

2023 203 ANNUAL REPORT



INNOVATIVE RESEARCH.
ENGAGED COMMUNITIES.
HEALTHY LANDSCAPES.

WE PRIDE OURSELVES AT MIISTAKIS IN FOCUSING OUR EFFORTS ON APPLIED CONSERVATION RESEARCH. THAT MEANS THAT WE CONSIDER HOW OUR RESEARCH WILL BE USED IN ALL ASPECTS OF OUR WORK - OUR DESIGN, OUR METHODOLOGY, OUR PARTNERS, OUR PRODUCTS AND OUR OUTREACH.

This starts with working with end-users to understand what their conservation challenges are, information needs they have, who their audiences are, what the data gaps are, and what tools are needed to support decision-making.

Over the past year, Miistakis has applied this approach to all of our work and to demonstrate how our research supports applied conservation we have asked our partners to share how our work in 2022/23 supported their conservation needs.

A big thanks to all of our supporters and partners – collaboration is key to our approach to conservation as conservation is complex and requires engagement of a diversity of perspectives and stakeholders and a multitude of approaches to realize conservation success and our work at Miistakis reflects that complexity and diversity.







ABOUT US...



THE MIISTAKIS INSTITUTE IS A
REGISTERED CHARITY THAT UNDERTAKES
APPLIED CONSERVATION RESEARCH TO
ENABLE RESPONSIBLE AND SUSTAINABLE
DECISIONS TO SUPPORT BIODIVERSITY,
ECOLOGICAL CONNECTIVITY AND
NATURE-BASED CLIMATE ADAPTATION.

Miistakis is a Blackfoot word that translates to 'backbone of the world'. When Miistakis was first formed in 1997, the work of the institute focused on the Crown of the Continent ecosystem. The Crown of the Continent is a geographical area centered on the Waterton-Glacier International Peace Park and stretches along the axis of the Rocky Mountains spanning southwest Alberta, southeast British Columbia and northern Montana, a place known to the Blackfoot people as the backbone of the world.

In its early years Miistakis developed a specialized expertise in GIS data and transboundary spatial analysis, and this skill set remains. In addition to focusing on spatial analysis, Miistakis has expanded our breadth of research expertise to include:

- o research design,
- spatial analysis and modeling,
- facilitation,
- on-line mapping and tool development,
- O citizen science,
- database design and management,
- policy research and analysis,
- community engagement,
- knowledge mobilization

VISION

A world where communities have genuine access to the science and research they need to make choices that promote healthy landscapes.

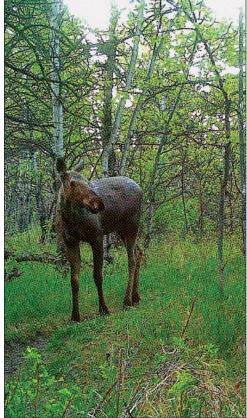
MISSION

The Miistakis Institute brings people and ideas together to promote healthy communities and landscapes. We study the landscape, so we can help people maintain it; and we work to make innovative research accessible to communities and decision-makers.

OUR COMMUNITY - WHO WE SERVE

Miistakis works collaboratively with all sectors, developing our research in partnership with end knowledge users. In 2022/2023 we worked with 47 partners, including federal, provincial and municipal governments, industry, Indigenous communities, private landowners, ENGO's, academics, and community groups.



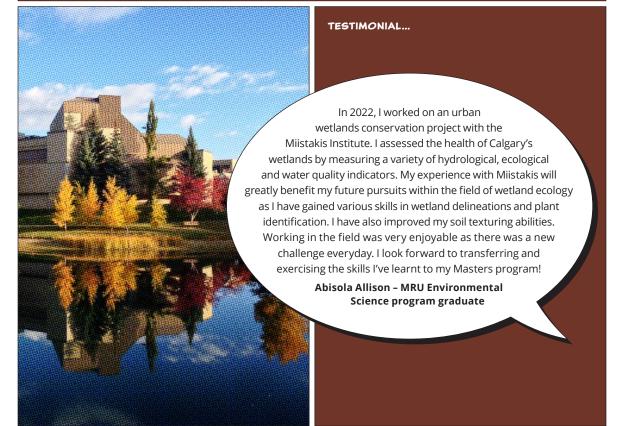


MRU

Miistakis is an affiliated institute with Mount Royal University. The objective of the affiliation is to facilitate collaboration and cooperation between the Institute and Institute researchers and the University and University researchers in mutually beneficial activities. We work closely with MRU staff and undergraduate students to find innovative solutions to complex environmental challenges, and apply those in real-world efforts to advance conservation and environmental outcomes.

