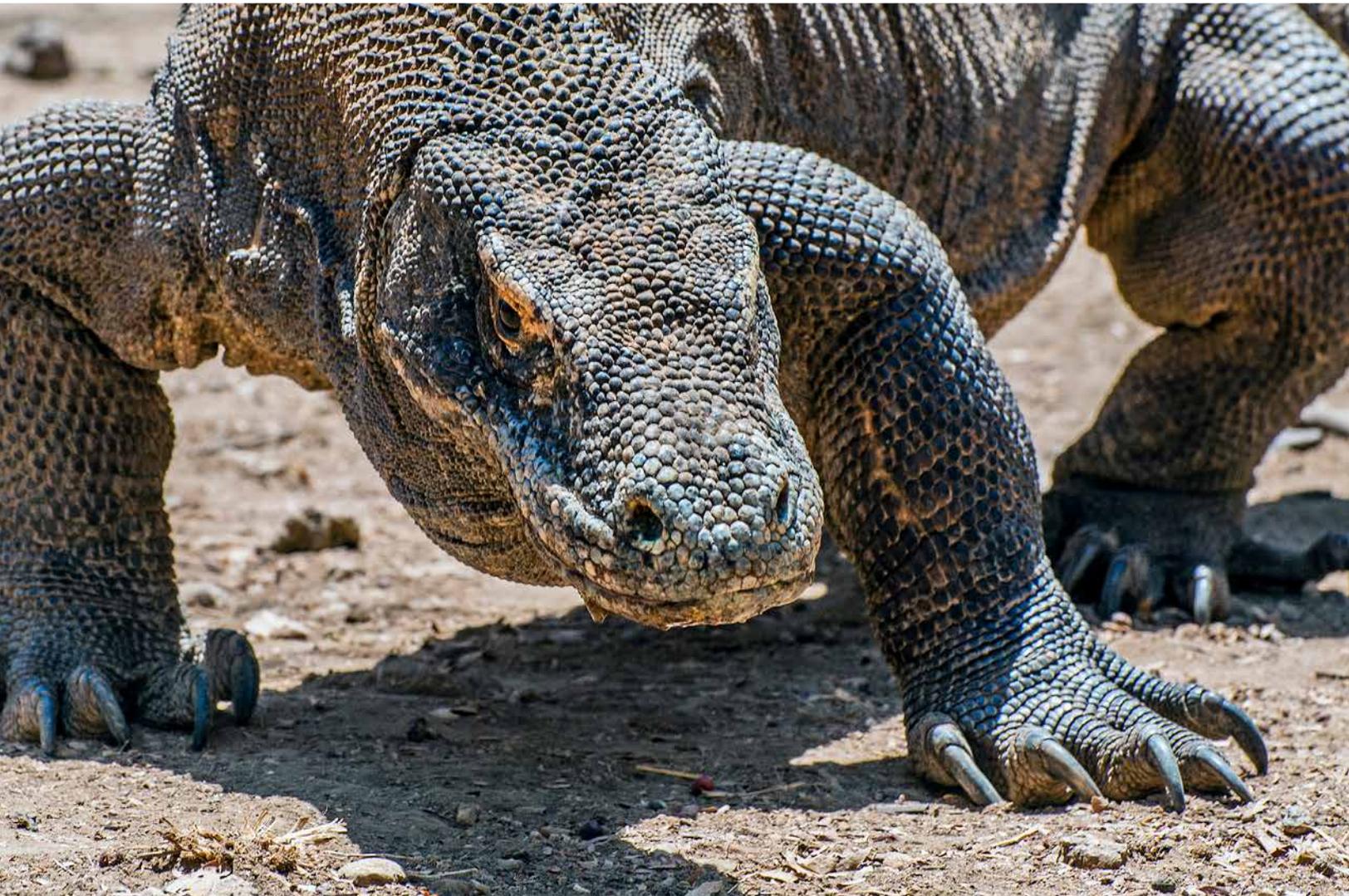


# 2018

Annual Report on Conservation and Science



**ASSOCIATION  
OF ZOOS &  
AQUARIUMS**

## 2018 Annual Report on Conservation and Science

The Association of Zoos and Aquariums and its member facilities envision a world where, as a result of their work, all people respect, value, and conserve wildlife and wild places.

The 2018 *Annual Report on Conservation and Science* (ARCS) celebrates the conservation efforts, education programs, green (sustainable) business practices, and research projects of AZA-accredited zoos and aquariums and certified related facilities.

Content in ARCS reflects submissions made to annual surveys available through AZA's website. Each survey topic has been carefully defined to maximize consistency of reporting throughout the AZA community. AZA's Wildlife Conservation Committee and Research and Technology Committee review all of the relevant submissions by members to promote even greater consistency.

Field conservation focuses on efforts having a direct impact on animals and habitats in the wild. Education programming includes those with specific goals and delivery methods, defined content, and a clear primary discipline and target audience. Mission-focused research projects involve application of the scientific method, are hypothesis (or question)-driven, involve systematic data collection, and analysis of those data and draw conclusions from the research process. Green business practices focus on the annual documentation and usage of key resources: energy, fuel for transportation, waste, and water – as well as identification of specific green practices being implemented.

AZA is grateful to each member that responded to these surveys. The response rate for each 2018 survey was as follows:

- » field conservation – 92%
- » education programming – 59%
- » green business practices – 65%
- » mission-focused research – 65%

While the 2018 ARCS focuses on individual activities undertaken that year, download the 2018 *Highlights* (available at: [aza.org/annual-report-on-conservation-and-science](http://aza.org/annual-report-on-conservation-and-science)) to learn more about what the AZA community accomplished together.

This report was compiled by Jordyn Chace (Program Assistant, Conservation and Science), Cyrena Tate (Intern, Conservation, Management and Welfare Sciences), and Shelly Grow (Vice President, Conservation and Science).

# INTERNATIONAL

## Argentina

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### FUNDACIÓN TEMAİKËN

#### Education

Ambassador Animals

Conservation of Biodiversity Through Ecotourism in Osununu Natural Reserve Project

Content Development and Processing

Educational Internship Program

Educational Visits

Educational Visits for People With Disabilities

Environmental Education Program ConCiencia Activa

Environmental Multipliers Educational Program - "Multiplicadores Ambientales"

Festival "We Are Diversity"

Internship Program at the Veterinarian Hospital

Keepers Talks to Visitors

Long-Distance Education Course: Environmental Education in Rural Settings

Micro Website of the Education Department: "Comunidad Activa"

Nature Play Program in the Biopark

Professional Skills Practicum in Tourism Technical Course

Project of Articulation Between Fundación Temaikèn and Instituto Superior de Formación Docente y Técnica N° 55 in Escobar

University Courses Taught: Agreement With Universidad de Belgrano

Volunteer Programs

#### Field Conservation

Conservation of Osununu Natural Reserve Project

Flora and Ecosystems Inventory

Research Project in Magellanic Penguin (*Spheniscus magellanicus*)

#### Green Practices

##### ENERGY

Documented Amount Spent

Documented Amount Used

##### FUEL

Documented Amount Spent

Documented Amount Used

##### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

##### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

##### WASTE

Documented Amount Recycled

#### Research

Habitat Use of Broadnose Sevengill Sharks (*Notorynchus cepedianus*) in the Argentine Sea

Resolution of Complex Cognitive Tasks and Use of Tools in Plush-Crested Jays (*Cyanocorax chrysops* (Corvidae))

Study and Conservation of Bat Diversity in el Área Importante para la Conservación (AICOM) Osununu - Teyú Cuaré

# Bahamas

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## ATLANTIS, PARADISE ISLAND

### Education

Atlantis Stingray Experience  
 Discovery Tour  
 Dolphin Deep Water Swim  
 Dolphin Shallow Water Swim  
 Jr. Ultimate Trainer for a Day  
 On-Grounds School Behind-the-Scenes Programs  
 Rise and Shine  
 School Aquarium Outreach Program  
 Sea Lion Interaction  
 Sea Squirts  
 Serenity Snorkel  
 Snorkel the Ruins of Atlantis  
 Sunrise Fitness  
 Ultimate Trainer for Day

### Field Conservation

Bahamas Marine Mammal Research Organization (BMMRO)  
 - Stranding Response to Support Marine Mammals in the Bahamas and Marine Mammal Research  
 Bahamian Coral Reefs: Taking Action to Protect Reefs Through Education and Action  
 Manatee Health Assessment  
 Providing the Scientific Basis for a Marine Protected Area Designation and Reef Rehabilitation in the Bahamas  
 Tour de Turtles

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Purchasing Policy/Green Procurement

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WATER

Documented Amount Spent  
 Documented Amount Used

# Bermuda

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## BERMUDA AQUARIUM, MUSEUM AND ZOO

### Field Conservation

Bermuda Amphibian Project  
 Bermuda Aquarium, Museum, and Zoo (BAMZ) - Internship Programme  
 Bermuda Aquarium, Museum, and Zoo (BAMZ)/Bermuda Zoological Society (BZS) - Research Grants and Support  
 Bermuda Marine Moorings Initiative  
 Bermuda Turtle Project  
 Characterising Bermuda's Baitfish Populations to Improve Management and Fishery Sustainability  
 Marine Invasive Species in Bermuda  
 Marine Wildlife Rescue and Rehabilitation  
 Sargassum Community Studies

# Canada

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## Alberta

### CALGARY ZOO

#### Field Conservation

Black-Tailed Prairie Dog and Black-Footed Ferret Conservation Research

Burrowing Owl Headstarting

Community-Based Conservation of Lemurs in Madagascar

Community-Based Conservation of Mountain Bongo in Kenya

Community-Based Conservation of Western Sitatunga and Hippos in Ghana

Fisher Wild-to-Wild Translocations

Greater Sage Grouse: Reintroduction Breeding and Research

IUCN/SSC Reintroduction Specialist – Group Training for Effective Conservation Translocations

Northern Leopard Frog Reintroduction Breeding and Research in Western Canada

Swift Fox Recovery

Vancouver Island Marmot Reintroduction Breeding

Whooping Crane Reintroduction Breeding and Research

#### Green Practices

##### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

##### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

##### FOOD

Sourced Local Food or Grew it On-Site

##### FUEL

Documented Amount Spent

Documented Amount Used

##### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

Certified by the Green Restaurant Association

##### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Discounts for Guests

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Denitrification Systems On Ground

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Wastewater Reduction

Water Submetering

Waterwise Landscaping

##### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

##### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

##### WATER

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

#### Research

Evaluating Community Conservation Success

Fisher Wild-to-Wild Translocations

Vancouver Island Marmot Anti-Predator Behaviour Research

## British Columbia

### VANCOUVER AQUARIUM MARINE SCIENCE CENTRE

#### Field Conservation

A DNA-Based Monitoring Approach for Nearshore Benthic Habitats

Agarum Monitoring

Annapolis Biodiversity Index Survey

Assessing Glass Sponge Reef Dynamics and Habitat Complexity Using 3D Structure From Motion

Assessing Hormone Concentrations in Killer Whale Fecal Samples

Assessing the Nutritional Status of Killer Whales Using Unmanned Aerial Platforms

Biodiversity Monitoring

British Columbia Cetacean Sightings Network

British Columbia Northern Leopard Frog Recovery Project

Cetacean Conservation Genetics

Churchill Beluga Research Project

Field Study of Demography, Population Status, and Natural History of British Columbian and Alaskan Killer Whales

Frog Conservation and Disease

Fur Seal and Sea Lion Projects

Health and Disease of Killer Whales

Humpback Whale Health Assessment Based on Photogrammetry and Blow Samples

Kelp Bed and Rocky Reef Monitoring

Marine Conservation Assessment Map

Marine Mammal Rescue Centre

Monitor Glass Sponge Reefs

Monitor Lingcod Spawn Demography

North Coast Cetacean Research Project

Oregon Spotted Frog Recovery Project

Panamanian Golden Frogs

Pond Inlet Narwhal Project

Recovery of Rockfish in Rockfish Conservation Areas

Rockfish Habitat Use and Connectivity

Rockfish Winter Hiding

Sculpting Rockfish Habitat in Howe Sound

Sea Otter Nutrition

St. Lawrence Beluga Research Project

Walrus Energetics and Physiology

#### Green Practices

##### ENERGY

Documented Amount Spent

Documented Amount Used

Purchased Renewable Energy

##### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

##### FOOD

Sourced Local Food or Grew it On-Site

##### FUEL

Documented Amount Spent

Documented Amount Used

##### GREEN CERTIFICATIONS

Certified Under ISO 14001

One or More Buildings LEED-Certified by the US Green Building Council

##### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Community Supported Agriculture (CSA) Program for Staff

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Smart Building Strategies

Used Environmental Management System

Wastewater Reduction

Waterwise Landscaping

**GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Cetacean Novel Clinical Techniques

Contaminant Related Health Risks in Southern Resident Killer Whales

Fish Disease Case Reports

Frog Conservation and Disease

Harbour Seal Post-Release Monitoring

Health of the Western Arctic Beluga Whales as it Relates to Contaminants and Climate Change

Marine Mammal Health and Physiology

Microplastics in the Ocean

Pinniped Anesthesia

PollutionTracker - Contaminant Monitoring the British Columbia Coastal Environment

Sea Lion Darting and Disentanglement Project

**Manitoba****ASSINIBOINE PARK ZOO****Field Conservation**

Bird Strike Mitigation

Chimney Swift Chimney Installation

Grassland Skipper Conservation and Headstarting Program

International Polar Bear Day

Manitoba Burrowing Owl Recovery Program

MonarchHealth - *Ophryocystis elektroscirrha* (OE) Testing

Red Panda Network (RPN)

Snow Leopard Trust (SLT) - Fundraising

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management

Commingled Recycling

Community Solar Program

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Green Building Policy/Commitment

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Carbon Offset(s) for On-Site Utility Use

Water Submetering

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Abundance Estimates, Haul Out Patterns and Natural History of Harbour Seals (*Phoca vitulina*) in the Churchill River Estuary

Abundance Estimates, Haul Out Patterns, and Natural History of Ringed Seals Near Churchill

Assessing the Timing and Rate of Fur Growth in Zoo Polar Bears

Beluga Bits

Fecal Glucocorticoid Metabolite Concentrations in Orphaned Polar Bear “Cubs of the Year” Brought Into Captivity From Northern Manitoba to Assiniboine Park Zoo Through the LIPBCC

Implementation of an Environmental Enrichment Program to Reduce Over-Grooming and Pacing in Captive Red Pandas (*Ailurus fulgens*)

Inbreeding and Relatedness Analysis of Burrowing Owls in Captive Rearing Programs in Canada Using PCR Multiplexing

Novel Applications of Thermal Imaging Technology to Assess *Ursus maritimus* (Polar Bear) Social Play Behaviour

Other Ground Squirrel Projects

Polar Bear Behaviour During Transition

Polar Bear Denning in Canada

Polar Bear Hormone Monitoring

Recording of Animal Vocalizations

Ringed Seal (*Pusa hispida*) Trends in Abundance Inferred From Genetics

Testing Detectability Assumptions of Trail Cameras on Polar Bears

Whiskerprints

**Ontario****RIPLEY'S AQUARIUM OF CANADA****Education**

Aquarist for a Day

Aquatic Adventurers

Behind the Scenes Tours

Discovery Dive

Dive Show-Rainbow Reef

Dive Show-Ray Bay

Kelp Kart

Ocean Explorers Club

School Program: Amazing Algae and Other Aquatic Plants (Grade 3)

School Program: Aquarium Careers (Grade 11/12)

School Program: Creatures Undercover (Grade 2)

School Program: Deep Sea Diver (Grade 5)

School Program: Lake Invaders (Grade 6)

School Program: My Own Aquarium (Grade 1)

School Program: Pollution Solution (Grade 5 & 7)

School Program: Sensational Sharks (Kindergarten)

School Program: Squid Dissection (Grade 10) – Formerly Climate in Crisis

School Program: Stream Science (Grade 9)

School Program: Watery Web (Grade 4)

School Program: What's in the Water (Grade 8)

Sea Squirts

Sleepover (Sleep With the Sharks)

Stingray Experience

Summer and March Break Camps

Tank Talk

**Field Conservation**

Great Canadian Shoreline Clean Up

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff

Commingled Recycling

Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Graywater Reuse and/or Rainwater Harvesting

### Research

Invasive Lionfish Eradication Research

## TORONTO ZOO

### Education

Animal Behaviour  
 Animal Observation Research - Biodiversity and Adaptive Strategies  
 Animal Observation Research - Methods Comparison  
 Animal Observations Research - Student Lab on Primate Behaviour  
 Avian Endoscopy Training for Clinical Veterinarians (Pedagogical Study)  
 Specimen Request - Native Ontario Turtle Species  
 Venomous Staff Training (Pedagogical)  
 Venomous Training: Canadian Armed Forces & Toronto Animal Services (Pedagogical)

### Field Conservation

Amphibian Rescue Centre (ARC) - Husbandry and Reintroduction Program for the Oregon Spotted Frog  
 Amphibian Rescue Centre (ARC) - Husbandry and Reintroduction Program for the Wyoming Toad  
 Aqua - Links  
 Atlantic Salmon Reintroduction Program  
 AZA FrogWatch USA  
 Black-Footed Ferret Conservation Recovery Program  
 Blanding's Turtle Headstart Project  
 Eastern Loggerhead Shrike Captive Breeding Program  
 Eastern Milksnake Monitoring  
 First Nations Way of Knowing  
 Freshwater Mussels Field Program  
 Great Lakes Program  
 Great Lakes: Redside Dace - Conservation and Community Involvement  
 Habitat Use and Nesting Patterns of Turtles in Rouge Park  
 Management, Outreach, Husbandry, and Reintroduction Program for the Puerto Rican Crested Toad

Mudpuppy Conservation and Citizen Science: A Partnership Project Among Zoos and Aquariums in the Great Lakes Basin

Ontario Turtle Tally

Turtle Island Conservation

Vancouver Island Marmot Conservation Recovery Program

Wildlife Health Centre Husbandry and Reintroduction Program for the Mississippi Gopher Frog

Wood Turtle Headstarting

Working Together to Save the Eastern Massasauga Rattlesnake

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site  
 Purchased Renewable Energy

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Community Supported Agriculture (CSA) Program for Staff  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Used Environmental Management System  
 Water Submetering  
 Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

#### Research

Animal Observation Research – Remote Detection of Breathing Patterns as an Indication to Intention for Vocal Production  
 Animal Observation Research – The Effects of Extra Forage/ Browse on the Incidence of Stereotypic Tongue-Rolling in Giraffes  
 Animal Observations Research – An Analysis on the Daily Activity Budget of White-Handed Gibbons  
 Animal Observations Research – Behaviour of African Penguins in Captive Environments  
 Animal Observations Research – Effects of Carcass Feeding on Tiger Behaviour  
 Animal Observations Research – Mapping the Enclosure Use, Behaviours, and Interactions of Captive Western Lowland Gorillas in Reference to Visitor Size Wing Geographic Information Systems (GIS)

Animal Observations Research – Thermoregulatory Behaviour in Komodo Dragon  
 Aspects of Inhalation Anesthesia and the Use of Midazolam in the Ball Python  
 Assessing the Nutritional Status of Free-Ranging and Human Managed Populations of Black-Footed Ferrets  
 Assessing the Potential for Visual and Behavioural Cues of Reproductive Ability in Golden Lion Tamarins  
 Assessment of Physiological Parameters During Anesthesia in Przewalski's Horses (*Equus przewalskii*)  
 Assisted Reproductive Technologies as a Method of Embryo Production in Wood Bison  
 Developing Assisted Reproductive Techniques for the Vancouver Island Marmot  
 Do Orangutans Choose to Choose?  
 Exploring the Impacts of Diet Change on Gut Microbial Communities in the Relocation Context of Captive-Born Animals  
 Gut Microbial Communities of the Vancouver Island Marmot in Captivity and in the Wild  
 Infrared Thermography as a Non-invasive Tool to Quantify Acute Stress Responsiveness in Birds  
 Physiological Correlates of Fitness in Wild and Captive-Reared Eastern Loggerhead Shrikes  
 Specimen Request – all Mammalian Species  
 Specimen Request – All Primates  
 Specimen Request – Arctic Wolf feces  
 Specimen Request – Bactrian Camel  
 Specimen Request – Cervids  
 Specimen Request – Elephant  
 Specimen Request – Elk, Large North American Mammals  
 Specimen Request – Flamingo  
 Specimen Request – Grizzly Bear  
 Specimen Request – Hyena  
 Specimen Request – Kangaroo  
 Specimen Request – Loggerhead Shrikes  
 Specimen Request – Mudpuppy, Giant Salamander, and Lungfish  
 Specimen Request – Nile Monitor (*Varanus niloticus*), Black Tree Monitor (*Varanus beccarii*), and Komodo Dragon (*Varanus komodoensis*)  
 Specimen Request – Orangutans  
 Specimen Request – Spotted Hyena

Specimen Request – Tumour Tissue  
 Specimen request – Various  
 Specimen Request – White Rhino  
 Studies on the Behaviour and Physiology of Polar Bears  
 Under Human Care  
 The Suitability of Willow Trees as Animal Forage and Their  
 Application in Zoological Institutions  
 Validation of the Body Condition Assessment of Polar Bears  
 With a High Body Condition Score

## Quebec

### ZOO DE GRANBY

#### Field Conservation

Assessing the Occurrence of Northern and Southern Flying  
 Squirrels in the Montérégie and Estrie Regions of Canada  
 AZA Conservation Grants Fund (CGF)  
 Bats Recovery Plan in Quebec  
 Belize Jaguar Project  
 Conservation and Enhancement of Habitats and Endangered  
 Species in Boises Miner, Granby, Quebec, Canada  
 Conservation of Red Pandas  
 Fauna and Flora Characterisation and Enhancement at Saint-  
 Quentin Island, Trois-Rivières  
 International Elephant Foundation (IEF) – African Elephant  
 Conservation  
 International Rhino Foundation  
 Protection of Biodiversity, Anti-Poaching, and Conservation  
 of Gorillas and Elephants in Campo-Ma'an National Park in  
 Cameroon  
 Protection of the Chimney Swift's Nesting Habitats and  
 Study of Migration Patterns  
 Sharks Conservation in the St. Laurence River and in the  
 North of Quebec  
 Snow Leopard Trust (SLT) – Snow Leopard Conservation in  
 Asia  
 Spiny Softshelled Turtle Recovery in Québec  
 Union québécoise de réhabilitation des oiseaux de proie  
 Wild CATS – (ALTA) – Amur Leopard Conservation in Russia

#### Green Practices

##### GREEN PRACTICES IMPLEMENTED

Building Energy Management

##### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan  
 Specified a Portion of the Amount Saved for Next Year's  
 Green Practices

#### Research

Alopecia in Japanese Macaques  
 Behavioural Impact of Human Presence on Mammal  
 Mesopredators in Protected Areas of Québec  
 Comparative Health Assessment of Atlantic Wolffish  
 (*Anarhichas lupus*) in the Wild and in Captivity  
 Determination of the Pharmacokinetics of a Single Oral Dose  
 of Trazodone and its Effect on the Activity Level  
 Feasibility and Cost-Effectiveness Analysis of Reintroduction  
 Programs for Mammalian Species at Zoo de Granby  
 Monitoring Beluga Whales in the Mackenzie Delta, NWT,  
 to Learn More About the Beaufort Sea Beluga Whale  
 Population  
 Pharmacokinetics Study of Selamectin Administered to  
 Rainbow Lorikeets (*Trichoglossus haematodus*) Infected by  
 Nematodes  
 Presence and Impact of Noise in the Zoo Environment on  
 Behavior and Welfare  
 Using DNA Metabarcoding to Identify Endangered Animals  
 Used in Steeped Alcohol

## Colombia

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### ZOOLOGICO DE CALI

#### Field Conservation

Abundance Estimate of a New Population of Golden Poison Dart Frog *Phyllobates terribilis* (Anura:Dendrobatidae) in the Joaquinquito Indigenous Village, Puerto Merizalde, Buenaventura

Amphibian Conservation Strategy in Colombia

#### Green Practices

##### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

##### FOOD

Sourced Local Food or Grew it On-Site

##### FUEL

Documented Amount Spent

Documented Amount Used

##### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

##### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

##### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

##### WATER

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

## Hong Kong

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### OCEAN PARK CORPORATION

#### Education

Animal Encounter Programme

Animal Feeding Programme

Animal Keeper Programmes

Big Feet Small Feet Union

Chinese White Dolphin Boat Trip

Corporate Training Programme

Don't Feed Wild Animal Programme

ECF Ecology and Conservation 101: Grooming the Next Great Ecologist

Grand Aquarium Scuba Diving/Exploration

Habitat Walk & Talk

Juvenile Horseshoe Crab Rearing Programme

Nighttime in the Ocean's Depths

No Straw Campaign

Plankton Education Programmes (Kindergarten)

Seasonal Camps

The 23rd Ocean Park Conservation Day

University Student Sponsorship Programme

Young Explorers Club Programme (Regular Programme)

Young Explorers Club Programme (Weekend Discovery Fun Day)

#### Field Conservation

Activity Pattern and Habitat Utilisation of Yangtze Finless Porpoise in Zhenjiang Nature Reserve, Hubei

Amphibian Conservation on the Roof of Indochina

An Assessment of Gene Flow, Genetic Connectivity, and Evolution Throughout Southeast Asia and the Coral Triangle to Promote Informed Marine Conservation Planning and Management

Assessment of Characteristics and Distribution of Human-Induced Underwater Noise in Chinese White Dolphin Habitats, Pearl River Estuary

Building Capacity to Ensure Sustainable Management Frameworks and Practices that Conserve the Critically Endangered Bengal Florican, the Endangered Black-Faced Spoonbill, Greater Adjutant, and More

Catalysing Community-Led Marine Conservation in Sulawesi

- Cetacean Health and Stranding Response Program: A One Health Initiative in the Philippines
- Cloud Platform Setup for Public Education on Aquatic Wildlife
- Combining Alternative Livelihood Training and Environmental Education to the Community in Motianling Nature Reserve
- Community-led Seahorse Conservation in Southwest Cambodia
- Competition Stress from Exotic Sturgeon Species on Wild Population of Chinese Sturgeon in the Yangtze River Estuary
- Confirmation of Additional Individuals of *Rafetus swinhoei* in the Wild and Sexing the Dong Mo Turtle in Vietnam
- Conservation Genomic Inquiry to Save the Critically Endangered Rufous-Fronted Laughingthrush From the Brink of Extinction
- Conservation Genomics of the Critically Endangered Golden Coin Turtle (*Cuora trifasciata*) and Application to *Ex-Situ* Breeding and Wildlife DNA Forensics
- Conservation of the Endangered Hog Deer (*Axis porcinus*) in Northeast India
- Developing a Rehabilitation Centre for Sunda Pangolin (*Manis javanica*) in North Sumatra
- Development of a Forensic Toolkit to Aid in the Conservation and the Prevention of Illegal Trade of the Critically Endangered Helmeted Hornbill
- Distribution and Threatened Status Re-Evaluation of *Sinocyclocheilus microphthalmus*: a Cavefish Endangered and Endemic to China
- Diurnal Pattern of Habitat Use vs. Anthropogenic Noise in Core Areas of Chinese White Dolphins (*Sousa chinensis*) and Finless Porpoises (*Neophocaena phocaenoides*) in Hong Kong Waters
- Ecological Studies on Cetaceans With a Focus on the Irrawaddy Dolphin (*Orcaella brevirostris*) Around Penang Island
- Environmental Pollution in Pearl River Estuary and the Health of Chinese White Dolphin
- Forming a Scientific Foundation for Coral Reef Restoration and Resilience in Hong Kong
- Identification of Key Protection Area for Snow Leopards in Sanjiangyuan Under Climate Change
- Impact of Climate Change on the Habitat Connectivity and Morphological Traits of *Rana boulengeri*
- Informed Landscape Conservation: A Multi-Species Study Evaluating the Impacts of Habitat Fragmentation and Quality on Ranging Patterns of Threatened Wildlife in the Lower Kinabatangan Wildlife Sanctuary
- Initiation Work for Conservation of Yellow-Breasted Bunting (*Emberiza aureola*)
- Investigation of Big-Head Schizothoracin Resources and Habitat in Xinjiang Tarim River
- Local Community Collaboration for the Successful Conservation of the Bali Starling
- Monitoring and Welfare Assessment of Captive Yangtze Finless Porpoise Pregnancy and Postnatal Care
- Population Distribution and Feeding Ecology of Finless Porpoise in Liaodong Bay and Northern Yellow Sea
- Population, Habitats, and Conservation of the Critical Endangered Vietnamese Giant Land Snail (*Bertia cambojiensis*): Research and Local Capacity Building
- Prediction on Population Abundance, Spatio-Temporal Distribution, and Optimal Habitat of Yangtze Finless Porpoise in Nanjing
- Research and Action to Advance Conservation of Taimen
- Research on Leishan Spiny Toad Habitat Selection for Reproduction
- Research on Mechanical Effects of Large-Scale Reclamation Projects on Habitat Use of Chinese White Dolphin
- Right from the Start: Guiding the Philippines as it Works Towards Implementing CITES for Vulnerable Seahorses
- Risk Assessment and Countermeasures on Fish Bait Disease of Yangtze Finless Porpoise in Swan Island Cetacea Protected Area, Hunan
- Safeguarding Endangered Turtle Populations in Hong Kong
- Some Like It Hot But How About Critically Endangered Gharials (*Gavialis gangeticus*)?: Assessing the Impact of Climate Change on Nesting and Reproduction of Gharials in Chitwan National Park, Nepal
- Standardisation of Patrol and Monitoring in Nature Reserves in Gansu
- Study on Sustainable Grazing and Management Policy of Giant Panda's Habitat
- Summarizing Experience and Promotion of Yangtze Finless Porpoise Wild Population Recovery in Dongting Lake
- Systematic Surveys for Annamite Endemic Mammals in Pu Mat National Park
- Understanding Impacts of Climate Change on At-Sea Populations of Green Sea Turtles (*Chelonia mydas*) in Malaysia and the Philippines
- Wildlife Monitoring Project in Taibai Niuweihe Provincial Nature Reserve, Shaanxi

## Green Practices

### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

### FUEL

Documented Amount Spent  
 Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Completed Greenhouse Gas Inventory  
 Energy Submetering  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction  
 Water Submetering

### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

### WASTE

Documented Amount Recycled  
 Documented Amount Sent to Landfill

### WATER

Documented Amount Spent  
 Documented Amount Used

## Research

Altruistic Food Sharing in Indo-Pacific Bottlenose Dolphins  
 (*Tursiops aduncus*)

Biosonar Research

Development of Pregnancy Diagnosis Method and  
 Characterization of Fetal Growth in Yangtze Finless  
 Porpoises

Genetic Barcoding of Jellyfish

Parentage Determination of Dabry's Sturgeon (*Acipenser  
 dabryanus*) Based on Novel Microsatellite DNA Markets  
 Using Next-Generation Sequencing

Pathogen Diagnosis and Surveillance and Research in Ocean  
 Park Animals

Study of Cooperative Behaviour of the Indo-Pacific  
 Bottlenose Dolphins (*Tursiops aduncus*) in Ocean Park  
 Hong Kong Using Cognitive Enrichment Items

Study on the Physiology Changes of Cultured Adult Chinese  
 Sturgeon (*Acipenser sinensis*) During Seawater Adaptation

The Pre-Partum Reproductive Hormonal Profile and  
 Development of Mother-Calf Relationship in Captive  
 Yangtze Finless Porpoise

Training Workshop in Quantitative Spatial Ecology,  
 Movement, and Habitat Utilization Analyses

Twelve Years Later: Outcomes, Enforcement Challenges, and  
 Novel Solutions Following the CITES Appendix II Listing of  
 the Humphead Wrasse (*Cheilinus undulates* (Napoleon))

VaquitaCPR *Ex-Situ* Workshop – Lessons Learned Saving  
 Animals From Extinction

Yellow-Bibbed Lory Research Project

# Mexico

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## AFRICAM SAFARI PARK

### Education

Amazing Environments: Desert, Forest, and Jungle  
 Animal Encounter  
 Biodiversity: Natural Heritage of Everyone  
 Eco-Systems  
 Educational Shows  
 Educational Workshops  
 Endangered Animals  
 Extinction: Animals and Plants Disappear  
 From Day to Night in Nature  
 Fur, Feathers, Scales, and Leaves  
 Intellectual Disability Inclusion Program (Naturally Special)  
 Interpretative Guide Program  
 Life Cycle  
 Mexico's Biodiversity  
 Mobile Zoo  
 Move for the Environment  
 Our Impact on Biodiversity  
 Our Mission: Saving Ecosystems!  
 Premium Animal Services  
 Premium Nocturnal Safari  
 The Animals... in my House or in the Woods?  
 The Weather Changes? Better !!  
 Visually Impaired Program  
 Warning! Danger of Extinction  
 Working With Rural Communities

### Field Conservation

California Sea Lion Health Assessment  
 Caribbean Flamingo Conservation Program  
 Crested Toad Recovery Plan  
 Golden Eagle Conservation Program  
 Horned Guan Conservation Program  
 Masked Bobwhite Quail Recovery Program  
 Mexican Primates Conservation Program

Socorro Dove Reintroduction Program  
 Taylor's Salamander Conservation Project

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Alternative Transportation Benefits for Staff  
 Alternative Transportation Discounts for Guests  
 Building Energy Management  
 Commingled Recycling  
 Community Supported Agriculture (CSA) Program for Staff  
 Community-Based Sustainability Projects  
 Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)  
 Denitrification Systems On Ground  
 Energy Submetering  
 Generated Energy through Anaerobic Digester  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

# UNITED STATES

## Alabama

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### BIRMINGHAM ZOO

#### Education

Discovery Programs

Preschool at the Zoo

#### Field Conservation

Chipangali Large Carnivore Project: Zimbabwe

Conservation Initiative of Fishing Cats in Human Dominated Landscape of Bara District, Nepal

Dian Fossey Gorilla Fund International

Eastern Indigo Snake Reintroduction Project

Giraffe Conservation Foundation (GCF)

International Elephant Foundation

Local Bat Conservation

Measuring the Effects of Human Disturbance on Jaguars in Southern Belize (PiCA grant)

Rainforest Rescue - Save the Cassowary

Tarangire Elephant Project

Turtle Survival Alliance

#### Green Practices

##### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

##### FOOD

Sourced Local Food or Grew it On-Site

##### FUEL

Documented Amount Spent

Documented Amount Used

##### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Building Energy Management

Carbon Offsets for Employee Travel

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Procured Local Food for On-Site Animals and/or Guest

Purchased Carbon Offset(s) for On-Site Utility Use

Stormwater Management Program

Waterwise Landscaping

##### WASTE

Documented Amount Recycled

Documented Amount Sent to Landfill

##### WATER

Documented Amount Spent

Documented Amount Used

#### Research

Examining the Pharmacokinetic Properties of a Sustained-Release Meloxicam Formulation in American Flamingos (*Phoenicopterus ruber*)

Male African Dominance and Reproduction Study and Hormone Monitoring of Multiple Birmingham Zoo (BZI) Species

Population Study of Black Bears in Alabama

# Alaska

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## ALASKA SEALIFE CENTER

### Education

Distance Learning Programs  
 In-House Day Programs  
 Nocturne Program  
 Ocean Sciences Club  
 Outreach Programs  
 Road Scholar Programs  
 Sea Journey  
 Small Fry School  
 Teacher Workshops

### Field Conservation

Changing Tides – Bivalve Bioassay and Analysis Component (R0107)  
 Community-Based Coastal Monitoring of Aleutian Islands

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site  
 Purchased Renewable Energy

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Green Building Policy/Commitment  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies

Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

Water Submetering

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

Assessing Walrus Benthic Prey Base in Bristol Bay, Alaska  
 Bioenergetics, Movement Behavior, and Temperature Ranges of the Poorly Understood Pacific Sleeper Shark  
 Comparative Measures of Health and Physiology for Ice-Dependent Alaskan Seals  
 Eider Flock Maintenance  
 Instrument Development for Biological Research (IDBR)  
 Type B: Life-Long Vital Rate Telemetry in Marine Homeotherms  
 Lactation Bioenergetics, Immune Competence, Age Determination Models, Temperature Patterns, and Fetal Development in Steller Sea Lion Females and Their Pups  
 Long-Term Monitoring of Trends in Steller Sea Lion Behavior, Ecology, Vital Rates, and Demography Within the Endangered, Western Distinct Population Segment  
 Reproduction, Survival, and Depredation in Harbor Seals - Phase 1: Validation  
 Ribbon Seal Physiology and Biology

# Arizona

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## ARIZONA-SONORA DESERT MUSEUM

### Education

Amigos del Desierto  
 Art Institute  
 ASDM Press  
 Bat Bridge Programs  
 Buffelgrass Busters  
 Coati Club  
 Colors of Nature Camp  
 Community Events  
 Cool Summer Nights  
 Desert Ark Programs  
 Desert Discovery Programs (On-Site)  
 Docent Interpretive Program  
 Docent Tours  
 Docent Training and Continuing Education  
 Earth Conservation Internship  
 Family Programs "Packrat Programs"  
 Fur, Feathers, and Fangs  
 Junior Docent Program  
 Library Outreach Programs  
 Live and (Sort of) on the Loose  
 Museum Explorers Camp  
 Public Programs  
 Raptor Free Flight  
 Senior Programs  
 Sonorensis  
 Special Events

### Field Conservation

Argentine Cactus Moth Monitoring  
 Assurance Population: Gila Topminnow  
 Assurance Population: Quitobaquito Mud Turtles  
 Assurance Population: Quitobaquito Pupfish  
 Assurance Population: Sonora Chub  
 Propagation: Mexican Gartersnake

Propagation: Tarahumara Frog  
 Salvage: Rio Sonoyta Longfin Dace  
 Salvage: Tortoise Adoption Program  
 The Sonoran Desert Cooperative Weed Management Area

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff  
 Community Solar Program  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Procured Local Food for On-Site Animals and/or Guest  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Recycled

#### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Used

## Research

Ecological Forecasting for Invasive Species  
 Native Bee Biodiversity  
 Phenology Research  
 Pollinator Hotspots

## PHOENIX ZOO

### Education

Backstage Adventures and Premium Tours  
 Breakfast With the Animals  
 Camp Zoo  
 Certified Interpretive Guide Training  
 Conservation Science Night  
 Creature Features  
 Critter Keeper  
 Discovery Tours  
 Family Nature Club  
 Family Nature Club Workshops  
 Farm Tots  
 Girl Scout Fall Fest  
 Guided Tours  
 Littlest Critters  
 Lunch With a Keeper  
 Lunch With a Keeper – Adults  
 Nature Play Pop-up Events  
 Night Camp  
 Outreach Distance Learning  
 Photography Walk Abouts  
 Project Dragonfly – Advanced Inquiry Program  
 Special Needs Program  
 Teen Career Conference  
 Trail Host Program  
 Wild Science Academy  
 Zoo Play Date  
 Zoo Tots  
 Zoo U  
 ZOOMobile  
 ZooToYou – Outreach  
 ZooToYou Assemblies

## Field Conservation

A Community-Based Approach to River Turtle Conservation in Guyana  
 Andean Bear-Human Conflict Areas in the Chingaza Massif, Colombia: Hot Spots, Drivers, and Potential Solutions  
 Arizona TrailCAM Project  
 AZA SAFE  
 Black-Footed Ferret (*Mustela nigripes*) Propagation and Release Program  
 Borderlands Connectivity: Field Conservation Research  
 Borderlands Connectivity: Training and Capacity Building  
 California Condor Nest Guarding Program  
 Camera-Traps and Communities Together for Carnivore Conservation in Gajedi Lake of Nepal  
 Characterization of the Shark Fishery and its Trade in the Pacific of Guatemala  
 Cheetah Conservation Fund  
 Chiricahua Leopard Frog (*Lithobates chiricahuensis*) Headstarting and Release Program  
 Chiricahua Mountain Assessment of Large Mammal Corridor Use and Drought Impact  
 Comprehensive Conservation Program for the Critically Endangered Harlequin Frog (*Atelopus varius*) in the Talamanca Mountains, Costa Rica  
 Conservation of Amphibians and Livelihoods Under Climate Change in the Sierra Nevada, Colombia  
 Conservation of the Endemic Chelonians of Sulawesi: Forsten's Tortoise (*Indotestudo forstenii*) and Sulawesi Forest Turtle (*Leucocephalon yuwonoi*)  
 Continuing to Resolve Conflict Through Communication: Using DVD Shows to Help Reduce Human-Carnivore Conflict Around Ruaha National Park, Tanzania  
 Developing Assurance Colonies of Threatened Indian Turtles  
 Dian Fossey Gorilla Fund International  
 Fighting Destruction of Orangutan Habitat With Healthcare Incentives for Rainforest Guardianship  
 Giant Anteaters & Highways  
 Giant Armadillo: A Flagship Species for Biodiversity Conservation  
 Hirola Conservation Programme – Student Scholarship  
 Hornbill Research and Conservation  
 In Pursuit of El Pajuil: A Camera Trap Study of the Critically Endangered Blue-billed Curassow (*Crax alberti*)

Increasing Profitability Without Killing Rare Carnivores:  
Empowering Rural Communities in South Africa to Protect  
Their Livestock Against Predation

Integrating Science and Community Stewardship for  
Conservation of Critically Endangered Chinese Pangolins  
(*Manis pentadactyla*) in the Dolakha District of Nepal

Jaguar Corridor: Connecting National Parks in the Zona Sur,  
Costa Rica

Las Alturas Threatened Species and Connectivity Research  
and Recovery Center, Costa Rica

Mariana Avifauna Conservation (MAC)/Pacific Bird  
Conservation Project

Mount Graham Red Squirrel Propagation and Release  
Program

Narrow-Headed Gartersnake (*Thamnophis rufipunctatus*)  
Propagation for Release

Native Fish Species Reintroduction – Desert Pupfish

Native Fish Species Reintroduction – Gila Topminnow

Next Gen Croc: Fostering the Next Generation of Wildlife  
Champions

Phoenix Zoo Field Conservation Administration

Population Monitoring for Snow Leopards and Their Prey,  
South Gobi, Mongolia

Prairie Dog Plague Vaccine Project

Protecting Connectivity Through Citizen Science at  
Scottsdale's McDowell Sonoran Preserve

Proyecto Taguá: Chacoan Peccary Health Assessments

Radiated Tortoise Confiscation Support

Rangelands Restoration for the World's Most Endangered  
Antelope: the Hiriola

Saving Sumatran Tigers by Reducing Tiger-Human Conflict

Springsnail Field Surveys

Support for Conservation Planning Specialist Group (CPSG)

Toward a Better Understanding of Orangutan Adaptation to  
Human-Made Landscapes

Turtle Survival Alliance (TSA)

University of Arizona/Arizona Center for Nature  
Conservation (ACNC) – Native Species Conservation  
Graduate Fellowship

Using Mutual Mate Choice to Improve Reproduction in the  
Black-Footed Ferret

Using Occupancy Models to Investigate Habitat Use and  
Illegal Hunting: a Case of Brazilian-Three-Banded-Armadillo

Warriors Protecting Grevy's Zebra in Laisamis, Northern  
Kenya

Where do Andean Bears Hide in the Boliviano-Tucumano  
Region of Bolivia?

Wild Water Project: Evaluating the Impacts of Surface Water  
Decline on Arid Ecosystems and Wildlife

Wildlife Trafficking Alliance

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

One or More Buildings LEED-Certified by the US Green  
Building Council

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green Purchasing Policy/Green Procurement

Wastewater Reduction

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)

**WASTE**

Documented Amount Composted  
 Documented Amount Recycled

**WATER**

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

**Research**

Arthritis and Sex Hormones in Zoo Elephants  
 Cactus ferruginous – Pygmy-Owl Pilot Behavior Study  
 California Floater (*Anodonta californiensis*) Mussel Pilot Propagation Project  
 Community Ecology Research Equipment: Camera-Trapping  
 Conservation and Science Department Research Facilitation  
 ConservationFIT: A Conservation Partnership Between Cheetahs and Jaguars Under Managed Care and Those in the Wild Through Their Footprints  
 Detailed Anatomical Description of *Axis calamianensis* – the Calamian Hog Deer (TPZ ID: 12507)  
 Detailed Anatomical Description of *Crocuta crocuta* – the Spotted Hyena (TPZ ID: 13075)  
 Detailed Anatomical Description of *Oryx leucoryx* – the Arabian Oryx (TPZ ID: 12484)  
 Determination of Vertebral Heart Scale in African Wild Dogs (*Lycaon pictus*)  
 Developing a Pilot Breeding Program for the Endangered Mt. Graham Red Squirrel Using Fecal Steroid Analysis and Behavior Monitoring  
 Developing an *Ex-Situ* Propagation Strategy for the Narrow-Headed Gartersnake  
 Developing New Tools for Integrating DNA Data Into AZA Breeding Programs  
 Effect of Habitat Type on the Reproductive Strategy of *Lilaeopsis schaffneriana* var. *recurva* – an Extended Study of “Habitat Conducive to Sexual Reproduction in *L. s. recurva*”  
 Establishment of Fecal Cytology Parameters in Clinically Healthy Captive Black-Footed Ferrets (*Mustela nigripes*)

Evaluation of Semen Characteristics in Chacoan peccary  
 Home Range and Movements of an Established Population of Nonnative, Invasive Pond Sliders at the Phoenix Zoo  
 Immobilization Protocols and Blood Gas Assessments Pre and Post Administration of Intranasal Oxygen in Chacoan Peccary  
 Improving *Thamnophis rufipunctatus* (Narrow-Headed Gartersnake) Detection Using Scent Based Methods: Conservation Scent Dogs and Scent Baited Funnel Traps  
 Investigating Temperature Dependent Sex Determination of *Crotaphytus collaris* and *Petrosaurus thalassinus*  
 McDowell Gooseneck Corridor  
 Modified Protocol for Sex Identification of In Ovo Avian Embryos as a Cost Effective and Accessible Management Tool for Zoological Institutions  
 Night Camp Collaboratory  
 Pathology and Assessment of a Metastatic Sertoli Cell Tumor in a Mexican Gray Wolf Using Anti-Muellerian Hormone Assay  
*Pyrgulopsis thompsoni* Habitat Use and Dispersion  
 Quantitative Comparison of Nonhuman Primate Environmental Enrichment Across US Research Facilities, Sanctuaries, and Zoos: Application of a Standardized Assessment Tool  
 Research Request Review Committee  
 Serological Survey for *Balamuthia Mandrillaris* in Bornean Orangutans  
 Squamate Sex Determination, Genomics, and Phylogenetics  
*Tamiasciurus hudsonicus grahamensis* (Mount Graham Red Squirrel) Behavior  
 Tracking Reintroduced *Ex-Situ* Born Narrow-Headed Gartersnakes  
 US-Mexico Borderlands – Wildlife Movement and Migration  
 Why Zoos and Aquariums Matter 3 Data Collection  
 Wildlife Research Assistant Training Program

**REID PARK ZOO****Education**

Animal Encounter  
 Behind-the-Scenes Tour  
 Bio Bags  
 Camps (Non-Summer, Private, or Winter)  
 Education Program Animal Presentation

Formal Animal On-Grounds Presentations  
 Interpretive Station Cart  
 Little Critters  
 Nature Play Days at the Zoo  
 Summer Camp  
 Teacher Workshop  
 Young Explorers Programs  
 Zoo Adventure Program (On-Site School Programs)  
 Zoo to You Outreach

### Field Conservation

Global Conservation Force  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF)  
 IUCN/SSC Tapir Specialist Group  
 Pantanal Giant Armadillo Project/Giant Anteater Conservation and Monitoring Program  
 Tarangire Elephant Project  
 Tucson Wildlife Center  
 University of Arizona – Andean Bear  
 Zoo Conservation Outreach Group (ZCOG) – Anteaters and Highways

### Green Practices

#### ENERGY

Generated Renewable Energy On-Site

#### FOOD

Sourced Local Food or Grew it On-Site

#### GREEN PRACTICES IMPLEMENTED

Community Solar Program  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

### Research

A Case Report of a Jaguar (*Panthera onca*) With Anemia That was Managed Using Multiple Blood Transfusions  
 Behavioral Assessment of Zoo-Housed Felids  
 Face Recognition Technology in Brown Bears  
 Mortality of Four Captive-Born Crested Screamer Chicks (*Chauna torquata*)  
 Oleander (*Nerium oleander*) Toxicosis in Two Adult Giraffe (*Giraffa camelopardalis reticulata* and *Giraffa camelopardalis rothschildi*)  
 Serial Ultrasound to Estimate Fetal Growth Curves in Southern Tamandua (*Tamandua tetradactyla*)  
 Tapir Photo Database for Field Researchers  
 Why Zoos and Aquariums Matter 3 – STEM Matters

### SEA LIFE ARIZONA AQUARIUM

#### Education

Boy Scouts  
 Daily Feeds  
 Daily Talks  
 Displays Animal Care Development  
 Education Development  
 Girl Scouts – Brownies  
 Girl Scouts – Cadets  
 Girl Scouts – Daises  
 MACS Conservation Workshop  
 Plastic Oceans

#### Field Conservation

Arizona – Salt River Applesnail

#### Green Practices

#### WASTE

Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### Research

Aquaculture *Tubastraea aurea*  
 Arizona Salt River Apple Snail Survey

# Arkansas

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## LITTLE ROCK ZOO

### Field Conservation

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos/Winos for Rhinos

Appalachian Bear Center

Arkansas Monarch Conservation Partnership

Arkansas Natural Heritage Commission

Asian Elephant Support (AES)

AZA Conservation Grants Fund (CGF)

AZA Jaguar SSP – Cockscomb Basin Wildlife Sanctuary (CBWS)

AZA SAFE – Cheetah

AZA SAFE – Conservation Action Plan (CAP)

AZA Tiger SSP – Tiger Conservation Campaign

Bornean Sun Bear Conservation Centre (BSBCC)

Cheetah Conservation Fund (CCF)

Conservation Centers for Species Survival (C2S2)

Dian Fossey Gorilla Fund International

Got Scat?

