

2025

OUR VISION IS A WORLD WHERE **PEOPLE,**
WILDLIFE, AND **WILD SPACES** THRIVE

CONSERVATION IMPACT REPORT



TABLE OF CONTENTS

New Strategic Plan Launch	02		
Belonging: Partners Map	04		
Black-Footed Ferret Legacy	05	Caribou Biobanking	10
Advocates for Wildlife: Reverse the Red Pledges	06	Global Initiatives	11
WAZA Welfare Award	07	Wow for Good: 2025	12
Holistic Research	08	By the Numbers	
Nature's Insurance Policy: Building Ethical Indigenous Partnerships	09	Active Projects	13
		Scientific Publications	14



Artist: Adrienne Assinewai,
Ravenstar Studio

OUR MISSION

Connecting people, animals, conservation science, and traditional knowledge to fight extinction.

Land Acknowledgment

The Toronto Zoo acknowledges the land we are on is the traditional territory of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. We also acknowledge that Toronto is covered by Treaty 13 with the Mississaugas of the Credit and the Williams Treaty signed with multiple Mississaugas and Chippewa bands.



GUARDIANS OF WILD

Page 02

Toronto Zoo Launches New Strategic Plan

Your Toronto Zoo launched a new Strategic Plan in 2025 that initiated Toronto Zoo moving from a guest-funded zoo with conservation science programs to a community-funded conservation science organization operating a world class zoo. Top priorities include braiding Traditional Knowledge with conservation science, establishing international standards and Canadian priorities for wildlife biobanking, connecting students with conservation science experiences, and embracing innovation to build the most technologically advanced zoo in the world.



Scan here to learn more

strategic plan areas of focus



Belonging



Nature's Insurance Policy



Wildlife Advocates



Wow for Good

PROGRAM PARTNERS

1. Alderville First Nation
2. Ape Action Africa
3. Beausoleil First Nation
4. Boston University
5. Calgary Zoo/Wilder Institute
6. Canadian Museum of Nature
7. Carleton University
8. Chester Zoo
9. Cheyenne Mountain Zoo
10. Cincinnati Zoo & Botanical Garden
11. Couchiching Conservancy
12. Curve Lake First Nation
13. Dublin Zoo
14. EcoKare International
15. Edward Lowe Foundation
16. Environment & Climate Change Canada
17. Georgian Bay Biosphere
18. Georgina Island First Nation
19. Government of British Columbia
20. Government of Northwest Territories
21. Greater Vancouver Zoo
22. Hiawatha First Nation
23. Huron Stewardship Council
24. International Rhino Foundation
25. Ivory Coast Pygmy Hippo: Bending the Curve

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Southern Ontario

A map of Southern Ontario, Canada, with various locations marked by numbered black teardrop-shaped icons. The icons are numbered 1 through 81, with some numbers appearing multiple times (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81). A circular inset photo in the top right corner shows a group of people walking on a dirt path through a grassy field.

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BELONGING

- | | | | |
|--|--|--|---|
| 26. Laurentian University | 41. National Avary | 57. Shawanaga First Nation | 71. University of Saskatchewan |
| 27. Little Ray's Nature Centre | 42. Ontario Federation of Anglers & Hunters | 58. Six Nations of the Grand River | 72. University of Toronto |
| 28. Louisville Zoological Garden | | 59. Smithsonian Conservation Biology Institute | 73. Vancouver Aquarium |
| 29. Ludwig Maximilian University of Munich | 43. Ontario Power Generation | | 74. Weenusk First Nation |
| 30. Mabula Ground Hornbill Project | 44. Pan Eco Orangutans | 60. South African Foundation for the Conservation of Coastal Birds | 75. Wiikwemkoong First Nation |
| 31. Magnetawan First Nation | 45. Parc Omega | 61. Sumatran Ranger Project | 76. Wildlife Preservation Canada |
| 32. Maitland Valley Conservation Authority | 46. Parks Canada | 62. Toronto and Region Conservation Authority | 77. York University |
| 33. Marine Institute of Memorial University | 47. Peel District School Board | | 78. 8 Trees Inc. |
| 34. Marmot Recovery Foundation | 48. Phoenix Zoo | 63. Toronto District School Board | <u>DONOR PARTNERS</u> |
| 35. Métis Nation of Ontario, Georgian Bay | 49. Planet Madagascar | 64. Trent University | 79. Association of Zoos & Aquariums |
| 36. Michigan Department of Natural Resources | 50. Pontificia Universidad Católica de Chile | 65. U.S. Fish & Wildlife Services | 80. Consecon Foundation |
| 37. Ministry of Natural Resources & Forestry | 51. Queen's University | 66. Universidad EARTH | 81. Kenneth M. Molson Foundation |
| 38. Mississaugas of the Credit | 52. Rama First Nation | 67. Universidade Federal de Mato Grosso do Sul/Reprocon | 82. Ministry of Environment, Conservation & Parks |
| 39. Mount Washington Tony Barrett Marmot Recovery Centre | 53. Red Panda Network | 68. University of Guelph | 83. Nuclear Waste Management Organization |
| 40. Nashville Zoo | 54. Scales Nature Park | 69. University of Illinois | 84. Parks Canada |
| | 55. Science North | 70. University of Memphis | |
| | 56. Scugog First Nation | | |