Miistakis takes an interdisciplinary approach to all of our research and we are able to enhance student exposure to interdisciplinary research through student internships, student mentorship and student volunteer opportunities. We are able to provide integrated work learning experiences by providing employment opportunities, both short and longer term, for students across campus. Most directly, Miistakis provides opportunities for students to enrich their academic experience through participation in applied research projects.

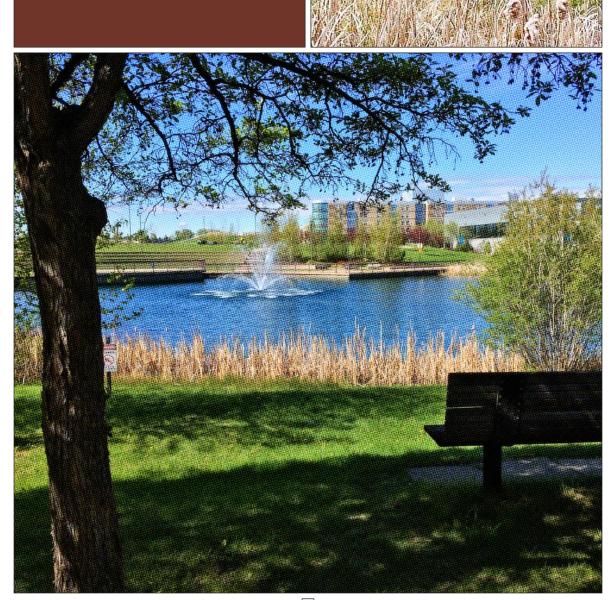
In 2022, we had three Mount Royal summer students work with us on our Urban Wetland Conservation project and on Calgary Connect's amphibian eDNA efforts to identify ecological corridors in the greater Calgary region.





During my time at Miistakis, I have learned much about conservation, which has sparked my interest in continuing my studies in this important field. I have learned many meaningful things from participating in field work and how conservation has become increasingly important. The most significant takeaway is my appreciation of working in a high-performing team environment, as my colleagues have been a fantastic group to work with.

Alyssa Kocsar – MRU Department of Biology student





ECOLOGICAL CONNECTIVITY

ECOLOGICAL CONNECTIVITY, THE UNIMPEDED MOVEMENT OF SPECIES AND THE FLOW OF NATURAL PROCESSES, IS ESSENTIAL TO HEALTHY LANDSCAPES.

World-wide, ecological connectivity is increasingly fragmented and degraded by human infrastructure and activity, which can reduce or prevent the ability of wildlife to move freely through the landscape, risking localized extinction and population level health impacts. Further, humans rely on ecological connectivity to maintain natural processes that provide services such as clean air, clean water, and ability to adapt to a changing climate.

Over the past year, Miistakis has focused on identifying areas important for ecological connectivity, supporting the maintenance and restoration of connected landscapes and promoting the importance of ecological connectivity.



Wildlife Xing

Wildlife Xing aims to support the movement of wildlife across the Northern Sagebrush Steppe with focus on pronghorn. We use a citizen science approach to increase public engagement in pronghorn science and use the results from citizen collected data to ground truth seasonal migratory pinch-points identified by connectivity modelling across highways. Over the past year our work has focused on informing pronghorn conservation by identifying areas with barrier fencing, identifying opportunities on private land and assessing the mitigation needs and potential of identified crossing sites. Ultimately, this will lead to the development of strategies and collaborations to advance pronghorn conservation.