Goulougo Triangle Ape Project (GTAP)

International Bear Association

International Elephant Foundation (IEF)

International Rhino Foundation (IRF)

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Lemur Love – Reniala Lemur Rescue Center

New Nature Foundation – Kibale Fuel Wood Project

Pan African Sanctuary Alliance

Partners in Conservation

Pryor Mountain Wild Mustang Center

Rainforest Alliance

Rapter Rehab of Central Arkansas

Save the Lemurs

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

The Attwater Prairie Chicken Refuge

The Clouded Leopard Project

The Orienne Society

Turtle Survival Alliance (TSA)

Wildlife SOS

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Commingled Recycling

Composting (On-Site or Off-Site)

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Stormwater Management Program

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent

Documented Amount Used

**Research**

Arthritis Markers in Elephants

AZA SSP – Collection of Samples and Records for SSP:  
Endorsed Studies

Biomaterials Use in Zoos

Evaluating Variation in Soil Composition Among Habitats at  
the Little Rock Zoo

## California

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**AQUARIUM OF THE BAY****Field Conservation**

Rivers and Estuaries

**Green Practices****FUEL**

Documented Amount Spent

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Wastewater Reduction

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

**WASTE**

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**AQUARIUM OF THE PACIFIC****Education**

Bay Lab Animal Ambassador Programs

Bay Lab Public Programs

BayMobile Outreach Programs

Exploration Tours

Hybrid Ferry Programs

Public Programs – Feedings

Public Programs – Non-Feedings

Self-Guided Tours

Shoreline Clean-Up Events

Sleepovers

Special Public Program Events

Trout in the Classroom Collaboration

**Field Conservation**

AZA Guam Kingfisher SSP

Great Lakes Piping Plover Recovery Effort

Mariana Avifauna Conservation (MAC) Project

Reef Check Surveys

Sea Turtle Rehabilitation

SEXual CORal REproduction (SECORE) – Coral Reef  
Reproduction and Restoration Project

SEXual CORal REproduction Silver Partnership (SECORE)

Southern African Foundation for the Conservation of  
Coastal Birds

Southern California Thermograph Array Project

Spotting Giant Sea Bass

Vaquita Conservation Through Education and Market  
Incentives

White Abalone Captive Breeding Project

White Abalone Habitat Monitoring With National Oceanic  
and Atmospheric Administration (NOAA) and National  
Marine Fisheries Service (NMFS)

White Abalone Module Testing

**Green Practices****ENERGY**

Documented Amount Used

**FOOD**

Sourced Local Food or Grew it On-Site

**WASTE**

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Used

**Research**

Artificial Insemination in Blacktip Reef Sharks (*Carcharhinus melanopterus*)

Artificial Insemination in Sand Tiger Sharks

Artificial Insemination Techniques in Bamboo Sharks (*Chiloscyllium plagiosum* and *Chiloscyllium punctatum*)

Landscape Analysis of Aquaculture Outreach Survey

Southern California Sea Turtle Monitoring Project

**B. BRYAN PRESERVE****Field Conservation**

Giraffe Conservation Foundation (GCF)

Grevy's Zebra Trust

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

**BIRCH AQUARIUM AT SCRIPPS INSTITUTION OF OCEANOGRAPHY****Field Conservation**

Animal Sanctuary

Capacity Building and Specialty Training – Multiple Marine Conservation Projects

Conservation Education Through Outreach Scholarships

Coral Conservation

Coral Conservation Through High School Education

Husbandry Capacity Building and Training of Multiple Institutions

Sea Turtle Education Conservation and Sanctuary

SEACAMP Outreach Education Support

Syngnathidae Conservation

Veterinarian Support

**Research**

*Aequorea victoria* Jellies Research in Benefit of Human Medical Research

Comparison of Radiographic, Ultrasound, and Magnetic Resonance Imaging for the Detection of Retained Stingray Foreign Body: an *In Vitro* Study

Coral Research/Conservation

Distinct Microstructure of the Dermal Denticles of Three California Shark Species

Kelp Forest Sound and Underwater Imaging Projects

San Diego Zoo Sperm Atlas

Scripps Institution of Oceanography – Pier Data Analysis

Syngnathid Research

**CABRILLO MARINE AQUARIUM****Field Conservation**

Biannual Survey of Intertidal Marine Life at Point Fermin Marine Life Refuge, Los Angeles County, California

Cabrillo Coastal Park Survey

Cabrillo Salt Marsh Survey

Combfish Husbandry

Garibaldi Aquaculture, Territorial Behavior, and Conservation

Grunion Greeters

Peninsula Shorewatch

White Abalone Husbandry and Conservation

**Green Practices****FOOD**

Sourced Local Food or Grew it On-Site

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

**Research**

Copepod Aquaculture  
 Grunion Aquaculture  
 Pacific Seahorse Husbandry and Development  
 Rotifer Aquaculture

**CALIFORNIA SCIENCE CENTER****Field Conservation**

Reef Check California Recertification and Surveys  
 Survey of Southern Steelhead

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent  
 Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff  
 Building Energy Management  
 Commingled Recycling  
 Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)  
 Denitrification Systems On Ground  
 Energy Submetering  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Water Submetering

**GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

**WASTE**

Documented Amount Recycled  
 Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent  
 Documented Amount Used

**Research**

Catalina Marine Society Thermograph Array  
 Diversity Initiative for the Southern California Ocean (DISCO)

**CHARLES PADDOCK ZOO****Field Conservation**

Confiscated Turtle Program  
 Pacific Pond Turtle Program  
 Quarters for Conservation

**CURIODYSSEY****Education**

Afterschool Science Adventures Mid-Peninsula Boys & Girls Club  
 CuriOdyssey Summer Camp  
 Fiesta Garden School Program  
 Homeschool Science Discovery  
 LEAD School Program  
 Physical and Life Science Workshops  
 Science Explorers  
 Self-Guided Visits  
 Teacher Personal Development Workshop  
 Weekend Workshops  
 Wildlife Presentations  
 Winter & Spring Camp

### Field Conservation

AZA FrogWatch USA  
 Bay Area Bobcat Study  
 Coyote Point Beach Clean Up  
 Marsh Habitat Restoration Project – Removal of Invasive  
*Limonium ramosissimum*  
 Pacific Tree Frog (*Pseudacris regilla*) Garden Habitat Project  
 River Otter Ecology Project

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Purchased Renewable Energy

#### FOOD

Sourced Local Food or Grew it On-Site

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Green Power or Renewable Energy Credits (RECs)

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

### Research

Experimental Restoration at Coyote Point Marsh  
 Landscape Genetics and Habitat Fragmentation of a  
 Vulnerable Californian Valley Mesocarnivore – the Ringtail  
*(Bassariscus astutus)*  
 Urban Wildlife Project: Bay Lands Gray Fox Project  
 Western Pond Turtle (*Emys pallida*, formerly *Emys*  
*marmorata pallida*) Ecology and Conservation in Central  
 California

### FRESNO CHAFFEE ZOO

#### Education

Ask Me Cart  
 Beach Cleanup  
 Birthday Presentations  
 Community Events  
 Group Behind the Scenes  
 Individual Behind the Scenes  
 Overnight Safari  
 Raptors  
 School Lab Programs  
 Story Time  
 Teacher Workshops  
 Teen LEADERS (Lead by Educating With Activities and  
 Demonstrations on the Environment, Resources, and  
 Sciences)  
 Tot Time  
 Valley Farm Outreach  
 Zoo Camp  
 Zoo Preview  
 Zoo Talks  
 Zoo Tour  
 ZOOMobile

#### Field Conservation

Ambassadors Schools Network  
 Assessing the Current Population Status of Abbott's  
 Starlings  
 AZA Ape TAG – Conservation Initiative  
 AZA Sloth Bear SSP  
 AZA Tiger SSP – Malayan Tiger Project  
 AZA Western Pond Turtle SSP – Genetic Testing for Species  
 Identification  
 Bat Monitoring and Conservation Assessment in the Central  
 Valley  
 Bay Area Puma Project  
 Brazilian Amphibian Documentation  
 California Condor Nest Guarding Program  
 Chacoan Peccary Project  
 Cheetah Adaptations in Varied Land-Use Regions of Kenya

Community Based Habitat Restoration for the Critically Endangered Guatemalan Beaded Lizard

Community Education for Cheetah and Carnivore Conservation in the Kalahari

Community Guardianship for the Sustainable Conservation of Himalayan Musk Deer

Community-Based Elephant Conservation at the Eyumojock-Korup Reserve

Community-Based Grevy's Zebra Conservation in Northern Kenya

Connecting Wildlife Through Zambia's Transboundary Wildlife Movement Corridors

Conservation of Threatened Cavity-Nesting Birds in Argentina

Conserving Grauer's Gorillas in Itombwe Nature Reserve

Conserving the African Wild Dog

Critically Endangered Gyps Vulture Conservation through Safe Zone Project

Friends of the Island Fox Support for Channel Islands National Parks

Guinea High Forest Sanctuary

International Rhino Foundation (IRF)

Iringa Red Colobus Monkey

Kibale Fuel Wood Project

King Cobra

Lowland Tapir Conservation Initiative - Pantanal Tapir Program

Margay

Marsh Deer

Mount Cameroon Francolin

Olive Ridley Sea Turtle

Pangolin Management in Côte d'Ivoire

Pantanal Giant Armadillo Project

Population Status of the Endangered Ashy Red Colobus Monkey

Primate Inventory and Conservation in Ikpa River Basin

Promoting Chimpanzee Conservation Through Education Programs in Uganda

Radiated Tortoise Rescue and Rehabilitation in Madagascar

Red Wolf Film

Reticulated Giraffe Project

Ruaha Carnivore Project (RCP)

Saving the Chinese Pangolin

Tarangire Elephant Project (TEP)

Ungulate Antipredator Responses to Perceived Risk of Amur Tiger Predation

VulPro

Vulture Poisoning Response

West African Crocodile Assessment

Whale Shark Conservation

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Community Solar Program

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Procured Local Food for On-Site Animals and/or Guest

Stormwater Management Program

### HAPPY HOLLOW ZOO

#### Field Conservation

Chaco Jaguar Project

Cheetah Conservation Fund (CCF)

Progress for Pollinators

Quarters for Conservation: Virunga National Park \*No longer Heart of the Congo

Red Panda Network

Ruaha Carnivore Project (RCP)

### Green Practices

#### ENERGY

Generated Renewable Energy On-Site

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

One or More Buildings LEED-Certified by the US Green Building Council

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

**LOS ANGELES ZOO AND BOTANICAL GARDENS****Education**

California Condor Rescue Zone

Duttenhaver Conservation Field Study Student Fellowship

Elephant Training Demonstration

Family Classes

Family Overnights

Los Angeles Zoo Camp

Scout Overnights

Zoo Pals

**Field Conservation**

Amakhala Mounted Anti-Poaching Unit

Black-Winged Starling Conservation in Indonesia

Bushmeat Education at Limbe Wildlife Center

California Condor Recovery Project – Rear and Prepare for Release to the Wild

Community Conservation to Protect Critical Orangutan Habitat in Sabangau, Central Kalimantan, Indonesia

Conservation of Armenian Vipers (*Montivipera raddei*) Inhabiting Anthropogenic Modified Landscapes

Conservation of Egyptian Vultures

Drill Conservation on the Island of Bioko

Drill Rehabilitation and Breeding Center (DRBC)

Finding and Providing Appropriate Conditions Under Which to Hold the Endangered Southern Mountain Yellow-Legged Frog

Giant Otter (*Pteronura brasiliensis*) Coexistence With People in the Peruvian Amazon

Gorilla Rehabilitation and Conservation Education (GRACE) Center

Harpy Eagle Conservation and Research

Human-Elephant Conflict in Cambodia

IUCN/SSC Asian Wild Cattle Specialist Group – Saola Working Group – Saola Conservation Project

Minimizing the Conflict Between Asian Elephants and Local Villagers

Okapi Conservation Project

Painted Dog Kavango Zambezi Trans-Frontier Satellite and Anti-Snare Collar Fieldwork

Paso Pacífico – Paso del Istmo Jaguar Conservation Project

Philippine Threatened Hornbills Conservation Project (Panay Island)

Proyecto Taguá/Chaco Center for Conservation and Research (CCCR)

Remote Monitoring of Red Uakari Monkeys and Hunting on the Yavari River, Peru

Sahara Conservation Fund

Saiga Conservation Alliance

Sanctuary Staff Training in Cameroon

Turtle Survival Alliance (TSA)

**Research**

Assessing Effects of Evening Events on Daytime Behavior of Zoo Residents

Changes in Conservation Caring With Different Experiences

Changes in Orientation of Asian Elephants as Social Introductions Proceed

Development of Rapid Facial Mimicry (RFM) in Chimpanzees

Do Chimpanzees Spontaneously Engage in Empathetic Yawning?

Effects of Zoo and Nature Experiences on Stress Reduction

Evaluation of Animals and Their Exhibits

Gorilla Activity and Social Interactions

Play in Chimpanzees

Relationship Between Available Space and Elephant Activity

**MONTEREY BAY AQUARIUM****Education**

Auditorium Programs

Discovery Labs School Program

Education Conferences

**Field Conservation**

Aquarium Conservation Partnership (ACP)

Assessing Population Structure and Post-Release Survival of Mobulid Rays in the Eastern Pacific Ocean

Conservation and Science Program Administration

Conservation Research Program Administration

Migratory Movements, Depth, and Temperature Preferences of Dolphinfin (*Coryphaena hippurus*) Along the Western Baja California Coast of Mexico

Natural History of Mobulid Rays in the Gulf of California

Ocean Conservation Policy

Ocean Sunfish Research

Pacific Bluefin Tuna

SANCCOB Professional Volunteers

Satellite Tagging to Reveal the Early Life History of Steelhead Kelts on California's Central Coast

Sea Otter Program

Seafood Watch

Sevengill Shark Research

Shorebird and Seabird Rehabilitation

Subtidal Diver Stewardship

White Shark Research

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

Purchased Renewable Energy

#### FOOD

Sourced Local Food or Grew it On-Site

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community Supported Agriculture (CSA) Program for Staff

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Denitrification Systems On Ground

Diverted or Recycled Construction Waste

Energy Submetering

Generated Energy through Anaerobic Digester

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Carbon Offset(s) for On-Site Utility Use

Smart Building Strategies

Stormwater Management Program

Water Submetering

Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

### Research

Deep Sea Cephalopods

Marine Macroalgae – Ecosystem Indicators of Historic Conditions

Pelagic Red Crab Gut Contents: Plastics Study

Use of Non-Invasive Methods to Evaluate Stress in Iconic Fish and Invertebrates

Visitor Research

Whole Genome Sequencing of the Sea Otter

### OAKLAND ZOO

#### Field Conservation

Africa Matters

Amboseli Trust for Elephants

Animals Asia

Arroyo Viejo Creek On-Site Restoration Project

Asociación de Rescate y Conservación de Vida Silvestre (ARCAS)

AZA Puerto Rican Crested Toad SSP

Bay Area Puma Project – Felidae Conservation Fund

BEAR League

Big Life Foundation

Bornean Sun Bear Conservation Centre (BSBCC)

Budongo Snare Removal Project

California Condor Recovery Program

California Wolf Center

Centre ValBio at Stony Brook University

Cheetah Conservation Fund (CCF)

David Sheldrick Wildlife Trust

Elephant Voices

Golden Gate Audubon Society

Hornbill Research Foundation (HRF) - Nest Adoptions in Thailand

Innii Initiative

Kaminando Habitat Connectivity Initiative

Kibale Bead Community Action Project

Kibale Fuel Wood Project

Lubee Bat Conservancy

Marine Mammal Center

Mountain Lion Foundation

Mountain Yellow-Legged Frog Project

Oakland Zoo Heron Initiative

Oakland Zoo Mountain Lion Initiative

People and Carnivores

Proyecto Tití

Reticulated Giraffe Project

Save the Elephants

SaveNature.Org - Rainforest Conservation Parking Meter

Turtle Survival Alliance

Uganda Carnivore Program

Ventana Wildlife Society

WCN - Elephant Crisis Fund

Western Pond Turtle Headstart Program (On-Site)

Wildlife Conservation Network (WCN) - Ewaso Lions

Wildlife Conservation Society (WCS) - 96 Elephants

Wildlife Conservation Society (WCS) - Tiger Project

## Green Practices

### FOOD

Sourced Local Food or Grew it On-Site

### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

One or More Buildings LEED-Certified by the US Green Building Council

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Building Energy Management

Commingled Recycling

Community Solar Program

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Wastewater Reduction

Waterwise Landscaping

### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

## Research

Determining Qualitative Behavioral Assessment (QBA) as a New Method of Evaluating Animal Welfare

Investigating Wide-Scale Patterns in Urban Wildlife Distributions in Alameda County, California

Ursid Tooth Mark Taphonomy

## SACRAMENTO ZOO

### Education

Animal Encounters  
 Behind-the-Scenes Tours  
 Career Talks  
 Discovery Room  
 Docent Presentation Stations  
 Docent Training  
 Family and Group Overnights  
 Keeper Chats  
 Little Peeps Preschool Classes  
 Nature Explorers  
 Resource Library and Zoo Animal Fact Sheets  
 Roots & Shoots Teen Program  
 School & Group Field Trips  
 Special Events Such as Boo at the Zoo and Party For The Planet  
 Starlight Safaris  
 Summer Camp  
 Survive and Thrive Animal Adaptation Show  
 Tea & Tours  
 Teacher Resources  
 Teen Public Education Tables  
 Zoo Mobile

### Field Conservation

2017 A Day in the Park  
 2017 Securing Population Status Yellow Billed Stork  
 2018 Mountain Yellow Legged Frog Conservation  
 2018 Wild Tracks  
 African Wildlife Foundation  
 American Association of Zoo Keepers (AAZK) – Bowling for Rhinos  
 Amphibian Ark  
 AZA Jaguar SSP – Cockscomb Basin Wildlife Sanctuary (CBWS)  
 AZA SAFE – Western Pond Turtle  
 AZA SAFE Giraffe Program  
 AZA Tiger SSP – Tiger Conservation Campaign: Sumatran Tiger

Biodiversity Conservation Organization – Conserving Southern Ground Hornbill Through Local Capacity Building  
 Biodiversity Conservation Organization – Mitigating Human/Lion Conflict in Meru National Park Kenya With Community Involvement  
 Building Community Capacity Conserving Golden Rumped Elephant Shrews in Arabuko Sokoke Forest Kenya  
 CLAWS Human Lion Co-Existence Community Participation and Training  
 Dhartee Development Society – Critically Endangered Gyps Vulture Conservation  
 Eco Kenya Monitoring Yellow Spotted Tree Frog in Arabuko Sokoke Forest Kenya Through Community Involvement  
 Felidae Conservation Fund/Bay Area Puma Project  
 Food Procurement for Rehabilitation Centers  
 Garter Snake Ecology Studies  
 Grevy's Zebra Trust  
 Hornbill Research Foundation (HRF) – Nest Adoptions in Thailand  
 International Bird Rescue  
 Itombwe Generation Pour l'Humanite Conserving the Eastern Chimpanzee in the Itombwe Reserve  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Lemur Conservation Foundation  
 Mabula Ground Hornbill Project (MGHP)  
 Madagascar Fauna and Flora Group (MFG)  
 Mitigating Human Leopard Conflict in Maasai Mara  
 Mountain Lion Foundation – Citizen Science for Mountain Lions on the Cosumnes River Preserve  
 New Nature Foundation (NNF) – Sustainable Innovations With Wildlife-Neighboring Communities in Uganda  
 Okapi Conservation Project  
 Orangutan Outreach  
 Pan African Sanctuary Alliance (PASA) – Conservation Educators Workshop  
 Pantanal Giant Armadillo Project  
 Paso Pacifico Stopping Illegal Trade of Sea Turtle Eggs  
 Red Panda Network (RPN)  
 Ring Tail Live Trapping Morphometrics and Radiotelemetry Workshop  
 Sahara Conservation Fund (SCF)  
 Seafood Watch

Shared Conservation Biologist  
 Snow Leopard Conservancy (SLC)  
 Snow Leopard Trust (SLT)  
 SURUDEV – Conservation Education, Field Survey of Birds Species Disappearance, Ako-Mbembe Forest Reserve and Kilum-Ijim Forest of the Bamenda Highlands, North West Region of Cameroon  
 Szinda Nature School Painted Dog Research Trust  
 Tropical Research and Conservation Center Primate Inventory and Conservation in Ikpa River Basin Nigeria  
 Tuleyome California Naturalist *In-Situ* Citizen Science Project  
 Turtle Survival Alliance (TSA)  
 Union Island Gecko Conservation Program  
 Vulture Conservation Programme (VulPro)  
 Wangechi Marine Biodiversity Evaluating the Distribution, Ecology, and Movement of Straw Colored Fruit Bat in Kakamega Forest Kenya  
 Wild Nature Institute – Masai Giraffe Conservation Demography  
 WildAid – Shark Savers  
 Wildlife Care Association  
 Wildlife Conservation Expo  
 Zoo Conservation Outreach Group (ZCOG)

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site  
 Purchased Renewable Energy

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Carbon Offsets for Employee Travel  
 Commingled Recycling  
 Composting (On-Site or Off-Site)

Generated Solar or Wind Energy  
 Green IT  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Wastewater Reduction  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

2018 Allostatic Load Stress in Great Apes  
 2018 Giraffe Improvest Trial  
 2018 Great Ape Interactive Technology  
 2018 Ground Hornbill Husbandry Survey  
 2018 Pharmacokinetics of Single and Multiple Dose Subcutaneous Voriconazole in Healthy Western Pond Turtles (*Actinemys marmorata*)  
 2018 Red Panda Mucoïd Stool Survey  
 2018 Sloth Genetic Testing  
 2018 Snow Leopard Eye Diseases  
 2018 Western Pond Turtle Genetic Survey of Captive Population  
 Amdovirus Investigation in Red Pandas  
 Clinical Medicine Research Publications  
 Kurtz – Bear Stress Physiology Study

## SAFARI WEST WILDLIFE PRESERVE

## Education

Conservation Dinner Series  
 Guided Safari Tour  
 Husbandry Internship  
 Off-Site Presentations  
 Research Internship  
 Safari Summer Kids Camp  
 Safari Trek Field Trip

## Field Conservation

African Wildlife Foundation  
 Andean Cat Alliance  
 Ape Action Africa  
 Bonobo Conservation initiative  
 California Academy of Sciences  
 California Wolf Center  
 Cheetah Conservation Botswana  
 Cheetah Conservation Fund (CCF)  
 Claws Conservancy  
 Cornell Lab of Ornithology  
 Ewaso Lions  
 Global Penguin Society  
 Grevy's Zebra Trust  
 Hungry Owl Project  
 International Rhino Foundation (IRF)  
 Lion Recovery Fund  
 Litterati  
 Marine Mammal Center  
 MYCAT  
 Napa Solano Audubon Society  
 National Wildlife Federation (NWF)  
 Native Songbird Care & Conservation  
 North Coast Resource Conservation and Development  
 Council  
 Okapi Conservation Project  
 Pacific Manta Research Group  
 Painted Dog Conservation  
 Paso Pacifico

Paula Lane Action Network  
 Planet Bee  
 Point Blue Conservation Science  
 Proyecto Tití  
 River Otter Ecology Project  
 Rwanda Wildlife Conservation Association  
 Sahara Conservation Fund  
 Save The Snakes  
 Save Vietnam Wildlife  
 SaveNature.Org  
 Shark Stewards  
 Small Wild Cat Education and Conservation Fund  
 Snow Leopard Conservancy  
 The Bird Rescue Center  
 The Bonobo Project  
 Urban Wildlife Research Project  
 Wild Aid  
 Wild Nature Institute - Project Giraffe  
 Wildcare Bay Area  
 Wildlife Conservation Network  
 Wildlife Rescue Sonoma County  
 World Parrot Trust (WPT)  
 Worth a Dam - Martinez Beavers

## Green Practices

## FOOD

Sourced Local Food or Grew it On-Site

## GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)  
 Graywater Reuse and/or Rainwater Harvesting  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program  
 Wastewater Reduction  
 Waterwise Landscaping

## WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

## Research

Occupancy and Turnover of Native Fauna

## SAN DIEGO ZOO GLOBAL

### Education

Institute Advanced Inquiry Program

Institute - Conservation Education Lab School Visits

Institute - Outdoor Learning Lab

Institute - Summer Teacher Workshops in Conservation Science

Price Family Watershed Heros

Safari Park - Behind-the-Scenes Safari

Safari Park - Caravan Safari

Safari Park - Cart Safari

Safari Park - Conservation Corp

Safari Park - Conservation in Action

Safari Park - Fur, Feathers, and Scales

Safari Park - Roar & Snore Safari

Safari Park - Safari Express

Safari Park - Save Our Aquatic Resources

Safari Park Self Guided Field Trips

Safari Park Summer Camp

Safari Park - Tram

Safari Park - Ultimate Safari

Safari Park - Wildlife Education and Conservation Action Reaching Everyone (WECARE)

San Diego Zoo Kids

Zoo - Animals in Action

Zoo - Aussie Outback Birthday Bash

Zoo - Be a Bug's Buddy

Zoo - Classic Summer Camp

Zoo - Critter Coverings

Zoo - Cub Camp

Zoo - Discovery Tours

Zoo - Early Morning With Pandas

Zoo - Epic Teen Camp

Zoo - Exclusive VIP Experience

Zoo - Expeditionary Learning Program

Zoo - Girls in Science

Zoo - Guided Bus Tour

Zoo - Healing Animal Arts

Zoo - Inside Look Tours

Zoo - Inside Story Tour

Zoo - Internquest

Zoo - Kids Free Month

Zoo - KinderZoo

Zoo - Little Artists

Zoo - Outreach Assembly and Classroom Programs

Zoo - School in the Park

Zoo - Second Grade Adaptations Connections

Zoo - Self Guided School Field Trips

Zoo - Special Tours

Zoo - Summer Art Camp

Zoo - Sunrise Surprise Strolls

Zoo - Watershed Heroes

Zoo - Wild Heroes

Zoo - Wildlife Conservancy Tour

Zoo - Wildlife Overnights

Zoo - Winter Educator Preview

Zoo - Zoo Corps

Zoo - ZooTV: Video-Conference Connection in Your Classroom

### Field Conservation

African Penguin Conservation

An Adaptive Management Approach to Recovering Burrowing Owl Populations and Restoring a Grassland Ecosystem

Andean Bear Conservation Research - Building Capacity in Peru

Andean Condor Recovery in Colombia, South America

Anegada Iguana Recovery Program

Aye-Aye Dispersal Patterns

AZA Andean Condor SSP - Colombian Reintroduction Program

AZA Grand Cayman Blue Iguana SSP - Population Management and Recovery Program

AZA Jamaican Iguana SSP - Population Management and Recovery Program

AZA Okapi SSP - Consortium

- Behavior, Ecology, and Conservation of Gelada Baboons
- Behavioral Ecology and Conservation of Andean Bears in Peru
- Behavioral Ecology and Reintroduction of the Tasmanian Devil
- Cactus Scrub Habitat Enhancement and Cactus Wren Monitoring
- California Condors and Endocrine Disruptors
- California Least Tern and Western Snowy Plover Conservation Program
- Captive Breeding and Reintroduction of the San Clemente Loggerhead Shrike
- Central Africa Program
- Cheetah Conservation
- Chinese Dhole Recovery
- Coastal Sage Scrub Restoration and Biodiversity Monitoring at the Safari Park
- Collaborative Conservation Research for Sloth Bears
- Combating the Illegal Trade in Asiatic Black Bears and Bear Parts in Southeast Asia
- Conservation and Captive Rearing of the Critically Endangered Mangrove Finch
- Conservation and Ecology of Wild Giant Panda Populations
- Conservation Breeding and Reintroduction of the Critically Endangered Pacific Pocket Mouse
- Conservation Breeding and Release of the Aga or Mariana Crow
- Conservation Breeding of the Giant Panda
- Conservation Ecology of the Sun Bear
- Conservation Management of Leopards in Northern Kenya's Rangelands: Integrating Ecology and Social Science Into Community-Based Conservation
- Conservation of the Quino Checkerspot Butterfly
- Conserving Endangered Vultures in Northern Kenya: Taking Action Against Key Threats
- Desert Tortoise Health
- Dian Fossey Gorilla Fund International
- Disease Modeling and Tasmanian Devils
- Effects of Roads on Space Use, Habitat Selection, Diet, Population Dynamics, and Health of Ringtails in Rural San Diego County
- Effects of Wind Turbines on Golden Eagles and Condors in Northern Baja California, Mexico
- Enhancing California Condor Genetic Management
- Ewaso Conservation Company – Lion Scouts
- F.E. Falz-Fein Biosphere Reserve
- Fiji Iguana Conservation
- Galápagos Pink Land Iguana Recovery Program
- Gelada Ecology and Conservation
- Gharial Conservation Fund
- Giant Panda Conservation – Disease Surveillance and Risk Assessment in China
- Grevy's Zebra Trust
- Hawaii Endangered Bird Conservation Program
- Hornbill Research Foundation (HRF)
- Human Dimensions of Lion Conservation
- Human-Wildlife Coexistence With Jaguars in the Bolivian Amazon
- International Rhino Foundation (IRF)
- Investigating Ecological and Health Requirements for Long-Term Sustainability of Coastal Patch-Nosed Snake Populations
- Investigating the Role of Disease in Declining Thick-Billed Parrot Populations in Northern Mexico
- IUCN/SSC Tapir Specialist Group
- Jaguar Costa Rica Corridor Research
- Jungle Friends Primate Sanctuary, Inc.
- Koala Management, Education, and Conservation Program
- Las Californias Linkages for Large Mammals: Peninsular Bighorn Sheep in Baja California, Mexico
- Light-Footed Clapper Rail Reintroduction Program
- Living With Elephants – Conservation and Human Dimensions Efforts
- Living With Elephants – Conservation, Communities, Rescues, and Human Dimensions
- Madagascar Fauna and Flora Group (MFG)
- Management of the Cocha Cashu Biological Station in Manu, Peru
- Molecular Conservation Genetics: Development and Application to Management of Captive and Wild Populations
- Mountain Yellow-Legged Frog Recovery Program
- New Technologies in Support of Grevy's Zebra Conservation: Integrating Genomes, Microbiomes, Parasites, Diets, and Demography

Northern Rangelands Trust – Black Rhino Translocation to Sera Community Conservancy

Northern Rangelands Trust – Ishaqbini Hirola Community Conservancy Project

Northern Rangelands Trust – West Gate Community Conservation

Northern White Rhinoceros Initiative

Okapi Conservation Project

Peninsular Pronghorn Recovery Program

Peregrine Fund – Wildlife Poisoning Response Training

Point Loma Nazarene University (PLNU) – Project Jaguar and Other Predators of the Talamanca

Point Loma Nazarene University Summer Internships

Polar Bear Conservation Research and Educational Outreach

Population Health and Genetics of Black-Footed Cats and Infectious Disease Prevalence in Sympatric Carnivores

Population Management for Caribbean Rock Iguana SSP Recovery Programs

Prevalence of Haemosporidian in the Endangered African Penguin: Effects on Morbidity and Mortality in a Changing World

Przewalski's Horse: Asian Wild Horse Conservation Project

Quokka Project Support

Recovery of the California Condor

Red Panda Network (RPN)

Reteti Elephant Orphanage

Reticulated Giraffe Conservation With Pastoralists

Rock Iguana Breeding Program

Rodrigues Fruit Bat Conservation Support

Sahara Conservation Fund (SCF)

Saiga Conservation Alliance

Snow Leopard Trust (SLT)

The Genetic Diversity of Addax in Reintroduced and *Ex-Situ* Managed Populations

Translocation Biology of Endangered Heteromyids in Southern California

Turks and Caicos Boa Project

Turks and Caicos Iguana Project

Turtle Survival Alliance (TSA)

Understanding Public Attitudes Towards the Use of Tiger Parts in Southeast Asia

Wildlife Conservation Society (WCS) – Sumatran Tiger Project

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN CERTIFICATIONS

One or More Buildings LEED-Certified by the US Green Building Council

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community Solar Program

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Smart Building Strategies

Wastewater Reduction

Waterwise Landscaping

### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Cape Vulture Reintroduction Program in South Africa

Determining the Genetic Basis for Serum Amyloid A Amyloidosis in Island Foxes

Dietary Reconstruction of Jaguar Using Metagenomics and Next-Generation Sequencing

Exploring Conservation Science Field Trips and Teacher Workshops in Conservation Science: African Elephant Reproductive Endocrinology

Investigating the Cause of Fatal Spinal Osteoarthropathy

IUCN SSC Cat Specialist Group Workshop to Develop Jaguar Action Plans for Under-Served Range Countries

IUCN Wild Cattle and Babirusa Conservation and *In-Situ* Animal Care Skill Development

Jaguar Ecology and Conservation in Peru

Keeping Hirola Healthy: Hirola Antelope Disease Surveillance and Risk Assessment

Nesting Ecology and Human Harvest of the Yellow Spotted River Turtle

Pelecaniformes Morbidity and Mortality Review

Population and Genetic Assessments of *Varecia rubra*

Preventing the Decline of the Iconic Platypus and Other Key Threatened Australian Freshwater Fish Species

Stop Poisoning Now: Tackling Wildlife Poisoning in Northern Kenya

Tapir Conservation, Anti-Poaching, and Habitat Work

Understanding Illegal Wildlife Trade of Jaguar Parts

Understanding the Impact of Elephant Endotheliotropic Herpesvirus in African Elephants

Wintering Habitat Use Patterns of Tufted Puffins

**SAN FRANCISCO ZOOLOGICAL GARDENS****Education**

Adult Volunteer Program

Conservation Lecture Series

Docent Program

Early Childhood – Young Zoologist Series, Little Learners, and Animal Adventures

Earthwatch Field Programs

Paid Tours

Senior Stroll

Wildlife Illustration

Wildlife Theater

Youth Volunteers – Junior Zoologist

Youth Volunteers – Nature Trail

Youth Volunteers – Talk on the Wild Side

Youth Volunteers – Zoo Crew

Youth Volunteers – Zoo Teaching Assistant

Zoo Camp

ZooMobile: Close Encounters and Biodiversity Basics

**Field Conservation**

Asociación Panameric

AZA Komodo Dragon SSP

AZA SAFE – Vaquita Project

AZA SAFE – Western Pond Turtle Project

AZA SAFE – African Penguin

Charles Darwin Foundation

Earthwatch Institute

Fauna and Flora International (FFI) – François' Langur

Gorongosa Lion Project

Jane Goodall Institute

Lake Merced Restoration and Conservation

Madagascar Fauna and Flora Group (MFG)

Mountain Lake Restoration/Zoo Crew

Mountain Yellow-Legged Frog Conservation Program

National Network for Ocean Climate Change Interpretation (NNOCCI) – Climate Change Interpretation Trainings

Red Panda Network (RPN)

Reintroduction of Western Pond Turtle to Golden Gate  
National Recreation Area

San Francisco Forktail Damselfly Project

SANNCOB

Snow Leopard Conservancy (SLC)

Yosemite National Park Conservation Partnership

Yosemite Toad Rearing

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Alternative Transportation Discounts for Guests

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green IT

Procured Local Food for On-Site Animals and/or Guest

Waterwise Landscaping

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent

Documented Amount Used

### Research

Behavioral Assessment of Quality of Life in Aging Zoo  
Animals

Describing Anticipatory Behavior

Sequoia Kings Canyon Yellow-Legged Frog Headstart  
Project

Species Identification of Western Pond Turtle SSP Program  
Animals Through Genetic Analysis

Testing the Effectiveness of Headstarting as Part of a  
Conservation Toolbox to Restore the Sierra Nevada Yellow-  
Legged Frogs (*Rana sierrae*) to the Lake Tahoe Basin

ZooMonitor

### SANTA ANA ZOO

#### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Procured Local Food for On-Site Animals and/or Guest

Stormwater Management Program

Wastewater Reduction

Waterwise Landscaping

## SANTA BARBARA ZOOLOGICAL GARDENS

### Education

Barnyard Feeding  
 Condor Kids  
 Homeschool Science  
 School Science Night Outreach  
 Zoo Safaris

### Field Conservation

2nd International Wildlife Reintroduction Conference  
 Amphibians of the Los Padres National Forest  
 AZA SAFE - African Vulture  
 AZA SAFE - Vaquita  
 Bitter Creek National Wildlife Refuge  
 Black-Footed Ferret Reintroduction  
 California Condor Conservation Program  
 California Red-Legged Frog Translocation in Santa Monica Mountains  
 Channel Islands Fox Conservation Program  
 ECO-CELL  
 Hornbill Research Foundation (HRF)  
 International Elephant Foundation (IEF)  
 Local Watershed and Ocean Cleanups  
 Marine Sampling  
 Naval Base Ventura County Southwest Pond Turtle Monitoring Program  
 Oiled Wildlife Care Network (OWCN)  
 San Nicolas Island Restoration  
 Snow Leopard Trust (SLT)  
 Southern Sea Otters in the Santa Barbara Channel  
 The Ocean Project  
 The Xerces Society - Western Monarch Thanksgiving Count  
 Virunga National Park Fallen Rangers Fund  
 Western Snowy Plover Rearing Project  
 Wildlife Trafficking Alliance

## Green Practices

### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent  
 Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Discounts for Guests  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program  
 Water Submetering  
 Waterwise Landscaping

### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

### WATER

Documented Amount Spent  
 Documented Amount Used

## Research

Assessment of the Vitamin D and Calcium Physiology in Asian Elephants

## SEA LIFE CARLSBAD AQUARIUM AT LEGOLAND

### Education

Daily Talks and Feeds  
 Guest Interaction Staff  
 School Programs  
 Shark Identification Sheet  
 Shark Station  
 Sustainable Seafood Card

### Field Conservation

Beach Cleanups

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Denitrification Systems On Ground  
 Diverted or Recycled Construction Waste  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction  
 Waterwise Landscaping

### Research

Cephalopod Welfare Group  
 Coccidia Reduction With Copper Wire Treatments for  
 Cownose Stingrays

## SEAWORLD SAN DIEGO

### Field Conservation

Acoustic Monitoring of Penguins in the Social-Ecological  
 Systems of Tierra del Fuego  
 Alaska SeaLife Center – Response and Post-Release  
 Monitoring of Stranded Marine Mammals in Alaska  
 Assessing Health and Population Status of Bottlenose  
 Dolphins Off Southern California  
 Diets of Walruses in Bristol Bay Alaska  
 Hubbs-SeaWorld Research Institute  
 Is She Eating for Two: Validating a Non-Invasive, Early  
 Pregnancy Detection Tool in Fecal Samples of the  
 Endangered Steller Sea Lions (*Eumetopias jubatus*)

Marine Debris Survey at a Sea Turtle Nesting Beach

Ocean Connectors

Project Wildlife

Promoting Wild Wolf Recovery in California & the Southwest

Rising Tide Conservation

SeaWorld San Diego Animal Rescue, Rehabilitation, and  
 Release

Southern California Native Bird Crisis Response, Rescue, and  
 Rehabilitation

The Ecology, Population Dynamics, and Status of Polar Bears  
 (*Ursus maritimus*) in Relation to Environmental Change

The Hidden Lives of Emperor Penguins: Cameras and  
 Movement Loggers Provide Insight Into Foraging of an  
 Antarctic Icon

Upscaling Coral Larval Culture in the Bahamas for Reef  
 Restoration

Wildlife Rescue and Conservation Association (ARCAS)

## SEQUOIA PARK ZOO

### Education

Cub Club: Fur, Feathers, & Scales  
 Cub Club: Growing Up Wild  
 Junior Zookeepers: If I Ran the Zoo  
 Junior Zookeepers: ZSI  
 Junior Zookeepers: ZSI  
 Nature Exchange  
 President's Week Camp  
 Spring Camp  
 Stories & Stuffies  
 Stormwater Pollution Prevention  
 Thanksgiving Camp  
 Winter Camp  
 ZooSnooze

### Field Conservation

AZA Chacoan Peccary SSP  
 Cotton-Topped Tamarin Project  
 Improving Estimates of Shorebird Abundance on Humboldt  
 Bay  
 Monitoring Disease Threats for the Reintroduction of the  
 Endangered Iberian Lynx in Extremadura

Oregon Silverspot Butterfly Pilot Rearing Lab for Population Supplementation

Porcupine Habitat Selection Northern California Project

Recolonization of Coho Salmon on the Klamath River Above the Iron Gate Dam

Red Panda Network (RPN)

Save the Giants – Giant Otters

Temporal Roost Selection and Strategy of Hoary Bats

Tropical Research and Conservation Centre – Primate Inventory

Vaquita Monitoring and Habitat Protection

### Green Practices

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Composting (On-Site or Off-Site)

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Stormwater Management Program

### Research

Assessing the Impact of a Native Landscape Conversion on the Local Bird Community at the Sequoia Park Zoo

Presence of Amdoparvovirus in the Red Panda SSP Population

Red Panda Mucoïd Stool Survey

Species Identification of Western Pond Turtle SSP Program Animals Through Genetic Analysis

### STEINHART AQUARIUM

#### Education

3D Theater

Careers in Science Interns

Citizen Science

Curiosity Grove

Distance Learning

Family Programs

Hohfeld Hall

Lectures

Morrison Planetarium

NightLife Programs

Online Education Resources

Out of State and International Student or Youth Field Trips

Portable Planetarium Dome

Public Floor Presentations

Public Programs Volunteer Engagements

Public Programs Volunteer Trainings

Science Action Club

Self-Guided Student Fieldtrips

Teacher Professional Development

Teen Advocates for Science Communication (TASC)

Teen Science Night

The Naturalist Center

The Rock Program Student Fieldtrips

Tidepool

### Field Conservation

Aquarium Conservation Partnership (ACP)

AZA Conservation Grants Fund (CGF)

AZA SAFE – African Penguins

AZA SAFE – Atlantic *Acropora* Corals

Center for Research and Outreach on Amphibian Conservation (CROAC)

Coral Conservation: Florida

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Reef Check California

SEXual CORal REproduction (SCORE)

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Turtle Survival Alliance (TSA)

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN CERTIFICATIONS**

Certified by the Green Restaurant Association

One or More Buildings LEED-Certified by the US Green Building Council

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff

Alternative Transportation Discounts for Guests

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Wastewater Reduction

Water Submetering

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount Used

## Research

Characterization of the Holobiome of Bat Stars (*Asterina miniata*)

Coral Spawning Lab

Disease Processes in Temperate Marine Fishes

Exploring the Least-Known Coral Reefs: Mesophotic Coral Ecosystem, the “Twilight Zone”

Fluorescence and Color Vision in Deep Reef Fishes

Marine Mammal Taxonomic Collections

New Species from Mesophotic Coral Ecosystems

Oversight of Outside Research Requests by Aquarium Research Committee

Reproductive Biology of Seadragons

The Benthic Ctenophore *Lyrocteis imperatoris*

The SubCAS: A Portable, Submersible Decompression Chamber for Mesophotic Coral Reef Fishes

## THE LIVING DESERT ZOO AND GARDENS

### Education

Living Desert University

Me & You at the Zoo

NAI Certification Programs

School Field Trips

Starry Safari

STEM Programs Scouts & Home School

Teacher/Volunteer and Community Workshops

Zoo Camp

Zoo Teen Volunteer Program

### Field Conservation

Action for Cheetahs in Kenya’s Ongoing Research Programs

African Wild Dog Rescue

Black Mamba Anti-Poaching Unit

Bush Babies Environmental Education Program

Capacity Building for Conservation Science in India

Casey’s June Beetle Population Surveys

Celebrating Africa’s Giants: Environmental Education for Conservation of Giraffes, Elephants, and Rhinoceroses

Cheetah Conservation Botswana

Cheetah Conservation Fund (CCF)

Desert Pupfish *Ex-Situ* Refugia Management

Desert Tortoise Adoption Program

Desert Tortoise Conservation Education Program

Mexican Wolf Recovery Program

Mojave River Pond Turtle Conservation Assessment

Native Plant Propagation Project for Restoration in California’s Deserts

Peninsular Pronghorn Recovery Program

Rebuilding the Pride

Reintroducing Endangered Antelopes in the Sahara

Sahara Conservation Fund (SCF)

Save the Vaquita Porpoise

SnapShot Safari at Kenya’s Olare Orok Conservancy

Species Conservation Toolkit Initiative

The Living Desert’s Wildlife Rehabilitation Program

Winter Radio Tracking for Mojave River Western Pond Turtles

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Energy Submetering

Generated Solar or Wind Energy

Water Submetering

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Recycled  
 Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent  
 Documented Amount Used

**Research**

Access Closure and Local Species Conservation Study  
 Black Mamba Anti-Poaching Unit Impact Assessment Study  
 The Conservation Status of the Southern Western Pond  
 Turtle in the Mojave River in the Mojave Desert

**TURTLE CONSERVANCY****Field Conservation**

Aldabra Giant Tortoise Re-Wilding  
 Bolson Tortoise  
 Geometric Tortoise Critical Habitat Preservation  
 Northern Diamondback Terrapin Nesting Project  
 Philippine Forest Turtle  
 Ploughshare Tortoise  
 Radiated Tortoise Confiscation - Madagascar  
 Trade Interdiction

## Colorado

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**BUTTERFLY PAVILION****Field Conservation**

Bees for Elephants  
 Colorado Butterfly Monitoring Network  
 Dragonfly Captive Breeding for Conservation  
 Dragonfly Conservation Program  
 Firefly Conservation  
 Parnassian Butterfly Conservation in Mongolia  
 Pollinator Highway  
 Senior Habitat Gardening  
 Urban Prairies Project

**Green Practices****ENERGY**

Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Green Building Policy/Commitment  
 Green Purchasing Policy/Green Procurement  
 Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

**WATER**

Documented Amount Used

**Research**

Dragonfly Citizen Science

*Grammostola rosea* Safety Web for Arthropod Reproduction and Management (SWARM)

Impacts of Coastal Dune Restoration on Insect Communities

Invertebrate Survey of Mongolia's Ikh Nart Nature Reserve: An Assessment of Biodiversity

Tarantula Growth Study

**CHEYENNE MOUNTAIN ZOO****Field Conservation**

African Vulture Conservation

AZA SAFE

Black-Footed Ferret Recovery Program

EWASO Lions

Giraffe Conservation Foundation (GCF)

Mountain Tapir Habitat Ecology in Ecuador

Okapi Conservation Project

Palm Oil Crisis and Orangutan Conservation

Panama Amphibian Rescue and Conservation (PARC)

Pollinator Gardens in Local Schools

Radiated Tortoise Conservation

Saola Working Group

Snow Leopard Trust

Tsavo Trust: African Elephant and Black Rhino Conservation in Kenya

Wyoming Toad Recovery

**Research**

Giraffe Thermography: Assisted Lameness Management

Giraffe: Blood Gas and Lactate Monitoring During Field Immobilizations of Wild Rothschild's Giraffe

Giraffe: Comparing Foot Shape and Health in Zoos and in the Wild

Giraffe: Utilizing Banked Plasma to Reduce Giraffe Calf Mortality in United States' Zoos

Wyoming Toad Vitamin A Level Monitoring With Different Vitamin Supplement

**COLORADO WOLF & WILDLIFE CENTER****Field Conservation**

Wildlife Trafficking Alliance

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Diverted or Recycled Construction Waste

Green Purchasing Policy/Green Procurement

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

Specified a Portion of the Amount Saved for Next Year's Green Practices

**Research**

PRP/ESWT

**DENVER ZOO****Education**

Adult Volunteers

Advanced Inquiry Program (AIP)

Animal Academy

ASK Me's

Assemblies

Awareness Days

Be a Zookeeper Zone

Booths

Bunks

Camps and Mini-Camps

Community Leadership Programs and Service-Learning Programs

Docent Volunteer Training

Explore the Shore

General Meetings

Giraffe Viewing Platform

Guest Assistance Ambassadors

Guide Stations & Exhibit Interpreter - Adult and Teen Led

Guide Volunteer Training  
 Middle and High School Programs  
 Mini-Classes  
 Multi-Contact Outreach Programs  
 New Volunteer Training  
 Nurturing Scientists Through Nature Play  
 Outreach Afterschool and Enrichment  
 Scout Night  
 Secret Science Days  
 Senior Safaris  
 Shows and Demos (Tier 1 & 2)  
 Tours  
 Up-Close Animal Encounters  
 Urban Advantage Family Science Events  
 Urban Advantage Field Trips  
 Urban Advantage Teacher Professional Development  
 Veterans Tours  
 Volunteer Scoop Electronic Newsletter  
 Young Scientists  
 Zoo Ed-Venture Treks  
 Zoo Ed-Ventures

**Field Conservation**

AZA Tiger SSP - Tiger Conservation Campaign  
 Black-Footed Cat Working Group  
 Boreal Toad Breeding, Inventory Surveys, and Habitat Restoration  
 Botswana Prey Survey  
 Botswana Raptor Project  
 Botswana Vet Assistance  
 Botswana Wild Dog Ecology Research  
 Citizen Science: Pika Monitoring Program in Colorado's Front Range  
 Conservation Education and Outreach in Botswana  
 Denver Zoo Field Conservation Department  
 Denver Zoo Research Associate  
 Denver Zoological Foundation Conservation Award  
 Developing a Model for Local Management of Protected Areas in Mongolia

Ecological Restoration of Arroyos and Head Cuts  
 Ecology and Conservation of Mongolian Ungulates  
 Ecology and Social Behavior of Gunnison's Prairie Dogs  
 Effects of Bison on Plant and Animal Communities in the Southern Great Plains  
 Fishing Cat Fund  
 Flat-Tailed Horned Lizard Biomonitoring Training  
 General Botswana Conservation Project Support  
 General Botswana Program Support  
 General Conservation Program Support at the Rio Mora National Wildlife Refuge  
 General Mongolia Program Support  
 General Peru Conservation Program Support  
 General Rocky Mountain/Great Plains Program Support  
 General Vietnam Program Support  
 Graduate Student Fellowships  
 Great Lakes Piping Plover Recovery Effort - Northern Michigan  
 Ibex Ecology and Conservation  
 IdeaWild  
 Ikh Nart is Our Future Women's Cooperative in Mongolia  
 Ikh Nart Nature Reserve Vegetation Map  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF)  
 Kea Conservation Trust  
 Lake Titicaca Research and Conservation  
 Malagasy Radiated Tortoise Rescue Emergency  
 Mariana Avifauna Conservation (MAC) Project  
 Mongolia Education and Outreach Program  
 Mongolian Gazelle Conservation  
 Mongolian Raptors Project  
 Mongolian Reptile Ecology Research  
 Nomadic Nature Conservation  
 Peru Community Engagement  
 Polar Bears International (PBI)  
 Restoring the Mora River  
 Rio Mora Conservation Outreach  
 Rio Mora Vegetative Restoration  
 Rocky Mountain Wild

Save Vietnam's Wildlife  
 Seafood Watch – Conservation Outreach Partner  
 Snow Leopard Conservancy  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
 Springbok of the Kalahari  
 Tonkin Snub-Nosed Monkey Conservation Education  
 Tonkin Snub-Nosed Monkey Conservation in Vietnam  
 Untapped: Women in Conservation  
 Veterinary Support for Field Conservation Projects in Mongolia  
 Vietnam Gibbons: Rehab, Return, Conservation, and CET  
 Wildlife Corridors Programs  
 Zoos and Aquariums Committing to Conservation (ZACC) – Support

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Purchased Renewable Energy

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### GREEN CERTIFICATIONS

Certified Under ISO 14001

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Alternative Transportation Benefits for Staff  
 Alternative Transportation Discounts for Guests  
 Building Energy Management  
 Community Supported Agriculture (CSA) Program for Staff  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program

Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan  
 Specified a Portion of the Amount Saved for Next Year's Green Practices

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

2017-007 Assessing the Efficacy of Improvest® in Female Giraffe  
 2017-009 Development of a Genome Resource Bank and Transcervical Insemination for the Genetic Management of Tigers  
 2017-011 Comparing the Physiologic Effects of Two Ultra-Potent Opioid Anesthesia Protocols in Non-Domestic Equids  
 2017-016 Prevalence, Risk Factors, and Survival of Zoo Animals With Cancer  
 2017-019 Characterizing the Diversity of Milk Composition Among Mammals  
 2017-021 Longitudinal Assessment of Gorilla (*Gorilla gorilla gorilla*) Fecal Microbiome Populations  
 2018-008 Effects of Socialization on Behavioral, Physiologic, and Reproductive Parameters of Bull Asian Elephants  
 2018-014 Analysis of Microhabitat Choice and Social Dynamics in Captive California Sea Lions  
 2018-015 Validation of Immunological Tools in African Buffalo  
 2018-018 Evolution of Antiviral Factors Among Carnivora Species  
 2018-020 Comparative Tissue Specific Gene Expression in the Giraffe, Okapi, Cow, Sheep, and Goat

2018-022 Geriatric Elephant Survey

Asian Elephant Female Reproductive Tract Neoplasia Review

Assessment of Fecal Hormone Metabolites for Monitoring Reproductive Activity in Captive Female Aye-Aye (*Daubentonia madagascariensis*)

Comparison of Circulating Vitamin D (25OHD) in Captive North American and Free-Ranging South African Black Rhinoceros (*Diceros bicornis* spp.)

