cleaned an alley and completed other landscape work on a designated city block to fulfill a community’s vision.

Helping Hands. At Leader Dogs for the Blind, staff washed transport vans, painted the conference room, pulled weeds on property and prepared donor materials for mailing, all in support of the organization’s mission to help people who are visually impaired.

Making “Merry Not Scary.” In preparation for Zoo Boo, staff built 31 scenes and a straw maze for kids and families to celebrate Halloween with entertainment, fun, and more treats than tricks.
2018 Financials

Generous donor support makes all the difference for the Detroit Zoological Society. Everyone who visits our facilities, participates in a program or makes a gift helps the DZS fulfill its mission. Thank you for your generosity and your profound commitment to Celebrating and Saving Wildlife.

### Operating Expenses (in millions)

<table>
<thead>
<tr>
<th>Expense</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Animal Care</td>
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<tr>
<td>Maintenance &amp; Park Operations</td>
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<td>Management &amp; Administrative</td>
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<tr>
<td>Facility Improvements</td>
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<tr>
<td>Visitor Services</td>
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<tr>
<td>Education Programs &amp; Donated Services</td>
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<tr>
<td>Marketing &amp; PR</td>
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<td>Capital/Operating Transfers</td>
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<tr>
<td>Fundraising</td>
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</table>

**TOTAL OPERATING EXPENSES** $46.8

### Operating Revenue (in millions)

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<tr>
<td>Earned Revenue</td>
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<tr>
<td>Public Support</td>
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<tr>
<td>Contributions</td>
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</tbody>
</table>

**TOTAL OPERATING REVENUE** $46.8

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**Detroit Zoo Boosts Local Economy with Impact of More Than $167 Million in 2018**

An analysis of the economic impacts associated with the operation of the Detroit Zoo has found that the largest paid family attraction in Michigan had a total economic impact of $167.6 million in the Metro Detroit community in 2018. The Zoo also was a significant source of employment and earnings in 2018, supporting 1,916 full- and part-time jobs and more than $65 million in wages and benefits.

### Your generosity is overwhelming

We are grateful for every contribution to support our mission of Celebrating and Saving Wildlife. 2018 was a banner year, with generous individuals, foundations and companies donating in the following ways.

- **General Support**: $37 million from 3,900 donors
- **Capital Projects**: $2.5 million from 270 donors
- **Programs and Endowment**: $700 thousand from 130 donors

The impact of DZS volunteers is significant to the success of the Detroit Zoo and Belle Isle Nature Center. More than 1,000 volunteers contributed more than 100,000 hours of service, representing more than $2.5 million in support.

"Thank you" doesn't begin to express our gratitude!
The mission of the Detroit Zoological Society (DZS) is to:

- Demonstrate leadership in wildlife conservation and animal welfare.
- Provide a broad audience with outstanding and unique educational opportunities that lead to the appreciation and stewardship of nature.
- Inspire our community with engaging, meaningful and memorable experiences.
- Provide innovative zoological facilities that contribute to the region’s economic vitality.
- Demonstrate organizational excellence consistent with a commitment to outstanding service, progressive resource management and environmental leadership.

Published by the Detroit Zoological Society

Celebrating and Saving Wildlife

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