www.pronghornxing.org

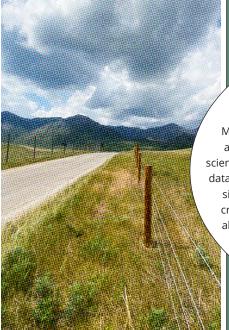
Partners: Alberta Conservation
Association, Alberta Transportation,
Saskatchewan Ministry of Highways and
Infrastructure, Alberta Environment
and Parks, Saskatchewan Ministry of
Environment, Saskatchewan Government
Insurance, The National Wildlife
Federation

Funders: National Fish and Wildlife Foundation, Alberta Conservation Association, Go Wild Community Grant, The National Wildlife Federation, Environment and Climate Change Canada



I have been working with Tracy Lee and Miistakis on Wildlife Xing, a citizen science project to identify key pronghorn road crossing areas along the Trans-Canada highway, since 2017. I partnered with Miistakis on this endeavor because of their expertise, leadership, and acute knowledge when it comes to road ecology and citizen science. Their leadership with Wildlife Xing resulted in a successful field data collection program, the identification of potential road mitigation sites, and has ensured the pieces are in place to eventually see a crossing structure built along the Trans-Canada Highway that will allow pronghorn to continue to migrate and roam the prairies of Alberta and Saskatchewan.

Paul Jones - Senior Biologist, Alberta Conservation Association



Supporting Ecological Connectivity in Municipal Planning



Over the past two years Miistakis has worked to promote important conversations between municipal decision-makers, planners, developers, and scientists to promote education and policy on how development can occur simultaneously with better environmental outcomes. Decisions on what to develop and where are made with little consideration of the natural environment, the ecosystem services provided by the natural environment, or the degree Connectivity Risk Assessment Tool developed by Miistakis enables municipalities to explore how a proposed development may impact connectivity and consider year has also focused on exploring the implementation of a new policy tool, an ecological corridor overlay, which will enable municipalities to place additional most important to ecological connectivity.

Partners: Rocky View County, Foothills County, Municipality of Crowsnest Pass, M.D. of Pincher Creek. M.D. Willow Creek, Oldman River Regional Services Commission

Funders: Wilburforce Foundation, Woodcock Foundation, Alberta Real **Estate Foundation**

TESTIMONIAL...

The ability to easily integrate ecological connectivity into the local planning process has presented challenges for land use planners. The collaboration between the Miistakis Institute and the Oldman River Regional Services Commission (ORRSC) afforded a unique opportunity for our planners to participate in the development of a decision support tool which considers impacts to identified ecological corridors as well as contribute to policy development to encourage new development proposals to consider their effect on ecological corridors.

> Diane Horvath - Senior Planner, Oldman River **Regional Services Commission**





Calgary Connect

Building on the success of Calgary Captured, Calgary Connect continues to use remote cameras to monitor terrestrial wildlife in key ecological corridors, while working to understand and integrate a broader regional ecological network into decision making in Calgary and neighbouring jurisdictions. During the past year, we engaged with jurisdictions surrounding Calgary on the modelling of the regional ecological network and importance of ecological connectivity and completed our first season of amphibian eDNA sampling to build on our knowledge of wildlife in the region.

Partners: City of Calgary, Weaselhead/ Glenmore Park Preservation Society, Friends of Fish Creek Provincial Park Society, Alberta Forestry and Parks, and University of Toronto Mississauga **Funders**: The Calgary Foundation, TD Friends of the Environment Foundation and Enbridge

TESTIMONIAL...

In 2017, the City of Calgary and Miistakis Institute partnered to design and implement a wildlife camera monitoring program to help The City better understand how wild species were making use of City natural parks and sharing that urban space with humans and their canine companions. One of the key outputs from this work that we are most proud of is the development of a preliminary ecological network for Calgary that was written into the 2020 update to Calgary's Municipal Development Plan. The next phase of study, Calgary Connect, was created to answer fundamental questions around how The City can better support biodiversity movement within and around the city's growing urban fabric and to further develop Calgary's ecological network to identify barriers to movement and expand connectivity planning tools beyond Calgary city limits. The City is proud to continue to partner with Miistakis Institute, Friends of Fish Creek Provincial Park, Alberta Parks, Weaselhead-Glenmore Park Preservation Society on this project to understand and protect ecological connectivity in the greater Calgary region.