Constraints of Biomass on Innate Immunity Across Terrestrial Mammals

Development of a Database of Fetal Ultrasound Measurements for the Creation of Orangutan-Specific (*Pongo* spp.) Growth Curves and Determination of Parturition Dates

Drinking Water Quality and Water Husbandry in Association of Zoo and Aquarium (AZA) Zoos

Evaluation of Abnormal Molting in Captive African Penguins (*Spheniscus demersus*)

Genetic and Endocrine Predictors of Reproductive Success in African Painted Dogs

Investigating Mangshan Pit Viper Habitat Preference and Nocturnal Time Budget for Improved Quality of Life and Future Breeding Success

Investigation Into Potential Nepal Viper (*Ovophis monticola*) Parthenogenesis

Probable Enalapril Hepatotoxicity in a 15 Year Old Male Western Lowland Gorilla (*Gorilla gorilla gorilla*)

Red Panda Amdoparvovirus (RpAPV)

Survey of AZA Zoo and Aquarium Participation in Bio-Materials Related Research With External Investigators

## LANDRY'S DOWNTOWN AQUARIUM - DENVER

### Field Conservation

Birds of Prey Foundation

Fins Attached

Owl's Nest Rescue and Rehabilitation

Rocky Mountain Raptor Center

SECORE (SEXual CORal REproduction)

Wildlife Alliance

## PUEBLO ZOO

### Field Conservation

AZA SAFE - African Penguin Nest Box Project

Painted Dog Conservation (PDC)

Red Panda Network (RPN)

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

## Connecticut

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## CONNECTICUT'S BEARDSLEY ZOO

### Education

Scout Overnights

### Field Conservation

AZA Tiger SSP - Tiger Conservation Campaign - Anti-Poaching Activities

Conservation Discovery Corps - Invasive Plant Removal

Eastern Pearl Shell Mussel Population Monitoring

Piping Plover Monitoring

Trout in the Classroom

Turtle Survival Alliance (TSA)

## MARITIME AQUARIUM AT NORWALK

### Field Conservation

Alewife Monitoring

AZA FrogWatch USA

Barrens Topminnow Conservation

Long Island Sound Biodiversity Project

Osprey Nation

Project Horseshoe

Sand Tiger Shark Conservation

Sea Turtle Conservation

Trout in the Classroom

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Alternative Fuel Usage for On-Site Fleet

Building Energy Management

Community-Based Sustainability Projects

Generated Solar or Wind Energy

Procured Local Food for On-Site Animals and/or Guest

Smart Building Strategies

Wastewater Reduction

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Aquaculture Gear as Finfish Habitat

Effects of Climate Change Conditions on Animals:  
Freshwater

Effects of Climate Change Conditions on Animals: Marine

Invasive Species Monitoring

Local Climate Monitoring

Ocean Soundscapes

Phytoplankton Monitoring Network

Protecting Water Quality

**MYSTIC AQUARIUM****Education**

Autism Night

Birthday Parties

Career & STEM Days

Citizen Science

Classroom Programs

Coastal Field Studies

Conservation Club

Conservation Events

Distance Learning

Family Engagement Events

Internships & Seminars

Outreach Programs

Overnights

School/Youth Group Exhibit Talks & Animal Interactions

Sea School Preschool

STEM Mentoring

Summer Camps

Teacher E-Newsletter

Teacher Workshops/Events

Youth Organization Events

**Field Conservation**

Amphibian Monitoring

Behavioral Ecology of Piscivores at Gray's Reef National  
Marine Sanctuary

Coastal Marine Debris Removal Events

Detection of Influenza A Viruses From Seals Stranded in the  
Northeastern United States

Ecology of Piscivores at Isla del Coco National Park,  
Costa Rica

Habitat Restoration of Dodge Paddock and Beal Preserve

Health Assessment of Belugas in the Chukchi Sea and  
Bristol Bay

Horseshoe Crab Monitoring

Long Island Sound Coastal Field Studies

Rescue and Rehabilitation of Stranded Marine Mammals  
and Sea Turtles Along the Connecticut and Rhode Island  
Shorelines

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – Assisting With the African Penguin Chick Bolstering Project in South Africa

### Green Practices

#### ENERGY

Documented Amount Used

#### FUEL

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Green IT

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WATER

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

### Research

A Framework for the Selection of Marine Aquarium Fishes to Target for Aquaculture and Sustainable Species Selection

Assay for Illegally Caught Coral Reef Fishes Using Cyanide Poison

Assessing the Role of Marine Protected Areas for Conservation of Biological Diversity and Sustainable Use

Determination of a Suitable Dilution Marker in Blow

Discovering the U.S. Marine Aquarium Industry

Effect of Therapeutic Laser as a Multi-Modal Approach to Treatment of Dermal Abrasions in the Cownose Ray (*Rhinoptera bonasus*)

Etiological Study of Molt Abnormalities in the African Penguin (*Spheniscus demersus*)

Evaluating the Use of Blow for Reproductive Hormone and Genetic Analysis in Belugas (*Delphinapterus leucas*)

Evaluation of Non-Lethal Effects of Nitrogen Gas (N<sub>2</sub>) Bubbles on Marine Mammal Immune Function and Complement Activation

Further Investigation of Blow or Exhaled Breath Condensate as a Non-Invasive Tool to Monitor the Physiological Response to Stressors in Cetaceans

Investigation of the Marine Mammal Immune System and Impacts of Stress on Health

Investigation of the Molecular Response of Belugas to “Stressors” to Aid in Assessing the Impact of Environmental and Anthropogenic Challenges on Health

Investigation of the Use of Biochemical Markers for Cardiac Disease in Marine Mammals

Measurement of Cortisol in the Blood, Blow, Saliva, and Feces of Beluga Whales

Molecular Biomarkers of Immune System Health in Beluga Blowhole

Monitoring of Health and Welfare in the Endangered African Penguin Through Fecal Glucocorticoid and Microbiome Analysis

Research and Development of Aquaculture Techniques for Marine Ornamental Fishes

Sustainable Sourcing of Aquatic Species for Mystic Aquarium

## Delaware

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### BRANDYWINE ZOO

#### Education

Animal Shows and Informal Interpretation

Family Programs

Special Events

Traveling Zoo

Volunteer Program

Zoo Camp

Zoo School

#### Field Conservation

African Vulture SAFE

American Bird Conservancy

Andean Condor SSP

Delaware Kestrel Project

Delaware Wildlife Rehabilitators Association

Kaminando  
 Paso Pacifico  
 Red Panda Network  
 Tri-State Bird Rescue  
 Urban Wildlife Monitoring Project

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Green Purchasing Policy/Green Procurement  
 Waterwise Landscaping

### Research

American Kestrel Monitoring Project  
 AZA Contraceptive Management Center  
 Developing Genomic Tools for North American River Otter  
 Does Oxidative Stress Differ Between Mammals and Birds?  
 General Research Specimen Collection for Delaware Museum of Natural History  
 Red Panda Fecal Survey of Amdoparvovirus  
 Survey of AZA Zoo and Aquarium Participation in Bio-Materials Related Research With External Investigators  
 The Sweet Smell of Poop: Using Chromatography and Mass Spectrometry to Identify Species From Their Feces  
 Urban Wildlife Monitoring Projects

## Florida

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### BREVARD ZOO

#### Field Conservation

AfricanBats NPC  
 AZA FrogWatch USA  
 AZA SAFE – Sea Turtles  
 Borneo Nature Foundation  
 Brevard Zoo's Sea Turtle Healing Center  
 Dominica Sperm Whale Project  
 Endangered Wildlife Trust  
 Florida Keys Wildlife Society  
 Florida Scrub Jay Translocations and Monitoring  
 Game Rangers International  
 GLOBE Citizen Science  
 Grevy's Zebra Trust  
 IUCN SSC Small Mammal Specialist Group (SMSG)  
 Landscape and Conservation Mentors Organization (LCMO)  
 Madagascar Wildlife Conservation  
 Marine Megafauna Foundation  
 Pan African Sanctuary Alliance (PASA)  
 Peace for Conservation  
 Perdido Key Beach Mouse Breeding Program  
 Restore Our Shores  
 Saola Working Group  
 Save the Frogs!  
 Save the Giants  
 Turtle Survival Alliance  
 VulPro  
 Whales of Guerrero/Oceanic Society  
 Wildtracks

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Discounts for Guests

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green IT

Procured Local Food for On-Site Animals and/or Guest

Smart Building Strategies

Stormwater Management Program

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**Research**

Behavioral Monitoring of Resident Animals at Brevard Zoo

The Paddle-Box Task

The Primate Gambling Task

**BUSCH GARDENS TAMPA BAY****Field Conservation**

Assessing the Threats to Painted Dogs in the Mid Zambezi Valley

Cheetah Conservation Fund: Cheetah Reintroduction and Data Collection

Cheetah Outreach Trust-Livestock Guarding Dogs

Community-Driven Conservation of Kibale National Park, Uganda

Conservation Education in Bohorok, North Sumatra

Conservation of Lions in Murchison Falls and Kidepo Valley National Parks

Emerging Wildlife Conservation Leaders

Evaluating the Reintroduction Success of Bornean Orangutans

Ewaso Lions

Grauer's Gorilla Conservation in the Eastern Democratic Republic of the Congo

Gunung Palung Orangutan Conservation Program (GPOCP) - Creating a Network of Informants to Fight Wildlife Crime in West Kalimantan

Imbewu Youth Wilderness Experiential Trails

International Rhino Foundation (IRF) - Black Rhino Conservation and Anti-Poaching, Zimbabwe

Maasai Giraffe Project

Mabula Ground Hornbill Project (MGHP)

Pantanal Giant Armadillo Project

Poisoning of Wildlife - Urgent Ranger Training Intervention Required

Primate Care Training Program

Protection of Grauer's Gorillas in Congo From Bushmeat Hunting

Providing Solutions for Human - Snake Conflicts and Protecting Threatened King Cobra Populations in the Eastern Ghats of India

Reducing Marine Debris, Increasing Environmental Stewardship

Reducing Threats to Wildlife in Malawi's Critical Habitats - Sustainable Livelihoods through Beekeeping Training

Rehabilitating Wildlife Poachers Into Alternative Professions

Ruaha Carnivore Project (RCP) - Building Capacity to Monitor Carnivores and Reduce Conflict in the Ruaha Landscape of Tanzania

Satellite Collars for Cheetah Re-Wilding and Data Collection

Saving Sumatran Tigers: Bukit Tigapuluh National Park Survey

Sowing the Seeds of Conservation: Kasese Wildlife Conservation Awareness Organization's Queen Elizabeth National Park Field Trip Project

Sumatran Orangutan Reintroduction at Jantho Nature Reserve, Indonesia

Supporting Recovery of the Asian Elephant Population in Prey Lang Forest, Cambodia

Taking Flight

Tampa Bay Watch: The Great Bay Scallop Search

The Snares to Wares Initiative: Conserving Wildlife and Improving Human Livelihood via Artistic Employment

Training the Next Generation of African Conservation Educators

Wilderness Foundation Africa – Forever Wild Conservation Programme

Wildlife Alliance – Kouprey Express Environmental Education and Outreach

Youth Education for Carnivore Conservation

## CENTRAL FLORIDA ZOO & BOTANICAL GARDENS

### Education

Animal Encounters

Bat House Building Workshop

Central Florida Zoo After Dark – Nighttime Safaris

Community Outreaches

Cub Scout and Boy Scout Programs

Curriculum Programs

Florida Black Bear Awareness Program

Girl Scout Programs

Guided Tours

Homeschool Family Workshops

Homeschool ZOOventure Classes

Keeper for a Day and Family Zoo Keeper Experience

Night Hike

Preschool Programs

Storytime

Summer Camps

Wild Art & Wine

Zoo to You Programs

### Field Conservation

Central Florida Zoo's Orianne Center for Indigo Conservation

Cheetah Conservation Fund (CCF)

Claxton Rattlesnake and Wildlife Festival

International Rhino Foundation (IRF)

Proyecto Tití

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

### WASTE

Documented Amount Recycled

Documented Amount Sent to Landfill

### WATER

Documented Amount Spent

Documented Amount Used

## Research

An Investigation Into Melanism in the Captive Amur Leopard (*Panthera pardus orientalis*) Population

Reintroductions and Translocations

Serval Reproductive Physiology

## DISCOVERY COVE

### Field Conservation

Rising Tide Conservation

## DISNEY'S ANIMAL KINGDOM

### Education

A Path Less Traveled – Disney's Animal Kingdom 20th Anniversary

Backstage Safari

Backstage Tales

Behind the Seeds Tour

Behind-The-Scenes at Disney's Animal Kingdom Complimentary Tours

Caring for Giants

Community Hospital Program

Conservation Day Camp – Summer  
 DAK Youth Education Series (YES) Programs  
 DAKL Onstage Guest Activities  
 Dine With an Animal Specialist  
 Earth Day at Disneyland Resort  
 Earth Day at Disney’s Animal Kingdom  
 Elephants and Bees: Reducing Human-Elephant Conflict in Kenya  
 Epcot Flower and Garden Festival Themed Weekends  
 Gorilla Rehabilitation & Conservation Education Center (GRACE)  
 Meet a Sea Turtle Specialist at Disney’s Vero Beach Resort  
 Proyecto Titi: Conservation of the Cotton-Top Tamarin in Colombia  
 Purple Martin Palooza  
 Sea Turtle Night Walks  
 Sense of Africa  
 Starlight Safari  
 Tour de Turtles  
 Up Close With Rhinos  
 Wanyama Safari  
 Wild Africa Trek and Savor the Savanna  
 Wilderness Explorers

### Field Conservation

Anteaters and Highways  
 Archie Carr National Wildlife Refuge – Education Program  
 Assessing Threats in the Mid-Zambezi  
 Association of Zoological Horticulture (AZH) – Plant Conservation Grant Program  
 Audubon Canyon Ranch – Mountain Lion Project  
 AZA Guam Rail SSP – Pre-Release Quarantine Program  
 AZA SAFE – Saving Animals From Extinction  
 Backyard Bat Survey  
 Backyard Conservation of Tasman Parakeets  
 Black Lion Tamarin Conservation in a Fragmented Landscape  
 Blue Iguana Recovery Achieves Sustainability  
 Bring Back the King  
 Bring Back the Pollinators Campaign

Building Communities That Conserve Wetlands  
 Butterfly Conservation in Greater Yellowstone  
 California Condor Nest Guarding Program  
 Collaborative Conservation of Endangered Vertebrates  
 Community Based Vulture Conservation  
 Community Conservation for Spectacled Bears  
 Community Education for Carnivore Conservation  
 Community Field Conservation Training Initiative  
 Community Forest Restoration and Conservation in the United States  
 Community Support for Okapi Conservation  
 Community-Based Conservation of River Turtles  
 Connect to Protect – Reverse the Decline of Butterflies  
 Connect to Protect – Reverse the Decline of Cranes  
 Connect to Protect – Reverse the Decline of Elephants  
 Connect to Protect – Reverse the Decline of Great Apes  
 Connect to Protect – Reverse the Decline of Monkeys (Cotton-Top Tamarins)  
 Connect to Protect – Reverse the Decline of Monkeys (Golden Lion Tamarins)  
 Connect to Protect – Reverse the Decline of Rhinos  
 Connect to Protect – Reverse the Decline of Tigers  
 Connecting Songbird Conservation Across Hemispheres  
 Conservation Hero Award: Cheetah Conservation Botswana Community Outreach Team  
 Conservation Hero Award: Gorilla Rehabilitation and Conservation Education (GRACE) Center  
 Conservation Hero Award: Heracleo “Laqui” Duarte Lopez  
 Conservation Hero Award: Ibnu Andrian  
 Conservation Hero Award: Kris Inman  
 Conservation Hero Award: Maria Njamba  
 Conservation Hero Award: Neovitus Sianga  
 Conservation Hero Award: Pablo Bordino  
 Conservation Hero Award: Serge Jacob Meye and the MINFOF Ecogardes Patrol Team  
 Conservation Hero Award: Sumadi Hasmaran  
 Conservation Hero Award: Tashi Ghale  
 Conservation Hero Award: Tasrif Kartawijaya  
 Conservation Hero Award: Tri Kurnia  
 Conservation of Fijian Iguanas

Conservation of Sumatran Elephants  
 Conservation Planning Specialist Group (CPSG) Support  
 Conserving Breeding Shearwaters in Oahu  
 Conserving India's Lion-Tailed Macaques  
 Conserving Jaguars in Southern Belize  
 Conserving Jamaica's Rock Iguana  
 Conserving Rhinos Through Community Engagement  
 Conserving Southwest Florida's Coastal Wildlife Corridor  
 Conserving the Cao Vit Gibbon  
 Conserving the Pygmy Sloth  
 Conserving Vultures Through Community Ambassadors  
 CRAYARC  
 Creating Conservation Champions, Madagascar  
 Dian Fossey Gorilla Fund International – Support and Board Member  
 Disney Conservation Focused Labor  
 Disney's Wildlife Monitoring Program  
 Drone Monitoring of Grevy's Zebra Habitat  
 Eastern Caribbean Offshore Islands Network  
 Empowering Communities to Conserve Large Carnivores  
 Endangered Hawaiian Yellow-Faced Bee Conservation  
 Engaging Herders in Vulture Conservation  
 Enhancing Human-Elephant Coexistence in Ruaha-Rungwa  
 Ensuring Right of Passage  
 Expanding Critical Habitat Conservation: Vietnam  
 Full Lifecycle Conservation – Semipalmated Sandpiper  
 Future Farmers of Africa  
 Gopher Tortoise Conservation Program  
 Gorilla Rehabilitation and Conservation Education (GRACE) Center  
 Grassroots Conservation of Rare Turtles in Metro-Boston  
 Grauer's Gorilla Conservation Through Education  
 Guatemalan Endangered Reptile Awareness Program  
 Hahamongna to Tujung Wildlife Corridor  
 Indian Turtle Conservation Program  
 Innovative Community-Based Predator Protection Program  
 Saving African Lions  
 Integrated Gorilla and Human Health  
 International Emergency Relief Network and Response Fund  
 International Iguana Foundation (IIF) – Support and Board Member  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Jane Goodall Institute – Roots and Shoots Global  
 Javan Loris Community Conservation Project  
 Jay Watch: Citizen Science Program  
 Jersey Shore Terrapin Conservation Project  
 Kibale Forest Schools Conservation Project  
 Kiwikiu Habitat Restoration and Re-Introduction  
 Landscape Level Bird Habitat Conservation  
 Least Tern and Shorebird Conservation  
 Long-Term Monitoring Program and Experimental Training for Students (LiMPETS) Program  
 Lowland Tapir Conservation Initiative – Pantanal Tapir Program  
 Mabula Ground Hornbill Project (MGHP)  
 Mariana Avifauna Conservation (MAC) Project  
 National Wildlife Federation (NWF) – Kids and Families Outreach – Be Out There  
 Northern Jaguar Project – Viviendo con Felinos  
 Northern Tanzania Big Cats Conservation Initiative  
 Of Bats and Men  
 Okapi Conservation Project (WCGI)  
 Orangutan Protection Through Community Development  
 Orangutan Research, Education, and Conservation  
 Pacific Island Avifauna Health Assessment  
 Pantanal Giant Armadillo Project  
 Penguins, People, and the Planet  
 Pickersgill's Reed Frog: Wetland Custodian  
 Primate Conservation Project Peninsular Malaysia  
 Project Safe Flight Atlanta  
 Project Wildcat  
 Promoting Coexistence to Safeguard Wildlife  
 Protecting Mongolia's Endangered Snow Leopard  
 Purple Martin Migration and Nesting Research  
 Rare Plant Restoration and Research  
 Restoring the Pygmy Hog  
 Rewilding Australia With Tasmanian Devils  
 Rhino Management in Zimbabwe's Lowveld  
 Sandhill Habitat Restoration

Sarus Cranes, Wetlands, and Dipterocarp Forest

Save the Elephants – Elephants and Bees

Saving Maine's Migratory Seabirds

Saving the Critically Endangered Hirola

Saving the Ploughshares From Extinction

Saving the World's Rarest Duck

Saving Wildlife: African Apes

Saving Wildlife: Conservation and Recovery of At-Risk Butterflies

Saving Wildlife: Developing a Strategy to Reverse the Decline of the Critically Endangered Sumatran Rhinoceros

Saving Wildlife: Monkeys (Expanding Outreach for Proyecto Titi)

Saving Wildlife: Monkeys (Golden Lion Tamarin Integrated Conservation)

Saving Wildlife: Recovery Program for Siberian Cranes

Saving Wildlife: Reversing the Decline of the Critically Endangered Sumatran Tiger

Saving Wildlife: Saving Africa's Elephants

Smorgasbords in the Agroforestry Canopy

Taking Root and Spreading Wings

Tasmania Island Ark Bushrangers

Thames European Eel Conservation Project

Towards Black-Capped Petrel Conservation

Transforming Indonesia's Forest Management Paradigm

Turtle Survival Alliance (TSA)

Umbrella Bird Conservation in the Chocó, Colombia

Urban Oasis for Migrating Songbirds

Vocal Culture of Hawaiian Crow

Wildlife Rehabilitation Center of Central Florida Support

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Energy through Anaerobic Digester

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Carbon Offset(s) for On-Site Utility Use

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

Used Environmental Management System

Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

Specified a Portion of the Amount Saved for Next Year's Green Practices

**WASTE**

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**Research**

A Comparison of the Fecal Microbial Community and Metabolites From Southern Black Rhinoceros (*Diceros bicornis minor*) and Southern White Rhinoceros (*Ceratotherium simum simum*)

Agonistic Behavior in an All-Male Group of Nile Crocodiles (*Crocodylus niloticus*)

Assessing Animal Visibility as a Tool for Enhancing Guest Satisfaction at the Pangani, Tree of Life, Maharajah Trek, Safari Attractions

Assessing Thermoregulation and Agonistic Behaviors in an All Male Colony of Malayan Flying Fox and Rodrigues Fruit Bats

Assessing Welfare of Northern Carmine Bee-Eaters (*Merops nubicus*) During the Transition From Disney's Animal Kingdom's Avian Research Center to Africa Aviary

Assessment of Dietary Vitamin E Supplementation in Black and White Rhinoceros

Assessment of Dietary Vitamin E Supplementation in Elephants

Captive Management, Stress, and Reproduction in the Guam Kingfisher

Casting a Wider Net: An Analysis of Scholarly Contributions of Behavior Analysis Graduate Program Faculty

Disney's Animal Kingdom® Research Focused Labor

Effects of Increased Hay-To-Grain Ratio on Behavior, Metabolic Health Measures, and Fecal Bacterial Communities in Four Masai Giraffe (*Giraffa camelopardalis tippelskirchi*) at Cleveland Metroparks Zoo

Elephants and Bees: Reducing Human-Elephant Conflict in Kenya

Expansion and Animal Monitoring Initiative

Gopher Tortoise Management and Conservation

Hybridization Within the North American Population of Wildebeest (*Connochaetes taurinus*)

In-House Monitoring of Steroid Hormone Metabolites in Urine Informs Breeding Management of a Giant Anteater (*Myrmecophaga tridactyla*)

Investigating Decision-Making and Perception in Box Turtles

Investigation of Parental Investment and Genetic Relatedness of Carmine Bee-Eaters

Latitudinal Comparisons of Nesting and Migratory Ecology of a Long-Distance Migrant – the Purple Martin

Management of Iron Overload in the Black Rhinoceros (*Diceros bicornis*) Using an Oral Iron Chelator

Method and Assay Validation for Ambassador Animals Study

Monitoring and Controlling Ovarian Function in the Rhinoceros

Ovarian Cycle and Pregnancy Monitoring of the Common Hippopotamus (*Hippopotamus amphibius*) Through Salivary Analyses and Trans-Abdominal Ultrasound

Pilot Study: a Test of GonaCon™ Gonadotropin-Releasing Hormone (GnRH) Vaccine as an Effective Contraception Method in Zoo-Managed Hippopotamus

Preliminary Feeding Trial of Atala Caterpillars (*Eumaeus atala*) on Standard Caterpillar Medium

Prevalence and Methodology for Detection of *Rhabdias* spp. in Dart Frogs Including Risk Factors for Disease

Reintroduction of the Mandrill: Stress Hormone Study

Serum Osmolality in Captive African Elephants (*Loxodonta africana*)

Ultrasound Characteristics and Hormone Values in Red Wolves (*Canis rufus*) With and Without Reproductive Disease

Use of GNRH Agonists as Contraceptives in Male Lion Tailed Macaques (*Macaca silenus*)

Use of Radio-Frequency Identification (RFID) Technology to Study the Reproductive Biology of an *Ex-Situ* Colony of Northern Carmine Bee-Eaters (*Merops nubicus*)

Validating the Measurement of Oxytocin in Western Lowland Gorilla (*Gorilla gorilla gorilla*) Urine and Saliva Using a Commercially Available Enzyme Immunoassay

Work-for-Food Enrichment Program Increases Exploration and Decreases Stereotypies in Four Species of Bears

## JACKSONVILLE ZOO AND GARDENS

### Field Conservation

Archbold – *Crotalaria avonensis*  
 Archbold – *Hartwrightia floridana*  
 Australian Rainforest Trust  
 Avian Research and Conservation Institute (ARCI) – Swallow-Tailed Kite Project  
 AZA Komodo Dragon SSP  
 AZA SAFE  
 Belize Foundation for Research and Environmental Education (BFREE)  
 Bok Tower Gardens – Claspig Warea  
 Bonobo and Congo Biodiversity Initiative (BCBI)  
 Chapman’s Fringed Orchid  
 Cheetah Conservation Botswana  
 Giant Armadillo Project  
 Giraffe Conservation Foundation (GCF)  
 Gorilla Rehabilitation and Conservation Education (GRACE) Center  
 Grevy’s Zebra Trust  
 Gulf Coast Waterdog Breeding Program  
 Indonesia Initiative  
 Institute for Regional Conservation  
 International Rhino Foundation (IRF)  
 Lowland Tapir Conservation Initiative  
 Madagascar Fauna and Flora Group (MFG)  
 Marine Mammal Rescue Program  
 Migratory Whooping Crane Temporary Winter Holding Refurbishment  
 Okapi Conservation Project  
 Pine Flatwood Restoration  
 Rupununi Region Jaguar Project  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – African Penguin Rescue Campaign  
 Turtle Survival Alliance (TSA) – Turtle Survival Center  
 VulPro  
 Zoo Conservation Outreach Group (ZCOG) – Scholarship Program

## LEMUR CONSERVATION FOUNDATION

### Education

Ako Conservation Education Program  
 Open House

### Field Conservation

Field Training Programs for Malagasy Conservationists  
 Lemur Conservation and Community Development in Northeastern Madagascar  
 Madagascar Fauna and Flora Group (MFG)

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Procured Local Food for On-Site Animals and/or Guest

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan

### Research

Agonistic Grooming in Lemurs  
 Carnivore Camera Trapping in Anjanaharibe-Sud Special Reserve, Madagascar  
 Eastern Kentucky University Field School  
 Ontogeny of Lemur Chewing System  
 Silky Sifaka and Ruffed Lemur Survey in the Unprotected Maherivaratra Forest, Madagascar  
 The Effects of Range Size on Intestinal Parasite Richness and Intensity in Lemur Species

## LION COUNTRY SAFARI

### Education

An Animal Tale  
 Animal Adaptations I  
 Animal Adaptations II  
 Animal Senses  
 Animal Theater Shows  
 Backyard Florida General Scout Program  
 Bear: Critter Care  
 Bear: Fur, Feathers, and Ferns  
 Boy Scout Bird Study  
 Boy Scout Mammal Study  
 Brownie – Bugs  
 Brownie – Pets  
 Brownie – Senses  
 Brownie: Outdoor Adventurer  
 Brownies: Outdoor Art Explorer  
 Cadette – Animal Helpers  
 Cadette: Naturalist-Trees  
 Careers in Zoos  
 Classification I  
 Classification II  
 Conservation  
 Daisy – Three Cheers for Animals  
 Daisy: Between Earth and Sky  
 Dinosaurs  
 Ecology  
 Enrichment  
 Exhibit Talks  
 Fall Toddler Programs  
 Food Chain  
 Fur, Feathers, and Scales  
 Girl Scout General Program: Animal Helpers  
 Habitats I  
 Habitats II  
 Habitats III  
 Junior – Animal Habitats  
 Junior – Detectives

Junior: Naturalist – Flowers  
 LCSI Animal Mystery  
 Off-Property Community Events  
 Outreach Presentations  
 Party for the Planet  
 Premium Guest Experiences  
 Preserve Tour Materials  
 Rock On! Geology  
 Safari Day Camp  
 Safari Queen Boat Tour  
 Senior – Voice for Animals  
 Species Appreciation Days  
 Spooky Safari Halloween  
 Tigers: Tigers in the Wild  
 Virtual Field Trips  
 Webelos: Earth Rocks  
 Webelos: Into the Wild  
 Webelos: Into the Woods  
 Wolf: Digging in the Past  
 Wolf: Paws on the Path  
 World Oceans Day

### Field Conservation

American Association of Zoo Keepers – LCS Chapter  
 AZA SAFE – Eastern Indigo Snakes  
 AZA SAFE – Giraffe  
 AZA’s Conservation Grants Fund (CGF)  
 Conservation Centers for Species Survival (C2S2)  
 Conservation Staff Salary  
 Giraffe Conservation Foundation (GCF) – Giraffe Painting/  
 Experience  
 Grevy’s Zebra Trust  
 International Rhino Foundation (IRF)  
 Jane Goodall Institute  
 Lion Guardians  
 Lubee Bat Conservancy  
 Pan African Sanctuary Alliance (PASA)  
 Sloth Conservation Foundation  
 Source Population Alliance (SPA)

Turtle Survival Alliance  
Wetlands Preservation/Restoration  
World Parrot Trust

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

### Research

A Survey of the Prevalence and Perceived Efficacy of Biofloors in Great Ape Exhibits Within AZA Zoos  
Allostatic Load in Chimpanzees as an Index of Welfare  
Blackbuck Microchip Loss  
Guest Retention of Conservation Messaging  
Hepatic Neoplasia and Cirrhosis in Nile lechwe  
Lion Behavioral Monitoring (*Panthera leo*)  
Research Internship  
Species and Sex Genetic Testing of Two-Toed Sloths

## LUBEE BAT CONSERVANCY

### Education

Annual Florida Bat Festival  
General Lubee Bat Conservancy Educational Programming

### Field Conservation

Mauritius Fruit Bat Cull  
Rodrigues Environmental Education Project  
Saving the Ontong Java Flying Fox (*Pteropus howensis*) of a Vanishing Pacific Atoll

### Green Practices

#### ENERGY

Documented Amount Spent

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Recycled

## MOTE MARINE LABORATORY & AQUARIUM

### Field Conservation

Coral Reef Restoration, Monitoring, and Assessment Programs  
Fisheries Habitat Ecology & Acoustics Program  
Manatee Research Program  
Mote Animal Hospitals  
Sea Turtle Conservation, Research Program, and Sea Turtle Patrol  
Sharks & Rays Conservation Research Program  
Stranding Investigations Program

### Research

Benthic Ecology  
Chemical and Physical Ecology Program  
Coral Health and Disease Program  
Ecotoxicology Program  
Environmental Laboratory for Forensics  
Fisheries Ecology and Enhancement Program  
Marine and Freshwater Aquaculture Research Program  
Marine Immunology Program  
Ocean Acidification Program  
Sensory Research With Two Resident Manatees

## NAPLES ZOO

### Education

Camp WILD  
Field Trip Experiences  
Keeper Talks  
Primate Expedition Cruise  
Safari Canyon Shows  
Safari Squad/Toddler Programs  
Wild Encounters  
Zoo Yoga  
ZooCon Distance Learning Programs  
ZooMobile Outreach Programs

## Field Conservation

African People and Wildlife Fund  
 AZA Conservation Grants Fund (CGF)  
 AZA SAFE - African Penguin  
 AZA SAFE - Founders Circle  
 AZA Tiger SSP - Tiger Conservation Campaign  
 Black Bear: Smarter Than the Average Bear Secure Trash Campaign  
 Burmese Python Monitoring and Eradication Testing

## Conservation Staff Labor

Florida Bonneted Bat Monitoring and Rehab  
 Florida Panther Species Recovery - Outcome-Oriented Education  
 Florida Panther Species Recovery - Rehabilitation Facility  
 Florida Panther: Testing the Potential of Rarámuri Criollo Cattle to Protect U.S. Herds and Endangered Panthers  
 Fruit Bats, Habitat Restoration, and Natural Forest Sustainable Management in Eastern Madagascar  
 Giant Armadillo Project  
 Giraffe Conservation Foundation (GCF)  
 Hyacinth Macaw Project (Projeto Arara Azul)  
 Madagascar Fauna and Flora Group (MFG)  
 Orchid Conservation in South Florida and Cuba  
 Palm Oil Advocacy  
 Panthera - Leopards  
 Ruaha Carnivore Project (RCP) - Support Through African Wildlife Foundation  
 Seafood Watch  
 Tarangire Elephant Project  
 Tree Planting  
 Turtle Survival Alliance - Radiated Tortoise Rescue  
 Wildlife Trafficking Alliance  
 Zoo Conservation Outreach Group (ZCOG)  
 Zoo Conservation Outreach Group (ZCOG) - Anteaters and Highways

## Green Practices

### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Generated Solar or Wind Energy

## Research

Florida Bonneted Bat Research

## NATURAL ENCOUNTERS, INC.

### Field Conservation

The Peregrine Fund  
 World Parrot Trust (WPT)

### Green Practices

#### ENERGY

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Generated Energy through Anaerobic Digester  
 Procured Local Food for On-Site Animals and/or Guest  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted

## PALM BEACH ZOO

### Education

Afterschool Series  
 Conservation Leadership Lectures  
 Guided Tours  
 Keeper Talks  
 Night Owls Overnight Adventure  
 STEM Teacher Open House  
 Toddler Workshops  
 Zoo Camp  
 Zoo Classes  
 Zoo Interpreters Training  
 Zoo Labs  
 Zoo School

**Field Conservation**

Florida Wildlife Corridor Project  
 Panamanian Jaguar Research Through APPC  
 Perdido Key Captive Breeding and Reintroduction  
 Turtle Survival Alliance  
 Wildlife Conservation Society (WCS) – Greater Madidi  
 Tambopata Landscape Project  
 Wildlife Conservation Society (WCS) – Malaysia Field Project  
 Zoological Society of London (ZSL) – Evolutionarily Distinct  
 and Globally Endangered (EDGE) Fellowship

**Green Practices****ENERGY**

Documented Amount Spent  
 Generated Renewable Energy On-Site

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FUEL**

Documented Amount Spent

**GREEN CERTIFICATIONS**

One or More Buildings LEED-Certified by the US Green  
 Building Council

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff  
 Alternative Transportation Discounts for Guests  
 Carbon Offsets for Employee Travel  
 Community Solar Program  
 Community Supported Agriculture (CSA) Program for Staff  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Water Submetering

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

**WATER**

Documented Amount Spent

**Research**

Chordoma Prevalence in Perdido Key Beach Mice

**SANTA FE COLLEGE TEACHING ZOO****Education**

Animal Encounters  
 AZA FrogWatch USA  
 Birthday Party  
 Boo at the Zoo  
 College for Kids  
 Community Outreach Program  
 Education Carts  
 Keeper Talks  
 Party for the Planet  
 Rotary Reading Safari  
 Special Event Outreach  
 Training Demonstrations  
 Tree Kangaroo Awareness Day  
 VIP Tour  
 Zoo Guided Tours  
 Zookeeper Day  
 Zookeeper for a Day

**Field Conservation**

Alachua Conservation Trust (ACT) – North Florida Wetlands  
 Conservation Project (NFWCP)  
 Ashton Biological Preserve  
 Earthwatch's Trinidad Ocelot Project  
 Gopher Tortoise Rehabilitation and Release Program  
 IUCN-SSC Crocodile Specialist Group (CSG)  
 Tree Kangaroo Conservation Program  
 Turtle Survival Alliance (TSA)

## Green Practices

### FOOD

Sourced Local Food or Grew it On-Site

### GREEN PRACTICES IMPLEMENTED

Community-Based Sustainability Projects

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Green IT

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Waterwise Landscaping

## SEA LIFE ORLANDO AQUARIUM

### Field Conservation

Coastal Cleanups

Shingle Creek Canoe Cleanups

Stormwater Pollution Prevention

Tour de Turtles

### Green Practices

### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Discounts for Guests

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Green IT

Green Purchasing Policy/Green Procurement

Smart Building Strategies

### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

### Research

Investigating Stingray Reproductive Disease

## SEAWORLD ORLANDO

### Field Conservation

Audubon Center for Birds of Prey – Bald Eagle Rescue and Rehabilitation

Bioengineering Plastic-Degrading Microbes To Eliminate Plastic Waste

Causal Agents of Reproductive Disease in Wild and Captive Female Southern Stingrays

Conserving Coastal Sharks and Rays Through Health Research

Locating the Birthing Grounds of the Migratory Bonnethead Shark

Mapping Wood Duck Migration Routes in the Northeast, U.S.A.

Marsh Restoration-Replenishing Natural System Water Through Willow Removal

Molecular Biomarkers of Immune System and Health in Beluga Blowhole

Monitoring the Health and Distribution of Dolphin Communities Along the East Coast of Central Florida: A Region of Increased Dolphin Entanglements and Repeated Unusual Mortality Events

National Audubon Society – Conservation of Maine Coast Alcids

National Fish and Wildlife Foundation – Killer Whale Research and Conservation Program

National Ocean Sciences Bowl

Norwegian Orca Survey: Ecological Variations in Norwegian Killer Whales

Panamerican Conservation Association (APPC): Sloth and Anteater Rescue, Rehabilitation, and Education Program in the Republic of Panama

Reproductive Research to Support Captive Sustainability of Sand Tiger Sharks, *Carcharias taurus*

Rising Tide Support for Culture of Hawaiian Reef Species

SeaWorld Orlando – Animal Rescue and Rehabilitation Program

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – Conservation of Endangered African Penguins

Tackling Turtle Trade: Developing Capacity to Combat Sea Turtle Poaching in Southeast Asia via the Use of Unmanned Aerial Vehicles

TAMAR Kids: Reconnecting Sea, Sea Turtles, and Local Culture

Wild Earth Allies (Flora and Fauna): Critically Endangered Hawksbill Turtle Conservation in Central America

## ST. AUGUSTINE ALLIGATOR FARM

### Field Conservation

Ark Wildlife Rescue and Rehabilitation  
 Audubon of Florida - Monitoring the Roseate Spoonbill  
 Bird Endowment Nido Adoptivo  
 Galapagos Tortoise Movement Ecology Program  
 Gharial Ecology Project  
 IUCN/SSC Crocodile Specialist Group  
 King Cobra - Agumbe Rainforest Research Station (ARRS),  
 Western Ghats  
 Madagascar Fauna and Flora Group (MFG) - Betampona  
 Natural Reserve  
 Sea Turtle Hospital at Whitney  
 Seafood Watch  
 Turtle Survival Alliance (TSA)  
 Vulture Conservation Programme (VulPro)

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

A Preliminary Analysis of Prolonged Absorption Rate of  
 Ponazuril in Red-Footed Tortoises (*Chelonoidis carbonaria*)  
 Alligator Egg Degradation Study Under Artificial Incubation  
 Antimicrobial Peptide Release in American Alligator  
 Blood Cells  
 Chemical Analyses of Crocodylian Skin Gland Lipids  
 Comparison and Analysis of Vocalizations From the World's  
 Crocodylians to Develop a Database for the Crocodylian  
 Specialist Group (CSG)  
 Crocodylian Color Change  
 Cuban Crocodile Molecular Analysis  
 Cuban Crocodile Nutritional Analysis  
 Evaluation of Incubation Styles by Investigating Eggshell  
 Micro- and Ultra-Structure  
 Unprovoked Mouth Gaping Behavior in Extant Crocodylia

## THE FLORIDA AQUARIUM

### Education

Adopt A School Partnerships  
 AMIKids Tampa Partnership  
 Aqua Tots  
 Behind the Scenes Tours (Non School Groups)  
 BOAT Stations  
 Camps (School-Year)  
 Camps (Summer)  
 Dive With the Sharks  
 Evening Tide Talks  
 Explorers Club  
 Homeschool Classes  
 Interactive Touch Experiences  
 Junior Educators  
 Lifelong Learning Program  
 Mission Tampa Bay  
 Party With the Fishes (Birthday Parties)  
 Regional Oceans Conference for Students (ROCS)  
 School Group Classroom Programs  
 Scout Badge Workshops (Both Boy Scouts and Girl Scouts)  
 Sleep With the Fishes (Sleepover Program)  
 Spring to Shore (Formally What's in your Watershed?)  
 Swim With the Fishes  
 Teacher Workshops  
 Water Wheels (Outreach)  
 Watershed Investigations  
 Wild Dolphin Adventure Cruise

### Field Conservation

Artificial Fertilization and Larval Rearing of Threatened  
 Caribbean Coral Species for Reintroduction to Natural  
 Reefs in the Florida Keys  
 Cuba Coral Project  
 Fantasy Island: A Cooperative Conservation and Education  
 Project  
 Reptile Conservation Projects  
 Sea Turtle Rehabilitation  
 Shark Reproduction and Restoration

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Swallow-Tailed Kite Conservation Project

## THE SEAS

### Education

Abaco Reef Restoration and Environmental Education

Aqua Tours

Aulani Rainbow Reef

Aulani Supplied Air Snorkeling

Castaways Rays

DiveQuest

Dolphins in Depth

Seas Onstage Guest Programs

Seas Youth Education Series (YES) Programs

World Oceans Day

### Field Conservation

African Manatee Research and Conservation

Angel Shark Conservation Programme

Bahamas Piping Plover Recovery Initiative

Community Engagement for Dolphin Conservation

Connect to Protect – Reverse the Decline of Corals

Connect to Protect – Reverse the Decline of Sea Turtles

Connect to Protect – Reverse the Decline of Sharks and Rays

Conservation of Eastern Pacific Leatherback Turtles

Conservation of the Douala-Edea Landscape

Conserving Coastal Sharks and Rays

Conserving Sea Turtles Through Community Participation and Stakeholder Stewardship

Coral Reef Youth Education Program

Developing (Elkhorn) Coral Restoration Techniques

Developing Solar-Powered Illuminated Nets to Reduce Sea Turtle Bycatch in Gillnet Fisheries

Establishing the Next Generation of Resilient Coral Species

Franciscana Interactions With Argentinean Fisheries

Hawaiian Monk Seal Conservation and Education

Latin America Conservation Capacity-Building

Life in a Biosphere Reserve

Manta Conservation and Capacity Building

Outreach Inspiring Lake Sturgeon Conservation

Recovery of Endangered Smalltooth Sawfish

Right Whale Emergency Initiative

Saving Wildlife: Coral Reefs

Saving Wildlife: Reversing the Decline of Sharks and Rays

Saving Wildlife: Sea Turtles

Sustainable Fisheries Partnership

Tour de Turtles – Sea Turtle Conservancy

Urban Shark Conservation/Research Program

Wading Birds and Oyster Reefs

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Discounts for Guests

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Energy through Anaerobic Digester

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Used Environmental Management System  
 Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan  
 Specified a Portion of the Amount Saved for Next Year's Green Practices

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

#### Research

A Multi-Faceted Health Assessment for a Sample of Nesting Loggerhead Sea Turtles  
 Addendum to Head and Lateral Line Erosion Syndrome Research: Effects of Ful-Humix®-Laden Gel Food (Added Dissolved Organic Matter) on the Development of HLLES  
 Assessment of Social Rake Marks in Common Bottlenose Dolphins (*Tursiops truncatus*)  
 Cetacean Welfare Study  
 Coelomic Fluid Analysis in Normal and Abnormal Elasmobranchs  
 Contraceptive Drug Trials at Disney's Animal Kingdom and The Seas

Developmental Life Cycle of Marine Monogeneans (*Decacotyle* sp.) on Captive White-Spotted Eagle Rays and Possible Treatments

Effects of Dietary Vitamin D Supplementation and UV Light Exposure on Nutritional Health Parameters Including Vitamin D in Sea Turtles

Evaluation of an Aquatic Gel Diet Made With a Novel Feed Ingredient

Evaluation of Stress in Elasmobranchs

Lionfish & Coralliphic Snail Research: Abaco Reef Restoration and Environmental Education Addendum

Monitoring the Effects of Construction Noise on Resident Animals in Regards to Space Utilization

Serum Iodine Levels in Round Ribbontail Rays (*Taeniura meyeni*) (Black Blotched Ray) After Consumption of a Commercially Prepared Supplement

Sex Determination of French Grunts (*Haemulon flavolineatum*) in The Seas' Recirculating Research System

Space Utilization of Resident Sand Tiger Sharks

Statewide Sea Turtle Nesting Surveys

Studies of the Dolphin Mind: Echolocation, Communication, and Social Life

Studies on the Development of Head and Lateral Line (HLL) Disease

The Seas Research Focused Labor

To Determine the Plasma Concentrations of Oral Praziquantel in Plasma of Spotted Eagle Rays

Training a Scent Detection Dog to Locate Sea Turtle Nests and Gopher Tortoises

Understanding Causal Agents of Southern Stingray Reproductive Disease for Treatment Development

Use of a Scent-Detection Dog for Sea Turtle Nest Monitoring and Conservation Outreach

Using Ultrasound and Metabolic Parameters to Assess Energy and Body Condition Stores of Elasmobranchs (Retrospective Study)

Using Ultrasound to Measure Cardiac Parameters of Stingrays (Retrospective Study)

## WHITE OAK CONSERVATION CENTER

### Education

Adult Education Workshop: Florida Master Naturalist Program

Conservation Summer Camp

K-12 Field Experiences (Off-Site)

K-12 Field Experiences (On-Site)

Monthly Public Special Event

Off-Site Lectures and Presentations

Staff Guided Public and Private Wildlife Tours

Topics in Conservation

Undergraduate/Graduate Level Field Experience

### Field Conservation

Antelope Restoration - Chad

Florida Grasshopper Sparrow Propagation and Recovery Program

Florida Panther Rehabilitation and Reintroduction

IUCN/SSC Antelope Specialist Group

Madagascar Tortoise Rescue

Mississippi Sandhill Crane Propagation and Recovery Program

Okapi Conservation

Whooping Crane Restoration

### Research

Assessment of Stress by Transport of Okapi (*Okapia johnstoni*)

Coxiella burnetti Exposure of the White Rhinoceros (*Ceratotherium simum*) in South Africa

Curvularia Treatment with Itraconazole in the Black Rhinoceros (*Diceros bicornis*)

Detection of Lyme (*Borrelia burgdorferi*) and Other Tick-Borne Diseases in Serum Samples from Captive Cheetahs

Determining a Correlation Between Serum Amyloid A (SAA) and Zinc Deficiency in Captive Cheetahs (*Acinonyx jubatus*)

DNA Polymorphism Associated With Variation in Susceptibility to Porcine Circovirus 2

Examining the Effectiveness of a Low-Power Acoustic Deterrent to Discourage Bats from Treated Airspace

Giraffe Neoplasia

Grasshopper Sparrow Genome Project

Identification of Preimplantation Factor in Pregnant White Rhinoceros

Identifying and Sequencing *Atoxoplasma* spp. Affecting *Ammodramus savannarum floridanus*

Impact of Dietary Phytate Supplementation on Iron and Phosphorus Utilization in Black Rhinoceros

Influence of *Ex-Situ* Management on Gut Microbiota of the Southern Black Rhinoceros (*Diceros bicornis*)

Investigating Embryo Loss Using Embryo Transfer

Investigating Genetic Differences in Okapi With Pregnancy Hypertension: are There Similarities With Human Pre-Eclampsia?

Molecular Basis of Abnormal Iron Metabolism in Southern Black Rhinoceros

Monitoring of Florida Panther Genetic Introgression Through Reproductive Assessment and Banking of Genetic Material

Optimizing a Field-Based Dung-to-DNA Isolation Technique for Studying Rhino Social Structure and Population Census

Ossicones in Giraffidae

Pharmacokinetics of a Single Oral Dose of Phenylbutazone in Southern White Rhinoceros (*Ceratotherium simum simum*)

Presence of Grass Endophytes and Mycotoxins in Florida Pastures

Prevalence, Risk Factors, and Survival of Zoo Animals With Cancer

Quantifying Serum Amyloid A (SAA) Concentrations in Captive Cheetahs

Relatedness in Southern White Rhinoceros and Implications for Breeding Management

Statistical Evaluation of Subject-Based Reference Values for Potential Clinical Applications in a Population of Cheetahs (*Acinonyx jubatus*) and White Rhinoceros (*Ceratotherium simum*)

Use of Molecular Diagnostics for Rapid Detection of Wildlife Pathogens

White Rhino Calf Behavioral Study: Captive-Born vs Wild Caught Female

White Rhinoceros (*Ceratotherium simum*) Hemoparasite Identification and Characterization via PCR

**ZOO MIAMI****Field Conservation**

Atala Reintroduction

Audubon Christmas Bird Count

AZA FrogWatch USA

AZA Tiger SSP - Tiger Conservation Campaign

Bat Acoustical Survey of Zoo Miami Grounds

Butterfly Surveys of Pine Rockland and Developed Grounds of Zoo Miami

Cheetah Outreach

Citizen Science: Invasive Fish Removal Derby

Conservation and Research Manager Expenses

Conservation and Research Specialist

Florida Bonneted Bat Rehabilitation

Hope Gardens and Zoo Jamaican Iguana Headstart Facility

International Elephant Foundation (IEF)

International Iguana Foundation (IIF)

International Rhino Foundation (IRF)

Invasive Species and Fire Management of the Zoo Miami Pine Rocklands

Investigating the Habitat Usage and Impacts of Non-Native Boa Constrictors

Komodo Survival Program

Native Bat Roosting Mitigation and Enhancement

New Nature Foundation

Okapi Conservation Project

Pan American Conservation Association

Pine Rockland Public Restoration

Puerto Rican Crested Toad Recovery Program

Range Wide Conservation Program for Cheetah and African Wild Dogs

Restoration of Sea Turtle Nesting Habitat on Elliott Key, Florida

Reversing Tropical Amphibian Declines

Ron Magill Conservation Heroes Award

Ron Magill Conservation Scholarship

The Ecology of Gopher Tortoises in the Pine Rocklands

Tree Kangaroo Conservation Program

Turtle Survival Alliance (TSA) - Radiated Tortoise

Zoo Miami Butterfly Conservation Area

Zoo Miami Lake Enhancement Project

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Green IT

Smart Building Strategies

Water Submetering

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

## Research

Anteaters and Highways Project

Cuban Crocodile Subcaudal Scale Irregularities

Ecology of Invasive Burmese Pythons in Big Cypress National Preserve

Exploring Exuma Sound

Hormonal Manipulation of Male Burmese Python Pilot Study

Lowland Tapir Conservation Initiative

Population Genetic Characterization of Highly Fragmented Florida Duskywing Relict Populations

Securing the Habitats of Critically Endangered Taita Warty Frog (*Callulina dawida*) in the Taita Hill Forest in Kenya Through Community Involvement

South-East Zoo Alliance for Reproduction and Conservation

Spectacled Eider Tracking

The Natural History, Habitat Usage, and Origins of Florida Flamingos

The Prusten Project

## ZOOTAMPA AT LOWRY PARK

### Education

Animal Interactive Experiences - Aldabara Encounter

Animal Mingles/Meet and Greets

Bird of Prey Presentation

Birthday Parties

Camps

Early Childhood Education - Childcare

Keeper Chats (Animal Mingles, Red Wold, Manatee, Koala, Aldabara, Orangutan, Birds of Prey, and Clouded Leopard)

Koala Photo Encounter Presented Yob Family Foundation

Scavenger Hunts

Self-Guided Field Trip

Signature Experiences Tours (Greater One Horn Rhino, White Rhino, African Elephant, and African Penguin)

Sleepovers

Teen Workshops

Teens for Tampa Bay

Tot Classes

World Strides Travel Program

## Field Conservation

BOS - Bornean Orangutan Survival Foundation

CrocFest

Florida Fish and Wildlife Conservation Commission (FWC) - Florida Black Bear Rescue, Rehab, and Release Program

Florida Panther Recovery Plan

Freeland

Gyps Vulture Restoration Program

Manatee Rescue, Rehabilitation, and Release

Marine Mammal Research Patrol

Okapi Conservation Project

Painted Dog Research Trust

Pan African Sanctuary Alliance (PASA) - Primate Care Training

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Turtle Survival Alliance

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Energy Submetering

Generated Solar or Wind Energy

Green Building Policy/Commitment

Procured Local Food for On-Site Animals and/or Guest

Smart Building Strategies

Stormwater Management Program

Wastewater Reduction

Water Submetering

**WATER**

Documented Amount Spent

Documented Amount Used

## Georgia

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**GEORGIA AQUARIUM****Field Conservation**

Georgia Dolphin Ecology Project

Health and Environmental Risk Assessments (HERA) -  
Dolphins

Health and Environmental Risk Assessments (HERA) - Indian  
River Lagoon Dolphin Health Assessment

Health and Environmental Risk Assessments (HERA) -  
Manatees

Manta Ray Population Assessment

Whale Shark Genome Project

Whale Shark Population Study - Worldwide

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Energy Submetering

**WASTE**

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**Research**

Flukebook

Marineland Mantas

SEZARC - Sand Tigers

Whale Sharks St. Helena

**THE ZOO AT CHEHAW****Green Practices****GREEN PRACTICES IMPLEMENTED**

Composting (On-Site or Off-Site)

Procured Local Food for On-Site Animals and/or Guest

**ZOO ATLANTA****Education**

Adult Volunteer Program

Adventure Cubs

Birdwatch

Camp - School's Out

Camp - Spring Break

Camp - Summer

Camp - Winter

Case for Conservation

Docent Program

Educator Day

External Volunteers

Family Volunteer Program

Homeschool Academy

Intern Program

Interpretive Program - Animal Tales

Interpretive Program - Conservation Carts

Interpretive Program - Conservation Workshop

Interpretive Program - Forage Like a Kori

Interpretive Program - Groove Like an Animal

Interpretive Program - Vet Academy

Interpretive Program - Wild Women

Interpretive Program - Zoo's Clues

Interpretive Program - Quarters for Conservation

Interpretive Program - STEM Sunday

Keeper for a Day  
 Nightcrawler – Groups  
 NightCrawler Overnights – Family  
 Professional Learning  
 Scout Day  
 Scout Workshop  
 Self-Guided Field Trips  
 The HIVE  
 Volunteer Program  
 Wild Encounters  
 Wild Walks  
 Zoo Challenge  
 ZOOMobile – Outreach

### Field Conservation

Amphibian Ark  
 Atlanta Audubon Society  
 Bird Studies Canada  
 Birdlife Botswana  
 Bush Dog – St Louis Zoo  
 Community-Based Red Panda Conservation and Monitoring  
 in Eastern Nepal  
 Conservation South Luangwa  
 Dian Fossey Gorilla Fund International  
 Giant Panda Conservation  
 Headstarting Diamondback Terrapins  
 International Reptile Foundation  
 Lion Guardians U.S.  
 Madagascar Fauna and Flora Group (MFG)  
 Pine Snake Conservation – Clemson University  
 Project Golden Frog  
 Red Panda Network (RPN)  
 Sahara Conservation Fund (SCF)  
 Tigers – Minnesota Zoo Foundation  
 Vulture Conservation Programme (VulPro)  
 Wildlife Conservation Society (WCS) – 96 Elephants  
 World Parrot Trust (WPT)

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Green IT  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan

#### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

### Research

Blood Collection for Paternity Analysis of Captive  
 Guatemalan Beaded Lizards to Guide Captive Management  
 Great Ape Heart Project  
 Primate Cognition  
 Taxonomy and Biodiversity of Amphibians and Reptiles  
 Veterinary Research

## Idaho

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### IDAHO FALLS ZOO AT TAUTPHAUS PARK

#### Education

Behind the Scenes Tours  
 Career Days  
 Exploration Stations  
 Junior Zoo Crew  
 Penguin Interaction Program  
 Quarters for Conservation  
 Special Events  
 Spring Break Classes  
 STEM Day at the Zoo  
 Water Awareness Festival  
 Weeklong Summer Camp  
 Winter Break Classes  
 Zoo Tots Classes  
 Zoomobiles

#### Field Conservation

Gorongosa National Park  
 Snow Leopard Trust (SLT)  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

#### Research

St. Anthony Dunes Tiger Beetle Distribution  
 Summer Entry by Humans Into Bat Roosts in the Sand Creek Desert, Idaho

### ZOO BOISE

#### Field Conservation

American Association of Zoo Keepers (AAZK) - Bowling for Rhinos  
 AZA SAFE - Cheetah Conservation Action Plan (CAP)  
 Cottonwood Creek Restoration  
 EcoHealth Program in Gorongosa National Park  
 Gorongosa National Wildlife Park Restoration  
 IUCN/SSC Asian Wild Cattle Specialist Group - Saola Working Group

New Nature Foundation Khau Cha Forest Project  
 Reintroduction of Southern Idaho Ground Squirrels  
 Saving the Snowy Cats of the Himalaya  
 Table Rock Fire Restoration  
 Wildlife SOS - ForestWatch!

#### Green Practices

##### FUEL

Documented Amount Spent  
 Documented Amount Used

##### GREEN PRACTICES IMPLEMENTED

Building Energy Management

#### Research

Development of Reintroduction Protocol for Southern Idaho Ground Squirrel

## Illinois

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### CHICAGO ZOOLOGICAL SOCIETY - BROOKFIELD ZOO

#### Education

A Zoo for All: Access and Inclusion  
 Advanced Inquiry Program Master's Degree  
 Backstage Adventures  
 Badges  
 Bridges  
 Certified Interpretive Guide Training  
 College Experiential Learning Opportunities  
 Common Foundations in Informal Science Learning for Zoo Staff and Volunteers  
 CZS Sarasota Dolphin Research Program Undergraduate Internship Program  
 Dolphins in Action Presentations  
 Early Childhood Education Nature Assistant Certificate with Morton College, Cicero, Illinois  
 Family Fun Saturdays  
 Free Field Trips for Illinois Schools  
 Graduate Teacher Classes

Hamill Family Play Zoo  
 Inclusive Visits  
 Institute of Science Teaching Excellence  
 King Conservation Science Scholars  
 Lecture Series  
 Nature Play Zoo Adventure Passport (Nature Play ZAP!)  
 NatureStart AZA Course  
 NatureStart Networks  
 Postdoctoral Fellowship in Veterinary Anesthesia and Analgesia  
 Project SEARCH  
 Roving Naturalists  
 Science Fellows Program  
 SCIENCES (Supporting a Community's Informal Education Needs) Project  
 Sleepover Safari  
 The World's Longest-Running Study of a Wild Dolphin Population – Lessons From 4 Decades and 5 Generations  
 Volunteer Program  
 Wild Encounters, Keeper Chats, and Ambassador Animals Program  
 Zoo Adventure Passport (ZAP!)  
 Zoo Camp  
 Zoo Explorers Club  
 Zoological and Aquatic Animal Residency Program – Illinois

### Field Conservation

Behavioural Response of Sea Turtles to the FaunaGuard Turtle Module  
 Biopsy Sampling  
 Bottlenose Dolphin Health Assessment in Sarasota Bay  
 Community Engagement for Dolphin Conservation  
 Dolphin Communication Research with DTAGs  
 Ecological and Ethnological Basis for Pangolin Management in and Around the Tanoe-Ehy Swamp Forest, Côte d'Ivoire  
 Franciscana Dolphins  
 Gulf of Mexico Dolphin Identification System  
 Post-Release Monitoring of Injured, Out-of-Habitat, or Stranded Cetaceans in the Southeastern U.S.  
 Punta San Juan Health Assessments

Red Tide Intervention and Study  
 Sarasota Dolphin Research Program  
 Species Conservation Toolkit Initiative  
 Tagging Project  
 Vaquita Project

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff  
 Building Energy Management  
 Commingled Recycling  
 Diverted or Recycled Construction Waste  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction

### COSLEY ZOO

#### Education

Animal Encounter  
 AZA FrogWatch USA Cosley Zoo  
 Bobcat's Backstage  
 Camps  
 Critter Cart  
 Eco Exploration Backpack Tours  
 Jr. Zookeeper Program  
 Morning Chores  
 Park District Programs  
 Party for the Planet  
 School & Group Programs  
 Scout Programs  
 Teacher Workshop  
 Training Demonstrations  
 Zoo to You

**Field Conservation**

Asian Wild Horse  
 AZA FrogWatch USA  
 AZA SAFE - Vaquita  
 Blanding's Turtle Headstart Project  
 Giraffe  
 The Great Backyard Bird Count

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used

**FUEL**

Documented Amount Spent  
 Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Graywater Reuse and/or Rainwater Harvesting  
 Stormwater Management Program

**WASTE**

Documented Amount Recycled

**WATER**

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

**Research**

Blanding's Turtle Head Start Program Microbiome Project  
 Hi-C Genomic Zoo

**HENSON ROBINSON ZOO****Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste

**JOHN G. SHEDD AQUARIUM****Education**

Animal Chats  
 Animal Encounters  
 Aquatic Presentations  
 Assistantships  
 Behind The Scenes Tours  
 Beluga Encounters  
 Caribbean Reef Dive  
 Club Shedd  
 Fish Tales Educator E-news  
 Floor Engagements  
 Freshwater Ecology  
 Great Lakes Action Days  
 Great Lakes Digital Badging  
 Group Overnights  
 High School Lake Ecology  
 High School Marine Biology  
 Interpretive Volunteers  
 Kayak For Conservation  
 Learning Labs: 3rd-12th Grades  
 Live at Shedd  
 Live From Behind the Scenes  
 Marine and Island Ecology of The Bahamas  
 NOAA How & Why We Explore The Deep Ocean Workshop  
 Penguin Encounter  
 Pre-Presentation Trivia  
 Pre-Presentation Turtle Time Activity  
 Science Tech Treks  
 Shark Feeding Tour  
 Shedd Science Educator Conference

Shedd Stewards  
 Spring Break Camp  
 Summer Road Trip  
 Summer Worlds Tour  
 Sustainable Seafood Culinary School Partner Training  
 Teen Learning Lab  
 Trainer For A Day  
 Underwater Robotics – Club and Competition  
 Underwater Robotics – Teacher Professional Development  
 Wreath-Cycled

### Field Conservation

Amphibian Response to Habitat Restoration  
 Aquarium Conservation Partnership (ACP)  
 Aquatic Invasive Species Monitoring and Research Program  
 Bahamian Iguana Research and Conservation  
 Conch Population Assessment and Management in the Bahamas  
 Conservation Policy and Advocacy  
 Coral Reef Research  
 General Operating Expenses  
 Great Lakes Action Days  
 International Iguana Foundation  
 Investigating the Effects of the Bahamas as a Shark Sanctuary  
 Madagascar Tortoise Rescue  
 Migratory Fishes in Great Lakes Tributaries  
 Monitoring Beluga Populations in the St. Lawrence River in Partnership With the Group for Research and Education on Marine Mammals (GREMM)  
 Rescue and Rehab of Stranded Beluga  
 Rescue and Release of African Penguins  
 Rescue and Release of Stranded Pinnipeds  
 Research Vessel  
 SEXual CORal REproduction (SECORE) – Coral Reef Conservation Partnership  
 Spatial Dynamics of Nassau Grouper Spawning in the Bahamas  
 State of Alaska Department of Fish and Game: Cook Inlet Beluga Study  
 Urban Ecology of Mudpuppies in the Chicago Area

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

#### FUEL

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Community Supported Agriculture (CSA) Program for Staff  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies  
 Stormwater Management Program  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

## Research

Assessment of Proposed Marine Mammal Water Quality Indicator Organisms in a Recirculating Artificial Seawater System

AZA Western Pond Turtle SSP – The Role of the Microbiome in the Reintroduction of Species

Baylor Hi C Genomic Zoo

Cetacean Welfare Project

Metagenomic Investigation Into the Cause of Shell Disease in Western Pond Turtles (*Actinemys marmorata*)

Microbial Diversity as a Disease Management Tool

Mycobacterial Control Strategies

Role of Water, Treatment, Nutrients, and Physicochemical Factors in Regulating Viral and Microbial Composition in an Aquarium by Metagenomics Approaches

Sea Star Social Behavior

## LINCOLN PARK ZOO

### Education

Access Tours

Amplify

Animal Encounters

Animal Enrichment Workshops

Ape Cognition

Ape Termite Fishing

Artecito

Campout at the Zoo

Canvas for Conservation

Chicago Environmental Stewards Spring Break Camp

Community Pop Up Events

Conservation Ambassador Board

Conservation Camp (School Holidays)

Conservation Camp (Summer)

Cow Milking

Douglass 18

DreamNight

Educator Conference

Free-Flight Feeding

Gorilla Operant Conditioning

Guest Engagement Chats

Guest Engagement Leadership Program

Guest Engagement Mobile Learning Stations

Hammond School Learning Garden

LEAP – Learn Explore and Play

Learning Lab Pop-Ups

Morning Safari/Twilight Safari

Nature Boardwalk Tours

Partners in Fieldwork

Penguin Encounters

Play Days at the Farm

Programa ProTEJA

Research Apprenticeship Program

Science For All Students

Seal Training and Feeding

Second Saturday Garden Tours

Sing Along With Mr. Singer

Snow Monkey Science

Teacher Workshops

Up Close With Polar Bears

WILD Marshall Square Sculpture Program

Wine and Wildlife

Young Researchers Collaborative

Zoo Crew Camp

Zoo Explorers

Zoo Intern Program

### Field Conservation

Administrative Costs for Staff Managing Field Conservation Grants

AZA SAFE – Founders Circle

Bali Mynah Reintroduction Project

Bird Trade in the United States of America: A Review and Analysis of the Legal and Illegal Imports of Bird Species from Asia Into the U.S.