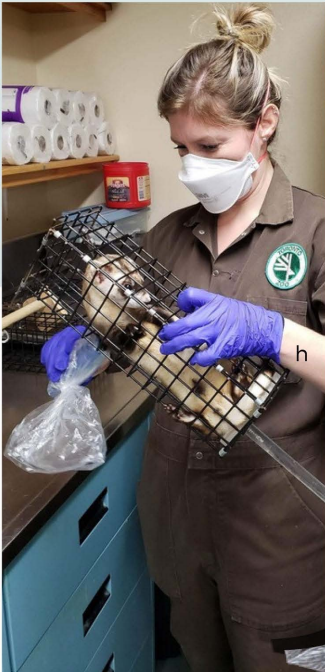
40 YEARS OF INNOVATION: Black-footed ferret managed care and reintroduction legacy

Once thought extinct in the wild, the black-footed ferret (BFF) was rediscovered in 1981 in Wyoming. Since then, collaborative breeding and reintroduction programs have brought the species back from the brink. Toronto Zoo has proudly contributed to the effort since 1992, producing over 500 ferret kits that were released to the wild or part of the managed conservation breeding program.

- Nutritional Leadership:** Toronto Zoo worked to develop a new diet aimed at improving BFF care and well-being that was adopted as the primary ration for all black-footed ferrets in the breeding program. Nearly 25 years later, Toronto Zoo Small Carnivore diet remains the backbone of the program.
- Reproductive Science Innovation:** Multiple BFFs are represented in Canada's Wildlife Cryobank at the Toronto Zoo. The zoo's Reproductive Science team applied a minimally invasive method (urethral catheterization) for collecting sperm that is stored in the Wildlife Cryobank as part of Nature's Insurance Policy.
- Canadian Reintroduction Efforts:** In 2004, the Zoo spearheaded ferret recovery in Canada and led efforts to reintroduce BFFs into Grasslands National Park. Between 2009-2012, 74 ferrets were released, and wild-born kits were recorded in 2010. Unfortunately, due to disease and drought, ferrets have not been seen in the park since 2015.

Looking Ahead

As this chapter comes to a close, the Toronto Zoo remains committed to wildlife conservation. We continue to lead and innovate in species recovery and conservation science, focusing our efforts and resources where they can achieve the greatest impact with a strong commitment to **protecting Canadian species.**



WILDLIFE ADVOCATES MAKING THE PLEDGE

Toronto Zoo Pledges to Protect 9 Ontario Wildlife Species

As part of the International Union for Conservation of Nature's (IUCN) Reverse the Red Campaign, the Toronto Zoo in partnership with the Nuclear Waste Management Organization (NWMO) have committed to reversing the decline of eight species of native bats and the Blanding's turtle in Ontario. This will include targeted field studies to better understand bat distributions, conservation headstarting of Blanding's turtles, and incorporation of Traditional Knowledge to protect species.

< ENDANGERED > EN	Blanding's Turtle (<i>Emydoidea blandingii</i>)
< ENDANGERED > EN	Eastern Small-footed Myotis (<i>Myotis leibii</i>)
< ENDANGERED > EN	Little Brown Bat (<i>Myotis lucifugus</i>)
< VULNERABLE > VU	Tricolored Bat (<i>Perimyotis subflavus</i>)
< NEAR THREATENED > NT	Northern Myotis (<i>Myotis septentrionalis</i>)
LEAST CONCERN LC	Eastern Red Bat (<i>Lasiurus borealis</i>)
LEAST CONCERN LC	Big Brown Bat (<i>Eptesicus fuscus</i>)
LEAST CONCERN LC	Northern Hoary Bat (<i>Lasiurus cinereus</i>)
LEAST CONCERN LC	Silver-haired Bat (<i>Lasionycteris noctivagans</i>)



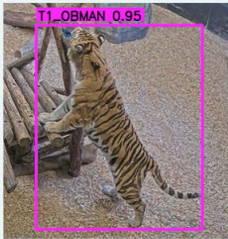
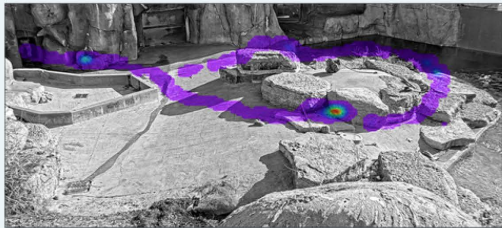
Toronto Zoo Receives WAZA Animal Welfare Award

The World Association of Zoos and Aquariums (WAZA) presented its inaugural Animal Welfare Award to the Toronto Zoo in recognition of the zoo's holistic, evidence-based approach to animal well-being. This award honours institutions that exemplify a comprehensive, science-driven commitment to welfare, blending innovation, compassion, and leadership to inspire others across the global zoo community. The Toronto Zoo's program was especially praised for its integrated framework and its thoughtful use of technology to enhance and strengthen welfare assessment practices.