Black Footed Ferret SAFE Administration

Building Evidence for Effective Conservation Interventions Around the Serengeti Ecosystem

Developing Non-Invasive Methods to Monitor the Health of Urban Bats

Endangered Black-Crowned Night Heron Wild Colony Support

Evaluating an Incentive-Based Payment to Promote Human-Lion Coexistence in Ngorongoro Conservation Area, Tanzania

Evaluating Conservation and Development Impacts of Serengeti National Parks on Adjacent Communities

Goulougo Triangle Ape Project (GTAP)

Great Lakes Piping Plover Recovery Effort

Investigating Denver's Vanishing Prairie Dogs

Investigating the Effect of Population Density and Provisioning on Stress Physiology in the Black-Crowned Night Heron Across Two Urban Zoos

Little Brown Bat Priority Species

Long-Term Monitoring of an Eastern Massasauga Rattlesnake (EMR) Population in Southwest Michigan

Miscellaneous Conservation Donations to Field Conservation Organizations

Monitoring Bat Diversity in the Chicago Area and the Influence of Prey Availability

Monitoring Infertility in Black-Footed Ferrets

Monitoring the Health and Stress of Urban Wildlife and Implications on Human Health

Painted Turtle Relocation and Monitoring at Nature Boardwalk

Pilot Study: Evaluating the Use of Prostaglandin Metabolite Assay to Determine Pregnancy in the Black-Footed Ferret

Population Biology Advising for Reintroduction of Greater Sage Grouse in Canada

Population Management Advising for Species Recovery and Conservation Assurance Populations

Population Viability Analysis (PVA) for Tanzanian Eastern Black Rhinoceros Populations

Population Viability Analysis (PVA) of the Eastern Indigo Snake

Population Viability Analysis (PVA) of Zoo and Wild Populations of Endangered Red Wolves (*Canis rufus*)

Puerto Rican Parrot Population Management

Regional Survey of Amphibian Chytrid (*Batrachochytrium dendrobatidis*) and Amphibian Stress

Serengeti Health Initiative – Distemper and Rabies Vaccination Project

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – Penguin Rehabilitation

Tracking Fecal Metabolites to Determine Estrous Cycle and Cortisol Levels of *Tamiasciurus hudsonicus grahamensis* in an *Ex-Situ* Setting

Trends in Long-Term Urban Bird Research

Understanding Stress Physiology of the Mountain Gorilla

Urban Wildlife Information Network (UWIN)

Using Camera Traps to Assess Mammalian Community Composition, Abundance, and Diversity

Using Mate Choice to Improve Reproductive Success in the Black-Footed Ferret

## Green Practices

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Green IT

Waterwise Landscaping

## Research

A Meta-Analysis of Shifts in Wildlife Health With Urbanization

A Test of Gorilla Short Term Memory (ManyPrimates Pilot Study)

Administrative Costs for Staff Managing Research Grants

An Interdisciplinary Evaluation of the African Penguins' Behavior, Welfare, and Educational Impact at Lincoln Park Zoo

Ape Cognition Using Touchscreen Testing

Avian Model for Clinical Use of Adequan®

Behavioral and Physiological Effects of Construction Activity and Noise on the Baringo Giraffe Housed at Lincoln Park Zoo

Behavioral Monitoring of Chimpanzees and Gorillas

Behavioral, Physiological, and Spatial Patterns of Light Pollution in Chicago, Illinois

Case Series Evaluation of Smooth Green Snake Oral Squamous Cell Carcinoma

- Chimp Haven
- ChimpCARE
- Classification and Management Assessment of Canine Fractures in Captive Managed Populations of Great Apes
- Cognitive Bias in Japanese Macaques, Chimpanzees, and Gorillas
- Combining Site-Based Initiatives and Collaborative Partnerships to Strengthen Great Ape Health
- COMPADRE: COMADRE Plant and Animal Matrix Database
- Comparing the Stress of Urban and Rural Red-Winged Blackbirds
- Contribution of Zoos and Aquariums to Endangered Species Recovery in the United States
- Costs Associated With Testing Field Equipment That Will be Used in Research Projects
- Costs for Any Staff Serving on Institutional Animal Care and Use Committee (IACUC), Research and Institutional Review Board (IRB) Committees
- Costs of Person(s) Managing Review of Research in the Institution, Including Any Institutional Animal Care and Use Committee (IACUC), Research Committee or Institutional Review Board (IRB) Committees
- Cross-Facility Survey of Chimpanzee Welfare Measures
- Cross-Validation of Androgen Metabolite Enzyme Immunoassay (EIA) Results Using Alternative Substrates
- Determining the Predominant Glucocorticoid in Sea Otters Using an Adrenocorticotrophic Hormone (ACTH) Challenge
- Determining the Relationship Among Baculum Size and Shape, Genetic Relatedness, and Breeding Success in the Endangered Black-Footed Ferret
- Determining the Relationship Among Egg Incubation Temperature, Immune Function, and Glucocorticoid Production in American Robin (*Turdus migratorius*) Nestlings
- Developing a Meta-Population Model for Heterogeneous Environments
- Developing Noninvasive Methods to Assess Health in Bats Threatened by White-Nose Syndrome
- Developing Techniques to Measure Glucocorticoids in Toenails of the Fiji Crested Iguana
- Effects of Contraceptive Implants on Macaque Cycling/Fertility
- Effects of Urbanization on Long-Term Stress in Mammalian Communities in the Chicagoland Area
- Electrocardiogram (EKG) Monitoring of Chimpanzees With Behavioral Overlay
- Establishing Non-Invasive Predictive Tools to Monitor Hormones, Microbiome, and Behavior During Stress and Senescence in Octopus
- Evaluating Novel Techniques to Assess Chimpanzee Welfare in a Sanctuary Setting
- Evaluating Socioecological Predictors of Stress and Health Condition in Western Lowland Gorillas
- Evaluation of Animal Ambassador Experiences
- Examining the Local and Migratory Movements of Black-Crowned Night Herons
- Exploring the Biodiversity of Snakes Surrounding the Lincoln Park Zoo's Nature Boardwalk
- Facilitation of External Research
- Flexible Problem-Solving in Great Apes
- Gathering Hormonal Measures of a Gorilla Bachelor Group
- Goods, Equipment, or Supplies Donated to Research Projects Outside of the Institution
- Goulougo Triangle Ape Project (GTAP) - Video Analysis Lab
- Health and Behavior of Migratory and Resident Urban Canada Geese
- House Sparrow Microbial Ecology and Endocrinology
- Impact of Lighting on Nocturnal Mammal Welfare
- Institutional Support (Direct and In Kind) for Hosting of Scientific Conferences Focused on Presentation of Research Results
- Investigating Diversity, Stress, and Health of Small Mammal Communities Across an Urban to Exurban Gradient
- Investigating Ovulation Failure in the Endangered Black-Footed Ferret
- Investigating Post-Hatch and Post-Transfer Survival in the Blue-Grey Tanager Species Survival Plan Program
- Investigating the Influence of an Ape's Social Group on Their Individual Decision-Making
- Investigating Whether and How Invasive Plants are Impacting the Presence and Health of Three Species of Conservation Concern - Field Sparrows, Yellow-Breasted Chats, and Bell's Vireos
- Investigation of Hormone Metabolites in Mountain Gorilla Fecal Samples Using High-Performance Liquid Chromatography (HPLC)
- Japanese Macaque Behavioral Monitoring
- Japanese Macaque Personality Assessment: Development of a Novel Scale for Use in Zoo Setting
- Japanese Macaque Touchscreen Research

Local Drivers of Bushmeat Hunting in the Greater Serengeti Ecosystem, and Its Impact on Migratory Wildlife Populations

Message Framing Effects on Animal Welfare Donation Appeals

Microbiome Comparisons Among Great Apes and Humans

Patterns in Demography Based on Endangerment Status

PMCTrack – Analyses of Historic Breeding and Transfer Recommendations in AZA's SSPs

Population Viability Analyses (PVAs) of AZA Species Survival Plans® (SSPs)

Predictors of Wounding in Japanese Macaques

Prospective Assessment of the Incidence of Mammary Neoplasia in Chimpanzees (*Pan troglodytes*): Pathology, Genetic Markers, and Clinical Application

Rat Zoonotic Pathogens Across Chicago Neighborhoods

Retrospective Mortality Review in Chimpanzees

Retrospective Risk Assessment of Perianesthetic Mortality in Captive Managed Populations of Chimpanzees (*Pan troglodytes*)

Salary and Benefit Costs of Staff Involved in Mentoring Undergraduate, Graduate, or Postgraduate Training Focused on Scientific Research

Sandy Potatoes: Setting the Stage for Behavioral Transmission in Japanese Macaques

Small Mites, Big City: Using Large-Scale Wildlife Camera Monitoring to Examine the Spatio-Temporal Dynamics of Sarcoptic Mange in Chicago's Urban Coyotes

Testing the Use of Surrogate Demographic Data for Species Recovery

Training and Administration of Citizen Science Projects

Travel Costs Associated With Staff Presenting Research Results at Scientific Meetings

Understanding and Analyzing Patterns in Life Expectancy for Zoo Animal Populations

Validating a Noninvasive Dermal Swabbing Method to Study Stress Hormones in the Critically Endangered Wyoming Toad

Visitor-Directed Behavior in Japanese Macaques and the Role of Rank

Zoo Biology Special Issue on Sustainability

ZooMonitor

## MILLER PARK ZOO

### Field Conservation

AZA FrogWatch USA

AZA Tiger SSP – Tiger Conservation Campaign – Sumatran Tiger and Prey Research

Eastern Box Turtle Conservation

Eastern Box Turtle Field Conservation

Parklands Foundation

Red Wolf Donation

Snow Leopard Trust (SLT)

## PEORIA ZOO

### Field Conservation

Alligator Snapping Turtle Recovery Plan

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

AZA FrogWatch USA

AZA Tiger SSP – Tiger Conservation Campaign

Center for Ecosystem Survival (SaveNature.Org)

Chopsticks For Salamanders (CFS)

Giraffe Conservation Foundation

Turtle Survival Alliance

Wild Aid

Xerces Society

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Smart Building Strategies

### Research

Identify and Determine the Prevalence of Normal Gammaherpesvirus Flora in Eastern Black-and-White Colobus Monkeys (*Colobus guereza*) and Develop a qPCR Assay

Ontogenetic Relationship of Bite Force in Common Snapping (*Chelydra serpentina*) and Alligator Snapping Turtles (*Macrochelys temminckii*)

**SCOVILL ZOO****Field Conservation**

Cheetah Conservation Fund (CCF)  
 Conservation Centers for Species Survival (C2S2)  
 National Cheetah Coordinator Training Course  
 SaveNature.Org

**Indiana****FORT WAYNE CHILDREN'S ZOO****Education**

Amazing Animals/Animal Encounters  
 Animal Tales  
 Care-a-Van  
 Career Presentations  
 Community Events  
 Discovery Boxes  
 Dive Demonstration Chat  
 Education Interpreters  
 Job Shadow  
 Keeper Chats  
 Kids4Nature  
 Mini-Classes  
 Sea Lion Feeding Demonstration  
 Storytime  
 Summer Safari Day Camp  
 Teacher Workshops  
 Wild Nights  
 Zoo School  
 ZOOMobile  
 ZSI (Zoo Scientific Inquiry)  
 Z-Team Volunteer Program

**Field Conservation**

Acres Land Trust  
 AZA Conservation Grants Fund (CGF)  
 AZA SAFE – African Penguins

AZA Tiger SSP – Tiger Conservation Campaign – Sumatran Tiger

Coffee and Primate Conservation in Central Java

Giraffe Conservation Foundation (GCF)

Hellbender Headstarting Project

Hornbill Research Foundation (HRF)

Indiana University – Purdue University Fort Wayne (IPFW) Turtle Fund

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Leatherback Trust

Lion Guardians

Little River Wetland Project

Mariana Avifauna Conservation (MAC) Project

Mitchell's Satyr Butterfly Conservation

Motus Station Project

Orangutan Conservancy (OC)

Pacific Marine Mammal Rescue Center

Pan African Sanctuary Alliance (PASA)

Red Panda Network (RPN)

Sahara Conservation Fund (SCF) – Adopt-an-Ostrich Program

Save the Tasmanian Devil Program

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Sumatran Orangutan Conservation Programme (SOCP)

Thailand Clouded Leopard Consortium

Turtle Survival Alliance (TSA)

WildCats (Formerly ALTA)

Wildlife Conservation Society (WCS) – Sharks and Rays Conservation

World Parrot Trust (WPT)

**Green Practices****FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

**GREEN PRACTICES IMPLEMENTED**

Composting (On-Site or Off-Site)

**WATER**

Documented Amount Spent

**Research**

Blue River Water Quality Analysis 2018

Characterization of Reproductive Endocrinology in Female Servals (*Leptailurus serval*) for Improved Population Management

Evaluation of Algae Concentration and Species in Zoo Water Systems

Nutritional Analysis of Prey Commonly Consumed by the Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*)

**INDIANAPOLIS ZOOLOGICAL SOCIETY, INC.****Education**

Adult Education Programs

Animal Art Adventure

Animal Chats

Behind The Scenes Tours

Boy Scout Programs

Bunk for a Badge

Career Tours

Conservation Educator Academy

Daisy Scout Programs

Dolphin In-Water Adventure

Dolphin Presentation

Dolphin Trainer Explorer Camp

Education Kits

Educator E-News

Educator Open House

Educator Professional Development

Family Nature Center

Family Overnight

Girls in Science

Nocturnal Adventures

Oasis Senior Programming

Preschool Programs

Saturday Science Programs

Science Investigator Series

Skype Chats

Summer Safari Overnight

Summer Zoo Camps

Zoo Educator Advisory Council

Zoo Explorer Camps

**Field Conservation**

Amur Tiger Conservation Project

AZA SAFE – Visionary Funder

Champions for our Planet

Cheetah Conservation in Namibia

Conservation International

Contribution to Support the Chair of the IUCN Species Survival Commission

Dian Fossey Gorilla Fund International

Educational Documentaries for Field Projects

Generation Conservation

Giraffe Conservation Foundation – Round Up for Conservation

Global Wildlife Conservation

Goulougo Triangle Ape Project (GTAP)

Indiana Stonefly Assessment for the Indiana Natural Heritage Data Center

Indianapolis Prize

Indianapolis Zoo Conservation Program Administration

Indonesian Vet Training Program

International Elephant Foundation (IEF)

Kutai National Park

Kutai National Park Reforestation

Macaw Recovery Network – Formerly Known as the Ara Project

Massasauga Rattlesnake Conservation

Migratory Bird Conservation

Northern Rangelands Trust: Hirola Recovery Project

Snow Leopard Conservancy

Sumatran Orangutan Conservation Programme (SOCP)

Tarangire Elephant Project (TEP) – Development of Corridors Outside of Tarangire National Park

The Nature Conservancy – Kankakee Sands Prairie Restoration

TSA Radiated Tortoise Confiscation Support

Wildlife Direct

World Parrot Trust (WPT)

### Green Practices

#### ENERGY

Documented Amount Used

Purchased Renewable Energy

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Wastewater Reduction

Waterwise Landscaping

#### WASTE

Documented Amount Recycled

Documented Amount Sent to Landfill

### Research

Orangutan Mental Complexity and Its Relationship to Survival in the Tropical Forest

## MESKER PARK ZOO & BOTANIC GARDEN

### Education

Adventure Amazonia

Animal Play

Boo at the Zoo

Destination - Discovery!

Expedition - Zoo/Dr. Zoo

Mission Green Possible

New Docent Training

New ZooTeen Intake and Training

Party Animals!/ZooTopia

Spaceship Earth/Planet Rangers/S.A.F.E. Keepers

Zoo Master (Jr.)/Junior Zookeeper

Zoo Master/The Zookeeper's Apprentice

Zoo Mission/Go Green!

Zoo Party

Zoo Play

Zoo Scientists/Expedition Zoo

ZooTeen Conferences (Spring & Fall)

### Field Conservation

Action For Cheetahs in Kenya

AZA SAFE - Founders Circle

ChAG Chelonian Conservation Fund Donation

Friends of Laguna Atascosa NWR

Giraffe Conservation Foundation Donation

International Crane Foundation

LightHawk

Long-Term Monitoring of an Eastern Massasauga Rattlesnake (EMR) Population in Southwest Michigan

Ovate-Leaved Catchfly Conservation in Indiana

Proyecto Tití, Inc Donation

Save Vietnam's Wildlife - Otter Enclosure

Snow Leopard Trust Donation

Tapir Specialist Group Conservation Fund

Wildlife Conservation Society (WCS) - 96 Elephants

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Graywater Reuse and/or Rainwater Harvesting

Smart Building Strategies

Stormwater Management Program

Waterwise Landscaping

### WASTE

Documented Amount Composted

### WATER

Documented Amount Spent

Documented Amount Used

## Research

Application of Stem Cell Therapy in Sichuan Takin (*Budorcas taxicolor*) for the Treatment of Degenerative Joint Disease

*Cuora mccordi* Parentage DNA Testing

Pygmy Slow Dental Disease Project

Red Panda Amdoparvovirus Project

Takin Morbidity & Mortality Study

## POTAWATOMI ZOO

### Education

Conservation Scouts

Endangered Species Days

Evening Safari Programs

### Field Conservation

Conservation Grant Fund - AZA

Madagascar Fauna and Flora Group

Okapi Conservation Project

Painted Dog Research Trust

Pangolin Conservation

Sahara Conservation Fund

Snow Leopard Trust (SLT)

Wildcat Conservation Alliance

Zoo Conservation Outreach Group (ZCOG)

## Iowa

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## BLANK PARK ZOO

### Field Conservation

Animal TB Research Group

AZA SAFE - African Penguin and Vaquita

AZA Tiger SSP - Tiger Conservation Campaign

AZA Zoo Park Partnership

Bioko Biodiversity Protection

Blank Park Zoo's Stomp the Straw Campaign

Chimpanzee Sanctuary and Wildlife Conservation Trust

Conservation Fusion (CF)

Danau Girang Field Centre

Eco Cell Cell Phone Recycling

Giraffe Conservation Foundation (GCF)

Health in Harmony

Hornbill Research Foundation (HRF) - Nest Adoptions in Thailand

International Rhino Foundation (IRF)

Iowa Hunters: Leading the Way

Iowa Rivers Revival

Iowa State University Wildlife Care Clinic  
 Kasiisi  
 Marine Mammal Center  
 Marine Megafauna Foundation  
 Nomadic Nature Conservation, Mongolia  
 Okapi Conservation Project  
 Painted Dog Research Trust  
 Pan African Sanctuary Alliance  
 Peregrine Fund  
 Plant. Grow. Fly.  
 Prairies for Agriculture  
 Ruaha Carnivore Project  
 Save the Snakes  
 Snow Leopard Trust (SLT)  
 Travel Scholarships for Zoos & Aquariums Committed to Conservation (ZACC) Conference  
 Trumpeter Swan Restoration Project  
 UpCycle

### Green Practices

#### ENERGY

Documented Amount Spent

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT

Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program  
 Wastewater Reduction  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

### Research

Amyloidosis in Avian and Mammalian Species  
 Anesthesia in Zoos  
 Anesthetic Considerations in Pinnipeds  
 Anesthetic Monitoring: the Balance Between Awake and Dead  
 Behavior of the White Handed Gibbon, *Hylobates lar*  
 Behaviors and Social Interactions Among Japanese Macaques  
 Biomechanical Variables of the Foot in Normal Reticulated Giraffes (*Giraffa camelopardalis reticulata*)  
 Black Rhino Reproduction  
 Bone Mineral Density Determined by Densitometry Method (DXA) for Egyptian Fruit Bats (*Rousettus aegyptiacus*) in Human Care  
 Boot Wash: What is it Good for... Absolutely Nothing  
 Boy or Girl? – an Overview of the Neonatal Examination  
 Capture Myopathy  
 Case Series of Intraocular Neoplasia Diagnosed in California Sea Lions  
 Chilean Flamingo Reproduction: Clutch of 2018  
 Clostridial Infections in Zoo Animals  
 Conditions for Survival of Pathogens Commonly Affecting Zoo Animals  
 Connecting the Dots: A Case of Sudden Illness in a Macropod Mob Boss  
 Crikey, You've Got Cataracts Mate!: An Overview of Cataracts in Wallabies  
 Decreasing Stereotypical Behaviors in Zoo Animals Through Enrichment  
 Do Egyptian Fruit Bats Drink Water?  
 Epidemiology of Lumpy Jaw in Captive Macropods  
 Ethogram Creation and Baseline Behavioral Time Budget of the Aldabra Tortoise

- Exhibit Space Usage in Relation to Crowd Size in the Slender-Horned Gazelle
- Extraskelatal Osteosarcoma in an Egyptian Fruit Bat (*Rousettus aegyptiacus*)
- Giraffe Activity Budget in the New Barn
- Hot or Not: Using Thermal Imaging for Pregnancy Detection
- How Can You Mend a Broken Heart? The Basics and Treatment of Heart Disease
- I Spy: The Reasons to Choose a Type of Imaging
- Identification and Correlation of a Novel Siadenovirus in a Flock of Budgerigars (*Melopsittacus undulates*) Infected with *Salmonella typhimurium* in the U.S.
- Immobilizing an Elk: A Case Study and Practical Guide
- Indolent CD3+ T-Cell Lymphoma in an Amur Tiger (*Panthera tigris*)
- Inflammatory Bowel Disease in Exotic Cats
- Investigating Gate Lurking Behaviors in Reticulated Giraffes
- I've Been Bitten! Now What?
- Lesions of the Female Reproductive Tract in Japanese Macaque (*Macaca fuscata*) of Two Captive Colonies
- Lionfish Ethogram
- Marburg Virus in Egyptian Fruit Bats
- Monitoring the Behavioral, Spatial, and Social Preferences of Japanese Macaques
- Mycobacteriosis: Clinical Presentation in Wallaby 2130
- Never Make a RASH Decision: A Guide to Goat Dermatology
- Nyala and Okapi Habitat Usage
- Nyala and Okapi Space and time Management in a Multispecies Enclosure
- Nyala Time Budget
- Observing *Centrochelys sulcata* Behavior for Development Enrichment
- Observing How Long Zoo Visitors Engage with Signage and How Interactive Elements Affect this Engagement
- Outside the Admissions Area: the Unknown Routine Behaviors of the Bactrian Camels
- Pain Management
- Parasite Control in Zoos
- Penguin Pathogens and Preventative Medicine
- Phosphorus - What it Does and Why it's Important
- Positive Reinforcement Training in Zoo Medicine
- Ratite Ethogram
- Retrospective Evaluation of Non-Tuberculous Mycobacteriosis in a Captive Population of Red-Necked Wallabies
- Reversible Anesthesia of North American River Otters (*Lontra canadensis*) With Dexmedetomidine-Butorphanol-Midazolam and Atipamezole-Naltrexone-Flumazenil
- Seasonal Variation of 25-Hydroxy-Vitamin D in Two Captive Eastern Black Rhinoceros
- Seasonal Variation of Serum 25-Hydroxy-Vitamin D in Two Captive Eastern Black Rhinoceros (*Diceros bicornis michaeli*) Housed in a North American Zoo
- Seroprevalence of *Leptospira* spp., *Toxoplasma gondii*, & *Dirofilaria immitis* in Free-Roaming Cats in Iowa - Vector Borne & Zoonotic Diseases Volume XX, Number XX, 2018 <sup>a</sup> Mary Ann Liebert, Inc. DOI: 10
- Skunks, Opossums, Raccoons, Oh My! The Role of Wildlife in Zoo Animal Disease
- Space Use of Guineafowls in Relation to Elands and Ostriches
- Squeezes & People & Boredom, Oh My! - A Look at Stress in Captive Animals
- The Daily Movement of Blank Park Zoo's Giraffe Heard
- The Effect of Foraging Enrichment Pipes on the Behavior of *Lontra Canadensis* in a Zoological Setting
- What is the Cognitive Ability of a Red Panda
- Where's Waldo? Pregnancy Diagnosis in Addax and Tamarins
- Why Zoos Matter

## NATIONAL MISSISSIPPI RIVER MUSEUM & AQUARIUM

### Education

- Camp
- Classroom Program
- Education Outreach
- Guided Educational Tours
- Live Animal Program
- Overnight Program
- Pioneer Days
- RiverWorks Discovery
- Student Environmental Conference
- Student Led River Research Program (SLRRP)
- Toddler Tuesday

### Field Conservation

AZA Wyoming Toad SSP  
 Freshwater Mussel *In-Situ* Conservation  
 Good Neighbor Iowa  
 Plant. Grow. Fly.  
 Seafood Watch

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

AZA FrogWatch USA  
 Developing Genomic Tools for North American River Otter  
 Population Management  
 Freshwater Mussel Propagation Research  
 Iowa Mussel Blitz  
 IOWATER Volunteer Water Monitoring Program Facilitator  
 Laotian Warty Newt Propagation  
 Sheltopusik Breeding Studies  
 Use of Carbon Dioxide to Prevent Biofouling by Dreissenid  
 Mussels

## Kansas

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### HUTCHINSON ZOO

#### Education

A Book & A Beast  
 Birthday Party Programs  
 Camps  
 Guided Tours  
 Outreach Programs

#### Field Conservation

Reintroduction and Monitoring of Black-Footed Ferrets in  
 Logan County, Kansas

#### Green Practices

##### ENERGY

Documented Amount Spent

##### FUEL

Documented Amount Spent

##### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

### LEE RICHARDSON ZOO

#### Education

Adult & Senior Zoomobiles  
 Adult Distance Learning  
 Behind the Scenes Tour  
 Birthday Parties  
 Booths at Events  
 Discover Cart  
 Discovery Boxes  
 Education Center Programs for Non-School Groups  
 Education Center Programs for School Groups  
 Events  
 General Zoomobiles  
 Homeschool Programming  
 Keeper Talks  
 Non-School Youth Zoomobiles

School Distance Learning  
 School Zoomobiles  
 Story Time  
 Volunteer Training  
 Walking Tours  
 Zoo Edventures

### Field Conservation

Anteaters and Highways  
 Butterfly Conservation  
 Crane Conservation  
 Field Monitoring Support for Kansas Black-Footed Ferret Reintroduction  
 Genotyping Captive Trumpeter Swans to See if They can Contribute to Rocky Mountain Population Restoration  
 Giraffe Conservation Status Project  
 International Elephant Foundation (IEF) - Protecting Elephants Through the Conservation Detection Dog Network  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Management of the Lee Richardson Zoo Field Conservation Grant Program  
 Reticulated Giraffe Conservation With Pastoralists  
 Slow Loris Little Fireface Project  
 Snow Leopard Conservation  
 Turtle Survival Center

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste  
 Procured Local Food for On-Site Animals and/or Guest  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled

#### WATER

Documented Amount Used

### Research

Assessing the Health of a Waterway by Assessing Presence of Macroinvertebrates  
 Assessment of Recovery of Testicular Function in Male Pallas's Cats After Eight Years of Deslorelin Treatment  
 Institutional Animal Care and Use Committee (IACUC) Review of Proposed Research Projects

### ROLLING HILLS ZOO

#### Field Conservation

Amphibian Ark  
 Association of Zoological Horticulture (AZH) - Conservation Grants  
 AZA Conservation Grants Fund (CGF)  
 Black-Footed Ferret (*Mustela nigripes*) Reintroduction Project in Kansas  
 Borneo Orangutan Survival Foundation (BOS)  
 Giraffe Conservation Foundation (GCF)  
 International Rhino Foundation (IRF)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Jane Goodall Institute  
 Milford Nature Center, Junction City, Kan.  
 Monarch Watch  
 Painted Dog Research Trust  
 Prairie Wildlife Research  
 Sahara Conservation Fund (SCF)  
 Smoky Hills Audubon Society

Snow Leopard Trust (SLT)  
Turtle Survival Alliance (TSA)

### Green Practices

#### ENERGY

Documented Amount Spent  
Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)  
Procured Local Food for On-Site Animals and/or Guest

#### WATER

Documented Amount Spent  
Documented Amount Used

### SEDGWICK COUNTY ZOO

#### Education

Animal Tales Preschool  
Senior Wednesday  
Social Hours  
Summer Classes  
Zookeeper Apprentice Program

#### Field Conservation

Amphibian Ark  
Amur Leopard and Tiger Alliance (ALTA)  
AZA Ape TAG - Conservation Initiative  
AZA Chacoan Peccary SSP  
AZA Matschie's Tree Kangaroo SSP - Tree Kangaroo Conservation Program, Papua New Guinea  
AZA SAFE - Founders Circle  
AZA SAFE - Giraffe  
AZA Tiger SSP - Tiger Conservation Campaign/Initiative

Black-Footed Ferret Kansas Reintroduction Program  
Caucasus Nature Fund - Zangeur Biosphere Complex  
Center for American Burying Beetle Conservation  
Crocodilian Advisory Group Fund  
Dian Fossey Gorilla Fund International  
Gorilla Rehabilitation and Conservation Education (GRACE) Center  
International Iguana Foundation (IIF)  
International Rhino Foundation (IRF)  
IUCN/SSC Conservation Planning Specialist Group (CPSG)  
Mariana Avifauna Conservation (MAC) Project  
Ngwenya Rhino Fund  
Okapi Conservation Project  
Orangutan Information Centre  
Painted Dog Conservation (PDC)  
Painted Dog Research Trust  
Red Panda Network (RPN)  
Sahara Conservation Fund (SCF)  
Save the Cassowary From Extinction in Australia/Rainforest Rescue/Project Rainforest  
WildCare Institute: Center for Conservation (of the Humboldt Penguin) in Punta San Juan, Peru  
WildCare Institute: Center for Conservation in Western Asia  
WildCare Institute: Conservation of the Armenian Mountain Viper Inhabiting Human-Modified Landscapes  
WildCare Institute: Grevy's Zebra  
Wildcare Institute: Ron Goellner Center for Hellbender Conservation

### Green Practices

#### ENERGY

Documented Amount Spent  
Documented Amount Used  
Generated Renewable Energy On-Site

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Generated Solar or Wind Energy  
 Procured Local Food for On-Site Animals and/or Guest  
 Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

**WASTE**

Documented Amount Composted  
 Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

**Research**

A Comprehensive Approach to Improve Management of an Endangered Wild Canid  
 Combining Ecological Research and Citizen Science to Develop the First Automated Face Recognition System for Brown Bears  
 Comparing Seasonal Vitamin D Levels in 1.2 Aldabra Tortoises  
 Comparison of Circulating Vitamin D (25OHD) in Captive North American and Free-ranging South African Black Rhinoceros (*Diceros bicornis* spp.)  
 Endocrine Trajectories of Orangutan Male Secondary Sexual Development  
 Genetic and Phenotypic Characterization of Cystic Fibrosis Airway Disease in Non-Human Primates  
 Great Ape Neuroscience Project  
 Imported Elephant Welfare Initiative  
 Integration of Multi-Institutional Tumor Data in Exotic and Zoological Species for Characterization of Novel Cancer Models  
 Investigating the Genetic Basis for Inflammatory Bowel Disease in the Maned Wolf  
 Male Western Lowland Gorilla (*Gorilla gorilla gorilla*) Hormonal Variation During Social Group Dissolution and Formation

Monitoring Body Condition, Reproductive, and Metabolic Hormones in African Elephants: Using Science to Aid Management Decisions to Optimize Health and Welfare of Zoo Elephants

Prevalence of Amdovirus in Red Pandas

Prevalence, Risk Factors, and Survival of Zoo Animals With Cancer

**SUNSET ZOOLOGICAL PARK****Field Conservation**

AZA Conservation Grants Fund (CGF)  
 AZA FrogWatch USA  
 Bug Safari Citizen Science Project  
 Friends of Sunset Zoo Conservation Scholar Program 2018-1  
 Friends of Sunset Zoo Conservation Scholar Program 2018-2  
 Friends of Sunset Zoo Conservation Scholar Program 2018-3  
 Honey Bee Conservation Project  
 Puerto Rican Crested Toad Breeding Facility  
 Wildlife SOS – Conservation Education Project  
 Zoo Conservation Outreach Group (ZCOG) – Wildlife Conservation and Education

**Green Practices****ENERGY**

Documented Amount Used  
 Generated Renewable Energy On-Site

**GREEN PRACTICES IMPLEMENTED**

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Generated Solar or Wind Energy  
 Green Building Policy/Commitment  
 Stormwater Management Program  
 Wastewater Reduction

## THE DAVID TRAYLOR ZOO OF EMPORIA

### Education

Animal Presentations/Classroom Brief Animal Encounters  
 Birthday Parties  
 Boo in the Zoo  
 Care Home Visits  
 Career Fair  
 Docent in the Zoo  
 Docent Meetings  
 Docent Training  
 Kidzoocation  
 Lessons  
 Open House  
 Party for the Planet  
 QR Code Project  
 Safari Edventure  
 Scout Programs  
 Spring Forward  
 Stroll and Show  
 Summer Library Visits  
 Zoo Camp  
 Zoo Tours

### Field Conservation

Additional Pollinator Plantings  
 AZA Conservation Grants Fund (CGF)  
 Conservation Graphics  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Monarch Waystations and Tagging  
 National Wildlife Federation – Wildlife Habitat Certification  
 Party for the Planet “Seed Bombs”  
 Reintroduction of Black-Footed Ferrets in Kansas  
 Species 360  
 Symbolic Migration at Safari Edventure

### Green Practices

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Graywater Reuse and/or Rainwater Harvesting  
 Stormwater Management Program  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

Black-Footed Ferret Survey  
 Pronghorn Antelope Field Survey

## TOPEKA ZOO

### Education

A Sense of Touch  
 Animal Adaptations  
 Animal and Their Young  
 Animal Classifications  
 Birds of Prey  
 Body Coverings  
 Bugs Bugs Bugs  
 Career Talk  
 Conservation Connection

Discovery Home School  
 Eco-Club  
 Ecosystems and Habitats  
 Library Programs  
 Monarch Citizen Science  
 Myth Busters  
 Native Americans of the Prairie  
 Preschool Class (Previously Tots and Tales)  
 Scout Programs  
 Spiders  
 Spring Break Camp  
 Summer Camp  
 The Hunters and the Hunted  
 The Untouchables  
 Threatened and Endangered  
 Why Zoos Matter  
 Winter Camp

### Field Conservation

AZA FrogWatch USA  
 AZA SAFE  
 AZA Tiger SSP – Tiger Conservation Campaign  
 Black-Footed Ferret Reintroduction Project of Western Kansas  
 Elephants Helping Elephants in Sumatra – Asian Elephant Support  
 Firefly Watch  
 Genetic Testing of Hoffmann's Sloth SSP Population  
 International Elephant Foundation (IEF)  
 Katie Adamson Conservation Fund  
 LuBee Bat Conservancy  
 Monarch Watch  
 Ornate Box Turtle Survey  
 Salt Creek Tiger Beetle Recovery Plan  
 Trumpeter Swan Reintroduction Program  
 Turtle Survival Alliance  
 Wildlife Conservation Society (WCS) – 96 Elephants

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Green IT

### Research

American Black Bears and Sun Bears – Bear TAG Survey  
 Constraints of Biomass on Innate Immunity Across Terrestrial Mammals  
 Developing Genomic Tools for North American River Otter (*Lontra canadensis*) Population Management  
 Identifying Hepatotoxicity From ACE Inhibitor Administration in Gorillas  
 Interactive Technology Use With Captive Great Apes  
 Oxytocin as a Measure of Social Bond and Welfare in Western Lowland Gorilla (*Gorilla gorilla gorilla*) in NA Zoos  
 Species and Sex Genetic Testing of Two-Toed Sloths (*Choloepus* spp.) in the SSP Programs

## Kentucky

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### LOUISVILLE ZOOLOGICAL GARDEN

#### Field Conservation

Black-Footed Ferret Conservation Center  
 Dian Fossey Gorilla Fund International  
 FlutterFest  
 International Elephant Foundation (IEF)  
 Monarch Watch – Monarch Waystation Program  
 Pan African Sanctuary Alliance (PASA)  
 Polar Bears International (PBI)  
 Snow Leopard Trust (SLT)  
 Wildlife Conservation Society 96 Elephants Program

## NEWPORT AQUARIUM

### Education

- Camp WAVE
- Career Exploration Initiative: Job Shadow Programs
- Community Development Contribution
- Gills Club
- Living Curriculum Initiative
- Marine Biology and Conservation Lecture Series
- Overnight Adventure Program
- The Finstitute
- WAVE on Wheels Outreach Program

### Field Conservation

- Aquarium Conservation Partnership (ACP)
- AZA SAFE - African Penguin - Global Penguin Conservation Initiatives
- Global Sea Turtle Conservation - North Carolina
- River Sweep
- SAVE LOCAL WATERS
- Seafood Watch
- WAVE Foundation

### Green Practices

#### ENERGY

Documented Amount Used

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### PLANS, POLICIES, AND BUDGETS

- Dedicated a Line Item in the Budget for Green Practices
- Developed or Updated a Sustainability Plan (or Equivalent)
- Developed or Updated a Sustainability Plan
- Specified a Portion of the Amount Saved for Next Year's Green Practices

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

- Living Curriculum Initiative
- Shark Research

## Louisiana

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## AUDUBON AQUARIUM OF THE AMERICAS

### Field Conservation

- Gulf United for Lasting Fisheries (GULF)

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

- Commingled Recycling
- Community-Based Sustainability Projects
- Procured Local Food for On-Site Animals and/or Guest
- Water Submetering

### Research

- Conservation Wildlife Network (Formerly LMSSTRP)

## AUDUBON NATURE INSTITUTE

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

- Alternative Fuel Usage for On-Site Fleet
- Green Building Policy/Commitment
- Green IT
- Green Purchasing Policy/Green Procurement

## AUDUBON ZOO

### Education

- AZA FrogWatch USA
- EarthFest
- JR. KEEPERS
- Self Guided Explorations
- Sensory Sundays
- Summer Camp
- Swamp School/Jungle School

**Field Conservation**

Giraffe Conservation Foundation (GCF)  
 International Elephant Foundation (IEF)  
 International Iguana Foundation (IIF)  
 Malaysian Ape Conservation  
 Mariana Avifauna Conservation (MAC) Project  
 Turtle Survival Alliance (TSA)  
 Zoo Conservation Outreach Group (ZCOG)

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used

**FUEL**

Documented Amount Spent

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat  
 Certified by the Green Restaurant Association

**GREEN PRACTICES IMPLEMENTED**

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)  
 Denitrification Systems On Ground  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Energy through Anaerobic Digester  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies  
 Stormwater Management Program

Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

Used Environmental Management System

Wastewater Reduction

Water Submetering

Waterwise Landscaping

**GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WATER**

Documented Amount Spent

**BREC'S BATON ROUGE ZOO****Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Denitrification Systems On Ground  
 Diverted or Recycled Construction Waste  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program

**FREEPORT-MCMORAN AUDUBON SPECIES SURVIVAL CENTER****Field Conservation**

Mississippi Sandhill Crane Propagation and Recovery Program

Proyecto Taguá/Chaco Center for Conservation and Research (CCCR)

Whooping Crane Recovery Program

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Green Purchasing Policy/Green Procurement

**Research**

A Comparison of Nesting Material Preferences in Milky Storks  
(*Mycteria cinerea*)

**PINOLA CONSERVANCY****Field Conservation**

Pinola Conservancy Wetland and Migratory Bird  
Conservation Initiative

## Maryland

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**NATIONAL AQUARIUM****Education**

Aqua-Partners Schools  
Aquarium on Wheels Youth Program  
Free School Group Admission Program  
Gills Club  
Henry Hall Summer Camps  
Middle School After School Program – All About Water  
On-Site Classroom Programs  
Outreach Programs  
Summer Student Volunteers  
Teacher Orientation  
Teacher Training Workshops  
Terrapins in the Classroom  
Wetland Nursery  
What Lives in the Harbor  
Youth Ocean Conservation Summit – Baltimore

**Field Conservation**

Animal Rescue  
Atlantic White Cedar Restoration in Nassawango Creek  
Preserve, Maryland  
Citizen Science: BioBlitz  
Delaware Shorebird Project  
Fort McHenry Tidal Wetland Restoration Project  
Habitat Restoration  
Marine Debris Prevention and Removal  
Model Urban Waterfront

National Oceanic and Atmospheric Administration (NOAA)  
– Apex Predator Program (APP) – Shark Tagging/Semen  
Collection for South-East Zoo Alliance for Reproduction  
and Conservation (SEZARC)

Sand Dune Restoration – Virginia

SaveNature.Org – Marine Conservation Meter

SaveNature.Org – Rainforest Conservation Parking Meter

Shoreline Restoration and Community Engagement at  
Masonville Cove

Urban Conservation and Community Engagement

Urban Conservation and Education Internship

Wildlife Habitat Gardening

**Green Practices****FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat

One or More Buildings LEED-Certified by the US Green  
Building Council

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community Supported Agriculture (CSA) Program for Staff

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Denitrification Systems On Ground

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green IT

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Stormwater Management Program

Wastewater Reduction

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

**WASTE**

Documented Amount Recycled

Documented Amount Sent to Landfill

**Research**

Assessment of Visual Laterality in Bottlenose Dolphins (*Tursiops truncatus*) During Touchscreen Sessions and During Peephole Sessions

Controlled Environmental Testing for an Integrated Genomics Platform for Temporal Analysis of Marine Biodiversity

Dolphin Blowhole Oil Droplet Study

Dolphin Genomics Study

Dolphin Touchscreen Study

Environmental Impact Statement Patuxent River

Hormonally-Induced Oviposition in the Smooth-Sided Toad (*Rhaebo guttatus*)

Identifying and Understanding Parasitic Nematode Infections in Marine Mammals

Interspecific Variation of Cutaneous Water Loss (CWL) Among Reptiles and Amphibians

Northeast Region Sea Turtle Sampling Protocol

**SALISBURY ZOOLOGICAL PARK****Field Conservation**

Andean Bear Conservation Partnership

**THE MARYLAND ZOO IN BALTIMORE****Education**

Adult Summer Camp

Animal Ambassador Encounters

Animal Craft Safari

Art Class Outreach

Community Event Programs

Conservation Conversation

Exploration Stations

Field Talks

Field Trips (Self-Guided)

Guided Zoo Tours

Kids in Kayaks Partnership

On-Site Interpretation

Partner Package

Pediatric Hospital Outreach

Penguin Feeding Talks

Pop-Up Labs

Puppet Shows

Sip and Stroll

Special Interest Workshop

Storytime With the Zoo

Stroller Safari

Summer Camp

Superkids

Walks on the Wild Side

Zoo Introduction

Zoo Snooze Overnight

ZOOlabs

ZOOMobile

**Field Conservation**

Adkins Arboretum

AZA Conservation Grants Fund (CGF)

AZA HAZWOPER Training

AZA SAFE - African Penguin Disaster Response

AZA SAFE - African Penguin SSP Sustainability Project

Bluebird Nest Project

Brown Pelican Banding and Health Survey

Cheetah Conservation Fund (CCF)

Crocodylian Conservation Center of Florida

Elephants for Africa

Goulougo Triangle Ape Project (GTAP)

Health and Ecology Survey of Maryland Black Bear Sows and Cubs (*Ursus americanus*)

Health Status and Welfare of Translocated Bolivian River Dolphins (*Inia boliviensis*) Experiencing High Anthropogenic Disturbances

IA DNR Trumpeter Swan Restoration Project

International Elephant Foundation (IEF)

Mabula Ground Hornbill Project (MGHP)

Madagascar Fauna and Flora Group (MFG)

Maryland Zoo Restorative Ecosystem and Storm Water Management Project

Microbiota and Innate Immunity of Amphibian Skin

Mountain Gorilla Veterinary Project

Okapi Conservation Project

Polar Bears International (PBI)

Project Golden Frog

Project SNOWstorm

Sahara Conservation Fund (SCF)

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Susquehannock Wildlife Society

Turtle Survival Alliance (TSA)

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Stormwater Management Program

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

#### WASTE

Documented Amount Recycled

Documented Amount Sent to Landfill

### Research

Artificial Insemination of Female Polar Bears

Assessment for Avian Malaria Transmission in Captive African Penguins

Behavioral Changes in Lion-Tail Macaques Following Introduction of a Singly Housed Male to an Established Male-Female Pair

Cheetah ConservationFIT

Comparison of a Dry Powder vs a Complete Gel Diet Over Time in House Cricket Nymphs (*Acheta domesticus*)

Ecology and Health Study of Free-Ranging Eastern Box Turtles Within the Grounds of The Maryland Zoo in Baltimore

Effect of Dietary Shifts on the Microbiome of African Savannah Herbivores

Exogenous Hormone Induction of Oviposition in Gravid Panamanian Golden Frogs (*Atelopus zeteki*)

Health Surveillance of Free-Ranging Raccoons (*Procyon lotor*) and Red Foxes (*Vulpes vulpes*) on the Grounds of The Maryland Zoo in Baltimore

Improvement of the Diagnosis of Aspergillosis in Penguins

Interspecific Variation of Cutaneous Water Loss (CWL) Among Reptiles and Amphibians

Malaria Pathogen Amplification and Gene Sequencing

Pharmacokinetics of Antimalarial Primaquine in African Penguins

STEM Matters: Investigating a Confluence of Visitors and Institutional Agendas

Use of Herbal Supplements to Decrease Anxiety in an Adult Female Chimpanzee (*Pan troglodytes*)

## Massachusetts

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### BUTTONWOOD PARK ZOO

#### Education

Animal Ambassador Encounters

Bear Cub Club

Boo at the Zoo

Creature Creations

Education Volunteers

Elephant Appreciation Day

Endangered Species Day

FrogWatch USA Training

Keeper Chats

Overnight Programs

Party for the Planet

Puddle Jumpers

School Programs

Science On a Sphere

Vulture Awareness Day  
 Wildlife Education Series  
 World Oceans Day  
 ZooCrew

### Field Conservation

Elephant Care International  
 Genetic Analysis of the US Population of Baer's Pochard  
 (*Aythya baeri*) for Improved Captive Management  
 Grow Trees for Golden Lion Tamarins  
 Proyecto Tití  
 The Muriqui Project of Caratinga

### Green Practices

#### ENERGY

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)  
 Green Purchasing Policy/Green Procurement

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Used

### Research

A Review of Asian and African Elephant Gastrointestinal  
 Anatomy, Physiology, and Pharmacology  
 Clinical Management of a Complete Gastrointestinal  
 Obstruction and Ileus in a Geriatric Female Asian Elephant  
 (*Elephas maximus*)

### CAPRON PARK ZOO

#### Field Conservation

Red Panda Network

### Research

Developing Genomic Tools for North American River Otter  
 (*Lontra Canadensis*) Population Management  
 Genomic Investigation of Cardiomyopathy in Meerkats

### FRANKLIN PARK ZOO

#### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Procured Local Food for On-Site Animals and/or Guest

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

**MUSEUM OF SCIENCE****Education**

Animal Habitats  
 Butterfly Garden Experience  
 Charles River Field Station  
 Eye Opener Behind the Scene at the Live Animal Center  
 IMAX Film  
 Life Cycles  
 Live Animal Presentations  
 Meet The Curator  
 Overnight Field Trips  
 Traveling Programs – Animal Invaders

**Field Conservation**

Karner Blue Butterfly Restoration Project  
 Northern Red-Bellied Cooter (*Pseudemys rubriventris*)  
 Headstart Program

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Building Energy Management  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

**Research**

Designing for Productive Struggle

**NEW ENGLAND AQUARIUM****Education**

Aquarium Teen Internship Program  
 Behind the Scenes Tours  
 Harbor Discoveries Summer Camp  
 Interpretation  
 Live Blue Ambassadors  
 Live Blue™ Service Initiative  
 Marine Biologists in Training  
 National Network for Ocean and Climate Change  
 Interpretation  
 Public Programs  
 Student Programs  
 Teacher Services  
 Visualizing Change

**Field Conservation**

Conservation Medicine Program  
 Consortium for Wildlife Bycatch Reduction  
 Marine Conservation Action Fund  
 Marine Spatial Planning  
 Right Whale Research Project  
 Sea Turtle Conservation and Research  
 Sustainable Aquaculture  
 Sustainable Ornamental Fish Initiative  
 Sustainable Seafood Programs

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used  
 Purchased Renewable Energy

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FUEL**

Documented Amount Spent

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff  
 Alternative Transportation Discounts for Guests  
 Building Energy Management  
 Commingled Recycling  
 Community Supported Agriculture (CSA) Program for Staff  
 Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Purchased Green Power or Renewable Energy Credits (RECs)

**GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

**WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent  
 Documented Amount Used

**Research**

Elasmobranch Mortality and Stress Physiology  
 Marine Stress Research  
 National Network for Ocean and Climate Change Interpretation (NNOCCI) – Research and Evaluation  
 Research Support: Administration  
 Research Support: Administration Overhead  
 Research Support: Animal Care and Use Committee (ACUC)

**WALTER D. STONE MEMORIAL ZOO****Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent  
 Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Procured Local Food for On-Site Animals and/or Guest

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent  
 Documented Amount Used

**ZOO NEW ENGLAND****Field Conservation**

Anteaters and Highways  
 AZA Ape TAG – Conservation Initiative  
 AZA Wildlife Trafficking Alliance  
 Bat Conservation International (BCI)  
 Blanding's Turtle Conservation, Management, and Education  
 Blue-Spotted Salamander Population Assessment  
 Eastern Box Turtle Conservation and Management

Eastern Spadefoot Toad Reintroduction  
 Giraffe Conservation Foundation  
 Gorilla Rehabilitation and Conservation Education (GRACE) Center  
 Hicatee Turtle Conservation With BFREE  
 International Giraffe Day  
 Jaguar Cockscorn Wildlife Sanctuary  
 Lowland Tapir Conservation Initiative  
 Marbled Salamander Conservation and Management  
 New England Blazing Star and Other Rare Wildflower Conservation  
 Panama Amphibian Rescue and Conservation (PARC)  
 Pangolin Conservation  
 Peregrine Fund  
 Pollinator Partnership  
 Snapping Turtle Education Program  
 Snow Leopard Trust (SLT)  
 Spotted Turtle Conservation and Management  
 Wood Frog Headstarting and Education Program  
 Wood Turtle Conservation and Management

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)

### Research

Addendum to: Oxytocin as a Measure of Social Bond and Welfare in Western Lowland Gorillas (*Gorilla gorilla gorilla*) in North American Zoos  
 Assessment of Basal Seminal Traits and Semen Cryopreservation in the Canada Lynx (*Lynx canadensis*)  
 Collection Stewardship of Endangered Small Wild Felids  
 Developing New Tools for Integrating DNA Data Into AZA Breeding Programs  
 Drinking Water Quality and Water Husbandry in AZA Zoos  
 Fecal Survey of Red Panda SSP Population for Amdoparvovirus  
 Generation and Characterization of an Immortalized Erythroid Progenitor Cell Line From Western Lowland Gorilla Peripheral Blood

Nonhuman Primate Lymphocryptoviruses  
 Tapir Baby Photo Database for *In-Situ* Field Researchers

## Michigan

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### BINDER PARK ZOO

#### Education

BIG Zoo Lesson  
 Birthday Parties  
 Critter Encounters and Biofacts  
 Family Slumber Party  
 FAWN Playgroup  
 Overnight Safari  
 Safari Day Camps  
 Wild Encounters  
 Wild Walks  
 Zoo Snooze  
 Zoomobile

#### Field Conservation

Action for Cheetahs in Kenya  
 Adopt-A-Beach  
 American Association of Zoo Keepers (AAZK) – Bowling for Rhinos  
 Amphibian Conservation Project  
 AZA SAFE – Cheetah  
 Butterfly Monitoring  
 Giraffe Conservation Foundation  
 Piping Plover Patrol and Recovery Program  
 Snow Leopard Trust (SLT)

#### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

**Research**

A Comprehensive Approach to Improve Management in an Endangered Wild Canid

**DETROIT ZOO****Education**

Adult Programs

After School Programs

Family Fun Fridays

Hospital Programs

Humane Education Horticulture Program

Learning Labs

Nature Tots

Outreach

Professional Development

School District Partnerships

Scout Program

Volunteer Activities

Wild About Animal Days

Zoo Tots

Zoo Tots II

Zookeeper Camps

**Field Conservation**

African Elephant Conservation Trust

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

American Beaver Project

American Marten Management Project

Amphibians in Peru

Amur Tiger Conservation

Animals Asia

Ape Action Africa

Armenian Brown Bear-Human Conflict Mitigation

Armenian Otter Conservation

Armenian Viper Project

AZA Ape TAG – Conservation Initiative

AZA Avian Scientific Advisory Group (ASAG)

AZA Conservation Grants Fund (CGF)

AZA Dusky Gopher Frog SSP – Reintroduction Project

AZA Eastern Massasauga Rattlesnake SSP

AZA FrogWatch USA

AZA Panamanian Golden Frog SSP

AZA Puerto Rican Crested Toad SSP

AZA Wyoming Toad SSP

Bat Conservation International (BCI)

Bird Strike Prevention at the Detroit Zoo

Black Crowned Night Herons

Blanding's Turtle Headstart Project

Blue Spotted Salamanders

Common Tern Nesting Habitat Restoration in the Detroit River and Lake St. Clair

Conservación de la Naturaleza Amazónica del Perú (CONAPAC)

Conservation International – Amphibian Survival Alliance

Conservation Staff Labor

Craig Packer Lion Conservation Project

Cryptobranchid Interest Group

Eastern Massasauga Rattlesnake Field Survey

Falkland Island Conservation

Giraffe Conservation Foundation (GCF)

Gorilla Doctors

Gorilla Rehabilitation and Conservation Education (GRACE) Center

Great Lakes Colonial Waterbird Monitoring

Great Lakes Piping Plover Salvage Captive Rearing

Grevy's Zebra Trust

Hanzaki Institute – Japanese Giant Salamander Conservation

Hawkwatch International

Honduras Amphibian Rescue and Conservation Center (HARCC)

Isle Royale Wolf Study  
 IUCN Red List of Threatened Species  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 IUCN/SSC Flamingo Specialist Group  
 IUCN/SSC Penguin Specialist Group  
 Jane Goodall Institute  
 Jane Goodall Institute – Nepal  
 Kirtland’s Warbler Initiative  
 Lao Conservation Trust for Wildlife  
 Lion Conservation, West Africa  
 Mad Dog Initiative (MDI)  
 Michigan Bird Conservation Initiative  
 Mudpuppy Monitoring  
 Ngogo Chimpanzee Project  
 Osprey Management in Southeast Michigan  
 Ostrich Specialist Group  
 Pan African Sanctuary Alliance (PASA)  
 Pandrillus Foundation  
 Partula Field Program Consortium  
 Penguin Sentinels  
 Peregrine Monitoring  
 Peru Adopt-A-School  
 Polar Bear and Grizzly Resource Overlap in Kaktovik, Alaska  
 Polar Oceans Research Group  
 Pollinator Conservation  
 Rainforest Trust  
 Red Panda Network (RPN)  
 Science and Conservation Centre  
 Snares to Wares, Lion Conservation  
 Snow Leopard Conservation in Nepal and China  
 Snow Leopard Trust (SLT)  
 Striped Newt Conservation  
 The Ocean Project  
 The Peregrine Fund  
 The Think Tank for Kangaroos (THINKK) of the University  
 of Technology Sydney Center for Compassionate  
 Conservation  
 Tree Kangaroo Conservation Program

Turtle Survival Alliance (TSA)  
 Urban Bird Treaty  
 Urban Ecology of Bats  
 VulPro  
 Wild Camel Protection Foundation (WCPF)  
 Wildlife Conservation Network (WCN) – Ewaso Lions  
 Wildlife Conservation Society (WCS) – Shark Campaign  
 Wildlife SOS  
 World Conservation Monitoring Center (WCMC)  
 Wyoming Toad Survey

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site  
 Purchased Renewable Energy

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat  
 Certified by the Green Restaurant Association

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Energy Submetering  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment

Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

#### Research

Aesthetics, Emotions, and Choice in Western Lowland Gorillas  
 Affective Bias Tests in Gorillas  
 An observational study on the contributions of environmental factors to social behaviors of *Pan troglodytes*  
 Behavioral Impacts of Cataract Surgery for Crested Penguins  
 Cause of Mortality in a Captive Assurance Population of Wyoming Toads Over a 16 Year Period  
 Dominance, Individual Welfare, and Spatial Compression in a Captive Bachelor Gorilla Group  
 Evaluating Oxidative Physiology as an Indicator of Welfare in Crested Penguins  
 Evaluating the Impacts of Habitat Expansion on the Welfare of Three Male Grizzly Bears at the Detroit Zoo  
 Evaluating the Welfare Impacts of a Major Habitat Change for Japanese Giant Salamanders (*Andrias japonicus*)  
 Evaluation of Behavioral Opportunities for Aardvarks

Great Ape Heart Project  
 Holtzman Wildlife Foundation Red Panda Forest Post-Occupancy Evaluation  
 Personality in Blanding's Turtles  
 Survey of Ocular Health and Pathology in Two Populations of Captive Panamanian Golden Frogs (*Atelopus zeteki*)  
 The Effects of a New, More Complex Habitat on Indicators of Welfare in Penguins at the Detroit Zoo  
 The Effects of Foraging Opportunities on the Activity Levels of Geriatric Chimpanzees (*Pan troglodytes*)  
 The Efficacy of Enrichment Items for Eliciting Foraging and Feeding Behaviors in Seals Living in the Care of Humans  
 The Impact of Browse Availability on the Behavior and Hormones of Captive Gorillas  
 The Impact of Visitor and Keeper Presence on the Welfare of Captive Southern White Rhinoceros at the Detroit Zoo  
 Ultrasound Measurement of Yolk Sac Dimension and Appearance as Predictors of Yolk Sac Retention and Infection in the Penguin Chick  
 Underwater Behavior of Gentoo (*Pygoscelis papua*) Penguins  
 Validating Infrared Thermography as a Tool to Assess the Impact of Human-Animal Interactions  
 Welfare Assessment of Five Juvenile Madagascar Giant Hognose Snakes (*Leioheterodon madagascariensis*) During a Habitat Modification  
 Wyoming Toad Habitat Choice

#### JOHN BALL ZOO

##### Education

AZA FrogWatch USA  
 Behind the Scenes Tours  
 Keeper for a Half Day and Job Shadows  
 Kids' Night Out  
 Overnight Adventures  
 Scout Programs  
 Sprouts  
 STEM Classes  
 Teen Volunteer Program  
 Traveling Zoo  
 Twilight Tours  
 Wild Encounters  
 Zoo Camp

Zoo Explorers

Zoo Lab

### Field Conservation

AZA SAFE

AZA Tiger SSP – Tiger Conservation Campaign

Conservation of the Endemic Chelonians of Sulawesi:  
Foresten's Tortoise and Sulawesi Forest Turtle

Eastern Massasauga Rattlesnake Longitudinal and DNA Study

Great Lakes Piping Plover Recovery Effort

Inspiring Community for Wildlife Conservation

John Ball Zoo Turtle Population Monitoring Project

Lake Sturgeon Conservation

Limbe Wildlife Centre

Limbe Wildlife Centre Green Leaf Project

Monarch Butterfly Raise and Release Program

Preserving *Hesperapis oraria* (Gulf Coast Bee) Through  
Better Food Security

Preventing the Transference of the Fatal Canine Distemper  
Virus (CDV) to African Wild Dog Around the Okavango  
Delta

Primate Care Training Program

Red Panda Network (RPN)

Tsavo Cheetah Project

Wood Turtle Headstarting Project

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Smart Building Strategies

Water Submetering

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent

Documented Amount Used

### POTTER PARK ZOOLOGICAL GARDENS

#### Education

Animal Science and Zoo Management High School Class

Arbor Day

AZA FrogWatch USA

BIG Zoo Lesson

College and University Lectures

Conservation Talks

Earth Day Celebration at the Capitol

Encounters

FALCONERS

Michigan Bat Festival

Nights at the Living Museum

One Day Extended Learning

Outreach Program

Outreach Station

Overnight Experiences

Party for the Planet

Red Panda Day

Scout Badge Workshops

Summer Camp

Tours

Two at the Zoo

World Migratory Bird Day

World Rhino Day

Zoo In Your Neighborhood

**Field Conservation**

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

AZA FrogWatch USA

AZA Puerto Rican Crested Toad SSP

AZA SAFE – Vaquita

Eastern Massasauga Rattlesnake Field Study

Great Lakes Piping Plover Management and Restoration

Guam Kingfisher SSP – Breeding/Reintroduction

Least Shrew Field Research Project

Michigan Wildlife Conservancy

Quarters for Conservation

Red Panda Day

World Rhino Day

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Green IT

Smart Building Strategies

Waterwise Landscaping

**Research**

Behavioral and Biological Reasons for Unsuccessful Breeding in Black Rhinos: Olfactory Stimulation as a Method for Improvement

**SAGINAW CHILDREN'S ZOO****Education**

Behind the Scenes Tours

E-Newsletter

Exhibit Interpretation

Hatchlings

Living Learning Lab

Lunch and Learn

Outreach

Palm Oil Handout

Party for the Planet

Rainforest Brochure

Samaritas After School Program

SaveNature.Org Pamphlet

Seafood Watch Pocket Guide & Interpretation

Zoo Camp

**Field Conservation**

Adopt-A-Highway

AZA Conservation Grants Fund (CGF) – Silent Auction

AZA Cotton-Top Tamarin SSP

AZA Mexican Wolf SSP

AZA SAFE

Citizen Bat League

Citizen Science Training

Great Lakes Piping Plovers

Hingeback Tortoise Headstart Project

Invasive Species Removal

Kirtland's Warbler Alliance

Kirtland's Warbler Jack Pine Planting

Lake Sturgeon Recovery

Michigan Frog and Toad Survey

Mr. Ellie Pooh

Proyecto Tití

Saginaw River Clean-up

Samaritas Community Center After School Program

SANCCOB Animal Professional Exchange

Sandhill Crane Population Survey

SaveNature.Org

Seafood Watch Visitor Cart

Snow Leopard Trust

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Wood Duck Nests at Discovery Preserve

World Oceans Day

Zoo Brown Bag Lunch Series

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green IT

Procured Local Food for On-Site Animals and/or Guest

**WATER**

Documented Amount Spent

Documented Amount Used

## Minnesota

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**COMO PARK ZOO AND CONSERVATORY****Education**

After School Program

Animal Ambassadors

Animal Demo/Training

AuSM (Autism Society of Minnesota)

Birthday Parties

Camp Como

Discovery Series

Early Childhood Programs

Free Educational Events

Gardener Talks

Group Tours

Interpretive Interactive

Keeper Talk

Residency Program

School and Group

Scouting Programs

Storytime

**Field Conservation**

Audubon Society's Project Puffin

AZA Orangutan SSP – Field Initiative Program

AZA Wyoming Toad SSP – Master Plan Meeting and Fieldwork

Biosphere Expeditions Snow Leopard Survey in Kyrgyzstan

Channel Islands Marine and Wildlife Institute

Mariana Avifauna Conservation Project Through Pacific Bird Conservation

Mississippi Gopher Frog Breeding Project

Polar Bears International (PBI)

SAFE Orangutan

Seafood Watch

Sloth Conservation in Costa Rica

Snow Leopard Trust (SLT)

Tropical Ecology of Costa Rica

Wild Nature Institute

**Green Practices****ENERGY**

Documented Amount Used

Generated Renewable Energy On-Site

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management

Commingled Recycling

Community Supported Agriculture (CSA) Program for Staff

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Smart Building Strategies  
 Stormwater Management Program  
 Water Submetering  
 Waterwise Landscaping

#### **PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

#### **WASTE**

Documented Amount Sent to Landfill

#### **WATER**

Documented Amount Used

#### **Research**

Germplasm Project With Omaha's Henry Doorly Zoo and Aquarium  
 Giraffe Welfare Project  
 Gonadal Rescue Project With Omaha's Henry Doorly Zoo and Aquarium

#### **LAKE SUPERIOR ZOO**

##### **Education**

Behind-the-Scenes Tours  
 Birthday Party Animal Encounters  
 Docent Animal Encounters  
 Family Programs  
 Homeschool Classes  
 Interpretive Carts  
 Job Shadowing Programs  
 Keeper Talks  
 Outreach Programs  
 Overnight Programs  
 Preschool Classes  
 School Group Programs

School Kits  
 Summer Day Camps  
 Toddler Classes  
 Volunteer Continuing Education  
 Winter Camps  
 Zoo Crew Summer Teen Program

##### **Field Conservation**

AZA Felid TAG  
 Bat Conservation International (BCI)  
 Big Island Resource Conservation and Development Council  
 Mexican Wolf SSP  
 Proyecto Tití  
 Snow Leopard Trust (SLT)  
 The Peregrine Fund  
 Turtle Survival Alliance

##### **Green Practices**

#### **ENERGY**

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

#### **FOOD**

Sourced Local Food or Grew it On-Site

#### **GREEN PRACTICES IMPLEMENTED**

Building Energy Management  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Generated Solar or Wind Energy  
 Procured Local Food for On-Site Animals and/or Guest

#### **MINNESOTA ZOOLOGICAL GARDEN**

##### **Field Conservation**

Amur Leopard and Tiger Alliance (ALTA)  
 AZA SAFE  
 AZA SAFE - African Penguins  
 AZA Tiger SSP - Tiger Conservation Campaign  
 Bird Window Collision Conservation Research

Bison Recovery – Minnesota  
 Black Rhino Conservation – Namibia  
 Coral Reef Restoration  
 Dhole Field Conservation  
 Freshwater Mussel Conservation  
 Hartmann's Mountain Zebra Conservation  
 Hawaiian Monk Seal Conservation  
 Invest in the Nest – African Penguin Conservation  
 In-Water and Nesting Beach Conservation of Marine Turtles  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Macaw Conservation  
 Malayan Tapir Conservation  
 Minnesota Turtle Conservation  
 Moose Conservation Research: Minnesota  
 Prairie Butterfly Conservation: Minnesota  
 Przewalski's Horse Conservation in China and Mongolia  
 Recycle for Rainforests  
 Reducing Bear-Human Conflict  
 Rusty-Patched Bumble Bee Research and Conservation  
 Save the Wild Chinchillas  
 Sea Otter Conservation  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – African Penguin Conservation  
 Ulysses S. Seal Conservation Grant Program

### Green Practices

#### GREEN CERTIFICATIONS

One or More Buildings LEED-Certified by the US Green Building Council

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Alternative Transportation Discounts for Guests  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

### Research

Asian Wild Horse Anesthesia Study  
 Development of a Genome Resource Bank and Transcervical Insemination for the Genetic Management of Tigers  
 Dolphin Demographic Parameters in Captivity and in the Wild  
 Epidemiology of *Trueperella pyogenes* Infection in Pronghorn Antelope  
 Evaluating the Effects of Enrichment Treatments on Behavior of Animals at the Minnesota Zoo  
 Genetic Values of Possible Parents With Analysis of Pedigrees That Contain MULT Groups  
 IUCN Red Listing for Butterflies  
 Reproductive Biology of Canada Lynx

## Missouri

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### DICKERSON PARK ZOO

#### Field Conservation

Action for Cheetahs in Kenya  
 American Association of Zoo Keepers (AAZK) – Bowling for Rhinos  
 AZA Conservation Grants Fund (CGF)  
 AZA Tiger SSP – Tiger Conservation Campaign  
 Cheetah Conservation Fund (CCF)  
 Dian Fossey Gorilla Fund International  
 Dong Phayayen-Khao Yai Carnivore Conservation Project  
 Giraffe Conservation Foundation (GCF)  
 International Bongo Foundation  
 International Crane Foundation (ICF)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Madagascar Fauna and Flora Group (MFG)  
 Niassa Carnivore Project  
 Proyecto Taguá/Chaco Center for Conservation and Research (CCCR)  
 Proyecto Tití – Conserving the Critically Endangered Cotton-Top Tamarin in Colombia

Raptor Rehabilitation

Sahara Conservation Fund (SCF) – Adopt-an-Ostrich Program

Save the Golden Lion Tamarin

SaveNature.Org

The Katie Adamson Conservation Fund

Turtle Survival Alliance (TSA)

Wildlife Conservation Society (WCS) – Grizzly Bear Conservation in the United States/96 Elephants

Zoo Conservation Outreach Group (ZCOG)

### Research

A Survey of Elephants Having Had Human Assisted Lifts and Their Relevant Health Issues and Survivability

Ameoblastic Fibroma in a Captive Female Mexican Wolf (*Canis lupus baileyi*)

Analysis of Female Asian Elephant Prolactin Levels

Concentration-Dependent Chemosensory Responses Towards Pheromones are Influenced by Receiver Attributes in Asian Elephants

Endocrine Analysis and Assisted Reproductive Techniques in the Malayan Tiger (*Panthera tigris jacksoni*)

Evaluation of Prey Items and Their Effect on Predatory Behavior of Captive Wild Raptors

Evaluation of Progesterone and Luteinizing Hormone (LH) Concentrations in Female Asian Elephants

Evaluation of Symmetric Dimethylarginine Assay as a Marker for the Detection of Renal Disease in Domestic Chickens (*Gallus gallus domesticus*)

Geriatric Elephant Survey

Herd Dynamics in Captive Elephants of North America

High Diversity of Cryptic Piroplasm Infections in Raccoons From Selected Areas of the United States and Canada (Formerly named Babesia study)

Investigate the Approaches of AZA Accredited Zoos in Connecting Their Research With the Public

National Elephant Endotheliotropic Herpesvirus (EEHV) Lab

Pulmonary Aspergillosis in an Aldabra Tortoise (*Aldabrachelys gigantean*)

Reproductive Tract Neoplasia in Adult Female Asian Elephants

The Pharmacokinetics of Tramadol in African (*Loxodonta africana*) and Asian Elephants (*Elephas maximus*)

Wildlife Computational Ecology Lab

### ENDANGERED WOLF CENTER

#### Field Conservation

AZA Mexican Wolf SSP – Meeting

### KANSAS CITY ZOO

#### Field Conservation

Amphibian Ark

AZA Ape TAG – Conservation Initiative

AZA Tiger SSP – Tiger Conservation Campaign

Bird Endowment – Saving the Blues – Nido Adoptivo

Black Footed Cat Working Group

Black Mamba Anti-Poaching Initiative

Bolivian Amphibian Initiative – Lake Titicaca Water Frog

Botswana Predator Conservation Trust

Brown Hyena Project

Cheetah Conservation Fund (CCF)

Conservation Lower Zambezi

Eastern Spotted Skunk Health and Disease Assessment

Freshwater Mussel Propagation and Reintroduction

Giraffe Conservation Fund

Humboldt Penguin Consortium

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Kansas City Zoo African Elephant Reproductive Conservation Initiative

Mabula Ground Hornbill Project

Marine Mammal and Pinniped Rescue Program/Marine Mammal Center

Marine MegaFauna Foundation

Panamanian Golden Frog Breeding Program

Pangolin Conservation

Polar Bear Arctic Ambassador and Research Program

Red Panda Network

Roundtable on Sustainable Palm Oil (RSPO)

The CREATE Project

TRAFFIC South East Asia

Trumpeter Swan

Turtle Survival Alliance

Wildlife Conservation Society (WCS) – 96 Elephants

Wyoming Toad Breeding, Reintroduction, and Field Survey Program

Zoo Conservation Outreach Group (ZCOG)

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN CERTIFICATIONS

One or More Buildings LEED-Certified by the US Green Building Council

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community Solar Program

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Wastewater Reduction

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Recycled

### SAINT LOUIS ZOO

#### Education

#byetobags

Adult Programs

Animal Awareness Days

AZA FrogWatch USA

Behind the Scenes Tours

Birthday Parties

Boo at the Zoo-Spooky Saturday

Camp KangaZoo and Teen Camp

Career Programs

Docent Carts and Seasonal Interpreter Program

Earth Day - Party for the Planet

Enrichment Eggstravaganza

Internal Training - Education Department, Docents, and Interpreters

Jungle Boogie

Just Like You at the Zoo

Lecture Series Programs

Library and Teacher Resource Center - Scavenger Hunts

Library and Teacher Resource Center - ZooCases

Make Tracks for the Zoo

Monsanto Education Gallery (Camp Joey, Early Childhood, Zoo Preschool, and the Wild Wonder Outpost)

Outreach and Distance Learning Programs

Overnight Programs

Public Officials Family Day

Raja's Birthday Celebration

School Programs

School Tours

Shark Week

Stingrays at Caribbean Cove - Traveling Exhibit

Trivia Gone Wild

Wild Lights

Youth Programs

Zoo ALIVE Teen Volunteer Program

Zoo Friends Day

Zoo Parents Picnic

Zootoberfest

### Field Conservation

Core Operating Support for the Sahara Conservation Fund (SCF)

Dama Gazelle Conservation Project Support Through the Sahara Conservation Fund (SCF)

Andean Bear Conservation Alliance

Arboviruses in Brazil

Box Turtle Ecology and Health: Comparison Between an Urban and a Rural Site

Camel Health at the Livestock-Wild Animal-Human Interface

Celebrating 10 Years of Zebra Conservation Through Film

Celebrating Grevy's Zebra Conservation Achievements and Sharing Great Grevy's Rally Results, Great Grevy's Ball, Great Goat Roast, and Associated Events

Center for American Burying Beetle Conservation

Center for Avian Conservation in the Pacific Islands

Center for Avian Health in the Galápagos Islands

Center for Conservation in Forest Park

Center for Conservation in Punta San Juan, Peru

Center for Conservation in Western Asia

Center for Conservation of Large Carnivores in Africa

Center for Native Pollinator Conservation

Developing a Communications Strategy for Grevy's Zebra Trust

Ecuadorian Amphibian Collaboration

Environmental Education for the Conservation of the Mountain Nyala and its Habitat at the Bale Mountains National Park, Ethiopia

Establishing a Local Molecular Ecology and Veterinary Laboratory for the Conservation of the Fauna of Madagascar

Goulougo Triangle Ape Project (GTAP)

Grevy's Zebra Trust

Grevy's Zebra Warrior Program

International Elephant Foundation (IEF)

Ishaqbini Wildlife Release Bomas

Kinabatangan Orangutan Conservation Project

Madagascar Fauna and Flora Group (MFG) - Capacity Building

Madagascar Fauna and Flora Group (MFG) - Core Support

Madagascar Fauna Group Research Director

Mitigating the Threat of County and National Development Initiatives on the Endangered Grevy's Zebra in Northern Kenya

Northern Rangelands Trust

Okapi Conservation Project

Partula Snail Conservation Program, French Polynesia

Ron Goellner Center for Hellbender Conservation

Ruaha Carnivore Project (RCP)

Turtle Survival Alliance (TSA)

University of Missouri - St. Louis Graduate Student Support

Variation in Musth Among Asian Elephants (*Elephas maximus*): Applications for Management and Conservation

Zoo Staff Labor for Field Conservation

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Denitrification Systems On Ground

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Procured Local Food for On-Site Animals and/or Guest

Water Submetering

Waterwise Landscaping

## Research

- Animal Awareness Days Evaluation
- Annual Visitor Study
- Assessment of Zoo Veterinarian Attitudes Regarding Population Management Euthanasia
- Changes in Human Health Parameters Associated With an Immersive Exhibit Experience at a Zoological Institution
- Chinchilla (*Chinchilla lanigera*) Behavioral Responses to a Visual Signal Preceding Handling
- Collaborating to Improve Conservation of the Critically Endangered Cuban Crocodile
- Determining the Potential Effects of Electrofishing on Hellbenders
- Distribution of Lizards in Big Desert Habitat Before, During, and After Installation of Dimmable Lights
- Distribution, Ecology, and Conservation of the Endangered Black-Breasted Leaf Turtle (*Geoemyda spengleri*) in China
- Distribution, Ecology, and Conservation of the Endangered Black-Breasted Leaf Turtle (*Geoemyda spengleri*) in Northern Vietnam
- Educational Participatory Asset Mapping in North St. Louis County
- Efficacy and Reversal of Suprelorin® (Deslorelin) in the Clouded Leopard (*Neofelis nebulosa*)
- Empathy and Moral Reasoning Development at Saint Louis Zoo Preschool
- Evaluating Housing Parameters and Their Effects on Snake Welfare
- Feasibility of an Offsite Conservation and Animal Science Center and Safari Park
- Fecal Glucocorticoid Monitoring of Carnivores, Birds and Primates During Quarantine and Introduction to a New Habitat at the Saint Louis Zoo
- Fecal Glucocorticoid Monitoring of Guinea Pigs Serving as Ambassador Animals in the Saint Louis Zoo's Children's Zoo
- Fecal Glucocorticoid Production and Behavior of Juvenile Somali Wild Asses
- Fecal Hormone Monitoring of Ovulatory Cycles, Testosterone Production, and Glucocorticoid Production in Banteng
- Genetic Diversity of Peter's Angola Colobus Monkey Populations in Northern Tanzania and in American Zoos
- Hormone Monitoring of Free-Ranging Channel Island Foxes
- Impact of Allowing Mate Choice on Reproductive Success and Animal Welfare
- Improving the Impact of Zoo and Aquarium Conservation Education Experiences: A Values Orientation Approach
- Investigating Social Networks of African Wild Asses and Grevy's Zebras in a Zoo Setting
- Investigation of Possible Genetic and Environmental Factors Leading to Uterine Disease in African Painted Dogs
- Lifetime Reproductive Planning for the Fennec Fox
- Mother-Infant Antelope Study
- Observations and Management of Cryptosporidium Infection in Snakes
- Observing Flighted and Flightless Waterfowls' Behavioral Diversities on Bodies of Water
- Pacific Bird Conservation MAC Education and Outreach Program Evaluation
- Patterns of Fecal Steroids Associated With Reproduction in Cinereous Vultures (*Aegypius monachus*)
- Phylogenomics of Endangered Asian Box Turtles (Cuora)
- Polar and Grizzly Bear Use of Space and Activity Level in New Zoo Habitats
- Population Management and Reversibility from Melengestrol Acetate (MGA) Implants in Black and White Colobus Monkeys (*Colobus guereza*)
- Primate Canopy Trails Frontend and Formative Evaluation
- Reproductive Viability Analysis (RVA) for Fennec Fox
- Reproductive Viability Analysis (RVA) for the Asian Small-Clawed Otter
- Reproductive Viability Analysis (RVA) for the Mexican Wolf
- Reproductive Viability Analysis (RVA) for the Red River Hog
- Salamander Relative Abundance and Disease Prevalence Study
- Serum Concentration Comparisons of Fatty Acids, Amino Acids, Vitamins, Minerals, and Cholesterol, Between Free-Ranging and Zoo Polar Bears (*Ursus maritimus*)
- Serum Nutrient Comparisons Between Free-Ranging and Zoo Painted Dogs (*Lycaon pictus*)
- Status, Conservation, and Ecology of the Crocodylians in Cuba
- STEM Matters: Investigating the Confluence of Visitor and Institutional Learning Agendas
- Summative Evaluation of Grizzly Ridge Exhibit
- The Effect of Educational Programs on the Behavior and Physiology of Fennec Foxes (*Vulpes zerda*)
- Tracking Changes in Primate Behavior Throughout a Construction Period

Validating Noldus EthoVision as a Tool for Tracking Movement

Validation of a Canine Anti-Mullerian Hormone Assay for Use in Mexican Gray Wolves

## SEA LIFE KANSAS CITY AQUARIUM

### Education

Animal Adaptations

Bay of Rays Talk

Home Sweet Home

Marine Science Careers

Ocean Discovery Talk

Octopus Talk

Seahorse Talk

Shark Talk

Turtle Conservation Chat

Weedy Seadragon Talk

What's For Lunch

### Field Conservation

River and Wetlands Clean Up

Teaching Rivers in an Urban Environment (T.R.U.E. Blue) - Blue River Watershed Association

## THE BUTTERFLY HOUSE

### Education

Adventures in a Butterfly Garden

Brownie Bugs

Buzzing a Hive

Daisy Clover Petal

Hide a Butterfly

Insect Photography

Junior Gardener

Keeper for a Day

Ladybugs

Little Bugs

Story of a Butterfly

The World According to Insects

Webelos: Into the Wild

Wings of Wonder

### Field Conservation

El Bosque Nuevo

Missouri Butterfly Monitoring Network

Project Pollinator

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

## Montana

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## GRIZZLY & WOLF DISCOVERY CENTER

### Education

Bear Pepper Spray Demonstration

Birds of Prey Outreach

The View From Down Here

### Field Conservation

Bear-Resistant Container Testing

West Yellowstone Christmas Bird Count

### Green Practices

#### ENERGY

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Diverted or Recycled Construction Waste

Green Purchasing Policy/Green Procurement

Wastewater Reduction

#### WASTE

Documented Amount Recycled

#### WATER

Documented Amount Used

# Nebraska

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## LEE G. SIMMONS CONSERVATION PARK & WILDLIFE SAFARI

### Education

Campouts  
 Day Camps  
 Family Classes  
 Keeper Talks  
 Outreach  
 Scout Programs  
 Special Events  
 Step-on Tours  
 Student Workshop  
 Teacher Workshops

### Field Conservation

Cheetah Conservation Fund (CCF)  
 Citizen Science  
 Nature Conservancy  
 Whooping Crane Trust

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Graywater Reuse and/or Rainwater Harvesting  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction  
 Waterwise Landscaping

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

## LINCOLN CHILDREN'S ZOO

### Field Conservation

Salt Creek Tiger Beetle Propagation and Reintroduction Project

### Green Practices

#### FOOD

Sourced Local Food or Grew it On-Site

### Research

Allostatic Load of Captive and Free-Ranging Giraffe  
 Directional Freezing as a Method of Sperm Cryopreservation for Field Conservation Projects

## OMAHA'S HENRY DOORLY ZOO & AQUARIUM

### Education

African Goat Kraal  
 After School Program  
 Animal Encounters  
 Backstage Experiences  
 Campouts  
 Citizen Science  
 Day Camps  
 Eco Adventure  
 Family Programs  
 Free Flight Bird Show  
 Giraffe Encounter  
 Keeper Talks  
 Lemur Walkway  
 LION Classes  
 Little Lions Preschool  
 Long Distance Learning  
 Outreach Programs  
 Professional Development Workshops

School Group Walkabout Tours  
 Scout Classes  
 Stingray Beach  
 Student Workshops  
 The Wildlife Show  
 Touch Tank  
 Youth Volunteer Program  
 Zoo 2 You Trunks  
 Zoo-Wide Activity Event  
 Zoo-Wide Conservation Events

### Field Conservation

American Bird Conservancy (ABC) – Bird Strike  
 Amphibian Conservation Area  
 Amphibian Enhancement in Urban Areas  
 Andasibe Reintroduction and Translocation Project (ART Project)  
 Andasibe Reintroduction and Translocation Project (ART Project) – Lemur Research Initiative  
 Aquarium Conservation Partnership (ACP)  
 AZA Puerto Rican Crested Toad SSP – Reintroduction  
 AZA SAFE  
 AZA SAFE – Cheetah  
 AZA Tiger SSP – Tiger Conservation Campaign  
 Bat Conservation International (BCI)  
 Belize Antillean Manatee Health Project  
 Belize Jaguar Project  
 Bermuda Fern Project  
 Bighorn Sheep Disease Study  
 Black-Footed Cat Project  
 Botswana Lion Disease and Genetics Survey  
 Catching Hope  
 Cheetah Conservation Fund (CCF)  
 Citizen Science: Butterfly, Amphibian  
 Colobus Conservation, Ltd.  
 Colors for Conservation  
 Conservation Centers for Species Survival (C2S2)  
 Conservation Fusion  
 Conservation of Madagascar’s Endemic Orchids  
 Coral Propagation Project  
 Cryptobranchid Interest Group  
 Crystal River Florida Manatee Health Project  
 Dian Fossey Gorilla Fund International  
 Florida and Belize Manatee Conservation Project  
 Foundation for the Conservation of Salamanders  
 Giant Armadillo: The Pantanal Project  
 Giraffe Conservation Foundation (GCF)  
 Gladys Porter Zoo – American Crocodile Conservation  
 Honduras Amphibian Rescue and Conservation Center (HARCC)  
 Iganyana Arts – Africa Matters  
 International Crane Foundation (ICF) – Crowned Crane  
 International Crane Foundation (ICF) – Whooping Crane  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG) – Amphibian Ark  
 Kianjavato Project  
 Lavavolo Project  
 Little Fireface Project – Protection of the Slow Loris  
 Mabula Ground Hornbill Project (MGHP)  
 Madagascar Biodiversity and Biogeography Project  
 Monarch Joint Venture  
 Montagne des Français Project  
 National Geographic Photo Ark  
 Nature Conservancy – China Land Trust  
 Northern Tuli Predator Project – Botswana  
 Okapi Conservation Project  
 Polar Bears International (PBI)  
 Project Puffin  
 Rare and Endangered Plant Program  
 Red Panda Network (RPN)  
 Salt Creek Tiger Beetle  
 Saola Conservation  
 Save Our Seabirds  
 Save the Snakes  
 SEXual CORal REproduction (SCORE)

Snow Leopard Trust  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
 Spectacled Bear Society  
 Swaziland Rhinoceros Protection and Conservation  
 Tiger Conservation Campaign  
 Torotorofotsy Project  
 Turtle Survival Alliance (TSA) - Turtle Survival Center  
 Wildcats Conservation Alliance  
 Wildlife Conservation Society (WCS) - 96 Elephants  
 Wildlife SOS - India

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Denitrification Systems On Ground  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Procured Local Food for On-Site Animals and/or Guest  
 Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

### Research

African Elephant Project  
 Browse Nutrition Initiative  
 Conservation Center for Species Survival (C2S2) - The Cheetah Sustainability Project (CSP)  
 Conservation, Propagation, Genetics, and Reintroduction of the Yellow Lady's Slipper Orchid in Nebraska  
 Conserving the Highly Threatened Fern - *Diplazium molokaiense*  
 Development of a Genome Resource Bank for Tigers  
 Development of Methods for Voluntary Semen Collection in the Philippine Crocodile  
 Development of Transcervical Artificial Insemination in Tigers  
 Evaluation of Pork as a Protein Source for Managed Carnivores  
 Factors Affecting Breeding Success in Zoo Managed Male Snow Leopards (*Panthera uncia*)  
 Fish Breeding Project  
 Investigating the Interactions Between Obesity, Stress, and Reproductive Cyclicity in Elephants  
 Kianjavato Project: Data Analysis  
 Lavavolo Project: Data Analysis  
 Madagascar Biodiversity and Biogeography Project: Laboratory Genetic Work  
 Montagne des Français Project: Research  
 Nutrition Research Program  
 Prevalence of Irritable Bowel Disease, Infanticide, Bloat, and Cystinuria in Managed Maned Wolves and Factors Contributing to Occurrences  
 Torotorofotsy Project: Data Analysis  
 Urchin Breeding Project

## RIVERSIDE DISCOVERY CENTER

### Field Conservation

Panhandle Frogwatch USA Chapter RDC  
Salamander Saturday  
Tiger Conservation Campaign

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
Composting (On-Site or Off-Site)  
Green Building Policy/Commitment

## Nevada

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## SHARK REEF AQUARIUM AT MANDALAY BAY

### Field Conservation

AZA Conservation Grants Fund  
Komodo Conservation  
Reef Check  
S.A.F.E.  
Sea Turtle Conservancy  
The Ocean Project

## New Jersey

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## ADVENTURE AQUARIUM

### Education

21st Century Community Learning Centers - Science Enrichment  
Behind the Scenes Tours  
Camden Waterfront Trail Engagement - Trail and On-Water Programming  
Canoe Mobile  
CAUSE (Community Urban Science Enrichment) Program  
Classroom and Auditorium Programs  
Community and Urban Science (CAUSE) Summer Camp  
Embedded School Programming  
Field Trip Planner

Fins for the Future  
High School Student Shadow Program  
Hippo Awareness Weekend  
Marine Advanced Technology Education (MATE) - Remotely-Operate Vehicle (ROV) Program  
Meet Us in the Wild - Field Programs  
Outreach - Traveling Programs  
Penguin Awareness Day  
Philadelphia Science Festival  
Philadelphia-Camden Informal Education Collaborative (PISEC)  
River Days  
Science on Screen  
Scout Badge Workshops  
Sea Turtle Awareness Weekend  
Shark Awareness Weekend  
Shark in the Dark - Overnights  
Summer Seafari Camp  
Teacher Professional Development  
Teen Marine Institute  
That's A-Moray: Love Below Sea Level (Valentines Event)

### Field Conservation

AZA FrogWatch USA  
AZA SAFE - African Penguin Artificial Nest Box Program  
Bald Eagle Nest Monitoring  
Coral Restoration Foundation  
Feathers for Native Americans  
Horseshoe Crab Monitoring  
Horseshoe Crab Rearing  
RiverSweep  
Sea Turtle Conservancy  
Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
Turgwe Hippo Trust

### Green Practices

#### ENERGY

Documented Amount Spent  
Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management  
 Commingled Recycling  
 Denitrification Systems On Ground  
 Green IT  
 Wastewater Reduction

**WASTE**

Documented Amount Recycled  
 Documented Amount Sent to Landfill

**Research**

Hippo Saliva Cortisol Study

**BERGEN COUNTY ZOOLOGICAL PARK****Education**

96 Elephants  
 A Touch of Nature  
 Amazing Adaptation  
 Amphibian Day  
 Amphitheater Show - Mammals  
 Amphitheater Show - Pets!  
 Amphitheater Show - Reptiles  
 Amphitheater Show - Story Time  
 Amphitheater Show - Wild New Jersey  
 Animal Enrichment  
 Animal Families  
 Animal Habitats  
 Animal Wrappers  
 Autism Awareness Day  
 Bergen Zoo School  
 Bison Day  
 Brownie Bugs  
 Classy Animals  
 Colors and Shapes  
 Endangered Species Day  
 Hawks Over the Hudson  
 In My Backyard  
 Members Night

Night Owls  
 Nocturnal Gators  
 Party for the Planet  
 Playtime at the Zoo  
 Recycled Art  
 Save the Eagles Day  
 Sheep Shearing  
 Spineless Wonders  
 Super Science Days and Career Days  
 Theme Day Story Times  
 Wild and Crafty Animal Tales  
 Wild and Crafty Zoo Tour  
 Wild Pets  
 World Tapir Day  
 Zoo Babies  
 Zoo Camp  
 Zoo Careers  
 Zoo Kids

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Waterwise Landscaping

**CAPE MAY COUNTY PARK ZOO****Field Conservation**

Conserve Wildlife Foundation of New Jersey  
 Giraffe Conservation Foundation (GCF)  
 International Bongo Foundation for Mt. Kenya Wildlife  
 Conservation  
 Turtle Survival Alliance (TSA)

## JENKINSON'S AQUARIUM

### Education

Amazing Amphibians  
 Animal Encounters  
 Behind the Scenes Tour  
 Breakfast With the Animals  
 Fishy Tales and Shark Scales  
 Habitat Habits  
 Mermaid Tea Party  
 NJ's Precious Pinelands  
 No Bones About It  
 Outrageous Reptiles  
 Penguin Pointers  
 Pizza and Penguins  
 Polar Bears in a Warming World  
 Species Survival  
 Tea by the Sea

### Field Conservation

American Littoral Society  
 AZA Conservation Grants Fund (CGF)  
 AZA FrogWatch USA  
 AZA SAFE - Vaquita Rescue Project  
 AZA/Wildlife Trafficking Alliance  
 B.E.A.R.  
 Channel Islands Marine and Wildlife Institute  
 Clean Ocean Action  
 Delaware Bay Horseshoe Crab Spawning Survey  
 Gotham Whale  
 Marine Academy of Technology and Environmental Science (MATES)  
 New Jersey Beach Buggy Association  
 Ocean Conservancy  
 Polar Bears International (PBI)  
 Project Terrapin  
 Save Barnegat Bay  
 SaveNature.Org  
 Sawfish Conservation Society (SCS)  
 Sea Turtle Recovery (STR)

Seabird Ecological Assessment Network (SEANET)

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

The Marine Mammal Center

The Ocean Project

Turtle Survival Alliance (TSA)

Wildlife Center Friends

### Green Practices

#### ENERGY

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

### Research

Beach Sweeps (Bi-Annual Coastal Cleanup)

Operation Oyster

## New Mexico

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### ALBUQUERQUE BIOLOGICAL PARK

#### Education

Animal Encounters at the Aquarium  
 Animal Encounters at the BUGarium  
 Animal Encounters at the Zoo  
 Aquarium Overnights  
 BioVan and Rio Rangers  
 Discover the BioPark  
 Discovery Days at the Aquarium  
 Discovery Days at the Botanic Garden  
 Discovery Days at the Zoo  
 Earth Week Celebration  
 Endangered Species Awareness Week  
 Garden Workshop Series  
 Monthly Lecture Series  
 Narrated Aquarium Feedings  
 Narrated Zoo Feedings  
 Preschool Program

Spring Break Camps  
 Story Time Program  
 Summer Camps  
 Summer Evening Tours  
 World Oceans Week  
 Zoo to You

### Field Conservation

Abidjan Zoo Project: Côte d'Ivoire  
 IUCN Species Assessments  
 Native Species Program - Herpetology  
 Socorro Dove Conservation

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Procured Local Food for On-Site Animals and/or Guest

### ALEXANDRIA ZOOLOGICAL PARK

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program

### LIVING DESERT ZOO & GARDENS STATE PARK

### Field Conservation

Bolson Tortoise Program

### Green Practices

#### ENERGY

Generated Renewable Energy On-Site

## New York

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### BUFFALO ZOO

#### Education

Animal Encounters - Free  
 AZA FrogWatch USA - Buffalo Zoo Chapter  
 Birthday Parties  
 Buffalo Public School #59/90 Zoo Science Program  
 Buffalo Zoo Preschool  
 Camps (Combines Spring, Summer, and Winter)  
 Cub Club Preschool Program  
 Distance Learning Programs  
 Docent Training  
 Educator's Guide  
 Gnus - Docent Newsletter  
 Guided Tours  
 Homeschool Programs  
 Junior Zoo Teen Naturalist Program  
 Keeper Talks  
 Living Treehouse  
 On-Site School Programs  
 Outreach Programs  
 Scout Badge Programs  
 Shows/Demonstrations  
 Sidewalk Safari Carts  
 Strolling Around the World Stroller Program  
 Western New York Family Nature Club  
 Wild Weekend Workshops  
 Zoo Quests  
 Zoo Snooze Overnight Program  
 Zoo Teen Naturalist Program

#### Field Conservation

Asian Elephant Support  
 Asian Elephant Support (AES)  
 Association of Zoological Horticulture (AZH) - Plant Conservation Fund  
 AZA Conservation Grants Fund (CGF)

AZA FrogWatch USA

AZA Puerto Rican Crested Toad SSP – Caribbean Wildlife Alliance via Fort Worth Zoo

Buffalo Niagara Riverkeeper

Dian Fossey Gorilla Fund

Gorilla Doctors

International Elephant Foundation

International Rhino Foundation (IRF) – Indian and Sumatran Rhinos

Polar Bears International (PBI)

Sahara Conservation Fund (SCF)

Snow Leopard Trust (SLT)

Turtle Survival Alliance (TSA)

World Parrot Trust (WPT)

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Graywater Reuse and/or Rainwater Harvesting

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Specified a Portion of the Amount Saved for Next Year's Green Practices

#### WASTE

Documented Amount Composted

Documented Amount Sent to Landfill

### Research

Decline in Stereotypic Behavior of Asian Elephants

The Influence of Contraceptive on Hormonal Patterns and Behavior in Captive Western Lowland Gorillas

### ROSAMOND GIFFORD ZOO AT BURNET PARK

#### Field Conservation

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

Amphibian Ark

International Elephant Foundation (IEF)

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Laguna Atascosa National Wildlife Refuge

Ocean Conservancy

Plastic Free July Sponsorship

Red Panda Network (RPN)

Snow Leopard Trust (SLT)

Turtle Survival Alliance

### SENECA PARK ZOO

#### Education

Animal Presentations

Bunk With Beasts

Expeditions

Family Overnights

Homeschool classes

KinderZoo

Nature Hikes

Park Clean Ups

Scout Workshops

ZooCamp

ZooTeen Leaders + ZooTeens

#### Field Conservation

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

Black Bear Den Surveys

Chittenango Ovate Amber Snail Annual Count

Eastern Massasauga Rattlesnake Mark and Recapture

Giraffe Conservation Alliance

Giraffe Conservation Foundation  
 Health in Harmony  
 International Animal Rescue (IAR)  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF)  
 Lake Sturgeon Restoration in the Genesee River at Seneca Park  
 Polar Bears International (PBI)  
 Snow Leopard Trust (SLT)  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
 Turtle Survival Alliance (TSA)

### Green Practices

#### ENERGY

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)

#### WATER

Documented Amount Used

### Research

Assessment of Basal Seminal Traits and Semen Cryopreservation in the Canada Lynx

## STATEN ISLAND ZOO

### Education

Animal Training Demonstrations  
 Autism Awareness Day  
 Breakfast and Lunch With Santa  
 Breakfast With the Beasts  
 Breakfast With the Bunny  
 CASA (Cultural After School Adventure Program)  
 Conservation Celebration  
 Cub Scout Day  
 Dinosaurs and Fossils  
 Dinosaurs Rock  
 Docent Presentations

Docent Program - Training  
 Education Animal Presentations  
 Girl Scout Day  
 I Heart the Zoo  
 In Zoo Education Programs  
 Kid Fun Days  
 New York Adventure Club Tours (NYAC)  
 Penguin Day  
 Pizza With the Keepers  
 Public Education/Outreach  
 Serpent Day  
 Shear Madness/Farm Day  
 SIZ After Dark  
 Sky Kings Raptor Show  
 Southern Ground Hornbill Day  
 Special Needs Adult Programming  
 Spooktacular  
 Spring Zoofari  
 STEM Wildlife Camp  
 Thanksgiving With the Beasts  
 Traveling Zoo Education Programs  
 Urban Advantage - Student Programming  
 Urban Advantage - Teacher Training  
 World Lemur Day  
 World Turtle Day  
 Zoofari Summer CIT Program  
 Zoofari Summer Programming  
 Zoolympics

### Field Conservation

AZA FrogWatch USA - Local Chapter Coordinators  
 AZA FrogWatch USA - Volunteers  
 Blue Heron BioBlitz  
 King Cobra Conservancy  
 Lemur Love, Inc

### Research

Milk Composition of Two-Toed Sloth (*Choloepus hoffmanni*)  
 Normal Cytology and Bacterial Flora From Pouches of Red Kangaroos (*Macropus rufus*) at SIZ

**TREVOR ZOO****Education**

Birthday Party Presentations  
 Climate Change Exhibit Media  
 College Volunteer & Fieldwork Program  
 Conservation Handouts  
 Group Animal Presentations On-Site  
 Keeper Talks  
 Millbrook School Community Service  
 Science Presentation (Talk and/or Animal Presentations)  
 Off-Site  
 Staff Guided Tours  
 Staff Presentations (Animal Behavior, Adaptations, Nutrition,  
 Zoo's Roles, and Conservation)  
 Summer Counselor Program  
 Summer Volunteer Program  
 Trevor Zoo Teacher's Guide

**Field Conservation**

Bog Turtle Population Analysis and Habitat Restoration  
 Invasive Species Control: Pale Swallowwort  
 Trevor Conservation Support Fund: TSA  
 Wood Turtle Population Survey and Habitat Analysis

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Community Solar Program  
 Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)  
 Generated Solar or Wind Energy  
 Green Building Policy/Commitment  
 Green Purchasing Policy/Green Procurement  
 Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

**Research**

Red Panda Juvenile Mortality Study  
 The Effects of Snow Leopard Stimulants on Red Panda  
 Corticosterone Levels at the Trevor Zoo

**UTICA ZOO****Education**

Guided Tour  
 Home School Classes  
 Preschool Classes  
 Zoo Camps  
 ZooMobile

**Green Practices****PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

**WILDLIFE CONSERVATION SOCIETY****Education**

Adult Overnight  
 Adult Volunteer Interpretation  
 Advanced Inquiry Program (AIP)  
 Afterschool Programs  
 Aquarium Outreach

- Birthday Parties  
 Brooklyn Cultural Adventures Program  
 Community Outreach Program/Special Events  
 Discovery Guides  
 Family Overnight Adventures  
 Family/Science Days  
 Guided Tours  
 Informal Programs: Adult Programs  
 Informal Programs: Children & Families  
 Informal Programs: Scouts  
 Informal Programs: Zoo Play Classes  
 Nature Club  
 NatureStart™  
 Professional Development Courses  
 Project TRUE (Teens Researching Urban Ecology)  
 Scavenger Hunts  
 School Partnerships  
 School Programs (Classroom)  
 Urban Advantage  
 WCS Presents Field Sight  
 WCS Youth JIVE (Job, Internship, and Volunteering Expo)  
 WCS-U  
 Wildlife Conservation Corps  
 Wildlife Theater  
 Youth Advisory Council (YAC)  
 Youth Ocean Conservation Summit  
 Zoo and Aquarium Summer Camp  
 Zoo Quests
- Field Conservation**
- AZA Komodo Dragon SSP – Conservation Fund  
 AZA SAFE  
 Curatorial Conservation Project – Batagur Conservation in India With Turtle Survival Alliance  
 Curatorial Conservation Project – Big Headed Turtle Conservation Program  
 Curatorial Conservation Project – Cambodian Royal Turtle Conservation  
 Curatorial Conservation Project – Canada Goose Population Management  
 Curatorial Conservation Project – Cuban Crocodile Breeding Facility Support and Reintroduction Effort  
 Curatorial Conservation Project – Headstart Program for Eastern Hellbender  
 Curatorial Conservation Project – Propagation of the Extinct-in-the-Wild Kihansi Spray Toad  
 Curatorial Conservation Project – Puerto Rican Crested Toad Propagation  
 Curatorial Conservation Project – Resident Bat Species in the Bronx, New York  
 Curatorial Conservation Project – Siamese Crocodile Conservation in Cambodia  
 Curatorial Conservation Project – Siamese Crocodile Conservation in Indonesia  
 Curatorial Conservation Project – Support of the Madras Crocodile Bank Trust, King Cobra Ecology Project  
 Give A Sip Campaign  
 Global Conservation Projects – Africa  
 Global Conservation Projects – Asia  
 Global Conservation Projects – Challenges and Central Initiatives  
 Global Conservation Projects – Conservation Science and Solutions  
 Global Conservation Projects – Latin America and the Caribbean  
 Global Conservation Projects – Marine-Seascape Conservation  
 Global Conservation Projects – North America  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 New England Cottontail Rabbit Conservation Project  
 Veterinarian and Pathological Project – Philippine Forest Turtles Confiscation Event  
 Veterinarian Project – Assessing the Health of Atlantic Shark Populations via Hematology, Plasma Biochemistry, Protein Electrophoresis, Cholesterol Electrophoresis, and Acute Phase Proteins  
 Veterinarian Project – Citizen Science Reveals Female Sand Tiger Sharks (*Carcharias taurus*) Exhibit Signs of Site Fidelity on Shipwrecks  
 Veterinarian Project – Health Assessment and Disease Surveillance of Grand Cayman Iguanas  
 Veterinarian Project – Health Assessment of Common Loons in the Adirondacks  
 Veterinarian Project – Health Assessments of Bog Turtles in the Northeastern United States

Veterinarian Project – Heath Assessment, Reproductive Research and Telemetry Studies of Atlantic Ocean Sharks

Veterinarian Project – Identification of Critically Endangered Yangtze Giant Softshell Turtle in Environmental Samples

Veterinarian Project – Massive Radiated Tortoise (*Astrochelys radiata*) Confiscation – Medical Care, Husbandry and Health Assessment

Veterinarian Project – Microplastic Trophic Transfer and Plastic-Associated Toxin Exposure in North Atlantic Elasmobranchs

Veterinarian Project – Monitoring Health of Roofed Turtles Prior to Reintroduction

Veterinarian Project – Myanmar Big-Headed Turtles Confiscation (Clinical and Pathology)

Veterinarian Project – Physiological Effects of Capture Stress in the White Shark

Veterinarian Project – Population Survey and Health Assessments of Turtles in the Bronx River

Veterinarian Project – Prey Identification Through Assessment of Fecal DNA of Various Species of Sharks

Veterinarian Project – Semen Analysis of White Sharks

Veterinarian Project – Unusual Recurring High Mortality in Southern Right Whales (Pathology)

Wildlife Conservation Society (WCS) – 96 Elephants

Wildlife Health Program – Assessing White-Nose Syndrome in the West

Wildlife Health Program – Central New York

Wildlife Health Program – Democratic Republic of Congo

Wildlife Health Program – Identification of Regulated and Endangered Shark Species in the Illegal Wildlife Trade in Indonesia

Wildlife Health Program – Laos and Cambodia One Health Network (LACANET)

Wildlife Health Program – Latin America

Wildlife Health Program – Predict

Zoo Health Program – Assessing Arctic Migratory Bird Health in the Context of Climate Change

Zoo Health Program – Developing and Deploying a Rapid Field-Friendly Genetic Test for the Detection of Canine Distemper Virus (CDV) in Wildlife

Zoo Health Program – Health Assessment, Pre-Release Health Screening, and Disease Surveillance of Southern River Terrapin in Cambodia

## Green Practices

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Building Energy Management

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Stormwater Management Program

## Research

Curatorial Research Project – Evaluation of the “Buddy” Digital Egg Monitor as a Tool for Measuring and Tracking Avian Embryonic Heart Rate

Curatorial Research Project – Genetic Analysis of the Inca Tern Colony at the Wildlife Conservation Society (WCS)/Bronx Zoo

Curatorial Research Project – Genetic Analysis of the US Population of Baer’s Pochard for Improved Captive Management

Curatorial Research Project – Investigation of Problematic Interactions Between Bolivian Gray Titi Monkeys and Superb Starlings in a Mixed-Taxa Exhibit

Curatorial Research Project – Investigation of Waterfowl Egg Density as a Predictor for Artificial Incubation Relative Humidity Needs

Curatorial Research Project – Monitoring Behavior During Breeding Introductions of a Naive Snow Leopard Pair

Curatorial Research Project – Quantifying Social Changes Within a Troop of Japanese Macaque After Introduction of a New Male

Curatorial Research Project – Retrospective Analysis of Waterfowl Propagation Records at the Central Park Zoo

Veterinarian Project – Investigation Into Diagnostic and Therapeutic Options for Sarcocystosis in Captive Thick-Billed Parrots

Veterinarian Project – Acute Phase Protein and Protein Electrophoresis Values for Captive Bongo (*Tragelaphus eurycerus*)

Veterinarian Project – Assessing Efficacy of an Aspergillus Fumigatus Vaccine in Inca Terns and Eider Ducks

Veterinarian Project – Husbandry, Morbidity, and Mortality of Cloud Rats

Veterinarian Project - Investigating Cardiac Disease in Gelada

Veterinarian Project - Investigation Into the Distribution and Speciation of Entamoeba Infection and Species Within the Reptile Collection at the Bronx Zoo

Veterinarian Project - Investigations Into the Causes and Treatment of Ulcerative Dermatitis in Captive Waldrapp Ibises

Veterinarian Project - Pharmacokinetics of Ponazuril in Indian Peafowl

Veterinarian Project - Reproductive Assessments of Select *Ex-Situ* Shark Populations Within the New York Aquarium

Veterinarian Project - Retrospective Analysis of Mortality in Captive Bongo (*Tragelaphus eurycerus*)

Veterinarian Project - Retrospective Mortality Review of Tentacled Snakes in the Wildlife Conservation Society (WCS) Collections

Veterinarian Project - Speciation of Malaria (Plasmodium) Parasites in Species of Captive Penguin, Tern, and Eider at the Wildlife Conservation Society

Veterinarian Project - The Use of Awake CT-Scan for the Evaluation of Penguin Air Sac and Lung Volumes and Identification of Pulmonary Lesions

## North Carolina

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### DUKE UNIVERSITY LEMUR CENTER

#### Field Conservation

Duke Lemur Center - Sambava-Andapa-Vohemar-Antalaha (SAVA) Conservation Initiative

Madagascar Fauna and Flora Group (MFG)

#### Green Practices

##### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)

#### Research

Facilitation of External Research

### GREENSBORO SCIENCE CENTER

#### Field Conservation

AZA Conservation Grants Fund (CGF)

Coral Restoration Foundation

Island Conservation - Mona Iguana Project

Sawfish Conservation Society

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

Turtle Survival Alliance

Zoo Conservation Outreach Group (ZCOG)

#### Green Practices

##### ENERGY

Generated Renewable Energy On-Site

##### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

##### FOOD

Sourced Local Food or Grew it On-Site

##### FUEL

Documented Amount Spent

##### GREEN CERTIFICATIONS

One or More Buildings LEED-Certified by the US Green Building Council

##### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Graywater Reuse and/or Rainwater Harvesting

Stormwater Management Program

Waterwise Landscaping

##### WATER

Documented Amount Spent

#### Research

Bat Species Utilization of Forest Canopy

Box Turtle Connection Project

Candid Critters

## MUSEUM OF LIFE AND SCIENCE

### Education

Girl Scout Programs  
 Homeschool Programs  
 Keeper Talks  
 School Programs  
 Summer Camp  
 The Lab

### Field Conservation

Red Wolf Education  
 Turtle Survival Alliance

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Smart Building Strategies  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Water Submetering  
 Waterwise Landscaping

### Research

Building With Biology  
 Citizen Science, Climate Change, and Resilient Communities  
 Community Resilience to Climate Change Public Forums  
 Electroreception in Butterflies  
 NSF Career: Method Development for High-Resolution Underway N<sub>2</sub> Fixation Measurements

## NORTH CAROLINA AQUARIUM AT FORT FISHER

### Education

Alligator Egg Hunt – Easter Program  
 Animal Encounters  
 Animal Programs  
 Auditorium Program  
 AZA FrogWatch USA  
 Behind-the-Scenes Tours

Birthday Parties

Camps – Summer Camps and Year-Round Day Camps

Cape Fear Shoals Dive Presentation

Distance Learning

Family Nature Club

Feeding Presentations

General Outreach

Homeschool Programs

Indoor Programs

Nature Play With Girls Leadership Academy of Wilmington

Outdoor Exploration Programs

Outreach Events

Scout Programs

Sea Scholars

Self-Guided Tours for School Groups

Sleepovers

Summer Teen Volunteer Program

Teen Ocean Stewards

### Field Conservation

Aquarium Conservation Partnership (ACP)

Carolina Gopher Frog Reintroduction

Conservation Coordination

Elasmobranch Reproductive Studies

Habitat Use Patterns of Cownose Rays

Habitat Utilization of Mature Female Sand Tiger Sharks (*Carcharias taurus*) in North Carolina Coastal Waters (Using Acoustic Telemetry Techniques)

Lionfish Management

Marine Mammal Stranding Response

SAFE Within

Sand Tiger Shark Identification

Sea Turtle Stranding Response Team

The Ocean Project

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FUEL**

Documented Amount Spent

Documented Amount Used

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Fish Propagation Programs in North Carolina Aquariums

**NORTH CAROLINA AQUARIUM AT  
PINE KNOLL SHORES****Education**

Animal Encounters

Behind the Scenes Tours

Camp Programs

Digital Puppetry Program

Distance Learning

Dive Presentations

Early Childhood Education Programs

Feeding Presentations

Fishing Programs

Kid's Parties and Sleepovers

Large Group Outreach Programs

Live Animal Programs

Outdoor Recreation Programs

Outreach Programs - Festivals and Community Events

Paddling Programs

School Group - Lab Programs

School Group Auditorium Programs

Scout Programming

Small Group Outreach Programs

Sustainable Seafood Programs

Teacher Workshops

Teen Programs

Themed Daily Programs

**Field Conservation**

Aquarium Conservation Partnership (ACP)

Carolina Gopher Frog Reintroduction

Conservation Coordination

Elasmobranch Reproductive Studies

Habitat Use of Sand Tiger Sharks

Habitat Use Patterns of Cownose Rays

Lionfish Management

Marine Mammal Stranding Response

SAFE Within

Sand Tiger Shark Identification

Sea Turtle Stranding Network

The Ocean Project

Theodore Roosevelt Nature Inventory

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green IT

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Stormwater Management Program

Wastewater Reduction

Waterwise Landscaping

**Research**

Fish Propagation Programs in North Carolina Aquariums

## NORTH CAROLINA AQUARIUM ON ROANOKE ISLAND

### Education

Adult Craft

All About Alligators

All About Sharks

Alligator Encounter

Alligator Feeding

Aqua Tots

Aquarist for the Day

Art in the Ocean

Beach Exploration

Behind the Scenes Tours

Believe It or Not

Big Sweep

Birthday Parties

Breakfast With the Rays

Career Fairs

Circle of Life

Cold Blooded Critters Tour

Creating Change

Creature Features

Day Camps

Dialogue With the Diver

Disaster Zone

Dolphin Math

Earth Day

Educational Videos

Endangered Species Day

Ends of the Earth

Fish Feeding

Flying Reptiles

Freshwater Turtles

Getting to Know: Owls

Got Fur?