ZooAI

An Automated Animal Behavioural Monitoring Tool



By leveraging CCTV livestreams with machine learning-enhanced predictive modeling, Toronto Zoo is developing a 24/7 behavioural monitoring system that can generate space use heatmaps, activity budgets, and real-time welfare alerts.

This technology transforms passive video footage into actionable behavioural insights, enabling evidence-based animal management and earlier detection of welfare-relevant behaviours. By integrating computer vision into daily care practices, Toronto Zoo continues to lead innovation in welfare science, advancing individual animal well-being through data-driven decision-making.

Free Flight Aviary Monitoring

Monitoring the well-being of free flying birds in zoo aviaries often needs creative solutions. The Nutrition Science and Welfare Science teams have worked together to develop holistic methods to assess bird behaviour, body mass, and diet intake to make informed management decisions. Using a wildlife camera trap and scale, bird feeding habits and weights can now be studied non-invasively. The collected data are being used to characterize how species are using the aviary space to establish species feeding zones.

Expanding the capacity to passively monitor birds, the zoo has begun collaborating with the University of Toronto Scarborough on RFID feeding stations. These stations use a detector to scan a bird's individual ID tag, weigh the bird, and record how long the bird was feeding. These approaches allow the Toronto Zoo to implement long-term monitoring to ensure animal care is scientifically-driven.



Vancouver Island Marmot Nutrition

Toronto Zoo worked with the Vancouver Island Marmot Recovery Program and Calgary Zoo/Wilder Institute to complete the first ever nutritional profiles of wild plants consumed by Vancouver Island marmots. Crucially, the study focused on essential omega-3 fatty acids, which are linked to heart health and hibernation performance.

Nutrition Science completed fatty acid analysis of 13 plant species that showed differences in the abundance of key essential fatty acids when compared to zoo diets currently fed. Understanding the nutritional profiles of wild diets can help make informed steps to optimize the health and success of released individuals. The Nutrition Science team plans to use this information to develop and test new diet formulations. Part of the initiative also involves growing alpine meadow plants at the zoo. In 2025, Toronto Zoo's Horticulture team took the first steps in growing wild plants for the marmots.

Together, the Toronto Zoo is working toward bringing the alpine meadow to our breeding population and securing the future of the Vancouver Island marmots.



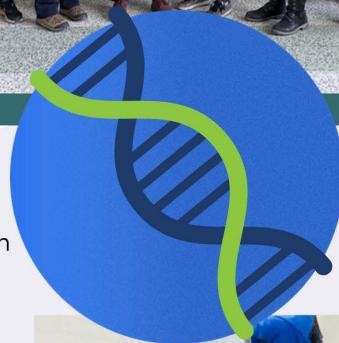
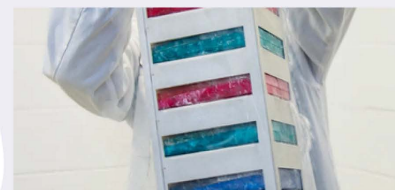
Nature's Insurance Policy

Building Ethical Indigenous Partnership Frameworks for Canada's Wildlife Cryobank: Inaugural Workshop



On December 3-4, 2025, the Toronto Zoo held a workshop to establish guiding principles towards the development of an ethical framework for working with First Nations and Indigenous communities as part of the governance of Canada's Wildlife Cryobank. An additional goal was to gather feedback on an approach for engagement with First Nations and Indigenous communities. It was intended to be the beginning of a conversation that will set the stage for a deeper exploration of important questions and considerations, and purposeful and meaningful engagement with Indigenous communities.

The workshop was attended by Indigenous and non-Indigenous thought leaders in key areas of Indigenous data sovereignty, Access and Benefits Sharing/Nagoya Protocol, the intersection of Traditional Knowledge and intellectual property rights, and the creation of ethical spaces for partnerships with Indigenous communities in conservation science initiatives. Outcomes of the workshop included a set of key themes in the areas of Indigenous governance, funding models, education, and training and risk management. These themes set the foundation for further work on this initiative over the course of 2026-2027.