Growing Green

Guide to the Solar System: SOS Program

Gyotako

Happy Otter Hour

Impromptus

International Shark Awareness Day

Jellies

Let's Go Crabbing

Library Programs

Lights Out!

Lobby Feed

Marine Invertebrate Lab

Nature of the Outer Banks

Nature's Heroes

Nautical Wreaths

Noxious Nature

Ocean Jeopardy

Ocean Rescue Training

Oceans 101

Octopus

Opossum Encounter

Otter Enrichment

Paddling Around Roanoke Island

PM Live Animal & Tour - 2 Hours

Proper Pet Awareness Day

Puppet Shows

Quarantine Tours

Rescue Men

Saltwater Badge Program

Sea Turtle Egg Hunt

Sea Turtle Encounter

Sea2Sound Walking Field Trip

Shark Bites

Shark Dissection

Shark Exhibit Tour

Shark Feeding Program

Sharks!

Sleeping With the Sharks

Snake Encounter

Squid Dissection

Standup Paddleboarding

STAR Center Tour and Program  
 Stars and More  
 Stingray Feeding  
 Summer Camp  
 Tail Spin  
 Tank Talks  
 Touch Tank Animals  
 Trick or Treat Under the Sea  
 Wandering Nomads: Turtles  
 Weather or Not  
 Wetland Walks  
 What's the Catch  
 World Oceans Day  
 World of Weird

### Field Conservation

Carolina Gopher Frog Reintroduction  
 Conservation Coordination  
 Elasmobranch Characterization in the Cape Fear River  
 Elasmobranch Reproductive Studies  
 Habitat Use Patterns of Cownose Rays  
 Lionfish Management  
 Marine Mammal Stranding Response  
 SAFE Within  
 Sand Tiger Shark Conservation and Management  
 Sand Tiger Shark Identification  
 Sea Turtle Rehabilitation  
 The Ocean Project

### Green Practices

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program  
 Wastewater Reduction

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

### Research

Aquatic Conservation Partnership  
 Fish Propagation Programs in North Carolina Aquariums

### NORTH CAROLINA ZOO

#### Field Conservation

Big Cat and Other Wildlife Conservation in Southern Africa  
 Carolina Gopher Frog Headstarting  
 Conservation of Avifauna on the Mariana Islands  
 Conservation of Elephants and Other Wildlife in Nigeria's  
 Yankari Game Reserve  
 Conservation of Vultures in Tanzania  
 Conservation Staff  
 Cross River Gorilla Monitoring in Nigeria and Cameroon  
 Giraffe SAFE  
 Hellbender Surveys in Western North Carolina  
 Local Land Purchase and Management  
 Mabula Ground Hornbill Conservation  
 Madagascar Radiated Tortoise Rescue  
 Monarch Watch - Monarch Waystation Program  
 Namibia Rhino Conservation  
 Puerto Rican Crested Toad Conservation  
 Red Wolf Breeding and Reintroduction  
 Sahara Conservation Fund (SCF)  
 Snare Removal Patrols in Kibale National Park, Uganda  
 Spatial Monitoring and Reporting Tool (SMART)  
 Conservation Monitoring Software Development  
 The Elephants of Cameroon

Turtle Survival Alliance Support  
 UNITE for the Environment Conservation Education Project –  
 Uganda's Kibale National Park  
 Virgin Islands Boa Recovery

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified Under ISO 14001

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure  
 Sustainability Performance  
 Used Environmental Management System

Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

### Research

African Vulture Research  
 Analysis of Fatty Acid Profile in Eastern Box (*Terrapene carolina carolina*) and Common Snapping (*Chelydra serpentina*) Turtles for Wild and In-Human Care Environments  
 Ape Movement  
 Assessment of Disease in Raccoon Latrines  
 Black Bear Behavioral Study  
 Chimpanzee Behavior Study  
 Cross River Gorilla Disease Transmission Study  
 Eastern Box Turtles (*Terrapene carolina*) and Marine Toads (*Bufo marinus*) Blood Study  
 Education Evaluation of *In-Situ* Conservation Education Work  
 Effect of Multi-Radiance Low-Level Laser Therapy and Topical Silver Sulfadiazine on Healing Characteristics of Dermal Wounds in Marine Toads (*Rhinella marina*)  
 Elephant Behavioral Study at the North Carolina Zoological Park  
 Elephant Body Condition  
 Elephant Nutrition Study  
 Enrichment Use by Arctic Seabirds  
 Gorilla Enrichment and Behavior

Gorilla Fecal Microbiome Assessment  
 Hamadryas Baboon Behavior Study  
 Insect Nutrition as Feed Animals  
 Marine Toad Diet Study  
 Otter Behavior Study  
 Polar Bear Behavior  
 Proteins in Box Turtle Post Trauma  
 Rhino Fatty Acid Profile  
 Sand Cat Behavior  
 Snake Mark-Recapture Study  
 Virgin Island Boa Study  
 Visitor Studies  
 White Tailed Deer Reproduction

#### SEA LIFE CHARLOTTE-CONCORD AQUARIUM

##### Field Conservation

Brown-Banded Bamboo Shark  
 Catawba Riverkeeper Foundation  
 Potbelly Seahorse Breeding  
 Rocky River Stream Cleanup (Adopt-A-Stream)  
 Seafood Watch

##### Green Practices

###### ENERGY

Documented Amount Spent  
 Documented Amount Used

###### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

###### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Community-Based Sustainability Projects  
 Green Purchasing Policy/Green Procurement  
 Purchased Carbon Offset(s) for On-Site Utility Use

#### WESTERN NORTH CAROLINA NATURE CENTER

##### Education

AZA FrogWatch USA  
 Critter Time for Tikes and Tots  
 One-Day Special Events  
 Summer Camp Programs  
 Young Naturalists and Young Curators

##### Field Conservation

American Chestnut Tree Recovery Program  
 Appalachian Wildlife Refuge - Host Site  
 AZA FrogWatch USA  
 Bat and Bird Box Installation and Monitoring  
 Eastern Hellbender Rehabilitation Program  
 E-Bird Monitoring  
 Ecology Project International  
 Elk Ecology Family Camping Workshop  
 Great Smoky Mountains All-Taxa Biodiversity Inventory Project (ATBI)  
 The North Carolina Urban/Suburban Black Bear Study - Waste Management Bin Testing  
 Trout in the Classroom - Trout Headstart Program

##### Green Practices

###### FOOD

Sourced Local Food or Grew it On-Site

###### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

###### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Green IT  
 Procured Local Food for On-Site Animals and/or Guest  
 Waterwise Landscaping

## North Dakota

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### DAKOTA ZOO

#### Field Conservation

Are There Black-Footed Ferrets in Theodore Roosevelt National Park?

AZA FrogWatch USA

AZA Tiger SSP – Tiger Conservation Campaign

Bison Collaring Project – Theodore Roosevelt National Park

Black-Footed Ferret Population Monitoring in the Conata Basin, South Dakota

Field Conservation Interpretation For Dakota Zoo Visitors

Golden Eagle and Prairie Falcon Nest Surveys in Theodore Roosevelt National Park

Helping Communities Protect Snow Leopards

Mongolian Wild Horse Sustainability in Wild Project

Raptor Rehabilitation

Snow Leopard Trust (SLT) – Long-Term Ecological Study of Snow Leopards in Mongolia’s South Gobi Province

Support for Prairie Wildlife Research, Inc.

Transportation of SSP Animals Between Facilities

#### Green Practices

##### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)

### RED RIVER ZOO

#### Research

North Dakota State University (NDSU)

Potential Multi-Species Pregnancy Test

### ROOSEVELT PARK ZOO

#### Education

Canvas, Corks, and Conservation

Family & Friends Snore N Roar

FrogWatch USA – Citizen Scientist

On-Site Outreach

Snore N Roar

Summer Zoo Camp

Winter Zoo Camp

Zoo to You Outreach

Zoo Tots

#### Field Conservation

AZA FrogWatch USA

Black-Footed Ferret Spotlighting

Giraffe Conservation Alliance

Okapi Conservation Project

Saving Vanishing Species Stamp

Snow Leopard Trust (SLT)

#### Green Practices

##### GREEN PRACTICES IMPLEMENTED

Smart Building Strategies

#### Research

Nutrient Analysis of Frozen Browse

## Ohio

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### AKRON ZOOLOGICAL PARK

#### Education

Career Programs

College Vet Day

Early Childhood Programs

Grizzly Bear Training Wall Talk

Learning Lab

On-Grounds Programs and Tours

Snooze at the Zoo

Wild World Animal Show

ZooCamp

ZooMobile

#### Field Conservation

American Association of Zoo Keepers (AAZK) – Cans for Corridors

AZA FrogWatch USA

AZA Tiger SSP – Tiger Conservation Campaign

Greater Akron Audubon – Akron Zoo Christmas Bird Count  
 Humboldt Penguin Project: Punta San Juan, Peru  
 Instituto de Pesquisas Ecológicas (IPÊ)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Jaguar SSP  
 Madagascar Fauna and Flora Group (MFG)  
 Medina Raptor Center  
 Ohio Lights Out  
 Rebuilding the Pride – African Lion Conservation  
 Red Panda Network (RPN)  
 Red Wolf Coalition  
 Snow Leopard Trust (SLT)  
 Turtle Survival Alliance (TSA)  
 White-Winged Duck: Conservation Status and Site-Specific  
 Threats to it in and Around Dehing Patkai Wildlife  
 Sanctuary  
 Wildlife SOS

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat  
 Certified by the Green Restaurant Association  
 One or More Buildings LEED-Certified by the US Green  
 Building Council

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Alternative Transportation Benefits for Staff  
 Building Energy Management  
 Carbon Offsets for Employee Travel  
 Commingled Recycling  
 Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Stormwater Management Program  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan  
 Specified a Portion of the Amount Saved for Next Year's  
 Green Practices

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

Akron Zoo – Hiram College Partnership  
 Eastern Carolina University White-Winged Wood Duck  
 Genetics and Tuberculosis PCR Development

### BOONSHOFT MUSEUM OF DISCOVERY

#### Field Conservation

AZA SAFE Fund  
 Sloth Conservation Foundation

## CINCINNATI ZOO &amp; BOTANICAL GARDEN

## Education

Adult Programs  
 Advanced Inquiry Program  
 America Recycles Day  
 Barrows Conservation Lecture Series  
 Behind-the-Scenes Experiences  
 Blakely's Barnyard Bonanza  
 Cat Ambassador Outreach Program  
 Center for Conservation and Research of Endangered  
 Wildlife (CREW) Tours  
 Cheetah Encounter  
 Corporate Community Service Program  
 Earth Expeditions  
 Family Community Service Program  
 Family Programs  
 Go Bananas Cell Phone Recycling Challenge  
 Greater Cincinnati Environmental Educators (GCEE) Ultimate  
 Educator Expo  
 Green Programs  
 Internships  
 Keeper Chats  
 Overnight Adventures  
 School Close Encounters  
 Seasonal Highlights  
 Self-Guided Activities & Tours for Schools  
 University of Cincinnati "At the Zoo" Courses  
 Wild Discover Zones  
 Wild Encounters  
 Wings of Wonder Bird Encounter  
 Wings of Wonder Outreach Program  
 Zoo Camp  
 Zoo on the Move – Community  
 Zoo on the Move – Schools  
 Zoo Troop  
 ZooTeens

## Field Conservation

African Manatee Research and Conservation in Senegal  
 African Wildlife Conservation Fund – Conserving Africa's  
 Endangered Wild Dogs in Zimbabwean Lowveld  
 American Burying Beetle (ABB) Reintroduction Program  
 Asian Elephant Support (AES)  
 Autumn Buttercup (*Ranunculus aestivalis*) Reintroduction  
 Bird Strike Mitigation Program  
 Black-Footed Cat Working Group  
 Blue Throated Macaw  
 Botswana Predator Conservation Trust (BPCT)  
 Bowyer Farm Habitat Restoration  
 Enhancement of Gorilla Related *In-Situ* Conservation  
 Education in Northern Democratic Republic of Congo  
 International Elephant Foundation (IEF) – Elephant  
 Conservation Units in Sumatra  
 International Rhino Foundation (IRF) – Sumatran Rhino  
 Conservation  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Kea Conservation in New Zealand  
 Lights Out Cincinnati  
 Madagascar Tortoise Rescue  
 Manatee Rehabilitation Centre of Belize  
 Manatee Rescue and Rehabilitation Partnership (MRP)  
 Northern Wild Monkshood (*Aconitum noveboracense*)  
 Ocelot Conservation in Texas  
 Okapi Conservation Project  
 Pallas' Cat Conservation  
 Polar Bears International (PBI)  
 Pollen Nation  
 Propagation of Rugel's Pawpaw for Restoration  
 Propagation of South Florida Ferns for Restoration  
 Raptor, Inc. – Local Raptor Rehabilitation  
 Rebuilding the Pride – African Lion Conservation  
 Red Panda Paintings  
 Sand Cat Conservation  
 Southern African Foundation for the Conservation of Coastal  
 Birds (SANCCOB)  
 Survey for Rare Graptemys Species and Green Salamander in  
 Northeastern Mississippi

The Sloth Institute Costa Rica  
 Uganda Waterways Project  
 Urban Fishing Cat Project  
 VulPro – Vulture Conservation  
 Wild Camel Protection Foundation (WCPF)  
 Wild Nature Institute  
 Zoos Victoria Fighting Extinction

## Green Practices

### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent  
 Documented Amount Used

### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association  
 One or More Buildings LEED-Certified by the US Green Building Council

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Completed Greenhouse Gas Inventory  
 Denitrification Systems On Ground  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment

Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

### PLANS, POLICIES, AND BUDGETS

Specified a Portion of the Amount Saved for Next Year's Green Practices

### WATER

Documented Amount Spent  
 Documented Amount Used

## Research

African Painted Dog Reproduction Study  
 An Evaluation of Putative Dinosaur Socio-Sexual Behaviour and its Implications for Paleobiology  
 Aquatic Salamander Program  
 Assessing Long-Term Stress in Great Apes: Allostatic Load in Bonobos (*Pan paniscus*)  
 Assessment of Fecal Hormone Metabolites for Monitoring Reproductive Activity in a Captive Female Aye-Aye (*Daubentonia madagascariensis*)  
 Association of Fecal Corticoid Concentrations With Clinical Avian Bornavirus in Kea  
 AZA Gorilla Survey: Regurgitation/Reingestion and Diets  
 Brazilian Jaguar Semen Banking and Artificial Insemination  
 Characterization of Milk Composition in Gorillas Throughout Lactation  
 Comparative Stable Isotope Analysis of Post-Consumed Food  
 Comparison of Circulating Vitamin D 3 (25OHD) in Captive North American and Free-Ranging South African Black Rhinoceros (*Diceros bicornis*)

Development of a Rhino Ferritin Specific Assay for Monitoring the Progression of Iron Overload Disorder in Browsing Rhinos

Ecological Studies of Neotropical Primates

Effects of Laser and Swimming Treatments on Bumblefoot of Varying Severity in Little Blue Penguins

Exceptional Plant Signature Conservation Project

Genetic and Genomic Diversity of the Asian Elephant (*Elephas maximus*)

Genetic Diversity of Peter's Angola Colobus Monkey Population in Northern Tanzania and in Accredited American Zoos

Great Ape Heart Project

Great Ape Heart Project (GAHP): Bonobo Blood Pressure Study

Identification of Differentially Expressed, Circulating microRNAs as Biomarkers for Diagnosing and Monitoring Iron Overload Disorder in Rhinos

Investigation of the Genetic Diversity and *Ex-Situ* Collection of Federally Threatened Lakeside Daisy

Large Cat Semen Banking and Artificial Insemination

Mating Behavior and Chemical Communication of Necturus Salamanders

Novel Assessments of Body Composition and Relation to Metabolic Status and Fat Stores in Asian Elephants

Orangutan Biologger Design Testing

Ovarian Cycle and Pregnancy Monitoring of the Common Hippopotamus (*Hippopotamus amphibius*) Through Salivary Analyses and Trans-Abdominal Ultrasound

Patterns of Diversity in the Indigenous Microbiota of Captive Mammals

Polar Bear Signature Conservation Project

Rhino Signature Conservation Project

Rhinoceros Iron Overload Disorder Research

Small Cat Signature Conservation Project

Social Relationships of and Reciprocity in Vampire Bats

The Variation in Musth Among Asian Elephants (*Elephas maximus*): Applications For Management and Conservation

Understanding Bumblefoot Through Behavioral Manipulations: Radio-Frequency ID Tags for Measuring Swimming Behavior in Little Blue Penguins (*Eudyptula minor*)

Use of Multiple Play Signals in Captive Immature Western Lowland Gorillas

## CLEVELAND METROPARKS ZOO

### Education

Advanced Inquiry Program

Biomimicry

Break Camps

Career Day

Certified Interpretive Guide Training

Collaborative Inquiry Project

Connections to Africa

Conservation Leadership (Rhodes)

Docent Training

Educator Open House

Future for Wildlife Training

Life of Pi

NNOCCI Trainings

Rising Waters Adult Overnight Program

Rising Waters Overnight Program

Seasonal Interpreter Training

Summer Day Camp

Summer Day Camp Staff Training

Teacher Workshops

Tiger Tracks

Zoo Genetics

Zoo Tram Narration

### Field Conservation

Africa and Asia Seed Grants

Amphibian Ark

Andean Bear Conservation Alliance

Asian Turtle Conservation Program

AZA Conservation Grants Fund (CGF)

AZA Puerto Rican Crested Toad SSP - Recovery Program

AZA Tiger SSP - Tiger Conservation Campaign

Bwindi Apes Conservation Education Partnership

Cheetah Conservation Fund (CCF) - Cheetah Conservation and Human Impact in Kenya

Combating Illegal Hunting and Wildlife Trafficking in Sabah

Conservación de la Naturaleza Amazónica del Perú (CONAPAC)

### Conservation Grants Administration

Eastern Gorilla Conservation – Capacity-Building, Gorilla Monitoring, and Core Support

Eastern Plains Gartersnake Conservation Project

Education for Nature – Vietnam

Employing Conservation Dogs to Help Fight Wildlife Trafficking in Africa

Evaluation of Body Condition and Glucose Metabolism as Part of the Health Assessment of Nubian Giraffe (*Giraffa camelopardalis camelopardalis*) During Conservation Translocation

Giraffe Conservation Foundation (GCF)

Human-Wildlife Conflict Collaboration/Center for Conservation Peacebuilding

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Kinabatangan Orangutan Conservation Project

Little Fireface Project – Slow Loris Conservation

Madagascar Fauna and Flora Group (MFG)

Mbeli Bai Study (MBS) – Club Ebobo

Monitoring Wildlife Trade in the Wildlife Markets of Java and Bali

Operation: Stop Poaching Now

Red Panda Network (RPN)

Ruaha Carnivore Project (RCP)

Sea Turtle Research and Conservation in the Paria Peninsula, Sucre State, Venezuela

Snow Leopard Trust (SLT) – Natural Partnerships Program

The Amazon Center for Environmental Education and Research (ACEER) Foundation

TRAFFIC: The Wildlife Trade Monitoring Network

Tree Kangaroo Conservation Program

Turtle Survival Alliance (TSA)

UNITE for the Environment

University of Rwanda Memoirs Program

Using African Forest Elephant Behavioral Ecology to Inform Anti-Poaching Strategies

WildAid

Wildlife Conservation Society (WCS) – 96 Elephants – Anti-Poaching and Law Enforcement

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

### Research

CS2014-010 Assessing Welfare in Zoo-Housed Cheetahs Under Different Management Strategies

CS2015-015 Effect of Meal Frequency on Biological Indicators of Inflammation and Glucose Metabolism, Fecal Microbiome, and Behavior in Cheetahs Housed at Cleveland Metroparks Zoo

CS2016-003 Developing Techniques for Studying Effects of a Novel Skin Disease on Locomotion in *Giraffa camelopardalis*

CS2016-009 Addendum to CS2015-011 Developing Assisted Reproductive Technologies in Freshwater Turtles

CS2016-014 The Impact of Diet on Sloth Bear Physiology, Health, and Behavior

CS2016-026 Learning and Behavior Outcomes Associated With Conservation Education Teacher Training in Communities Adjacent to Kibale National Park (UNITE) and Bwindi Impenetrable National Park (BACEP)

CS2016-027 Bear Behavior Monitoring

CS2017-009 Investigating Giraffe Behavior and Space Use in Relation to a Guest Feeding

CS2017-013 Effects of a Low Starch, High Fiber Diet on Health and Behavior of Orangutans at Cleveland Metroparks Zoo

CS2017-014 Gorilla Behavior and Health Monitoring

CS2017-016 Salivary Sample Request for Validation of Oxytocin Assay for Black Rhinoceros

CS2017-017 Urine Sample Request for Validation of Assays Leptin, Adiponectin, and C-Peptide for Gorillas

CS2017-019 Monitoring Effects of Anxiolytic Medication on Allen's Swamp Monkey

CS2017-022 Which Methods of Quantifying Pacing Behavior Are Most Effective?

CS2017-026 Monitoring Behavioral and Physiological Indicators of Welfare in Several Species Moved to a Novel Zoo Environment

CS2017-036 Examining Adrenal Activity and Relationship to Reproductive Hormones and Behavior in a Female Matschie's Tree Kangaroo

CS2017-038 Oxytocin as a Measure of Social Bond and Welfare in Western Lowland Gorillas in North American Zoos

CS2018-011 STEM Matters: Investigating the Confluence of Visitors and Institutional Agendas

CS2018-001 Reproductive Management of the Eastern Black Rhino

CS2018-002 Zoo Keeper/Aquarist Survey

CS2018-003 The Effects of Enclosure Choice on the Behavioral Welfare of Zoo-Housed Amur Tigers (*Panthera tigris altaica*)

CS2018-006 Investigation of the Relationship Between Oxalate Fermenting Gut Bacteria and Urolithiasis in Asian Small Clawed Otters in Human Care

CS2018-007 Effects of Two Novel Enrichment Strategies on the Welfare of a Zoo-Housed Giant Pacific Octopus (*Enteroctopus dofleini*)

CS2018-010 Comparison of Circulating Vitamin D 3 (25OHD) in Captive North American and Free-Ranging South African Black Rhinoceros (*Diceros bicornis* spp.)

CS2018-014 An Examination of Welfare Indicators of a Zoo-Housed Green Tree Monitor (*Varanus prasinus*) in Response to Environmental Enrichment

CS2018-016 Geriatric Elephant Survey

CS2018-018 Evaluating Various Conservation Behaviors in Zoo Audiences: a Mixed Methods Study

Disease Surveillance of Cleveland Metroparks Deer Herds

## COLUMBUS ZOO AND AQUARIUM

### Education

Camp-Ins

Canvases for Conservation

Classroom Safari

Germain Keeper Talks

Homeschool Adventure Tours

Interpretive Contacts

Library Requests

Little Explorers' Base Camp

Outreach

School's Out Camps

Summer Experience Day Camp

Sunrise on the Savanna

Teacher Workshops

Teen Eco Summit

Twilight/Wildlights Tours

University Courses

VIP Tours

Wild Encounters Tours

Zoo School

ZooKids

ZooKids Seedlings

Zoombezi Bay Science Day

### Field Conservation

Akagera National Park

Akagera National Park Rhino Trackers

American Bird Conservancy

Amphibian Ark

Asociación de Rescate y Conservación de Vida Silvestre (ARCAS)

AWF Protecting Black Rhino in Kenya

AZA Eastern Massasauga Rattlesnake SSP

Bat Conservation International

Boots on the Ground - Omo-Shasha-Oluwa

Brown Bear Conservation and Research Programme in a Model Area in Romania

Captina Conservancy - Hellbender Research and Assessment

Caribbean Manatee Conservation

Center for Conservation Peacebuilding (Formerly) Human-Wildlife Conflict Collaboration

Center for the Conservation of Tropical Ungulates - Assessment of the Lowland Tapir

Centre for Bat Research and Conservation

Cheetah Conservation Fund (CCF) - Cheetah Conservation Education and Community Outreach

Cheetah Outreach Trust - Conserving Southern Africa's Free-Ranging Cheetah Through Farmer-Predator Conflict Mitigation

Club PAN (People, Animals, Nature): A Conservation Education Project of the Wild Chimpanzee Foundation Around the Tai National Park

Columbus Zoo Conservation

Connecting Zoo Professionals with Giraffe Conservation

Conserving the Endemic and Endangered Iringa Red Colobus Monkey

Dian Fossey Gorilla Fund International

Eastern Plains Garter Snake State Recovery Program

Elephants for Africa

Evaluating Local Community Sources of Intelligence for Tackling the Illegal Wildlife Trade

EWASO: Ecology and Conservation of Lions – Studying Factors Affecting the Population Dynamics in Northern Kenya

Fishing Cat Conservancy

Freshwater Mussel Conservation and Research Center

Giant Armadillo Project

Giraffe Conservation Foundation (GCF) – Conserving Africa’s Giraffe Through Research and Education

Hawk Conservancy: Combating Wildlife Poisoning Through Training in Southern Africa

Herpetofauna Responses to Reduced Impact Logging in Borneo

Hirola Conservation Programme

Integrating Science and Community Stewardship for Conservation of Critically Endangered Chinese Pangolins

International Elephant Foundation (IEF)

International Gorilla Conservation Program

International Iguana Foundation (IIF)

International Rhino Foundation (IRF)

International Rhino Foundation (IRF) – Black Rhino Conservation in Zimbabwe

J.A.C.K. Chimpanzee Sanctuary in Lubumbashi, DRC

Jane Goodall Institute – Release of Wild Born Mandrill

Kinabatangan Orangutan Conservation Project

Limbe Wildlife Centre

Little Fireface Project – Saving the Javan Slow Loris Through Ecology, Education, and Empowerment

Lola Ya Bonobo – Integrated Bonobo Conservation in the Democratic Republic of Congo

Lowland Tapir Conservation Initiative

Lwiro Primates (CRPL) Chimpanzee Habitat for Conservation and Education

Manatee Rescue and Rehabilitation Partnership (MRP)/ Manatee Species Recovery Plan

Marine Mammal Center – Advancing Ocean Conservation Through Marine Mammal Rescue, Rehabilitation, Scientific Research, and Education

Misión Tiburón Conservation of the Hammerhead Shark and its Critical Habitats in Golfo Dulce

Monitoring Disease Threats for the Reintroduction of the Endangered Iberian Lynx in Extremadura

Mountain Gorilla Veterinary Project

New Nature Foundation – Vietnam

Nubian Giraffe Health Assessment During Relocation

Ohio Wildlife Center

Ohio Wildlife Center – Central Ohio Lights Out Program

Okapi Conservation Project

Orangutan Appeal UK

Painted Dog Conservation

Pan African Sanctuary Alliance – Education Components

Pan African Sanctuary Alliance (PASA)

People and Carnivores – Carnivore and Rangeland Conservation on the Rocky Mountain Front

Polar Bears International (PBI)

PROCETUS – Photo Identification of Cetaceans

Project Wildcat

Protecting Grevy’s Zebras in Northern Kenya

Raptors Botswana

Research and Community Outreach to Conserve Threatened Atlantic Forest Birds in Argentina

Rwanda Wildlife Conservation Association

Satellite Tracking and Social Behavior of the Bornean Elephant in Kinabatangan

Save the Tasmanian Devil Program

Sea Turtle Watch Liberia

SEXual CORal REproduction (SECORE)

Snow Leopard Trust (SLT)

Snow Leopard Trust (SLT) – Long-Term Ecological Study of Snow Leopards in Mongolia’s South Gobi Province

Spatial and Temporal Patterns in the Occurrence of (*Leopardus wiedii*) Margay

Status and Conservation of *Mecistops cataphractus* in Obuasi Municipality

Supporting the Anti-Snaring Activities of the South Luangwa Conservation Society

Tacugama Chimpanzee Sanctuary

The Kasiisi Project

Tree Kangaroo Conservation Program

Turtle Conservation Project: Capacity Development Program in Sri Lanka

Turtle Survival Alliance (TSA)

Turtle Survival Alliance (TSA) – Central American River Turtle (Project Hicatee)

Uganda Wildlife Society

US Wildlife Trafficking Alliance

Vulture Conservation Programme (VulPro) – Cape Vulture Rehabilitation and Release

Walk the Line: Monitoring Animal Movement in Botswana Game Reserve

Wildlife Conservation Society – Beekeeping Project

Wildlife Poisoning Prevention and Conflict Resolution – Wildlife Poisoning Prevention and Anti-Poaching Support

Wildlife SOS Sloth Bear Attack Behavior and Behavioral Approach to Safety

WildSEAS Conservation

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

One or More Buildings LEED-Certified by the US Green Building Council

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Denitrification Systems On Ground

Diverted or Recycled Construction Waste

Energy Submetering

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Water Submetering

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

### Research

Assessing Long-Term Stress in Great Apes: Allostatic Load in Bonobos

AZA Gorilla Survey: Regurgitation/Reingestion and Diet

Characterization of Haemonchus Parasitism at the Columbus Zoo

Comparative Serum Proteomics Project

Computerized Tomographic Evaluation of Hepatic Liver Concentration in Two Turtle Species

Developing Diagnostic Tools to Characterize African Tree Pangolin Growth and Development, Implications for Species Conservation, and Health Assessments

Evaluating SDMA as a Renal Insufficiency Marker in Captive Cheetahs (*Acinonyx jubatus*) Through the Design of an Iohexol Clearance

Integration of a Bachelor Elephant Herd: Behavior, Endocrine, and Physiological Monitoring

Investigating the Composition of Milk of Apes

Orangutan Growth, Development, and Reproductive Strategies

Prosimian Biomedical Research Project

Quantitatively Measuring Welfare of Black Footed Penguins (*Spheniscus demersus*) Based on the 'Five Domains Model' and the AZA Animal Welfare Template

Quantitatively Measuring Welfare of Cheetahs Based on the 'Five Domains Model' and the AZA Animal Welfare Template

Quantitatively Measuring Welfare of Macaws Based on the 'Five Domains Model' and the AZA Animal Welfare Template

Spatial Relationships and Allostatic Load in Western Lowland Gorillas

Stress Levels and Behavioral Responses in North American Cougars (*Puma concolor*) in Human Care

Understanding Asian Elephant Welfare and Behavior After Zoo Hours

Variation in Musht Among Asian Elephant Applications for Management and Conservation

## THE WILDS

### Education

Education/Youth Safari

Homeschool Programs

Kids' Discovery Field Station

Outreach

Overnights

WildeCamp

### Field Conservation

Assessing Grassland Bird Diversity in The Wilds Bison Grazed Pastures

Assessing the Vegetation Community of Reclaimed Grasslands at The Wilds

Augmenting Barn Owl Nesting Opportunities

Bat Acoustic Surveys

Building Conservation Capacity for Future Restoration Ecologists

Cavity Nester Usage of Nest Boxes and Reproduction on a Reclaimed Surface Coal Mine

Comparing Microclimate Suitability for Terrestrial Salamanders Between Remnant and Reclaimed Forest

Conservation Genetics and Population Structure of Two Garter Snake Species in Western Montana

Control of Invasive Species Across the Landscape

Detecting the Endangered Mussel Carolina Heelsplitter Using eDNA Surveys

Determination of Eastern Hellbender Presence in Ohio Utilizing Environmental DNA (eDNA)

Determination of Predator-Avoidance Conditioning Techniques for Headstarted Eastern Hellbenders

Evaluation of Beaver Community at The Wilds

Evaluation of Miller Valley Wetland Following Restoration

Habitat Modeling of Loggerhead Shrike

Habitat Variables Associated With Meso-Predator Distribution and Abundance on a Reclaimed Surface Mine Using Camera Traps

Habitat Variables Associated With Salamander Distribution and Abundance on a Reclaimed Surface Mine

Headstarting Operations for Eastern Hellbenders

Improving Hardwood Forests Through Invasive Species Control

Long-Term Lepidopteran Surveys and Pollinator Habitat Enhancement

Miller Valley Stream Restoration

Monarch Butterfly Conservation

Monitoring the Health of the Miller Stream: An Assessment of Macroinvertebrate Communities

Native Bee Diversity and Abundance on Reclaimed Surface Mine Land

Native Taxon Inventories

Natives in Reclamation

Prairie Creation, Restoration, and Management of Native Plant Communities

Przewalski Horse and Onager Reproduction

Reforestation of Reclaimed Grasslands

Reintroduction of American Burying Beetles to Ohio

Scat Surveys for Genetic Identification and Diet Analysis of Carnivores on a Reclaimed Surface Coal Mine

Snake Fungal Disease

Surveying for Wintering Raptor Presence and Abundance Across Multiple Habitat Types at Reclaimed Coal Mines

Testing a Detection Dog Survey for the Black-headed Bushmaster in Costa Rica

Testing Prairie for Biomass and Carbon Sequestration on Reclaimed Mine Land

Using Soil eDNA to Test for Presence of Terrestrial Salamanders

Utilizing Fire Management to Maintain Prairie Ecosystems

Variables Associated With Artificial Vernal Pool Utilization by Spring-Breeding Amphibians on a Reclaimed Surface Mine

## TOLEDO ZOO & AQUARIUM

### Education

Animal Contact Yard

Animal Demonstrations

Behind-the-Scenes Tours

Birthday Party Animal Demonstrations

Bug Festival

Camps

Climate Change Symposium

Distance Learning

Dive Show Interpretation

Elephant Exhibit Inquiry Kiosks

Fisher-Price Amphitheater Show

Homeschool Programs

iEvolve With STEM

Junior Zookeeper

Nature's Neighborhood

Nature's Neighborhood Free Play Workshop

Ocean Lab

On Grounds School Programs

Outreach Programs

Overnight Programs

Party for the Planet

Play Naturally Toledo

Pop Up/Backyard Activities

Preschool

Preschool Programs

Project PRAIRIE

Safari Train Ride Interpretive Narrative

Scout Badge Programs

Seasonal Activity Carts

Teacher Professional Development

### Field Conservation

Aruba Island Rattlesnake Field Research

Conservation of the Kihansi Spray Toad

Ecology of the Cuban Boa on the United States Naval Base, Guantanamo Bay, Cuba

Great Lakes Piping Plover Recovery Effort – Salvage Rearing

Kirtland's Snake Monitoring and Assessment

Koala Education and Conservation

Maumee River Lake Sturgeon Rearing Facility

Mitchell's Satyr Reintroduction Program

Monarch Butterfly Rearing and Release

Native Orchid Conservation

Northwest Ohio Canid Assessment

Ohio Hellbender Headstart and Reintroduction

Ohio Turtle Survey and Monitoring

On-Grounds Biodiversity Monitoring

Pacific Bird Conservation/Mariana Avifauna Conservation (MAC)

Polar Bear Conservation Initiatives

Reintroduction of the Karner Blue Butterfly to the Oak Openings of Northwestern Ohio

Rewilding of Urban Brownfields With Prairie Installations

Santa Cruz Ground Dove Conservation

Save the Tasmanian Devil Program

Scaly-Sided Merganser Task Force

Snow Leopard Conservation in Kyrgyzstan

Wyoming Toad Field Surveys

Zooten Field Conservation Efforts

## Green Practices

### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Smart Building Strategies  
 Stormwater Management Program  
 Water Submetering  
 Waterwise Landscaping

## TOLEDO ZOOLOGICAL GARDENS

### Green Practices

#### ENERGY

Generated Renewable Energy On-Site  
 Purchased Renewable Energy

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

## Oklahoma

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### OKLAHOMA CITY ZOO AND BOTANICAL GARDEN

#### Education

Animal Presentations  
 Day Camps/Summer Camps  
 Nature Explorers Preschool  
 Overnight Programming  
 Schools/On Grounds  
 Schools/On Grounds GRANTS  
 Scout Badge Programs  
 Tuition/Family Classes  
 Zoomobiles - Outreach  
 Zoomobiles - Outreach Grants

#### Field Conservation

American Association of Zoo Keepers (AAZK) - Bowling for Rhinos  
 American Bird Conservancy  
 AZA Conservation Grants Fund (CGF)  
 AZA Komodo Dragon SSP  
 AZA Tiger SSP - Wildlife Conservation Society (WCS) - Sumatran Tiger Conservation Project  
 Belize Foundation for Research and Environmental Education  
 Connecting Wildlife Through Zambia's Transboundary Wildlife Movement Corridors in the Kavango Zambezi Tranfrontier Conservation Area (KAZA TFCA)  
 Conservation Ambronia  
 Conserving Grauer's gorilla in the Mwana Valley of Itombwe Natural Reserve, Democratic Republic of Congo  
 CrocFest  
 Dama Gazelle Conservation  
 Dian Fossey Gorilla Fund International  
 Diversity = Resilience: Marine Conservation in Urban Schools  
 Ecology, Conservation, and Reintroduction of Central American River Turtles  
 Giraffe Conservation Foundation (GCF)  
 International Otter Survival Fund  
 International Rhino Foundation

Jatun Sacha Foundation  
 Kedestes Butterfly Conservation Project  
 Monarch Butterfly  
 Monarch Watch  
 Northern Rangelands Trust – Conservancies Support  
 Okapi Conservation Project  
 Oklahoma Department of Wildlife Conservation  
 Painted Dog Research Trust  
 Pan African Sanctuary Alliance  
 Reintroduction Strategy for Radiated Tortoises  
 Seafood Watch  
 Snapshot Safari  
 Texas Horned Lizard Behavioral Ecology and Reintroduction  
 The Nature Conservancy – Oklahoma Chapter  
 Turtle Survival Alliance (TSA)  
 Warriors Protecting Grevy's Zebra in Laisamis, Northern Kenya

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FUEL

Documented Amount Spent

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Energy Submetering  
 Graywater Reuse and/or Rainwater Harvesting  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan

#### WATER

Documented Amount of Wastewater Generated

#### Research

A Study of Dominance Hierarchies in African Painted Dog  
 Blood Coagulation Assessment of Captive Asian Elephants (*Elephas maximus*)  
 Post-Occupancy Evaluation of Sanctuary Asia: Animal, Staff, and Visitor Responses  
 Small Mammal Survey  
 Social Behavior and Activity Budget of Orangutans at the Oklahoma City Zoo  
 Variation in Musth Among Asian Elephants (*Elephas maximus*): Applications for Management and Conservation

#### TULSA ZOO

##### Field Conservation

American Burying Beetle Project  
 AZA Tiger SSP – Tiger Conservation Campaign – Endau-Rompin Landscape of Peninsular Malaysia  
 Berdiri Foundation Elephant Response Unit – Way Kambas  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF) – Operation: Stop Poaching Now  
 Mabula Ground Hornbill Project (MGHP)  
 Monarch Butterfly Watch Program and Waystation Program  
 Monarch Initiative of Tulsa  
 Save the Wild Chinchillas  
 Seafood Watch – Conservation Partner  
 Snow Leopard Trust (SLT) – Natural Partnerships Program  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
 The Scarlet Macaw Population Recovery Program  
 West African Primate Conservation Action – Creation and Management of a Community-Protected Forest on the Border of Ghana and Côte d'Ivoire to Promote Conservation of Endemic Wildlife and Habitat  
 Wild Nature Institute

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Energy through Anaerobic Digester

Green IT

Procured Local Food for On-Site Animals and/or Guest

Purchased Carbon Offset(s) for On-Site Utility Use

Stormwater Management Program

Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

Waterwise Landscaping

### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

### WASTE

Documented Amount Composted

Documented Amount Recycled

### WATER

Documented Amount Spent

Documented Amount Used

## Research

Comparing Cortisol Levels to Behavior in Female Grizzly Bear in Captivity

Osteohistological Research to Build an Osteohistology Thin Section Database

Pharmacokinetics of Rectally and Orally Administered Levofloxacin in Asian Elephants (*Elephas maximus*)

The National Elephant Herpesvirus Laboratory (NEHL)

Understanding the Neurological Evolution of Bird Flight

## Oregon

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### OREGON COAST AQUARIUM

#### Education

Adult Volunteer Interpreters

Animal Encounters

Aqua Tots

Behind the Scenes Tour

Behind the Scenes Tours - Careers

Biofact Carts

Coastal Learning Symposium

Day Events

Dive Interpretation Presentations

Guest Displays

Job Shadows

Lab Programs

Magic Moments

Ocean Literacy Initiative

Oceanscape Network

Oregon Coast Education Partnership

Outreach

Passages Discovery Zone

Plankton Station

Public Animal Feedings

Sleepovers

Virtual Explorations

Volunteer Guided Walks

Volunteer Interpreter Training

Waterlines

Youth Volunteer Interpreters

### Field Conservation

Monitoring Transplanted Eelgrass (*Zostera Marina*) in a Newly Created Inter-Tidal Habitat

Oregon Marine Reserves

Sea Otter Disaster Plan

Wildlife Rehabilitation

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Composting (On-Site or Off-Site)

Energy Submetering

Waterwise Landscaping

#### WATER

Documented Amount Spent

Documented Amount Used

### Research

Crafting Actionable Messages About Marine Plastic Pollution at the Oregon Coast Aquarium

## OREGON ZOO

### Education

Behind the Scenes Tours

Camp Programs

Education Center Partner Programs

Headstart ZooMobile

Insect Zoo

Teacher Partnerships

Teacher Professional Development

Urban Nature Overnights (UNO)

Wildlife Live Show

Zoo Ambassadors

Zoo Animal Presenters (ZAP) – First Year

Zoo Guides

Zoo School/Zoo To You

Zoo Teens (General)

ZooSnooze – Overnights Program

ZooTeens – Conservation Corps

### Field Conservation

Action for Cheetahs in Kenya

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

AZA FrogWatch USA

AZA Tiger SSP – Tiger Conservation Campaign

California Condor Breeding Program

Cascades Pika Watch

Cheetah Conservation Fund (CCF)

Forest Elephant Conservation in Borneo

Future for Wildlife Field Conservation Grant Program

HUTAN-Kinabatangan Orang-Utan Conservation Project

International Rhino Foundation (IRF)

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Kasese Wildlife Conservation Awareness Organization

Long-Term Reproductive Hormone Monitoring of Asian Elephants

Northern Leopard Frog Recovery

Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*) Cascade Head Population Supplementation

Oregon Zoo Conservation Crew

Orphan Cougar Placement

Painted Dog Conservation (PDC)

Panthera

Polar Bear Metabolic, Nutrition, and Accelerometer Behavior Studies in Support of Field Conservation Efforts

Polar Bears International (PBI)

Pygmy Rabbit (*Brachylagus idahoensis*) Captive Care and Breeding

SaveNature.Org

Taylor's Checkerspot Captive Rearing and Release Program,  
Oregon

Taylor's Checkerspot Captive Rearing and Release Program,  
Washington State

Vulture Conservation Programme (VulPro)

Western Pond Turtle Headstarting

Wildlife and Lead Outreach Program

Zoo Animal Presenters (ZAP) Conservation Work

Zoo Teen Conservation Corps

Zoo-Quatama Partnership

## Green Practices

### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent

Documented Amount Used

### GREEN CERTIFICATIONS

Certified by the League of American Bicyclists

One or More Buildings LEED-Certified by the US Green  
Building Council

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Alternative Transportation Discounts for Guests

Building Energy Management

Commingled Recycling

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Used Enterprise (IT) Solutions to Track and Measure  
Sustainability Performance

Wastewater Reduction

Water Submetering

Waterwise Landscaping

### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

### WATER

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

## Research

Animal Behavior Audit Program

Asian Elephant Hormone Monitoring

Continued Pharmacokinetic Study to Investigate the  
Potential Use of Nebulized Terbinafine: an Antifungal in  
Treating Shell Disease in Western Pond Turtles

EEHV Consortium at the National Elephant Herpesvirus  
Laboratory Research Partner

Pilot Pharmacokinetic Study to Investigate the Potential Use of Terbinafine in Western Pond Turtles

Research Support: Biomaterial Requests (Review and Completion)

Role of Mate Choice in Reproductive Success of Taylor's Checkerspot Butterfly

The Role of Noise in Zoo Animal Health

## WILDLIFE SAFARI

### Field Conservation

Cheetah Conservation Fund (CCF)

Costa Rica Animal Rescue Center

International Elephant Foundation (IEF)

International Rhino Foundation (IRF)

Wildlife Conservation Network (WCN)

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green IT

#### WATER

Documented Amount of Wastewater Generated

## Pennsylvania

### CLYDE PEELING'S REPTILAND

#### Field Conservation

AZA Crocodylian Advisory Group (CAG) – Conservation Fund

AZA Komodo Dragon SSP – Conservation Fund

Campaign for Hellbender Conservation

Merill Linn Land and Waterways Conservancy

Turtle Survival Alliance (TSA)

### ELMWOOD PARK ZOO

#### Field Conservation

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

AZA Jaguar SSP – Cockscomb Basin Wildlife Reserve

Centro Chaqueño para la Conservación e Investigación (CCCI)

Pennsylvania Audubon Society

Proyecto Tití – Tití Conservation Alliance

Red Panda Network (RPN)

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Smart Building Strategies

#### WASTE

Documented Amount Composted

### ERIE ZOO

#### Education

Adult Programs

Animal Meet and Greets

Behind the Scenes Tours

Birthday Parties

Day Camps

Family Programs

Homeschooler ZooSchool Club

Job Shadows

Junior Zookeeper

Meet a Keeper Talks  
 On-Site Classroom Programs  
 Outreach  
 PreZooSchool  
 Scout Programs  
 Touch Tables  
 Volunteer Program  
 Zoo Tots  
 ZooSchool Classes

### Field Conservation

Amphibian TAG  
 Giraffe Conservation Foundation (GCF)  
 Hawk Creek Rehabilitation  
 International Rhino Foundation (IRF)  
 International Rhino Keepers Association  
 Northern Jaguar Project  
 Orangutan Conservancy  
 Painted Dog Conservation  
 Red Panda Network (RPN)  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
 Tamarack Wildlife Rehabilitation Center  
 Wildcat Conservation Alliance

### Research

Heterozygosity of Captive Burmese Starred Tortoises  
 (*Geochelone platynota*)  
 New Bolten Center  
 The Cognitive Capabilities of the Siamang (*Symphalangus syndactylus*)

## LEHIGH VALLEY ZOO

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Green Purchasing Policy/Green Procurement

## NATIONAL AVIARY

### Field Conservation

Connectivity of Migratory Populations of the Louisiana Waterthrush  
 Conservation of Birds in Cacao Plantations  
 Conservation of the Andean Condor  
 Effects of Anthropogenic Activities on Birds in Polylepis Fragments, Cloud Forest, and Exotic Tree Plantations in the Ecuadorian Andes  
 Factors Affecting Reproductive Success and Overwintering Survival of a Riparian-Obligate Migratory Bird  
 Guam Rail SSP - Breeding and Reintroduction  
 Hummingbird Network  
 Impacts of Natural Gas Development on an Indicator Species  
 Las Cruces Area, Costa Rica Avian Monitoring Program  
 Marianas Avian Conservation Program (MAC)  
 Monitoring Birds in the Sierra de Bahoruco  
 Monitoring Peregrine Falcon Nesting Sites in Pittsburgh  
 Pittsburgh Neighborhood Nestwatch  
 Pittsburgh Project OwlNet  
 RBURG

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Community-Based Sustainability Projects  
 Diverted or Recycled Construction Waste  
 Purchased Green Power or Renewable Energy Credits (RECs)

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Composted

**WATER**

Documented Amount Spent  
 Documented Amount Used

**PHILADELPHIA ZOO****Education**

Animal Training Demos  
 Animals in the Classroom  
 Barnyard  
 Behind the Scenes Tours  
 CAP (Community Access Programs)  
 Daytime Seasonal Events  
 Docent Tours  
 Docent Training Course  
 Evening Rentals/Events  
 Insect Barn  
 Interpretation Carts  
 Interpreters  
 KidZooU Climbing Structure  
 Little Zoo on Wheels  
 McNeil Avian Center Rainforest  
 Member Morning Strolls  
 New Volunteer Orientation  
 Overnights  
 Reptile Exercise Yard  
 Scout Badge Activity  
 Teacher Pass  
 Unless Contest  
 Wildlife Discovery Tours  
 Wings of Asia  
 You Belong in the Zoo

Zoo on Wheels

ZooCREW

**Field Conservation**

Amphibian Ark  
 AZA FrogWatch USA  
 Finding Lost Frogs of Ecuador  
 Golden Lion Tamarin Conservation Program  
 Haitian Frog Rescue  
 Rodrigues Environmental Education Project  
 Saving Endangered Frogs of Haiti  
 Snow Leopard Trust (SLT)  
 Zoo Amaru - Amphibian Conservation Center

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site  
 Purchased Renewable Energy

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent  
 Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat  
 One or More Buildings LEED-Certified by the US Green Building Council

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Smart Building Strategies  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### **GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

#### **PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan  
 Specified a Portion of the Amount Saved for Next Year's Green Practices

#### **WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### **WATER**

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

#### **Research**

Description of an Acoustic Assemblage of Frogs and the Discovery of Two New Frog Species (*Adenomera* spp.) From Putumayo, Colombia

## **PITTSBURGH ZOO & PPG AQUARIUM**

### **Green Practices**

#### **GREEN PRACTICES IMPLEMENTED**

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Purchased Green Power or Renewable Energy Credits (RECs)  
 Waterwise Landscaping

## **ZOOAMERICA NORTH AMERICAN WILDLIFE PARK**

### **Education**

After-Hours Tour  
 Animal Encounter  
 Animal Tales  
 Early Bird Tour  
 Falconry Experience  
 Job Shadow  
 Outreach  
 Photography Tour  
 Public Programs – Seasonal  
 Special Event – Creatures of the Night  
 Special Event – Party for the Planet  
 Sweet Access Experience  
 Tours – Guided  
 Wild Winter Adventure  
 ZooCamp – Middle School  
 ZooCamp – Preschool Age  
 ZooCamp – School Age  
 ZooCrew Camp – High School Age

### **Field Conservation**

AZA Conservation Grants Fund (CGF)  
 Barn Owl Nest Box  
 Monarch Butterfly Tagging  
 Regal Fritillary Conservation

# Rhode Island

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## ROGER WILLIAMS PARK ZOO

### Education

Advanced Course Network  
 Adventures ZooCamp  
 Afterschool Programs  
 Amazon Adventures Movie  
 Ambassador Animal Encounters  
 AMP RI-Marketing Meeting  
 Animal Care Internship  
 Armadillo Encounters  
 BioBlitz  
 BioBlitz Information Session  
 Birthday Parties  
 Breakfast With the Animals  
 Bronx Zoo Trip  
 Brown University SPARK  
 Central Falls H.S. Program  
 Collette Travel Information Sessions  
 Community Zoomobiles  
 Conservation Heroes ZooCamp  
 Contact Yard  
 Counselor Trainings & Team Building  
 Cranston Summer Program  
 Docent Ambassadors  
 Docent Training Class  
 Docent Zoomobiles  
 Dream Night  
 Eco Agents  
 Elephant Barn Interpretation  
 Exhibit Informal Interpretation  
 FrogWatch USA  
 Giraffe & Seal Feedings  
 Hasbro Children's Hospital Animal Therapy  
 Homeschool  
 JOLS (Jack-O-Lantern Spectacular) Theme Nights  
 Jr. Docent Training Series

Members Night  
 Nature Swap  
 Opt Out Day - Black Friday  
 Our Big Back Yard Areas and Beyond the Fence  
 Party for the Planet  
 Pawtucket Boys and Girls Club Summer Program  
 Pets & Vets  
 Play Partner Training  
 Preschool Adventures  
 Rise and Play Sensory Friendly Mornings in the Big Backyard  
 Rock & Roar Concerts  
 Saki Monkey Gender Reveal  
 School Zoomobiles On & Off Grounds  
 Scout Safari Day  
 Snore & Roar Overnights  
 Sponsor Night JOLS (Jack-O-Lantern Spectacular)  
 Spooky Zoo  
 Tadpole Academy ZooCamp  
 Teacher Institute  
 Teacher Workshops on Play  
 University of Rhode Island Animal Management Course  
 Urban Nature Explorers  
 Wild Bunch Show  
 Wild Bunch Training  
 Woonsocket Summer Program  
 Yoga With the Elephants  
 Youth Advisory Counsel  
 Zoo Career Workshop  
 ZooCamp Newsletters

### Field Conservation

American Burying Beetle (*Nicrophorus americanus*) Captive Propagation and Reintroduction Program  
 AZA Conservation Grants Fund (CGF)  
 AZA FrogWatch USA  
 AZA Komodo Dragon SSP  
 Can the Federally Endangered American Burying Beetle be Successfully Reintroduced in New York? Habitat Suitability Assessments Based Upon Community Composition of Burying Beetles (*Nicrophorus* spp.)

Characterizing Primate Pet Trade and Use in the Yucatan Peninsula and Implementing Conservation Education to Preserve Endangered Geoffroy's Spider Monkeys

Community Based Habitat Restoration for the Critically Endangered Guatemalan Beaded Lizard (*Heloderma charlesbogerti*)

Conservation Genetics of a *Kinixys homeana* (Testudines: Testudinidae) Population in Central Ghana and Microsatellite Development Within Kinixys

Conservation of the Slow Loris Through Community Participation and Coffee-Growing Agroforestry in Western Java

Environment Council of Rhode Island

Habitat Assessment and Awareness Activities on Conservation of Himalayan Musk Deer (*Moschus chrysogaster*) in Langtang National Park, Nepal

Increasing Capacity in Chile with a Breeding Facility for Endangered Chilean Amphibians

International Elephant Foundation (IEF)

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Karner Blue Butterfly Recovery/Butterfly Conservation Initiative - Partnerships for Recovery

Kibale Fuel Wood Project

Moving Amphibian Probiotics From the Lab to Wild Populations Under Threat From Disease

New England Cottontail Rabbit Recovery Program

Ocean Foundation

Rhode Island Natural History Survey BioBlitz

Save the Giants Inc.

Snow Leopard Trust (SLT)

Tarangire Elephant Project (TEP)

The Transition to Nutritional Independence and Associated Conservation Risks in an Insectivorous Bat

Timber Rattlesnake Recovery Program

Tree Kangaroo Conservation Program - Papua New Guinea

VulPro/Roots and Shoots After School Programme

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

Green Purchasing Policy/Green Procurement

Stormwater Management Program

Water Submetering

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### Research

Are We Expecting? Developing a Test for Early Pregnancy Detection in Captive Snow Leopards (*Panthera uncia*)

Utilizing Pre-Recorded Video to Quantify African Elephant Behavior

## South Carolina

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### BROOKGREEN GARDENS

#### Education

Children's Activity Days  
 Day Camps  
 Meet the Animals  
 Mother Nature's Cafe  
 School Field Trip Programs  
 Zoo to You Outreach Programs  
 Zookeeper for a Day

#### Field Conservation

Audubon Climate Watch Project  
 Backyard Habitat Restoration  
 Grow and Propagate Sea Beach Amaranth (*Amaranthus pumilus*)  
 Restoration and Monitoring of Wood Duck Houses Along Brookgreen Gardens Waterways  
 Restoring and Repairing Bluebird Houses to Encourage Breeding  
 Sea Turtle Nest Monitoring at Huntington Beach State Park

#### Green Practices

##### ENERGY

Documented Amount Spent  
 Documented Amount Used

##### FOOD

Sourced Local Food or Grew it On-Site

##### FUEL

Documented Amount Spent  
 Documented Amount Used

##### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

##### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling

Composting (On-Site or Off-Site)  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program  
 Waterwise Landscaping

##### WASTE

Documented Amount Recycled

##### WATER

Documented Amount Spent  
 Documented Amount Used

#### Research

Determination of Environmental Factors that Influence the Population Dynamics of Bacteriophages and Bacteria in an Aviary

### GREENVILLE ZOO

#### Education

Behind the Scenes – Backstage Expeditions  
 Career Day  
 City Appreciation Night  
 Distance Learning Programs at the Zoo

#### Field Conservation

ARCS Education and Outreach Workshops  
 AZA Conservation Grants Fund  
 AZA FrogWatch USA/ Frogwatch Researchers Of Greenville Zoo (F.R.O.G.Z.)  
 AZA SAFE  
 California Wolf Center  
 Community-Based Conservation of Endangered Sea Turtles Nesting Along Akassa Coast, Bayelsa Nigeria  
 Community-Based Habitat Restoration for the Critically-Endangered Guatemalan Beaded Lizard (*Heloderma charlesbogerti*)  
 Current Status and Conservation of Persian Leopard (*Panthera pardus ciscaucasicus*) in Daghestan, Russia  
 Ecological Drivers of Spatial Clustering in Social Behavior in Critically-Endangered Diademed Sifaka (*Propithecus diadema*) in a New Protected Area  
 Florida Panther Conservation – Captive Management Group

From Conflict to Coexistence: Investigating Drivers of Leopard-Livestock Conflict and Suitable Husbandry Techniques

International Rhino Foundation

Kids for Compassionate Conservation – Pan African Sanctuary Alliance

Long-Term American Alligator Feeding Behavior in Coastal South Carolina

Madagascar Fauna and Flora Group (MFG)

Maternal Transfer of Radiocesium in *Nerodia floridana* (Florida Green Watersnake)

Multidisciplinary Mapping: Toward a Better Understanding of Human-Carnivore Conflict and Landscape Use by Carnivores and People

Pine Snakes of Glade Farms: A Stronghold for a Vanishing Species?

Save the Frogs

Sumatran Orangutan Conservation Programme (SOCP)

Tigers Always

Training Local Scientists in Guyana

Using Wildlife Genetics to Alleviate Human-Carnivore Conflict in Tanzania

Wildcats Conservation Alliance

Xerces Society for Invertebrate Conservation

Zoo Conservation Outreach Group (ZCOG)

Zoo Conservation Outreach Group (ZCOG) – Anteaters and Highways

### Green Practices

#### ENERGY

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan

#### WATER

Documented Amount Used

#### Research

Monitoring Black Rat Snakes on the Greenville Zoo Campus

Turtle Trapping Project

#### RIPLEY'S AQUARIUM IN MYRTLE BEACH

##### Field Conservation

Beach Sweep

Sea Turtle Conservation

##### Research

Macrobacterial Infections in Seadragons

Mycobacterial Infections in Seadragons

Plasma Chemistry Database for Elasmobranchs

Reproduction of the Sand Tiger Shark in Captivity

Reproductive Cycle and Gestation of the Spotted Eagle Ray (*Aetobatus narinari*)

Reproductive Patterns of Cownose Rays (*Rhinoptera bonasus*)

Sea Turtle Reproductive Physiology

Seasonal Movement Patterns of Sand Tiger Sharks

Surgical Techniques in Cownose Rays and Southern Rays

#### RIVERBANKS ZOO & GARDEN

##### Education

Adult Programs

Animal Keeper's Forum – Population Management Dedicated Issue Sponsorship

Backyard Buds

Camp – Summer Zoo Camp

Camp – Winter Camp

Camp – Sprout Camp

Event Days – Party for the Planet, World Oceans, Enrichment Days, and Endangered Species Day

Family Events

Garden Outreach  
 Garden Tours  
 Guest Engagement  
 Homeschool  
 Junior Master Gardeners  
 Little Learners at Riverbanks  
 Outreach  
 Overnights  
 School Programs – Classroom Style  
 School Programs – Tour Style  
 Zoo Teens  
 ZooBots

### Field Conservation

African Penguin Chick Bolstering Project  
 American Association of Zoo Keepers for the International Rhinoceros Foundation  
 Building an Evidence Base for Gharial (*Gavialis gangeticus*) Conservation in Nepal  
 California Condor Restoration  
 Conservation of Threatened Cavity-Nesting Birds and Their Atlantic Forest Communities in Argentina  
 Construction of the Rabonga Hills Ranger Post, Murchison Falls National Park Recovery Program  
 Ecology and Conservation of King Cobras in the Western Ghats of India  
 Environmental Correlates of Survival and Extinction for the Critically Endangered Blue-Crowned Laughingthrush  
 Komodo Dragon SSP General Fund  
 Marc MacDonald – Staff Conservation Presentation  
 MOTUS Wildlife Tracking System  
 Population Assessment of a Newly Discovered Population of Nautilus off of the Coast of Thailand  
 Prevalence of Snake Fungal Disease in Watersnakes on the Savannah River Site  
 Protecting Southern Africa's Most Endangered Carnivore Through Rabies Vaccination Campaigns  
 Riverbanks Field Conservation Associates Program  
 Silent Forest Campaign  
 South Carolina Wildlife Federation Scholarship Fund  
 The Kids for Compassionate Conservation Program in Gabon

Turtle Survival Alliance (TSA) – Turtle Survival Center  
 Understanding Endocrine Control of Egg Production for Improved Reproduction of Whooping Cranes  
 Using a Multipronged Approach to Make a Biological Corridor in Misiones, Argentina a Reality  
 Using Stable Isotope Analysis to Assess Diet and Competition in Two Rare Island Endemics: Implications for Habitat Restoration and Species Persistence  
 Why, When, and How Giant Anteaters Cross Roads? Understanding Impacts and Effects of Roads on Giant Anteater Populations  
 Wildlife Poisoning Forensic Training and Awareness for Rangers, Enforcers, and Communities in Africa

### Green Practices

#### ENERGY

Generated Renewable Energy On-Site

#### FOOD

Sourced Local Food or Grew it On-Site

#### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

#### WASTE

Documented Amount Composted

### Research

Documenting the Mammalian Biodiversity of Sumaco National Park

## SOUTH CAROLINA AQUARIUM

### Education

“Good Catch” Seafood Initiative Educational Publications/  
Materials

Adult Learning Series

Aquarium AquaTeen Program

Aquarium Rovers

Behind the Scenes Tours

Daily Interpretive Program

Discovery Cart Program

Discovery Lab

Distance Learning

Good Catch (Sustainable Fisheries) Special Events

Good Catch Sustainable Seafood Initiative Dinner Series

High School Intern Program

Homeschool Programs

Member Educational Programs

Ollie’s Trading Post Trades

Roving Interpretation

Scavenger Hunts

Sea Turtle Hospital Tours

Shadow Day

South Carolina Aquarium Curriculum

South Carolina Aquarium Species Sheets

Structured School Program

Teacher Workshops

Tributaries Member Magazine

Volunteer Training

### Field Conservation

Answering Management Questions Surrounding the Atlantic  
Horseshoe Crab: Impacts of Biomedical Bleeding in South  
Carolina

Cape Island Turtle Project

Robust Redhorse Conservation Committee

Sea Turtle Stranding Pathology – Formalized Data Collection  
and Disease Surveillance

South Carolina Aquarium Sea Turtle Care Center

South Carolina Department of Natural Resources (SCDNR)  
Marine Resources Division – In-Water Sea Turtle Study

South Carolina Oyster Restoration and Enhancement  
Program

South Carolina Phytoplankton Monitoring Network

Turtle Survival Center Veterinary Care Program

### Research

Assessing the Impact of Invasive Red Lionfish (*Pterois  
volitans*) on the Diversity and Abundance of Fishes  
Associated With Artificial Reef Marine Protected Areas  
(MPAs)

Field-Based Bottlenose Dolphin Habitat Usage and  
Distribution Surveys

Nesting Population Assessment of the Atlantic Horseshoe  
Crab (*Limulus polyphemus*) in Charleston Harbor

## South Dakota

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### BRAMBLE PARK ZOO

#### Field Conservation

American Kestrel Partnership

Raptor Rehabilitation

Upper Big Sioux River Watershed Project

#### Green Practices

##### GREEN PRACTICES IMPLEMENTED

Procured Local Food for On-Site Animals and/or Guest

#### Research

Lead Testing of Rehab Birds of Prey

Seasonal Fluctuations in Adult Mosquito Populations in  
Eastern South Dakota

### GREAT PLAINS ZOO & DELBRIDGE MUSEUM OF NATURAL HISTORY

#### Field Conservation

AZA Conservation Grants Fund (CGF)

AZA SAFE

AZA Tiger SSP – Tiger Conservation Campaign

Giraffe Conservation Foundation (GCF)

International Rhino Foundation (IRF)

Minnesota Zoo Rhino Project

National Park Partnerships Planning  
 Native Raptor Rehabilitation  
 Okapi Conservation Project  
 Raptor Rehabilitation Flight Cage  
 Snow Leopard Trust (SLT)  
 Turtle Survival Alliance  
 Wildlife Conservation Network (WCN) – Ewaso Lions

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

## Tennessee

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### CHATTANOOGA ZOO AT WARNER PARK

#### Education

Zoo Club  
 Zooniversity

#### Field Conservation

Chattanooga Zoo Conservation Award  
 Pantanal Giant Armadillo Project  
 Snow Leopard Trust (SLT)  
 Wildlife Rehabilitation

### Green Practices

#### ENERGY

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Building Energy Management  
 Commingled Recycling  
 Energy Submetering  
 Green Building Policy/Commitment  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

Asleep or Faking it? The Patient State Index as a Novel Anesthetic Monitoring Tool in Captive Chimpanzee (*Pan troglodytes*)  
 Clinicopathological Features of Toxoplasmosis in Four Red Pandas (*Ailurus fulgens*)  
 Pulmonary Silicosis in Two Adult Rock Hyraxes  
 Treatment of Suspected Exertional Myopathy Using Dantrolene in a Coyote (*Canis latrans*)  
 Using Internet Technology to Connect Chimpanzees

### ELEPHANT SANCTUARY IN TENNESSEE

#### Green Practices

#### ENERGY

Documented Amount Used  
 Generated Renewable Energy On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Graywater Reuse and/or Rainwater Harvesting  
 Stormwater Management Program

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

**WASTE**

Documented Amount Composted

**MEMPHIS ZOO****Education**

Earth Day

Explorers Academy

Homeschool Days

International Polar Bear Day

Zoo Camp

Zoo Classes

Zoo Snooze

**Field Conservation**

African Elephant Population Monitoring in the Okavango Delta, Botswana

Boreal Toad Conservation Program

Conserving the World's Largest Amphibian: Reintroduction and Translocation of the Chinese Giant Salamander Into the Wild

Creating a New Self-Sustaining Population of the Critically Endangered Dusky Gopher Frog to Restored Habitat

Development of Assisted Reproductive Technologies for Endangered North American Amphibians

Development of Sperm Collection, Extension, Cryopreservation, and AI for Endangered U.S. Snakes

Fit for the Wild? A Comparison of Captive Raised and Wild Caught Dusky Gopher Frogs to Assess their Fitness for Reintroduction

Giant Panda Conservation

Jaguar Conservation in Brazil

Monitoring Local Avian Productivity and Survivorship

Pangolin Consortium

Purseweb Spider Conservation: Occupancy Modeling for Urban Forest Fragments

Returning the Louisiana Pine Snake to Restored Habitat

Urban Snake Ecology

Validating Non-Invasive Dermal Swabbing Method to Study Stress Hormones in Wyoming Toads

**NASHVILLE ZOO, INC.****Education**

Camp Programs - Animal Olympics

Camp Programs - Creature Features

Camp Programs - Grossology

Camp Programs - Project GLOBE

Camp Programs - The Great Zoo Detective

Camp Programs - We Built A Zoo

Camp Programs - Zooper Heroes

Camp Programs - Zootastic Beasts

Event Programs - Avian Awareness Day

Event Programs - Great Backyard Bird Count

Event Programs - Party for the Planet

Event Programs - World Rhino Day

Homeschool Programs - A Day in the Life

Homeschool Programs - Animal Wrappers

Homeschool Programs - Come To Your Senses

Homeschool Programs - Endangered Species

Homeschool Programs - Surviving The Wild

Interpretive Programs - Adult Guided House Tour

Interpretive Programs - Andean Bear

Interpretive Programs - Cassowaries Love To Garden

Interpretive Programs - Children's Guided House Tour

Interpretive Programs - Gibbons

Interpretive Programs - Lemurs

Interpretive Programs - Rhinos

Interpretive Programs - Tapirs

Interpretive Programs - Zebra

Overnight Programs - 3 Cheers for Animals

Overnight Programs - Animal Habitats

Overnight Programs - Animal Helpers

Overnight Programs - Bugs

Overnight Programs - Cub Scout Pack Program

Overnight Programs - Fur, Feathers, and Ferns

Overnight Programs - Girl Scout Troop Program

Overnight Programs - Senses

School Programs - A Day in the Life

School Programs - Animal Wrappers

School Programs – Croft Middle Partnership  
 School Programs – Endangered Species  
 School Programs – Rosebank Elementary Partnership  
 School Programs – Sensational Animals  
 School Programs – Surviving the Wild  
 School Programs – The Rainforest  
 Scout Programs – 3 Cheers for Animals  
 Scout Programs – Animal Habitats  
 Scout Programs – Animal Helpers  
 Scout Programs – Bugs  
 Scout Programs – Cub Scout Pack Program  
 Scout Programs – Digging In The Past  
 Scout Programs – Girl Scout Troop Program  
 Scout Programs – Reptile and Amphibian Study  
 Tots Programs – All In The Family  
 Volunteer Programs – Docents  
 Volunteer Programs – Volunteer Corps  
 Volunteer Programs – ZooTeens

### Field Conservation

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos  
 Andean Bear Conservation Alliance  
 Association for the Conservation of Amazonian Biodiversity – Dallas World Aquarium Zoo (ACOBADWAZOO)  
 AZA SAFE – Vaquita Project  
 AZA Tiger SSP – Tiger Conservation Campaign  
 Bat Conservation International (BCI)  
 Belize Zoo and Tropical Education Center  
 Bongo Surveillance Project  
 Borneo Nature Foundation – Clouded Leopard, Leopard, Flat-Headed, and Marbled Cat  
 Cheetah Conservation Fund (CCF)  
 Clouded Leopard Project  
 Duke Lemur Center – Projects in the Sambava-Andapa-Vohemar-Antalaha (SAVA) Region of Madagascar  
 Garissa Giraffe Project  
 Giant Anteater Pilot Program in the Brazilian Pantanal  
 Gorilla Rehabilitation and Conservation Education (GRACE) Center

Hornbill Conservation: Borneo  
 Instituto de Pesquisas Ecológicas (IPÊ)  
 International Rhino Foundation  
 Lewa Wildlife Conservancy  
 Niassa Carnivore Project  
 Proyecto Tití  
 Red Panda Network (RPN)  
 Save Vietnam’s Wildlife Centre  
 Sia Eagle Center  
 The Sustainable Management of the Critically Endangered Goliath Grouper (*Epinephelus itajara*) and Smalltooth Sawfish (*Pristis pectinata*) in Belize  
 Turtle Survival Alliance (TSA)  
 Wildlife Conservation Network (WCN) – Cheetah Conservation Project  
 Wildlife Conservation Network (WCN) – Spectacled Bear Conservation  
 Wildlife Conservation Network (WCN) -Okapi Conservation Project

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Procured Local Food for On-Site Animals and/or Guest

### RIPLEY'S AQUARIUM OF THE SMOKIES

#### Field Conservation

Apex Predator Tagging Study

#### Green Practices

##### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Smart Building Strategies

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WATER

Documented Amount Spent

Documented Amount Used

#### Research

Bamboo Shark Reproduction

Fungal Infections in Horseshoe Crabs (*Limulus polyphemus*)

Mycobacterial Infections in Seadragons

Pharmacokinetics of Cefovecin in Teleost, Elasmobranchs,  
and Invertebrates

Plasma Chemistry Database for Elasmobranchs

Reproduction Cycle and Gestation of the Spotted Eagle Ray

Reproduction of the Sand Tiger Shark in Captivity

Reproduction Patterns of Cownose Rays

Sea Turtle Reproductive Physiology

Seasonal Movement Patterns of Sand Tiger Sharks

Surgical Techniques in Cownose Rays and Southern Rays

#### TENNESSEE AQUARIUM

##### Field Conservation

Adopt-A-Stream

Alligator Snapping Turtle Monitoring

Constructing a Freshwater Conservation Institute and Field  
Station

Cumberland Darter Conservation Genetics

Endangered Fishes of the Upper Mobile Basin

Freshwater Information Network

Monitoring and Recovery of the Laurel Dace

Rearing Barrens Topminnows (*Fundulus julisia*) for  
Conservation Purposes

Restoring Southern Appalachian Brook Trout

Ridges to Rivers

River Teachers

Serve and Protect – Supporting Sustainable Seafood

South Chickamauga Creek Assessment

Southeastern Freshwater Biodiversity Conservation Plan

Tennessee and Cumberland River Darter Conservation

Tennessee Lake Sturgeon Reintroduction Program

#### Green Practices

##### GREEN PRACTICES IMPLEMENTED

Community Supported Agriculture (CSA) Program for Staff

Composting (On-Site or Off-Site)

Denitrification Systems On Ground

Green IT

#### Research

Headwater Stream Community Ecology

Morphology and Hybridization in River Sturgeons

Turtle Morphology and Conservation

#### ZOO KNOXVILLE

##### Education

Animal/Biofact Chats

Animals in Action Show

Bedtime With the Beasts

Camp Wild

Exhibit Chats

Field Science Programs

Homeschool Days

Night Safaris

School Ambassador Animal Encounters

School Classroom Programs

School Tours

Scout Workshops

Teacher In-Service/Workshops

ZooCamp

ZOOMobile Outreach Classroom Programs

ZOOMobile Outreach Community Programs

ZOOMobile Outreach Display Program

### Field Conservation

Appalachian Bear Rescue  
 Bog Turtle *In-Situ* Project  
 Center for Ecosystem Survival (SaveNature.Org) - Rainforest Conservation Parking Meter  
 Dian Fossey Gorilla Fund International  
 Game Rangers International - Elephant Orphanage Project and Kafue Conservation Project  
 Gorilla Rehabilitation and Conservation Education Center (GRACE)  
 Homopus Research Foundation  
 International Crane Foundation - Friends of Muraviovka Park  
 Mabula Ground Hornbill Project (MGHP)  
 Malaysian Conservation Alliance for Tigers (MYCAT)  
 Monarch Watch  
 Painted Dog Research Trust  
 Pan African Sanctuary Alliance (PASA)  
 Project Necturus  
 Radiated Tortoise SAFE  
 Red Wolf Coalition  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
 Tennessee Butterfly Monitoring Network  
 The Gibbon Rehabilitation Project  
 Tiger Conservation Campaign  
 Toucan Rescue Ranch  
 Turtle Conservancy - Ploughshare  
 Turtle Survival Alliance (TSA) - Madagascar Fund  
 VulPro  
 Wildlife Trafficking Alliance (USWTA)  
 World Parrot Trust (WPT)

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green IT  
 Wastewater Reduction

### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

## Texas

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### ABILENE ZOOLOGICAL GARDENS

#### Education

Behind the Scenes  
 Birthday Parties  
 Camp Programs  
 DreamNight  
 Homeschool Classes  
 Junior Keeper  
 Kid's Night Out  
 Night Hike  
 Party for the Planet  
 Preschool Classes  
 School Group Classes  
 World Giraffe Day  
 Zoo to You

#### Field Conservation

African People and Wildlife Fund  
 Amphibian Ark  
 AZA Avian Scientific Advisory Group (ASAG)  
 AZA Conservation Grants Fund (CGF)  
 AZA Crocodylian Advisory Group (CAG)  
 AZA Tiger SSP - Tiger Conservation Campaign  
 Chaco Jaguar Project  
 Colobus Conservation, Ltd.  
 Friends of the Atwater's Prairie Chicken National Wildlife Refuge  
 Friends of the Laguna Atascosa National Wildlife Refuge  
 Giraffe Conservation Foundation (GCF)  
 International Crane Foundation (ICF)  
 International Rhino Foundation (IRF)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 King Cobra Telemetry Project

Peregrine Fund  
 Proyecto Titi  
 Rattlesnake Preservation Trust  
 The Cougar Fund  
 Toucan Rescue Ranch  
 Turtle Survival Alliance (TSA)  
 Wild Animal Health Fund  
 Wild Neighbors Database  
 Wildtracks  
 World Parrot Trust  
 Zoo Conservation Outreach Group (ZCOG)

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

#### WASTE

Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

### CALDWELL ZOO

#### Field Conservation

Attwater's Prairie Chicken Recovery Program  
 International Elephant Foundation (IEF) - Elephant Painting Sales  
 International Rhino Foundation (IRF) - Animal Painting Sales  
 Various Organizations - Animal Painting Sales  
 World Giraffe Day Event - Giraffe Conservation Foundation

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

Comparison of Circulating Vitamin D in Captive North American and Free-Ranging South African Black Rhinoceros  
 Compilation and Review of Archival Elephant Postmortem Data  
 Determining Genetic Variability, Kinship, and Uniqueness in the North American Cheetah Population  
 Developing Genomic Tools for Elephant Conservation  
 Developing Genomic Tools for North American River Otter Population Management  
 Improvement of Diagnostic Methods of Round Cell Neoplasia in Psittacine Birds  
 TVMDL Avian Study - Hematology of Galliformes & Anseriformes  
 Validation of a Rhino Specific Ferritin Enzyme Immunoassay for the Black Rhino, White Rhino, and Indian Rhino and the Impact of Individual/Environmental Factors on Serum Ferritin Concentrations

### CAMERON PARK ZOO

#### Field Conservation

Bornean Orangutan Release  
 Borneo Orangutan Survival Foundation (BOS) - Milk Drive  
 Cameron Park Zoo Amphibian Conservation Award  
 Status of Conservation of Crocodile Species in Cuba

### Green Practices

#### ENERGY

Documented Amount Used

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Generated Solar or Wind Energy

Purchased Green Power or Renewable Energy Credits (RECs)

Stormwater Management Program

Wastewater Reduction

Waterwise Landscaping

**WATER**

Documented Amount Used

**Research**

AZA Orangutan SSP – Sanctioned Tooth Emergence Project

Comparing Arm Vs. Finger Blood Pressure in Orangutans

Great Ape Cardio Health Workshop

Investigating the Composition of Milk of Apes

**DALLAS ZOO****Education**

Animal Adventures Outreach

Backstage Safari

Cheetah Encounter

Dallas Zoo Teen Science Cafe

Dallas Zoo Wild Earth Action Team

Dallas Zoo Wild Earth Weekends

Discovery House

Exploring

Family Campout

Family Conservation Club

Family Pop-Up

Family Zoo Adventures

Frog Club

Homeschool Day

Junior Rancher Adventure

Keeper Talks

Life On The Ranch

Lights Out Overnight

Love Birds and Wild Things

Nature Exchange

Nature Play

On-Site School Programs

Preschool Safari

Science Day

Sensory Friendly Day

Sleeping With the Fishes Overnight

Stroller Buddies

Summer Science Institute

Teacher Workshops

Trivia and Trails

Twilight Safari Night Hike

Wild About Art

Wild Adventures Camps

Wild Earth Preschool

Wild Encounters Stage

Wild F.U.N. (Families United in Nature)

Wild Gatherings

Wilds Of Africa Adventure Safari

Youth Volunteer Programs

Zoo Corps

**Field Conservation**

African Vulture Conservation Programme (VulPro)

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

Amphibian Ark

AZA Ape TAG – Conservation Initiative

AZA SAFE – African Penguin

AZA SAFE – Founders Circle

AZA SAFE – Vultures

Brazos River Water Snake Population Monitoring

Cheetah Conservation Fund (CCF)

Dian Fossey Gorilla Fund International

Dusky Gopher Frog Recovery Plan

Earthwatch Institute  
 Gorilla Rehabilitation and Conservation Education (GRACE) Center  
 Horned Lizard Management Project  
 Houston Toad Recovery Plan  
 Humboldt Penguin Monitoring Status in Peru  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF)  
 International Wildlife Reintroduction Conference  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Jane Goodall Institute  
 Ngwenya Rhino Fund  
 Okapi Conservation Project  
 Rattlesnake Preservation Trust  
 Restoring Wildlife Habitat Across Texas: Forest Habitat Restoration  
 Restoring Wildlife Habitat Across Texas: Pollinator Habitat Restoration  
 Restoring Wildlife Habitat Across Texas: Waterways; Rivers, Creeks, and Coast Habitat Restoration  
 Sea Turtle, Inc.  
 Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – Penguin and Sea Bird Conservation  
 Tarangire Elephant Project (TEP)  
 Texan by Nature Summit  
 Turtle Survival Alliance (TSA)  
 Whooping Crane Recovery Program  
 Wild Earth Expeditions  
 Wild Earth Wristbands Project

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified Under ISO 14001

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Alternative Transportation Benefits for Staff  
 Alternative Transportation Discounts for Guests  
 Commingled Recycling  
 Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)  
 Energy Submetering  
 Graywater Reuse and/or Rainwater Harvesting  
 Stormwater Management Program  
 Used Environmental Management System  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices  
 Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent  
 Documented Amount Used

### Research

AZA – Integration of Multi-Institutional Tumor Data in Exotic and Zoological Species for Characterization of Novel Cancer Models  
 AZA Great Apes SSPs – Great Ape Cardiac Project: Brain Natriuretic Peptide (BNP) in Great Apes  
 AZA Tiger SSP – The Prusten Project – Heard but Not Seen: Acoustic Monitoring of Wild Tiger Populations

Cats: Is Symmetric DiMethylArginine (SDMA) Testing a Valid Indicator of Kidney Function in Sumatran Tigers, Indochinese Tigers, or Cheetahs?

Chimps – Assessing Long-Term Stress in Great Apes: Allostatic Load in Chimpanzees and Bonobos

Comparative Morphological and Molecular Studies of Mammal Brains

Elephant Endotheliotropic Herpesvirus (EEHV) Consortium – EEHV Surveillance: Serum

Elephant Endotheliotropic Herpesvirus (EEHV) Consortium – EEHV Surveillance: Trunk Wash and Blood Samples

Elephant Endotheliotropic Herpesvirus (EEHV) Consortium – Elephant Endotheliotropic Herpesvirus (EEHV) Surveillance: Necropsy Tissue Collection

Elephant: Animal Wellness Assessment, Research, and Education (AWARE) Institute: Elephant Welfare Initiative

Elephant: Developing Genomic Tools for Elephant Conservation

Elephant: Paternity and Genetic Diversity of Imported African Elephant Founders

Great Ape Neuroscience Project

Meerkats: Genomic Investigation of Cardiomyopathy in Meerkats

Rat Snake: Population Dynamics of Urban Texas Rat Snakes (*Elaphe obsoleta lindheimeri*) at the Dallas Zoo

Reptile: Use of Fentanyl Transdermal Systems as Pain Management in a Black Mamba (*Dendroaspis polylepis*)

Reptiles: Coccidia (Apicomplexa) of Reptiles Utilizing Fecal Samples from Dallas Zoo Captives

## EL PASO ZOO

### Education

Animal Encounters

Animal Presentations

Behind the Scenes Tours

Bird Show

Birthday Party Animal Encounter

Classroom Programs

Meet the Keeper

Public Programs – Enrichment

Public Programs – Trainings

Scout Badge Program

Sleepovers

### Field Conservation

American Association of Zoo Keepers (AAZK) – Rainforest Conservation Parking Meter

AZA Jaguar SSP

Black-Footed Ferret Monitoring

Bolson Tortoise Conservation Project

Burrowing Owl Conservation

Chihuahuan Desert Education Coalition Certified Habitat Program

El Paso County's Ascarate Park Project

Franklin Mountains State Park Wildlife Monitoring

Indonesia Species Conservation Program (ISCP)

Keystone Heritage Park

Lion Guardians – Kenyan Maasailand

Mexican Wolf Conservation

Orangutan Foundation International

Palm Oil Public Awareness Effort

Peninsular Pronghorn Conservation

Raptor Rehabilitation

Rio Bosque Wetlands Park Conservation Program

Save the Vaquita

Saving Asian Wild Horses

Second Chance Wildlife Rescue

Stickhouse Wildlife Sanctuary

Turtle Survival Alliance

World Wildlife Fund (WWF) – Flying Squad Project

### Green Practices

#### ENERGY

Generated Renewable Energy On-Site

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff  
 Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction

**Research**

Endoscopic Sexing of Juvenile and Hatchling Bolson  
 Tortoises  
 Inca Tern Kinship Study  
 Two-Toed Sloth Genetic Testing SSP Project

**ELLEN TROUT ZOO****Field Conservation**

AZA Conservation Grants Fund (CGF)  
 AZA Louisiana Pine Snake SSP - Conservation Initiative  
 Black Bear Task Force  
 Croc School Scholarship  
 CrocFest  
 Turtle Survival Alliance  
 Zoo Conservation Outreach Group (ZCOG)

**FORT WORTH ZOO****Field Conservation**

Arthur A. Seeligson Jr. Conservation Fund  
 Black-Capped Vireo Monitoring  
 Bonobo and Congo Biodiversity Initiative (BCBI)  
 Caribbean Wildlife Conservation  
 Chiricahua Leopard Frog Rescue and Reintroduction  
 Conservation of the Critically Endangered Anegada Iguana  
 Cryptobranchid Interest Group  
 Health Evaluation, Pathogen Screening, and Hematologic  
 Values In Free Ranging Texas Horned Lizards (*Phrynosoma*  
*cornutum*)  
 High Andean Flamingo Project  
 Houston Toad Rescue and Reintroduction

International Elephant Foundation (IEF)  
 International Iguana Foundation (IIF) - Iguana Conservation  
 International Rhino Foundation (IRF) - Rhino Conservation  
 Jamaican Iguana Conservation and Reintroduction Project:  
 Health Assessment  
 Jamaican Iguana Recovery Program  
 Louisiana Pine Snake SSP - Reintroduction  
 Monarch Watch  
 Mountain Bongo Project  
 Okapi Conservation Project  
 Panamanian Golden Frog Conservation and Education  
 Outreach  
 Pecos Pupfish Rescue  
 Pollinator Habitat Restoration  
 Puerto Rican Crested Toad Reintroduction and Research  
 Puerto Rican Harlequin Butterfly Monitoring  
 Roatan Iguana Conservation Program  
 Spot-Tailed Earless Lizard Assurance Population and  
 Research  
 Texas Freshwater Mussel Propagation and Research  
 Texas Horned Lizard Reintroduction  
 Texas Kangaroo Rat Reintroduction and Research  
 Turtle Survival Alliance (TSA) - Turtle and Tortoise  
 Conservation  
 Virgin Islands Tree Boa Reintroduction and Research

**Green Practices****ENERGY**

Documented Amount Spent  
 Documented Amount Used

**FUEL**

Documented Amount Spent  
 Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste

**WASTE**

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**Research**

A Living Collections Stewardship Initiative for Sustainability of Endangered Salamanders

Activity Budget for the Fort Worth Zoo Asian Elephants Before and After Introduction to a New Exhibit

Behavioral Monitoring of a Fort Worth Zoo Gorilla Troop

Behavioral Monitoring of a Male Mandrill at the Fort Worth Zoo

Linking *In-Situ* and *Ex-Situ* Populations of Threatened Amphibians: Using the Puerto Rican Crested Toad and Chiricahua Leopard Frog as a Model

Research Support - Research Committee Management and Service

Scales on Trails

**FOSSIL RIM WILDLIFE CENTER****Field Conservation**

Addax Antelope Assurance Population

Attwater's Prairie Chicken Database

Attwater's Prairie Chicken Recovery Program - Captive Breeding and Release

Dama Gazelle Conservation Assurance Population

Dama Gazelle Genetic Study

International Elephant Foundation (IEF) - Salary Administration

International Rhino Foundation (IRF)

Masked Bobwhite Quail Recovery Team Participation

Mexican Wolf Assurance Population

Red Wolf Assurance Population

Red Wolf Inflammatory Bowel Disease: Microbiome and Fecal Corticoid

Role of Diet in the Severity of Inflammatory Bowel Lesions in Red Wolves

Sahara Conservation Fund (SCF)

Scimitar-Horned Oryx Conservation Assurance Population

Source Population Alliance (SPA)

Southern Black Rhinoceros Conservation Assurance Population

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat

**GREEN PRACTICES IMPLEMENTED**

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Procured Local Food for On-Site Animals and/or Guest

Stormwater Management Program

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WATER**

Documented Amount Spent

**Research**

Attwater's Prairie Chicken Fenbendazole Toxicity Study

Biomarkers of Gastrointestinal Disease in Cheetahs

Comparison of Butorphanol-Azaperone-Medetomidine (BAM) and Thiafentanil in Addax Antelope

Determining Sexual Maturity in Male Addax (*Addax nasomaculatus*) via Electroejaculation

**GLADYS PORTER ZOO****Education**

Birthday Safari

Off-Site Presentations

On-Site Presentations

Outreach Program

Starlight Safari

Students Teaching Students

Summer Safari

Teacher Workshops

Tours

**Field Conservation**

CrocFest

Giraffe Conservation Foundation (GCF)

Health Screening of Ocelots

International Iguana Foundation (IIF)

Kemp's Ridley Sea Turtle Recovery Program: Mexico/United States

Pangolin Consortium

Sea Turtle, Inc.

Support for Conservation Planning Specialist Group

**Green Practices****GREEN PRACTICES IMPLEMENTED**

Building Energy Management

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green IT

Green Purchasing Policy/Green Procurement

Wastewater Reduction

Waterwise Landscaping

**HOUSTON AQUARIUM, INC.****Education**

"Built for Survival" Animal Presentation Outreach

Animal Encounter

Animal Meet and Greet

Aquarium Adventure Exhibit Tours

Behind the Scenes Tour

Biologist Chat

Career Day

Classroom Programs

Community Outreach

Educator Open House

Endangered Species Day

Home School Day

Hospital Outreaches

Marine Biologist/Zoologist for a Day Programs

Party for the Planet

Private Interactive Diver Show

Sawfish Day

Scout Programs

Sea Safari Camp

Self-Guided Tours

Shark Weekend

Sloth Weekend

Stingray Reef

Tiger Chat

Tiger Weekend

Wild Dreams Overnight

Working on the Wild Side

World Oceans Day

World Rainforest Day

### Field Conservation

American Association of Zoo Keepers (AAZK) – Bowling for Rhinos

Fins Attached

World Parrot Trust (WPT)

### HOUSTON ZOO, INC.

#### Education

Adult Camp Zoofari

Adult Volunteer Story Tellers

Animal Encounters

Camp Zoofari – Summer Only

College-Aged Zoo Internship

Collegiate Conservation Program (CCP)

Educator Workshops

Educators Night Out

Educators Open House

Family Adventure Programs

Family Nature Club

Family Travel Program – Yellowstone National Park

Homeschool Programs

Interpretive Programs

School Break Camp Zoofari

School Partnerships

Wild Together – Zoo Tour for Early On-Set Alzheimers

Zoo Crew – Teen Program (October – May)

Zoo Crew – Teen Summer Only Program

Zoo Overnights

Zoo Sprouts! – 18 Months to 23 Months With Favorite Adult

Zoo Sprouts! – 2-3 Year Olds With Favorite Adult

Zoo Sprouts! – 4-5 Year Olds and Their Favorite Adult

ZooMobile

### Field Conservation

Alaotran Gentle Lemur (*Hapalemur alaotrensis*), Increased and Concerted Monitoring and Research Efforts for its Conservation: A Unique Wetland Primate on the Brink of Extinction

Attwater's Prairie Chicken Recovery Program

AZA SAFE

Baird's Tapir Survival Initiative

Black Rhino – Namibia, Integrated Rural Development and Nature Conservation

Blue-Billed Curassow: Acoustic Monitoring and Camera Traps to Determine Landscape Connectivity

Bornean Elephant: Satellite Tracking and Social Behaviour in the Lower Kinabatangan Wildlife Sanctuary: Sabah, Malaysia

Chapman's Fringed Orchid

Conservation Centers for Species Survival (C2S2) – Cheetah

Conservation Heritage Turambe Rwanda

Conservation of the Painted Terrapin in Indonesia

Crab-Trap Clean Up

East Texas Black Bear Task Force

Eastern Ghats Wildlife Society

Ewaso Lions

Galápagos Education: Ecology Project International

Galápagos Tortoise Movement Ecology Project

Giant Anteaters and Highways Program, Brazil

Giant Armadillo: Conservation and Ecology in the Brazilian Pantanal

Gorilla Doctors

Gorilla Rehabilitation and Conservation Education (GRACE) Center

Goulougo Triangle Ape Project (GTAP)

Groupe d'Étude et de Recherche sur les Primates de Madagascar (GERP)

Herpetofauna Survey of the Tillari Bioregion, Northern Western Ghats, India

Hirola Antelope

Hornbill Conservation, Sabah, Malaysia

Houston Toad Headstart and Recovery Program

Human-Wildlife Conflict Collaboration

International Crane Foundation (ICF)

International Elephant Foundation (IEF)

International Rhino Foundation (IRF)

IUCN CPSG

Jane Goodall Institute

Kinabatangan Orangutan Conservation Project

Landscape Ecology and Behavioral Responses of the Sunda Pangolin (*Manis javanica*) to Habitat Fragmentation and Degradation in Sabah, Malaysia

Laos Elephant Conservation Center

Lion Guardians

Lion Landscapes

Lowland Tapirs as Landscape Detectives for the Atlantic Forest, Pantanal, and Cerrado

MarAlliance

*Microcebus gerpi* – Preliminary Assessment of the Distribution and Conservation Challenges of the Critically Endangered Mouse Lemur

Niassa Lion Project

Niassa Lion Project – Elephant-Behive Fence

Ocelot – Friends of Laguna Atascosa National Wildlife Refuge

Okapi Conservation Project

Painted Dog Conservation (PDC)

Panama Amphibian Rescue and Conservation (PARC)

Pride Lion Conservation Alliance

Rattlesnake Preservation Trust

Ruaha Carnivore Project (RCP)

Rwanda Bat Conservation: Using Bat Ecosystem Services to Trigger Their Conservation

Saving Endangered Grey Crowned Cranes in Rwanda

Saving Vietnam's Wildlife: Pangolin and Small Carnivore Rescue, Rehabilitation, and Release

Sea Turtle Rescue and Rehabilitation in the Gulf of Mexico

Sea Turtles: Argentina

Tiger Conservation in the Endau-Rompin Landscape of Peninsular Malaysia

Wildlife Conservation Program – Staff Salaries

### Green Practices

#### ENERGY

Documented Amount Used

Generated Renewable Energy On-Site

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Alternative Transportation Discounts for Guests

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Procured Local Food for On-Site Animals and/or Guest

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Used

### Research

Behavior and Fecal Hormone Monitoring During Zoo Lights

Collaborative Research Project Investigating Elephant Endotheliotropic Herpesvirus (EEHV)

Comparison of Gastrointestinal Transit Times Using 3 Different Indigestible Materials in the Houston Toad (*Bufo houstonensis*)

Evaluation of Cell Preservatives on the Integrity of Avian Whole Blood Samples Over Time

Evaluation of Cell Preservatives on the Integrity of Galapagos Tortoise Whole Blood Samples Over Time

Sound Level Data Collection During Seasonal Special Events and Sound Level Impact on Zoo Collection

## RAINFOREST & AQUARIUM AT MOODY GARDENS, INC.

### Field Conservation

American Bird Conservancy

Avian Scientific Advisory Group

AZA Chelonian TAG

AZA Chinese Alligator SSP

AZA Giant Otter SSP

AZA Humboldt Penguin SSP

AZA Komodo Dragon SSP

AZA Ocelot SSP

AZA Panamanian Golden Frog SSP

AZA Rodriguez Bat SSP

Belize Botanic Garden

Environmental Advocacy

Galveston Chapter of American Association of Zoo Keepers

Galveston Island Nature Tourism Council – Local Nature Tourism Support

Giant Otter Conservation

Marine Mammal Stranding Rehab Support

Microplastics Study – Turtle Island Restoration Network

One World One Ocean

Sea Turtle Conservation – Galveston

SEXual CORal REproduction (SECORE)

Southern African Foundation for Conservation of Coastal Birds (SANCCOB)

Turtle Survival Alliance (TSA)

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Graywater Reuse and/or Rainwater Harvesting

Wastewater Reduction

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent

## SAN ANTONIO ZOOLOGICAL SOCIETY

### Education

Community – Based Programs

Community Volunteers

Docent Station Encounters

Guest Encounters Butterflies

Guest Encounters Lory Landing

Guests Encounters Giraffes

Intern/Service Volunteer Training and Hours Served

Interpretation and Fieldwork (Teen)

Outreaches

Playleader Encounters

Real.Wild.Classrooms.

School Group Visits

Sleepovers

Staff Interpretation

Summer Camp

Volunteer Training (Adult)

Volunteer Training (Teen)

Zoo School

### Field Conservation

AZA FrogWatch USA

AZA Komodo Dragon SSP

AZA Puerto Rican Crested Toad SSP – Captive Reproduction and Reintroduction of the Puerto Rican Crested Toad (*Peltophryne lemur*) Tadpoles

Bolson Tortoise Recovery Project

Cave Fauna Biodiversity

Cheetah Conservation Fund

Chilean Amphibian Conservation Center

Chinese Cave Fish Working Group

Conservation of the Georgia Blind Salamander and the Dougherty Plain Cave Crayfish

Conservation of the Reticulated Flatwoods Salamander (*Ambystoma bishopi*)

Deep-Pelagic Nekton Dynamics (DEEPEND)

Ducks Unlimited, Inc.