Caribou Genome Biobanking Project



Some caribou populations in Canada are at high risk of extirpation due to extensive habitat disturbance. As a result, active human intervention is urgently needed to support their recovery. Many wild populations remain highly vulnerable to environmental challenges such as disease outbreaks or increased predation. Declining and isolated populations are often susceptible to genetic drift, which can erode genetic diversity and reduce their adaptive potential over time. Protecting their current genetic diversity is therefore crucial. One effective strategy to accomplish this is through biobanking viable genetic material, which allows long-term preservation of genetic diversity that could support future recovery efforts.

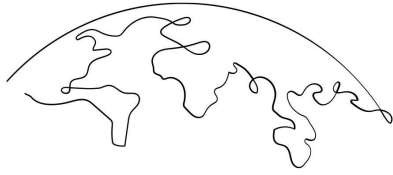
The Toronto Zoo Reproductive Science team developed cryopreservation protocols to biobank viable caribou gametes. The team partnered with Zoo Sauvage de Saint-Félicien and successfully piloted cryopreservation protocols of sperm collected from their live caribou.

The team also partnered with Weenusk First Nation to cryopreserve gamete samples collected post-mortem during planned caribou harvests in the community. The project supported the participation of Indigenous Peoples in the project by training and hiring community members as research assistants during in the planning, sample collection, and transport of samples. The results demonstrated that biobanking caribou genetic material is feasible and could play a key role in safeguarding genetic diversity for future recovery efforts of the species.



GLOBAL INITIATIVES

Page 11



Endangered Species Research Collaborations

- **Pygmy Hippo:** Ivory Coast Pygmy Hippo- Bending the Curve
- **Lemurs:** Planet Madagascar- Community, Conservation, and Communication: Creating Sustainable Forest Communities Through a One Health Approach
- **Sumatran Tiger:** The Sumatran Ranger Tiger Project: Protecting Wildlife in Forest-Edge Communities
- **Jaguar:** Toronto Zoo-Universidade Federal de Mato Grosso do Sul-Reprocon Partnership: Biobanking for Conservation

SAFE and Species Survival Plan® Programs

Toronto Zoo actively contributes to 16 Association of Zoos and Aquariums Saving Animals From Extinction (SAFE) Programs and 79 Species Survival Plan® (SSP) Programs that leverage the expertise of zoos to protect species through strategic conservation.



Page 12

30+

LECTURES
GIVEN BY ZOO
STAFF

6

NEW
STRATEGIC
PARTNERSHIPS

25

AUTHORED
SCIENTIFIC
PAPERS

12

STUDENTS AND
POSTDOCS
MENTORED

60+

OUTREACH
AND
EDUCATION
EVENTS

5

INTERNATIONAL
AND LOCAL
CONFERENCE
PRESENTATIONS

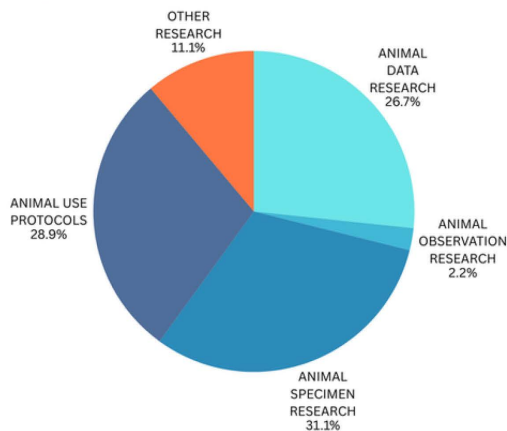
2025
WOW
FOR
GOOD

ACTIVE RESEARCH PROJECTS

- Behaviour and Physiology of Polar Bears under Human Care
- Identifying the Molecular Basis for Coat Colour Adaptation in the Polar Bear
- Assisted Reproductive Technologies as a Method of Embryo Production in Wood Bison
- Fukui Pot Bycatch Reduction for River Otter
- Blanding's Turtle Head-Start Project
- Toronto Zoo Native Bat Conservation
- Milksnake Monitoring in Rouge National Urban Park
- Understanding the Behavioral Determinants of Reproductive Success in Eastern Massasaugas
- Development of Assisted Reproductive Technologies for Eastern Massasauga Rattlesnake and Grey Ratsnake
- Eastern Massasauga Conservation Breeding Centres to Maintain Assurance / Head-Start Colonies for Recovery of the Endangered Carolinian Population in Ontario
- Flange Development of Male Orangutans in Relation to Skeletal Growth
- SAFE Red Panda: Canopy Connector Suitability
- Caribou Genome Biobanking
- The ABC of Animal Welfare: The Relationships Between Affect, Behaviour, and Cognition As a Model of Psychological Welfare of Sumatran Orangutans and Western Lowland Gorillas



MISSION-FOCUSED & CONSERVATION RESEARCH AT TORONTO ZOO (2025)



TORONTO ZOO CONTRIBUTED TO 45 PROJECTS IN 2025

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