Habitat Restoration Around Bracken Bat Cave

International Rhino Foundation (IRF)

Japanese Giant Salamander Conservation

Kemp's Ridley Sea Turtle Project

Lone Star Rattlesnake Days

Mexican Blindcat Program

Monarch Butterfly Marking Project

Monarch Fest

Monarch Larval Monitoring Survey

Monarch Watch – Monarch Waystation Program

North American Freshwater Turtle Research Group (NAFTRG)

Population Ecology of the Grotto Salamander (*Eurycea spelaea*)

Primeval Flat-Footed Salamander Study

Project Selva (Peruvian Cooperative)

Rough Footed Mud Turtle Project

San Antonio Zoo Center for Conservation and Research

Texas Horned Lizard Reintroduction Project

The Ocean Project

Universidad Autónoma de Nuevo León – Alligator Lizard Study

Universidad Autónoma de Nuevo León – Captive Rattlesnake Husbandry

Zoo Conservation Outreach Group (ZCOG)

### Green Practices

#### ENERGY

Documented Amount Spent

Generated Renewable Energy On-Site

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Wastewater Reduction

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Tamaulipan Rock Rattlesnake Telemetry Study in Nuevo León  
Mexico

**SEA LIFE GRAPEVINE AQUARIUM****Education**

Amazing Cephalopods

Behind the Scenes Tour

Birthday Parties

Claws Talk

Clownfish Talk

Clownfish/Jellyfish Talk

Marine Careers

Meet the Creatures – Storytime

Ocean Talk

Octopus Talk

Quiz Trail

Rainforest Talk

Ranger Mission Packs

Sea Turtle Talk

Seahorse Talk

Senses of the Sea

Shark School

Squid Dissection

Stingray Talk

Turtle Time

Young Environmentalist Program

**Field Conservation**

City of Grapevine

Lake Grapevine Beach Cleanup

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

**GREEN CERTIFICATIONS**

One or More Buildings LEED-Certified by the US Green  
Building Council

**GREEN PRACTICES IMPLEMENTED**

Building Energy Management

Commingled Recycling

Denitrification Systems On Ground

Green IT

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount Spent

Documented Amount Used

**Research**

Sea Life Sea Turtle Blood Study

**SEAWORLD SAN ANTONIO****Field Conservation**

Amazon River Dolphin Population Survey in the Lower Rio  
Negro

Big River Education and Leadership Initiatives

Engaging Urban Youth and Young Adults in Coastal  
Restoration Through Oyster Shell Recycling

Enhancing the Educational Capacity of the World's Largest  
Bat Cave

Foraging Ecology and Habitat Use of Cook Inlet Beluga  
Whales (*Delphinapterus leucas*)

Galveston Bay Foundation's Marine Debris Events and  
Abandoned Crab Trap Removal

Horniman Museum and Gardens

Increasing the Galapagos Penguin Population

Living Lands and Waters – Aquatic Debris Removal From  
America's Rivers

Pollinator Protectors  
 Restore America's Estuaries  
 Rewilding Project  
 SeaWorld San Antonio – Animal Rescue and Rehabilitation Program  
 Shark Habitat Use and Vulnerability in the Greater Caribbean  
 Texas Marine Mammal Stranding Network  
 Vancouver Aquarium Marine Science Centre – Mom, Can You Hear Me? Impacts of Underwater Noise on Mother-Calf Communication in Endangered Beluga Whales

## TEXAS STATE AQUARIUM

### Education

4D Theater  
 Animal Presentations/Encounters  
 Animal Science Exploration Program  
 Aquarium Biofact Carts  
 Aquarium Discovery Programs  
 AquaTeen Mentoring Program  
 Aquavision Distance Learning  
 Camp-Ins  
 Conservation Theme Days  
 Dream Nights  
 Exclusive Encounters  
 Exhibit Interpretation/Interactions  
 Homeschool  
 Outreach  
 Party for the Planet  
 Play to Learn  
 School Year Mini Camps  
 SeaCamp  
 Seafood Wars  
 Sensory Sensitive Sunday  
 Teacher Professional Development  
 Teen STEM Cafe  
 Volunteer Continuing Education Trainings  
 Wildlife Theater Shows  
 World Oceans Day

### Field Conservation

Adopt-a-Beach  
 Aquarium Conservation Partnership (ACP)  
 WCCR – Monitoring the Heart of Texas Coastal Sportfisheries: Using Advanced Technologies to Understand Environmental Drivers of Fish Abundance and Productivity in Channel Passes  
 Wildlife Care, Conservation, and Research Fund – Documentation, Protection, and Tracking of Nesting Adult Green Sea Turtles in Texas to Aid With Management Efforts  
 Wildlife Care, Conservation, and Research Fund – Fibropapillomatosis in Kemp's Ridley Sea Turtles (*Lepidochelys kempi*)  
 Wildlife Care, Conservation, and Research Fund – Spatial Movements of Tagged Sharks in the Isla Mujeres Fishing Areas, Quintana Roo, Mexico

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FUEL

Documented Amount Spent

#### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Green IT  
 Procured Local Food for On-Site Animals and/or Guest  
 Wastewater Reduction  
 Waterwise Landscaping

### Research

Cetacean Welfare Study

## THE DALLAS WORLD AQUARIUM

### Education

Dallas World Aquarium Website  
 Earth Day Celebration  
 Exhibit Ambassadors  
 Exhibit Touchscreens  
 Field Guide  
 General Education Program  
 International Sawfish Day  
 Keeper Talks  
 Migratory Bird Day  
 Online and Offsite Lectures  
 Vaquita Awareness Day  
 World Oceans Day Celebration

### Field Conservation

Amazon Rescue Center  
 Caribbean Manatee Conservation  
 Costa Rican Sloth Conservation  
 Harpy Eagle Conservation  
 Horned Guan Conservation  
 Iguana Specialist Group, IUCN/SSC  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 Mexican Crocodylian Conservation  
 Orinoco Crocodile Conservation Project  
 Resplendent Quetzal Conservation  
 Turtle Survival Alliance (TSA)

### Research

Advancing Conservation of the Amazonian Manatee, *Trichechus inunguis*, in Iquitos, Peru  
 Breeding Behavior, Propagation, and Management of the Ribbon Pipefish (*Haliichthys taeniophorus*)  
 Captive Husbandry and Breeding Behavior of the Leafy Seadragon (*Phycodurus eques*)  
 Development of an Intensive Aquaculture Program Within a Public Aquarium  
 Preserving the Orinoco Crocodile (*Crocodylus intermedius*) at the Dallas World Aquarium  
 Spawning Behavior and Early Development of the Flashlight Fish (*Photoblepharon palpebratum*)

## Utah

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### TRACY AVIARY

#### Education

Book and Boots

#### Field Conservation

Alta Baseline Bird Monitoring  
 Alta Nest Box Monitoring Study  
 Assessing the Bird Community at Mill Creek Confluence Before and After Restoration  
 Baseline Bird Inventory in Liberty Park  
 Baseline Inventory – Regional Athletic Conference and Jordan River Golfcourse  
 Bird Monitoring at Herman Franks Park  
 Bird Monitoring at Salt Lake City's Water Reclamation Facility  
 Bird Monitoring Before and After Daylighting and Restoration of the Three Creeks Confluence  
 Bird Monitoring in Galena Soo'nhanni  
 Bird Monitoring in the Big Bend Restoration Area  
 Bringing Lucy's Warblers Home: Discovering Nesting Needs and Preferences to Increase Nesting Opportunities  
 City Creek Citizen Science Project  
 Dark Skies Program  
 Great Green Macaw Conservation and Education  
 Great Salt Lake Partnership for Education and Longitudinal Investigation of American White Pelicans (PELI) Project  
 Guam Kingfisher Conservation  
 Monitoring Migratory Snowy Plovers (*Charadrius nivosus*) and Overwintering Shorebirds in Mexico  
 Movement of American White Pelicans in Northern Utah: Management Implications on Nesting and Foraging Grounds  
 Participation of Tracy Aviary Staff in Field Conservation Projects  
 Population Connectivity of Snowy Plovers (*Charadrius nivosus nivosus*) on the Southern Great Plains of Texas, New Mexico, and Oklahoma  
 Project Broadtail  
 Staff Field Conservation Grant: Alta Bird Monitoring Site Vegetation Surveys

Staff Field Conservation Grant: Nest Box Surveying and Banding of American Kestrels

Trumpeter Swan Society Oregon Restoration Project

Vegetation Structure and Insect Prey Availability in Sage-Grouse Brood-Rearing Habitat

Wildlife Rehabilitation Center of Northern Utah (WRCNU)

### Green Practices

#### ENERGY

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

#### FUEL

Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Green Building Policy/Commitment

Green Purchasing Policy/Green Procurement

Purchased Green Power or Renewable Energy Credits (RECs)

Smart Building Strategies

Stormwater Management Program

Wastewater Reduction

Water Submetering

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

#### WATER

Documented Amount Used

## UTAH'S HOGLE ZOO

### Field Conservation

Action for Cheetahs in Kenya

Advanced Detection and Deterrence of Polar Bears (*Ursus maritimus*)

American Association of Zoo Keepers (AAZK) - Bowling for Rhinos

AZA FrogWatch USA

Black-Footed Ferret Utah Reintroduction Program

Boreal Toad Conservation Program

Conservation Staff Labor

Giraffe Conservation Foundation (GCF)

Gorilla Rehabilitation and Conservation Education (GRACE) Center

Gorongosa Recovery Project

Grevy's Zebra Trust

HawkWatch International

International Elephant Foundation (IEF)

International Rhino Foundation (IRF)

Jordan River Restoration Project

Kinabatangan Orangutan Conservation Project

Lewa Wildlife Conservancy

Marine Mammal Center

Niassa Carnivore Project

Polar Bears International (PBI)

Radiated Tortoise Conservation Program

Red Panda Network

Sage Grouse Fenceline Collisions

Snow Leopard Trust (SLT)

Turtle Survival Alliance (TSA) - Radiated Tortoise Conservation Program

Wild Aware Utah

Wildlife SOS

Wyoming Toad Recovery Program

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

Purchased Renewable Energy

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN CERTIFICATIONS

Certified by the Green Restaurant Association

One or More Buildings LEED-Certified by the US Green Building Council

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Carbon Offsets for Employee Travel

Commingled Recycling

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Green IT

Purchased Green Power or Renewable Energy Credits (RECs)

Stormwater Management Program

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Spent

Documented Amount Used

#### Research

The Orang-utan Conservation Genetics Project

## Virginia

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#### MILL MOUNTAIN ZOO

##### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Composting (On-Site or Off-Site)

Graywater Reuse and/or Rainwater Harvesting

Procured Local Food for On-Site Animals and/or Guest

#### VIRGINIA AQUARIUM & MARINE SCIENCE CENTER

##### Education

Access Aquarium

Behind-the-Scenes Experiences

Birthday Parties for Children

Communicating Ocean Science to Informal Audiences (COSIA)

Docent - Continuing Education

Docent - Continuing Education Online Classes

Docent Introductory Training

Dolphin Watching Boat Trip

Ecotours

Gallery Programs

Halloween at the Aquarium

Here Be Dragons Member Events

Marsh Ambassadors

Mentoring Young Scientists

Mermaid Mondays

Ocean Collections Boat Trip

Overnights for Members and Family Audiences

Reflecting on Practice Informal Education Class

School Programs - On-Site

School Programs - Outreach

Scouts - Overnights

Sensible Seafood Fest

Sensible Seafood Presentations

Special Needs Under the Sea  
 Specialty Boat Trips  
 STEAM  
 Stranding Response Presentations  
 Stranding Response Team Outreach Visits  
 Stranding Response Team Trainings for Staff and Volunteers  
 Summer Camps  
 Teacher Trainings  
 Valentine's Dinner  
 Watts Conservation Lecture Series  
 Waves, Words, and Wonder  
 Whale Watching Boat Trips  
 Youth Conservation Series

### Field Conservation

Aquarium Conservation Partnership (ACP)  
 AZA Conservation Grants Fund (CGF)  
 AZA FrogWatch USA  
 AZA Komodo Dragon SSP  
 AZA SAFE  
 Development of Mid-Atlantic Humpback Whale Catalog (MAHWC)  
 Gladys Porter Zoo – Support for Crocodile Conservation  
 Helping Hooked Turtles – Support for Hooked Sea Turtle Rehabilitation  
 IUCN/SSC Crocodile Specialist Group – Tomistoma Task Force  
 Kemp's Ridley Sea Turtle Population Recovery Project  
 Occurrence of Baleen Whales Along the Continental Shelf Region of the VACAPES OPAREA off Southern Virginia – Data Synthesis from Previous Projects  
 Pilot Study: Tagging Hauled-Out Juvenile Seals in Virginia  
 SAFE Sea Turtle Program  
 Sea Turtle Nest Monitoring in Virginia Beach, Virginia  
 Sea Turtle Tagging and Tracking in Chesapeake Bay and Coastal Ocean Waters of Virginia  
 Sea Turtles and Fishing Piers – Mitigating Hook and Line Interactions  
 SEXual COral REproduction (SCORE)  
 Support for Post-Mortem Examination of Stranded Large Whales in Virginia

The Center for Conservation Biology – Osprey Banding and Tracking Project  
 The Hawk Conservancy Trust  
 The Ocean Project  
 Tracking Loggerhead Sea Turtle Yearlings  
 Turtle Survival Alliance (TSA)  
 Virginia Aquarium Research and Conservation Division Support  
 Virginia Coastal Zone Management Program Grant – Virginia Sea Turtle and Marine Mammal Stranding Network

### Green Practices

#### ENERGY

Documented Amount Spent  
 Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent  
 Documented Amount Used

#### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

#### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Energy Submetering  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies

Stormwater Management Program

Wastewater Reduction

Water Submetering

Waterwise Landscaping

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

#### WASTE

Documented Amount Composted

#### WATER

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

#### Research

Blubber Hormones: A Marker of Dolphin Health and Well-Being

Citizen Science Water Quality Monitoring Project

Monitoring Marine Debris in Virginia's Coastal Zone

#### VIRGINIA LIVING MUSEUM

##### Field Conservation

AZA FrogWatch USA

AZA Lined Seahorse SSP

AZA Red Wolf SSP

Bird Feeder Watch

Butterfly Count: North American Butterfly Association (NABA) - Annual Field Survey

Clean the Bay Day

Coastal Cleanup - Clean Virginia Waterways

James River Water Quality Testing

Journey North Tulip Test Garden Project

Monarch Butterfly Tagging Survey

Monofilament Recycling and Fishing Gear Recovery

Oyster Restoration

Project Clean Stream

Sea Grass Restoration (Seed Collection)

Sea Turtle Head Start Program

Turtle Census

Virginia Amphibian Monitoring Project (VAMP)

#### Green Practices

##### ENERGY

Documented Amount Used

Generated Renewable Energy On-Site

##### GREEN CERTIFICATIONS

Certified as a Wildlife Habitat

##### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Commingled Recycling

Community Solar Program

Composting (On-Site or Off-Site)

Generated Solar or Wind Energy

Graywater Reuse and/or Rainwater Harvesting

Procured Local Food for On-Site Animals and/or Guest

Waterwise Landscaping

##### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

##### WASTE

Documented Amount Composted

Documented Amount Recycled

##### WATER

Documented Amount Spent

Documented Amount Used

#### Research

An Ecological and Genetic Data Baseline for the Endangered Fijian Free-Tailed Bat (2018-2019)

Biological Survey of Tropical Dry Forests (TDF) in Vanua Levu

Butterfly Count

Invasive Turtle Species Census

## VIRGINIA ZOOLOGICAL PARK

### Education

Behind the Scenes Tours  
 Birthday Parties  
 Conservation Youth Team  
 Discovery Carts  
 Early Childhood Story Times Programs  
 Education Event Days (Zoo Wide)  
 Guided Tours  
 Outreach to Schools  
 Program Animal Pop-Ups  
 Safari Camps  
 School Discovery Programs  
 Snoozes  
 Twilight Programs  
 Zoo Live Stage  
 Zoo Tykes

### Field Conservation

Action for Cheetahs in Kenya  
 Avian Scientific Advisory Group  
 AZA Conservation Grants Fund (CGF)  
 AZA SAFE - Cheetah  
 Cheetah Conservation Fund (CCF)  
 Chesapeake Bay Foundation  
 Lowland Tapir Conservation Initiative  
 Mabula Ground Hornbill Project (MGHP)  
 New Nature Foundation  
 Pride Lion Conservation Alliance  
 Turtle Survival Alliance (TSA) - Turtle Survival Center

### Green Practices

#### ENERGY

Documented Amount Used

#### FUEL

Documented Amount Spent  
 Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff  
 Building Energy Management  
 Community-Based Sustainability Projects  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Green Building Policy/Commitment  
 Green IT  
 Stormwater Management Program  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

### PLANS, POLICIES, AND BUDGETS

Dedicated a Line Item in the Budget for Green Practices

### WASTE

Documented Amount Recycled  
 Documented Amount Sent to Landfill

### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

## Washington

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## NORTHWEST TREK WILDLIFE PARK

### Education

Adventure Treks  
 Amphibian Workshops  
 Cheney Center  
 Conservation Awareness Program Carts  
 Core Area Contacts  
 Elk Bugling Tour  
 Keeper Adventure Tours  
 Photo Tours  
 Scout Days  
 Skype in the Classroom

Special Events

Tram Tours

Virtual Field Trips

### Field Conservation

Bat Monitoring & White-Nose Syndrome Surveillance

Fisher Rehabilitation & Release Project

Grit City Carnivore Project

Mountain Goat Relocation

Pierce County Habitat Monitoring

Training and Use of Scat-Sniffing Dogs for Field Population Studies

### Green Practices

#### ENERGY

Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet

Commingled Recycling

Composting (On-Site or Off-Site)

Green IT

Stormwater Management Program

Waterwise Landscaping

#### WASTE

Documented Amount Recycled

Documented Amount Sent to Landfill

#### WATER

Documented Amount Used

## POINT DEFIANCE ZOO & AQUARIUM

### Education

Camp Adventures

Career Day

Career Discovery Programs

Community Science (Formerly Known as Citizen Science)

Home School and Special Program Requests

Internship

Junior Guides

Keeper Talks and Close Encounters

Programs for Young Children

Senior Guides

Snooze Overnights

Special Events

Summer Camp Assistants

Visitor Interpretive Programs

Wild Wonders Outdoor Theater

Wildlife Champions

Wildlife Scholars

Zoo Guides

Zoo to School

Zoo to You - Community Fee-Based

### Field Conservation

A Restoration Initiative for the At-Risk Oregon Spotted Frog (*Rana pretiosa*)

Assessing Walrus Benthic Prey Base in Bristol Bay, Alaska

Bringing the Message Home: Billboards to Complete Anoa Outreach in Sulawesi, Indonesia

Connectivity and Spatial Ecology of Blacktip Sharks (*Carcharhinus limbatus*) in the Gulf of California

Critical Habitat, Stock Structure, Movement Ecology, and Population Connectivity of Scalloped Hammerhead Sharks (*Sphyrna lewini*) in the Central Pacific Ocean

Developing Conservation Response Units in Sumatra

Ecology and Conservation of the Carnivore Community in an Annamites Biodiversity Hotspot: Systematic Surveys in Bidoup National Park, Vietnam

Fisher Recovery in Washington State

Foraging Ecology of Northern Sea Otters in Washington State

Hawai'i Wildlife Fund Hawksbill Recovery Project

Home Range Stability and Territorial Dynamics of the Sunda Clouded Leopard (*Neofelis diardi*) in a Fragmented and Landscape-Converted Habitat

Khao Kheow Zoo - Clouded Leopard Breeding Project Seahorse

Red Wolf Zoo-Based Breeding and Recovery

Rockfish Surveys Documenting Shifting Ecosystems

Shark Tagging in the Revillagigedo Islands

Spatial Ecology of an Eastern Pacific Green Turtle (*Chelonia mydas agassizii*) Nesting Population in Michoacán, México: a Study Through Stable Isotope Analysis and Biotelemetry

The Bornean Carnivore Programme: Improving Understanding of Population Connectivity and Ecological Needs of Sunda Clouded Leopards and Sympatric Threatened Carnivores in Sabah

The Effects of Anthropogenic Activities on Carnivores in Malaysian Borneo

Tiger Conservation in the Greater Leuser Landscape and the Greater Bukit Baresan Selatan Landscape of Sumatra

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Energy Submetering

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Purchased Green Power or Renewable Energy Credits (RECs)

Water Submetering

Waterwise Landscaping

### Research

CT Anatomy and Histopathology of Gas Bubble Disease in Rockfish

Determination of Baseline Hematologic, Serum Biochemical, and Heavy Metal Values in Captive Japanese Spider Crabs (*Macrocheira kaempferi*)

Development of Non-Surgical Artificial Insemination for the Genetic Management of Tigers

Efficacy and Reversal of Suprelorin® (Deslorelin) in the Clouded Leopard (*Neofelis nebulosa*)

Endocrine and Behavioral Parameters of Reproduction in Pacific Walrus

Red Wolf Sperm Cryopreservation, Capacitation, and Culture

Rockfish Surveys Documenting Shifting Ecosystems

Sea Ice Ecology Project - Using GPS Ear Tags to Track Male and Subadult Polar Bears in Western Hudson Bay

Whisker Growth Dynamics in Pacific Walruses (*Odobenus rosmarus divergens*) Under Human Care

## SEATTLE AQUARIUM

### Education

Beach Naturalist

Cedar River Salmon Journey

Citizen Science

Connections Program

Deaf Community Day

DreamNight

Early Childhood Outreach

Lightning Talks

Salmon Homecoming

Seattle Aquarium Open House

Self-Guided Tours

Summer Camps

Teacher Workshops

Toddler Time

### Field Conservation

Beach Naturalist Program

Cedar River Naturalist Program

Evaluating Empathy for Wildlife

Exploring Audience Perceptions of Terminology

Fostering Empathy for Animals: A Review of the Literature

Hawaii Reef Fish Diversity and Abundance

Northern Sea Otter Activity Budgets of Foraging Data

Olympic Sculpture Park Intertidal Monitoring

Rehabilitated Sea Turtle Satellite Tracking

Salish Sea Rockfish Diversity and Abundance Surveys

Sea Otter Population Genetics

Sixgill Shark (*Hexanchus griseus*) Diver Sighting Database

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN PRACTICES IMPLEMENTED**

Alternative Transportation Benefits for Staff

Building Energy Management

Commingled Recycling

Community Solar Program

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Generated Solar or Wind Energy

Green Building Policy/Commitment

Green IT

Procured Local Food for On-Site Animals and/or Guest

Purchased Carbon Offset(s) for On-Site Utility Use

Smart Building Strategies

Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance

**GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

**WASTE**

Documented Amount Composted

Documented Amount Recycled

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**Research**

Alcid Feather Endocrinology

Cow Shark Conservation Genetics

Grey and Blue Whale Fecal Hormones

Hawaii Reef Survey Data Analysis

Mentoring of Graduate Students

Microplastic Monitoring

Noninvasive Techniques to Monitor Reproductive Hormones of Captive Pacific Harbor Seals (*Phoca vitulina richardii*)

Northern River Otter Toxicology

Ocean Acidification Monitoring and Equipment Testing

Rockfish Survey Data Analysis

Sea Otter Conservation Endocrinology

Sea Otter Toxicology

Sixgill Abundance

Support of Outside Research Projects

**WOODLAND PARK ZOO****Education**

Ambassador Animal Outreach

Animal Stage Programs

Docent Program - Toolboxes and Rambles

Docent Programs - Animal Encounters

Docent Programs - Conservation Connections

Interpretive Engagements

Public Programs - Wildlights

Seattle Youth Climate Action Network

Senior Programs

Zoo Corps

Zoomazium - Visitation/Interactive Play

Zoomazium Programs

**Field Conservation**

Amphibian Monitoring

Asian Elephant Support (AES)

AZA Conservation Grants Fund (CGF)

Blue-Crowned Laughingthrush Annual Population Census

Center for Conservation of the Humboldt Penguins in Punta San Juan, Peru

Cheetah Conservation Fund (CCF)

Citizen Science Habitat Restoration

Evergreen Carbon Capture Program

Field Conservation Grant Management

Green Seattle

Hornbill Research Foundation (HRF) - Nest Adoptions in Thailand

HUTAN-Kinabatangan Orang-Utan Conservation Project - Elephant Conservation

International Rhino Foundation

International Veterinary Care, Inc.

Lewa Wildlife Conservancy

Licton Springs Conservation and Restoration Project

Mbeli Bai Study (MBS)

Mountain Goat Capture and Translocation

Muraviovka Park for Sustainable Land Use

Orangutan Habitat Protection and Patrolling in Gunung Palung National Park

Panthera - Malayan Tiger Project

Partula Snail Recovery and Reintroduction Project

Partulid Global Species Management Programme

Progressive Animal Welfare Society

Proyecto Taguá

Raptor Ecology of the Shrub-Steppe

River Otters of Western Washington: Sentinels of Ecological Health

Ruaha Carnivore Project (RCP)

Salmon Egg Confiscation

Saving the Asian Oryx

Seattle Urban Carnivore Project

Silverspot Butterfly Conservation Project

Snow Leopard Trust (SLT)

Tarangire Ecosystem Project - Tarangire National Park

Tree Kangaroo Conservation Program

Washington Department of Fish and Wildlife - Duck Research

Washington Urban-Wildland Carnivore Project

Western Pond Turtle Recovery Project

Western Wildlife Outreach

Wild Wise: Coexisting With Carnivores

Woodland Park Zoo Conservation Advocacy and Action Campaigns

Woodland Park Zoo's Northwest Carnivore Project

**Green Practices****ENERGY**

Documented Amount Spent

Documented Amount Used

Generated Renewable Energy On-Site

**EXTERNAL SUPPORT**

Received Support From External Sources for Green Projects

**FOOD**

Sourced Local Food or Grew it On-Site

**FUEL**

Documented Amount Spent

Documented Amount Used

**GREEN CERTIFICATIONS**

Certified as a Wildlife Habitat

One or More Buildings LEED-Certified by the US Green Building Council

**GREEN PRACTICES IMPLEMENTED**

Alternative Fuel Usage for On-Site Fleet

Alternative Transportation Benefits for Staff

Alternative Transportation Discounts for Guests

Building Energy Management

Carbon Offsets for Employee Travel

Commingled Recycling

Community Solar Program

Community Supported Agriculture (CSA) Program for Staff

Community-Based Sustainability Projects

Completed Greenhouse Gas Inventory  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Purchased Carbon Offset(s) for On-Site Utility Use  
 Smart Building Strategies  
 Stormwater Management Program  
 Used Enterprise (IT) Solutions to Track and Measure Sustainability Performance  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### **GREENHOUSE GAS EMISSIONS**

Documented Amount of Greenhouse Gas Emissions

#### **PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

#### **WASTE**

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### **WATER**

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

#### **Research**

Captive Orangutan Dentition Emergence Compilation Project  
 Correlations of Behavior Between Matschie's Tree Kangaroo in Papua New Guinea and Captive Tree Kangaroos in Woodland Park Zoo  
 Determination of Important Causes of Morbidity and Mortality in Captive Psittacine Birds Submitted to the Ontario Veterinary College Teaching Hospital With Development of Specific Diagnostic Tests  
 Developing Genomic Tools for North American River Otter (*Lontra canadensis*) Population Management  
 Development of a Genome Resource Bank and Transcervical Insemination for Genetic Management of Tigers  
 Developmental Milestones and Mother/Young Interactions in Captive Matschie's Tree Kangaroo at Woodland Park Zoo  
 Evaluating Welfare Effects of Giraffe Translocation  
 Genomic Investigation of Cardiomyopathy in Meerkats  
 Great Ape Neuroscience Project  
 Ovarian Function in Captive Female Orangutans  
 Retrospective Review of Giraffe Neoplasia Medical Records  
 Sex Chromosome Evolution in Lizards With a Focus on the Chinese Crocodile Lizard (*Shinisaurus crocodilurus*)  
 Snow Leopard SSP Health Survey  
 Species and Sex Genetic Testing of Two-Toed Sloths (*Choloepus* spp.) in the SSP Programs  
 Tree Kangaroo Reproductive Tissue Study  
 Visitor Perceptions of Animal Welfare and Empathy for Zoo Animals  
 Western Pond Turtle and Ulcerative Shell Disease: Uncovering the Role of the Microbiome in Species Restoration

# Washington D.C.

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## SMITHSONIAN NATIONAL ZOOLOGICAL PARK

### Education

Cub Club: Fur, Feathers, & Scales  
 Cub Club: Growing Up Wild  
 Junior Zookeepers: If I Ran the Zoo  
 Junior Zookeepers: ZSI  
 Nature Exchange  
 President's Week Camp  
 Spring Camp  
 Stories & Stuffies  
 Stormwater Pollution Prevention  
 Thanksgiving Camp  
 Winter Camp  
 ZooSnooze

### Field Conservation

Anesthesia Study Evaluating the Use of Etorphine and Azaperone Combination in Free-Ranging Warthogs (*Phacochoerus africanus*)  
 Assessing and Restoring Giant Panda Habitat in the Qinling Mountains  
 Assessing Spotted Turtle Distribution and Abundance in Virginia and the Eastern U.S.  
 Assessing the Conservation Status of Araucaria Forest in Brazil  
 Assessing the Genetic Structure of the Wood Turtle in the Northeast  
 Assessing Wood Turtle Distribution and Abundance in Virginia and the Northeast  
 Assessment of the Lowland Tapir (*Tapirus terrestris*) Population and Habitat Use Within the Paraguayan Chaco  
 BiodiversiTREE  
 Biomedical Survey and Ecology of the Endangered Mountain Tapir  
 Borneo Mammals  
 Breeding Ecology and Population Status of the Island Scrub-Jay

Capybaras, Ticks, and Brazilian Spotted Fever: How Land Use Change Affects Disease Dynamics and Transmission Risks  
 Climate Change Impacts on Giant Pandas  
 Comparison Between Subcarapacial Sinus and Brachial Vein Phlebotomy Sites for Blood Collection in Free-Ranging Gopher Tortoises (*Polyphemus gopherus*)  
 Conservation of Dama Gazelle  
 Conservation of Dholes in Thailand  
 Conservation of Ostrich in Niger, Africa for Reintroduction  
 Conservation of Persian Onager  
 Conservation of Scimitar-Horned Oryx  
 Conservation Partnership for the Painted Bunting  
 Conserving Coral Reefs  
 Density Dependence During the Non-Breeding Season and the Regulation of Migratory Bird Populations  
 Determining the Distribution, Conservation Status, and Habitat Use of the Yucatan Box Turtle in Mexico  
 Disease Survey in Free-Ranging Warthogs (*Phacochoerus africanus*)  
 Domestic Animals in China Reserves  
 Ecological and Genomic Evaluation of the *Ex-Situ* Conservation and Reintroduction of the Orinoco Crocodile (*Crocodylus intermedius*) in Venezuela  
 Effects of Climate and Biotic Factors on Abundance, Demography, and Behavior of Forest Birds  
 Elephant Collaring and Satellite Tracking in Myanmar  
 eMammal  
 Experience the Migration of Brown Pelicans of the Disappearing Islands of the Chesapeake Bay  
 ForestGEO Ecosystems & Climate Initiative  
 Full Life Cycle Vulnerability Assessments for the Birds of the Upper Midwest Great Lakes Region  
 Gabon Biodiversity Program  
 Genetic Foundations for the Conservation of the Margarita Capuchin (*Cebus/Sapajus apella margaritae*)  
 Giraffe Conservation Status and Ecology in Northern Kenya  
 Global Volume and Impact of Illegal Wildlife Trade  
 Habitat Selection of Ocelot in Disturbed Pantanal Habitat  
 Improving Elephant Endotheliotropic Herpesviruses (EEHV) Diagnostic and Research Capacity in Southeast Asia With a Series of Training Workshops  
 Influence of Human Development on Movement and Ecology of Top Predators in Brazil

Jaguar Workshop in Paraguay	The Changing Landscapes Initiative
Mammal Distributions Across Protected Areas in the Region	The Red Siskin Initiative ( <i>Spinus cucullatus</i> ): Mitigating Unsustainable Harvest of Red Siskins in the Wild
Managing Human-Elephant Conflict in Myanmar (Burma)	The Red Siskin Initiative ( <i>Spinus cucullatus</i> ): Field Ecology for Species Conservation
Migratory Connectivity of the Birds of North America	The Red Siskin Initiative ( <i>Spinus cucullatus</i> ): Halting and Reversing Habitat Degradation
Modeling Nomadic and Migratory Movements of Endangered Mongolian Gazelles Using Satellite Tracking and Satellite Estimates of Grassland Biomass	The Red Siskin Initiative ( <i>Spinus cucullatus</i> ): Strategic Planning for Species Conservation
Monitoring Freshwater Fish Diversity in Morona, Peru	Theoretical and Empirical Foundations for the Use of Distribution and Functionality Indicators at Various Scales in the Assessment of the Risk of Ecosystem Collapse
Monitoring Large Mammals in the Lower Madre de Dios Corridor	Understanding the Biology and Ecology of Dholes in Thailand
Monitoring Snaring in the Gamba Area	Understanding the Factors Leading to Reticulated Giraffe Decline
Montana Grassland Ecology	Understanding the Local and Landscape Predictors of Bird Diversity and Abundance in Agricultural Landscapes
Multitrophic Consequences of Novel Plant Assemblages in Urban Ecosystem	Understanding Threats to Andean Flamingos in an Age of Rapid Change
North American Songbird Initiative	Using Geographic Information Systems and Remote Sensing for Training Wildlife
North American Songbird Working Group (NASWG)	ZooFari Direct Grant to Associação Mico Leão Dourado to Conserve Golden Lion Tamarin Habitat
Panama Amphibian Rescue and Conservation (PARC)	
Paraguay <i>In-Situ</i> and <i>Ex-Situ</i> Conservation of the Atlantic Forest	
Pilot Frog Release Study in Panama	
Population Ecology of Green Turtles ( <i>Chelonia mydas</i> ) in the Caribbean	
Real-Time Anti-Poaching and Survival Monitoring for Reintroduced Scimitar-Horned Oryx in Chad	
Recovery of the Endangered Black-Footed Ferret	
Reintroduction of Przewalski's Horse in Xinjiang, China	
Reintroduction of the Scimitar-Horned Oryx	
Relationship Between Genetics, Stress, and Amyloid A (AA) Amyloidosis Prevalence in Cheetahs	
Salamanders Response to Soil Freezing	
Saola and Large Antlered Muntjac (LAM) Breeding/Rescue Center	
Save the Golden Lion Tamarin	
Smithsonian Institution Global Earth Observatory (SI-GEO) Large Forest Plot	
Smithsonian Myanmar Initiative	
Source-Sink Dynamics and Population Ecology of Wood Thrush	
Supporting Integrated Protected Area Land and Seascape Management in Tanintharyi, Myanmar	
Sustaining Reintroduced Przewalski's Horses in Hustai Nuru National Park	
	<b>Green Practices</b>
	<b>ENERGY</b>
	Documented Amount Spent
	Documented Amount Used
	Generated Renewable Energy On-Site
	Purchased Renewable Energy
	<b>FOOD</b>
	Sourced Local Food or Grew it On-Site
	<b>GREEN CERTIFICATIONS</b>
	One or More Buildings LEED-Certified by the US Green Building Council
	<b>GREEN PRACTICES IMPLEMENTED</b>
	Building Energy Management
	Commingled Recycling
	Composting (On-Site or Off-Site)
	Diverted or Recycled Construction Waste

Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green IT  
 Smart Building Strategies  
 Stormwater Management Program  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

#### GREENHOUSE GAS EMISSIONS

Documented Amount of Greenhouse Gas Emissions

#### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)

#### WASTE

Documented Amount Recycled  
 Documented Amount Sent to Landfill

#### WATER

Documented Amount Used

#### Research

A Behavioral Study of Kori Bustards at the Smithsonian National Zoological Park  
 A Review of Captive Breeding Options Being Considered by Parks Canada for Woodland Caribou (*Rangifer tarandus caribou*)  
 Activity Budget, Weight Management, and Light Cycles of Captive Ruby-Throated Hummingbirds  
 An Analysis of Behavioral Response by Cuban Crocodiles (*Crocodylus rhombifer*) to Hatchling Calls of Several Species  
 An Interdisciplinary Approach (Endocrine and Behavioral) to Assess the Impact of Cub Separation and Adult Breeding Behavior in Andean Bears  
 Anesthesia Induction and Maintenance in Adult Arapaima (*Arapaima gigas*)  
 Asian Water Dragon Parthenogenesis  
 Assessing New Options for Choice and Control With Asia Trail's Sloth Bears Using Picture Recognition to Communicate Preferences and Enhance Bear Management  
 Assessing the Function of Penile Spines in Felid Species

Assessing the Relative Impacts of Anthropogenic Causes of Direct Bird Mortality

Assessment and Monitoring of Marine Benthic Macrofauna in the Area of Influence of the Peru Liquefied Natural Gas (LNG) Marine Terminal

Assessment and Monitoring of Marine Fish Communities and Plankton in the Area of Influence of the Peru Liquefied Natural Gas (LNG) Marine Terminal

Assessment and Monitoring of Seabirds in the Area of Influence of the Peru Liquefied Natural Gas (LNG) Marine Terminal

Assessment of Stereotypical Pacing and Welfare in an Adult Male Sloth Bear

Behavioral Differences Between Songbirds Housed as Pairs Versus Those Housed in Mixed Species Exhibits

Behavioral Patterns During Giant Panda Estrus

Biomaterial Collection and Archiving in Support of Other Research Projects

Biomedical Survey in Giant Pandas

Black Rhinoceros Health and Nutrition

Blood Drained of Life: Convergent Evolution of Coagulopathic Animal and Bacterial Toxins

Captive Orangutan Dentition Emergence

Carbon Content in Agroforestry Soils

Characterizing the Microbial Content of Gorilla Milk

Clinical Challenge: Diagnosis of Coenurosis (*Taenia brauni*) and Cecolith in a Malagasy Giant Jumping Rat (*Hypogeomys antimena*)

Comparison of Guaifenesin, Ketamine, and Medetomidine Constant Rate Infusion With Isoflurane Gas for Anesthesia Maintenance in American Black Bears (*Ursus americanus*)

Comparison of Sampling Methods for Detection of EEHV

Comparison of Trunk Secretions and Oral Swabs for Detection of Elephant Endotheliotropic Herpesvirus (EEHV) in African Elephants

Confidence Judgments and Metacognition in Comparative and Developmental Perspective

Connectivity for Conservation: Understanding the Complex Patterns of Altitudinal and Intra-tropical Migration

Conservation of Przewalski's Horse

Creating Coral Nurseries in the Pacific

Cutaneous Lesions in Giraffe

Dermatitis and Rhinosinusitis Caused by *Curvularia* Species in a Chinese Goral (*Naemorhedus griseus*)

- Determining Genetic Relatedness and Genomic Factors Associated With Health, Welfare, and Reproduction in Asian and African Elephants *Ex-Situ*
- Determining Genetic Variability, Kinship, and Uniqueness in the North American Cheetah Population
- Developing Group Management Strategies and Systems for Sustainable Populations of All Species
- Developing Sperm Capacitation Procedure for Wild Canids
- Diagnosis and Treatment of *Batrachochytrium dendrobatidis* in Green Salamanders (*Aneides aeneus*) and Long-Tailed Salamanders (*Eurycea longicauda*)
- Disseminated *Ophidiomyces ophiodiicola* Infection in an Eastern Diamondback Rattlesnake (*Crotalus adamanteus*) Without the Presence of Skin Lesions
- DNA Testing of Mob of Meerkats to Determine Relatedness and Parentage
- Dominance Rank, Nutrition, and Sociality in Wild Female Eastern Chimpanzees (*Pan troglodytes schweinfurthii*)
- Effects of a Recurring Late Night Event on the Behavior and Welfare of a Population of Zoo-Housed Gorillas
- Emerging Diseases of Salamanders
- Endocardiosis in Tetras
- Endocrine Response Associated With Pair Bond Formation in Stanley Cranes
- Endocrinology of Reproduction and Stress in the Giant Panda
- Epidemiological Investigation of *Ophidiomyces ophiodiicola* Infection in Current and Historic Collections of Snakes at the National Zoological Park
- Evaluating the Addition of Automatic Feeders on Asian Elephant (*Elephas maximus*) Behavior and Welfare
- Evaluating Weight During Pregnancy
- Evaluation of a Serum Neutralisation Test for Detection of Rift Valley Fever Antibodies in Suid Sera
- Examination of Ovarian Stimulation Protocol and Semen Deposition Location to Increase Artificial Insemination Success in Felids
- Extending the Fertility of Aging Female Cheetahs to Improve Population Genetic Health
- Fission-Fusion Flock Dynamics and Space Use in Blue Jays
- Forest Elephant Monitoring in Gamba, Gabon
- Gastrointestinal Illness in Contract Works at a Poultry Processing Facility – Minnesota, 2016
- Genetic and Health Evaluation of Asian Chelonians
- Genomic Basis of Infertility in the Endangered Black-Footed Ferret
- Genomics of Endangered Ungulates
- Giant Panda Behavior Watch
- Giant Panda Cub Development
- Giant Panda Estrus Watch and Pregnancy/Birth Watch
- Health Assessments of Zoo Asian and African Elephants in the US
- Histologic Findings in Captive American Horseshoe Crabs
- Identification of a Novel Highly Diverged Variant of EEHV1A in Lethal Cases of Hemorrhagic Disease from Borneo
- Identifying Causes of Neonatal Mortality in African Painted Dogs
- Identifying Causes of Poor Reproduction in Whooping Crane Maintained *Ex-Situ*
- Identifying Migratory Connectivity of a Neotropical Migratory Bird Using New Technologies: Archival GPS Tags
- Identifying Migratory Connectivity of Brown Pelicans Along the United States Atlantic Coast Using Satellite Tags
- Immunoglobulins in Primate Milks
- Impacts of Dam Removal on Dippers and River Otters
- Influence of Environmental Factors on Red Panda Welfare
- Influence of Gonadotropin Stimulation on Anti-Müllerian Hormone (AMH) Concentrations in Female Cheetahs
- Influence of Herd Size and Animal Transfers in Shedding Frequency of Elephant Endotheliotropic Herpesvirus in Asian Elephants (*Elephas maximus*)
- Integration of Multi-Institutional Tumor Data in Exotic and Zoological Species for Characterization of Novel Cancer Models
- Introduction of Solitary Male Lion-Tailed Macaque
- Investigating Memory Processes in Great Apes: A Cross-Species Comparison
- Investigating Serum and Synovial Fluid Inflammatory Markers in Healthy and Arthritic Asian and African Elephants
- Investigating the Attribution of Perception in Orangutans and Gorillas
- Investigating the Effect of Population Density and Provisioning on Stress Physiology in the Black-Crowned Night Heron Across Two Urban Zoos
- Investigation of Soft Tissue Mineralization in Prehensile-Tailed Porcupines (*Coendou prehensilis*)
- Investigation of Stress Hormones in *Apteryx mantelli*: Comparison of Ambassador Brown Kiwi With Those On and Off Display

- Life-Cycle Population Modeling for Select Species
- Linking Behavioral Traits to Crop Raiding Behavior In Semi-Captive Myanmar Timber Elephants (*Elephas maximus*)
- Local Adaptation in Channel Island Song Sparrows
- Longitudinal Changes in Milk Composition in Apes
- Longitudinal Evaluation of Milk Composition in Lowland Gorilla
- Long-Term Low Level Elephant Endotheliotropic Herpes Virus-1A Viremia in a Captive Asian Elephant Calf (*Elephas maximus*)
- Mad Island Migration
- Mammals in Shade Coffee Systems
- Measurement of Lactate Levels Three Ways During Anesthesia of American Black Bears (*Ursus americanus*)
- Migration in Green Darner Dragonflies
- Migratory Connectivity and At-Sea Distribution of Bahamian Seabirds
- Migratory Connectivity in the Ocean
- Molecular Diagnostics Testing Capacity in Myanmar
- Molecular Diagnostics Testing Capacity in Zambia
- Monitoring of the Health Effects of Sugar Removal From the Diets of Selected Small Mammals
- Natural Choice in Apes
- Neighborhood Nestwatch
- Nest Location Preferences in Zoo-Housed Orangutans
- Nesting Behavior, Licker Plugging, and the Provision of Water Sounds in Zoo-Housed Orangutans
- Oxytocin as a Measure of Social Bond and Welfare in Western Lowland Gorilla (*Gorilla gorilla gorilla*) in North America Zoos
- Pilot Study Using Hydroacoustic Monitoring to Detect Fish Communication - "Eavesdropping on Amazonian Fish"
- Rabi Forest Monitoring Plot
- Ranking Trees as Insect Producers for Wood Warblers
- Regurgitation and Reingestion in a California Sea Lion: Assessment and Intervention
- Relationship Between Skin Microbiomes and Disease Outcomes
- Retrospective Review of Anesthetic Protocols in Spectacled Bears, Sloth Bears, and Giant Pandas at the National Zoological Park
- Retrospective Review of Snake Fungal Disease (*Ophidiomyces ophiodiicola*) at the Smithsonian's National Zoological Park (1983-2017)
- Rhythm of Life
- Sagari, Peru Pipeline Canopy Bridge Project
- Sample Collection for Herpesvirus Prevalence in Elephants
- Sea Lion Swim Study
- Social Behavior and Innovation in a Mixed-Species Lemur Exhibit
- Spatial Proximity and Use of Gestures in Zoo-Housed Great Apes
- Temperature Monitoring in Brown Kiwi
- Terrestrial Connectivity of the Gamba Landscape
- The Effect of Music on the Welfare of a Green Winged Macaw
- The Effects of Carry-Over and Habitat on Gray Catbirds Across an Urbanization Gradient
- The Effects of Transfer and Breeding Introductions on the Fishing Cat (*Prionailurus viverrinus*) - ACTH Challenge Addendum
- The Energetic Cost of Motherhood in Bornean Orangutans
- The Migratory Connectivity Project
- The Orangutan Conservation Genetics Project
- The Red Siskin Initiative (*Spinus cucullatus*): Evolutionary Perspectives for Pan-Situ Conservation
- The Red Siskin Initiative (*Spinus cucullatus*): Ex-Situ Research in Support of In-Situ Fieldwork and Reintroduction
- Tool Use Comprehension in Allen's Swamp Monkeys and Schmidt's Red-Tailed Monkeys
- Tracking the Migrations of the Endangered Kirtland's Warbler
- Treatment and Management of Chronic Recurrent Herpes Simplex 1 Infection in a White Faced Saki Monkey (*Pithecia pithecia*)
- Understanding Basic Reproductive Biology and Welfare of Captive Asian Elephants in Burma for Management and Conservation
- Understanding Basic Reproductive Biology and Welfare of Captive Asian Elephants in Thailand for Management and Conservation
- Understanding Endocrine Control of Egg Production for Improved Reproductive Health of Cranes
- Understanding How Hormones Modulate Behavioral Phenotype and Social Network Structure
- Understanding Migratory Restlessness in a Captive Population of Songbirds
- Understanding Stereotypic Behavior in a Female Asian Short-Clawed Otter

Understanding the Cause and Effect of Feather Plucking in a Blue Billed Curassow

Understanding the Hormonal Onset of Puberty in Male and Female Cheetahs (*Acinonyx jubatus*)

Understanding the Role of Endocrine Signals During Migratory Urge in Captive Songbirds

Understanding the Underlying Causes of Inflammatory Bowel Disease in Large Canids

Using Captive Gray Seal Fecal Samples to Assess and Analyze Prey Consumption in Wild Male and Female Gray Seals

Using Serum Inflammatory Markers to Investigate the Immune Response to Elephant Endotheliotropic Herpesvirus (EEHV)

Validating Fecal Hormone Assays to Assess Reproductive Status in Sloth Bears

Variation in Musth Among Asian Elephants (*Elephas maximus*): Applications

Viral Particle Isolation From Animal Tissues

Welfare Assessment of Stanley Cranes at the Smithsonian's National Zoological Park Through Fecal Glucocorticoid Analysis With a Special Emphasis on Program Animal, "Alice"

What Makes Ross's Gulls Pink?

Xanthoma Formation in Black Pacu (*Colossoma macropomum*)

## West Virginia

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### OGLEBAY'S GOOD ZOO

#### Education

Fox Run Hospital Programs

Master Naturalist

Preschool Programs

Summer Camps

Zoo-To-You

#### Field Conservation

Captive-Rearing of Eastern Hellbenders Destined for Reintroduction

eDNA and Physical Surveys for Eastern Hellbender

Monarch Watch

Raptor Rehabilitation

Snow Leopard Trust Donation

Snow Leopard Trust Encounter Donation

Surveillance for White-Nose Syndrome in West Virginia

## Wisconsin

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### HENRY VILAS ZOO

#### Education

Biofact Carts and Interactive Kits Program (Discovery Docents)

Bleacher Program (Live Animal Onsite Presentations)

Conservation Education Awareness Days (Throughout the Year)

Meet & Greet (Interaction With Animal Handler and Education Animal)

Preschool Pride (Expanded From Previous Zoo School Summer Program)

Sleepover

Spring Break Vacation Camp

Winter Vacation Camp

Zoo Camp (Summer Camp)

Zoo-To-You Program (Live Animal Outreach Into the Community)

#### Field Conservation

AZA African Penguin SSP - Sea Research Foundation

AZA Orangutan SSP - Field Conservation Program

AZA Orangutan SSP - Field Conservation Support

AZA Tiger SSP - Tiger Conservation Campaign

Deputy Director Sea Turtle Nest Monitoring in Florida

Giraffe Conservation Foundation (GCF)

Monarch Watch

Polar Bears International (PBI)

Red Panda Network (RPN)

Ruaha Carnivore Project (RCP)

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

## Green Practices

### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

### FUEL

Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Alternative Transportation Benefits for Staff  
 Alternative Transportation Discounts for Guests  
 Commingled Recycling  
 Community Supported Agriculture (CSA) Program for Staff  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment  
 Procured Local Food for On-Site Animals and/or Guest  
 Stormwater Management Program  
 Wastewater Reduction  
 Water Submetering  
 Waterwise Landscaping

### PLANS, POLICIES, AND BUDGETS

Developed or Updated a Sustainability Plan (or Equivalent)  
 Developed or Updated a Sustainability Plan

## Research

Genetic Assessment of Sex and Species in Two-Toed Sloths in AZA Zoos  
 Sloths as Sentinels of Ecosystem Health: Evaluation of Free-Ranging Sloth Serum for Commonly Applied Agricultural Pesticides in Costa Rica

## INTERNATIONAL CRANE FOUNDATION

### Education

Adopt-a-Crane Program  
 Annual Midwest Crane Count  
 Crane Conservation Education Activity Packets  
 Estuaries in the Balance: The Texas Coastal Bend  
 Whooping Crane Education Trunk  
 Whooping Crane Timeline

### Field Conservation

Black-Necked Crane China Project  
 Eastern Migratory Whooping Crane Reintroduction  
 Red-Crowned Crane: China Flyway Project  
 Red-Crowned Crane: Russia Amur Lowlands Project (Muraviovka Project)  
 Sarus Crane: Cambodia Project  
 Sarus Crane: Myanmar Project  
 Sarus Crane: Vietnam Project  
 Siberian Crane: China Staging – Stopover Area Project  
 Siberian Crane: Wintering Area Project – Poyang Lake Project  
 South Korea Crane Project  
 White-Naped Crane: Western Flyway Project in Mongolia  
 Whooping Crane Central Flyway Project: Aransas Wood Buffalo Population Breeding and Migratory Stopover Areas  
 Whooping Crane: Texas Wintering Area Project

## Green Practices

### ENERGY

Generated Renewable Energy On-Site

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Commingled Recycling  
 Community Supported Agriculture (CSA) Program for Staff  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green Building Policy/Commitment

Green IT

Stormwater Management Program

## WATER

Documented Amount Used

## Research

Are There Emerging Health Concerns for Eastern Migratory Whooping Cranes?

Assessment of the Impact to Cranes From a Newly Constructed Transmission Line

Attitudes, Knowledge, and Beliefs About Whooping Cranes

Biomonitoring of Whooping Cranes in the Central Flyway

Blue Cranes in South Africa: Safe or a Ticking Time Bomb

Bridging the Gap for South African Wattled Crane: Population Health and Biology as it Relates to Captivity and Release

Climate Change Vulnerability Assessment for Three Important Wetlands in the Mekong River Delta

Collaborative Telemetry Egg Incubation Parameter Study

Comparison of Sandhill and Whooping Crane Breeding Success in Wisconsin

Conservation of Black-Necked Cranes on the Western Plateau in China

Crane Semen Cryopreservation Study

Detection and Management of Mild Hyperparathyroidism in Juvenile Whooping Cranes (*Grus americana*)

Evaluation of Nocturnal Roost Sites Used by Whooping Cranes on the Texas Coast, United States

Fecal Corticosterone and Potential Chronic Stress in Captive Whooping Cranes

Field Support for Research Related to the Central Flyway Population of Whooping Cranes

Glitchin River Watershed Project

Improving Nutrition and Outcomes of Displaced Rwandan Grey Crowned Cranes

Increasing Crane Sperm Cryosurvival by Altering Liquid Composition of the Plasma Membrane

Local and Landscape Scale Habitat Characteristics of Areas Used by Whooping Cranes During Winter to Understand What Drives Habitat Selection at Multiple Spatial Scales

Long-Term Monitoring of Wintering Whooping Cranes in Coastal Texas, USA

Monitoring Corticosterone of Wintering Whooping Cranes

Muraviovka Park Bird Project

Non-Invasive Biomonitoring of Contaminants in the Endangered White-Naped Crane

Sandhill Crane Long Term Research

The Effect of Hand Rearing on the Gut Microbial Communities and Host Physiology of Whooping Cranes

Tissue Effects of Leg-Mounted Telemetry Devices in Whooping Cranes

Waters for Wildlife: Monitoring the Use of Freshwater Ponds by Wintering Whooping Cranes on Private Lands

Whooping Crane Eastern Partnership: Reintroduction

Wintering Population Monitoring and Conservation of Siberian Cranes at Poyang Lake

## MILWAUKEE COUNTY ZOOLOGICAL GARDENS

### Education

Adult Lecture

Alive Magazine

Animal Ambassador Programs

Animal Connections Continuum

Animal Encounter

Animals in Action Talks

Behind the Scenes Weekend

Big Brothers Big Sisters Classes

Big Cat Conservation Day

Bonobo and Congo Biodiversity Initiative – Adult Literacy Classes

Bonobo and Congo Biodiversity Initiative – Primary School Support

Cow Milking Demonstration

Early Childhood Teacher Workshops

Endangered Species/S.A.F.E. Day

Family Farm Weekend

Giraffe Feedings

Kids Conservation Club

Kohl's Wild Theater – All Programming

Mother's Day – Project M.O.M.

MPS Extended Learning

Nature Play

Oceans of Fun Seal and Sea Lion Show

Party for the Planet  
 Public Feedings  
 School Enrichment Programs  
 Summer Camps  
 Summer Camps for Community Centers  
 Wild Things Newsletter  
 World Bird Sanctuary Birds of Prey Show  
 World Elephant Day  
 World Giraffe Day  
 World Penguin Day  
 Zoo Classes  
 Zoo Pride – Animal in Action Talks  
 Zoo Pride – Behind the Scenes Tours  
 Zoo Pride – Continuing Education Training  
 Zoo Pride – Remains to Be Seen Carts  
 Zoo Pride – Sensory Safari  
 Zoo Pride – Speakers’ Bureau  
 Zoo Pride – Walk on the Wild Side Tours  
 ZOOMobile Tour

### Field Conservation

American Association of Zoo Veterinarians (AAZV) - Wild  
 Animal Health Fund  
 AZA Ape TAG – Conservation Initiative  
 AZA Avian Scientific Advisory Group (ASAG)  
 AZA Guam Kingfisher SSP  
 AZA Panamanian Golden Frog SSP  
 AZA Penguin TAG  
 AZA SAFE  
 AZA Tiger SSP – Tiger Conservation Campaign – Amur Tiger  
 Project  
 Bat Conservation International (BCI)  
 Berggorilla and Regenwald Direkthilfe Gorilla Project  
 Bonobo and Congo Biodiversity Initiative (BCBI)  
 Cheetah Conservation Botswana  
 Cheetah Conservation Fund  
 Elephants for Africa  
 Florida Reef Tract Rescue Project  
 Giraffe Conservation Foundation (GCF)

Grand Cayman Blue Iguana Recovery Program  
 Great Apes Survival Partnership (GRASP) – Funding  
 Humboldt Penguin Guano Harvest Monitoring  
 Humboldt Penguin PHVA  
 IBF: Bongo Repatriation  
 International Elephant Foundation (IEF)  
 International Rhino Foundation (IRF)  
 IUCN/SSC (Species Survival Commission)  
 IUCN/SSC Conservation Planning Specialist Group (CPSG)  
 IUCN/SSC Tapir Specialist Group  
 Jamaican Iguana Conservation Project  
 Kibale National Park – Fuel Wood Project  
 Lola Ya Bonobo  
 Mabula Ground Hornbill Project (MGHP)  
 Madagascar Fauna and Flora Group (MFG)  
 Migratory and Resident Avifauna Study  
 Ocean Spirits Sea Turtle Research  
 Orangutan Outreach  
 Polar Bears International (PBI)  
 Proyecto Tití  
 Puerto Rico Crested Toad Recovery Program  
 Red Panda Network – Forest Guardian Program  
 Red-Necked Ostrich Conservation Support  
 Ruaha Carnivore Project  
 Salonga National Park Bonobo Project  
 Sloth Conservation Foundation (SloCo)  
 Snow Leopard Trust (SLT)  
 The Trumpeter Swan Society (TTSS)  
 Trees for You and Me – AAZK and PBI  
 Turtle Survival Alliance (TSA)  
 Whooping Crane Recovery Project  
 Wild Camel Protection Foundation (WCPF)  
 Wisconsin Bureau of Endangered Resources Herp Fund

## Green Practices

### ENERGY

Documented Amount Spent  
 Documented Amount Used  
 Generated Renewable Energy On-Site

### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

### FOOD

Sourced Local Food or Grew it On-Site

### FUEL

Documented Amount Spent  
 Documented Amount Used

### GREEN PRACTICES IMPLEMENTED

Alternative Fuel Usage for On-Site Fleet  
 Alternative Transportation Benefits for Staff  
 Building Energy Management  
 Commingled Recycling  
 Community-Based Sustainability Projects  
 Composting (On-Site or Off-Site)  
 Diverted or Recycled Construction Waste  
 Energy Submetering  
 Generated Solar or Wind Energy  
 Graywater Reuse and/or Rainwater Harvesting  
 Green IT  
 Green Purchasing Policy/Green Procurement  
 Procured Local Food for On-Site Animals and/or Guest  
 Smart Building Strategies  
 Stormwater Management Program  
 Wastewater Reduction  
 Waterwise Landscaping

### WASTE

Documented Amount Composted  
 Documented Amount Recycled  
 Documented Amount Sent to Landfill

### WATER

Documented Amount of Wastewater Generated  
 Documented Amount Spent  
 Documented Amount Used

### Research

Antemortem diagnosis and successful treatment of a complete molar pregnancy in a geriatric bonobo (*Pan paniscus*)  
 Bonobo Finger Blood Pressure Project  
 Cardiac Disease in Western Lowland Gorillas (*Gorilla gorilla gorilla*): Comparative Assessment of B-Type Natriuretic Peptides From Urine, Capillary Serum, and Venous Serum Samples  
 Developing Genomic Tools for North American River Otter Population Management  
 Evolution of the Primate Gut Microbiota: A Comparative Analysis of the Hind Gut Microbiome in Captive and Free-Living Primates Using High Throughput 16S rDNA Sequencing  
 Exploring Physiological Correlates of Somatic Growth in Bonobos  
 Gastric Dilation and Enterotoxemia in Ten Captive Felids  
 Giraffe Conservation Demography Project: Heights  
 Interactive Technology Use With Captive Great Apes  
 Medical Records Review of Black-Footed Cats  
 Migratory Bird Banding and Monitoring  
 Prevalence of R/R and Coprophagy in Adult Gorillas  
 Red Panda Fecal Survey for Newly Discovered Amdoparvovirus  
 Retrospective Evaluation of Sedation in 16 Lizard Species With Dexmedetomidine-Midazolam With or Without Ketamine  
 Severe Neurologic Disease and Chick Mortality in Crested Screamers (*Chauna torquata*) Infected With a Novel Gyrovirus  
 Snow Leopard Population Health and Record Review  
 Species and Sex Genetic Testing of Two-Toed Sloths (*Choloepus* spp.) in the SSP Programs  
 Tool Use in Pan: Two Modalities, Two Species  
 Trumpeter Swan Genotyping to Determine Population of Origin  
 Use of ACE-Inhibitors in Gorillas - Examining a Possible Link to Hepatotoxicity

## NORTHEASTERN WISCONSIN (NEW) ZOO & ADVENTURE PARK

### Field Conservation

AZA Black-Footed Ferret SSP – Black-Footed Ferret Recovery Program With the United States Fish and Wildlife Service (USFWS)

AZA Red Wolf SSP

Bluebird Recovery Association of Wisconsin On Site Project

Giraffe Conservation Foundation (GFC)

Iowa Trumpeter Swan Restoration Program

Sturgeon Guard Wisconsin Department of Natural Resources (DNR) Program

Wisconsin DNR Elk Restoration Project

### Green Practices

#### GREEN PRACTICES IMPLEMENTED

Building Energy Management

Commingled Recycling

Community-Based Sustainability Projects

Composting (On-Site or Off-Site)

Diverted or Recycled Construction Waste

Energy Submetering

Green Purchasing Policy/Green Procurement

Stormwater Management Program

Waterwise Landscaping

### Research

Red Wolf IBD Study

## RACINE ZOOLOGICAL GARDENS

### Education

AZA FrogWatch USA

Behind the Scenes

Birthday Parties

Conservation Awareness Days

Conservation Education Programs

Conservation Nation

Keeper Chats

Li'l Explorers Preschool at the Zoo

Member Mondays

Slumber Safari

Summer Camp

Volunteer Program

Wildlife Explorers

Wildlife Theater

### Field Conservation

American Association of Zoo Keepers (AAZK) – Milwaukee Chapter

AZA Eastern Massasauga Rattlesnake SSP – Mark-Recapture Study on a Michigan Population of Eastern Massasauga Rattlesnakes

International Tiger Day

IUCN/SSC Conservation Planning Specialist Group (CPSG)

Sea Turtle Conservancy

Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – African Penguin Day

World Giraffe Day

World Rhino Day

### Green Practices

#### ENERGY

Documented Amount Spent

Documented Amount Used

#### EXTERNAL SUPPORT

Received Support From External Sources for Green Projects

#### FOOD

Sourced Local Food or Grew it On-Site

#### FUEL

Documented Amount Spent

Documented Amount Used

#### GREEN PRACTICES IMPLEMENTED

Commingled Recycling

Community-Based Sustainability Projects

Green Purchasing Policy/Green Procurement

Procured Local Food for On-Site Animals and/or Guest

Wastewater Reduction

Waterwise Landscaping

**PLANS, POLICIES, AND BUDGETS**

Developed or Updated a Sustainability Plan (or Equivalent)

Developed or Updated a Sustainability Plan

**WASTE**

Documented Amount Sent to Landfill

**WATER**

Documented Amount of Wastewater Generated

Documented Amount Spent

Documented Amount Used

**ASSOCIATION  
OF ZOOS &  
AQUARIUMS**