> Vanessa Carney - Landscape Analysis Supervisor, Urban Conservation, The City of Calgary

Supporting Development of an Upstream Watershed Investment Strategy

The City of Calgary is committed to implementing actions that protect drinking water quality at its source and part of The City's approach to protecting source water includes undertaking a study to examine and evaluate options for a program to support the protection of ecosystem services upstream of Calgary. In 2022, Miistakis worked with the Climate and Environment, Planning and Development Services department to develop a set of recommendations for the delivery of an Upstream Watershed Investment Grant Program, and a framework for evaluating proposed projects. This Grant Program would enable investment in external partner projects that protect, to enhance and restore watersheds upstream of Calgary. The City has built on this work by developing an Urban Watershed Investment Strategy and associated Grant Program and are currently engaged in an internal review and beginning external engagement of the proposed strategy.

Partners/Funders: City of Calgary

TESTIMONIAL...

Working with the team at Miistakis was a true partnership that leveraged their deep experience in conservation science and management, with our direction to explore an innovative concept of an Upstream Watershed Investment Strategy. Their collaborative approach, curiosity, and openness to innovate resulted in a proposed framework that will be instrumental in helping The City of Calgary further develop the Strategy.

Jenn Pouliotte - Senior Water Resources Planner, Climate and Environment, The City of Calgary



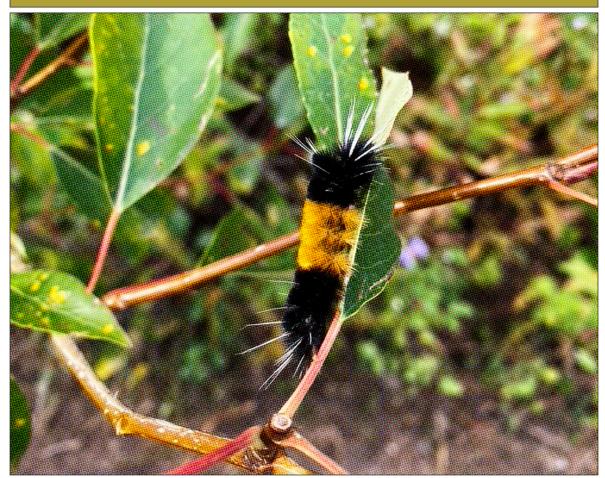


BIODIVERSITY

BIODIVERSITY, OR BIOLOGICAL DIVERSITY, REFERS TO THE NUMBER, VARIETY, AND VARIABILITY OF LIVING ORGANISMS IN AN AREA.

A biodiverse landscape reflects a healthy ecosystem that supports natural processes human rely on such as food production, clean water, medicine, and clean air. Human activities, such as changes in land use (e.g., urbanization), overexploitation, climate change, and pollution, cause alarming rates of biodiversity loss globally, reduce the ability of ecosystems to function properly, and impact economic, recreational, cultural and scientific opportunities.

Over the past year, Miistakis has focused on enhancing our understanding of biodiversity, supporting the maintenance and restoration of biodiversity and promoting the importance of biodiversity.



BIODIVERSITY PROJECT...

Value of Private Land Conservation in Alberta



Private land conservation (PLC) is an important strategy for conservation in Alberta with PLC making significant contributions to wetland protection, climate resiliency and biodiversity protection. To highlight the value of land trusts and private land conservation in Alberta we developed an interactive website to provide an in-depth look at PLC contributions through a diverse set of metrics. These metrics were developed with input from eight Alberta land trusts or organizations that participate in private land conservation.

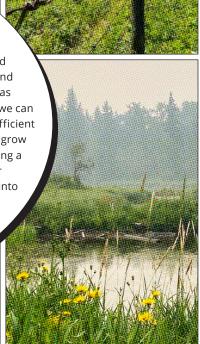
Partners: Alberta Conservation Association, Ducks Unlimited Canada, Edmonton Area Land Trust, Foothills Land Trust, Legacy Land Trust, Nature Conservation of Canada (Alberta office), Southern Alberta Land Trust Society, Western Sky Land Trust

Funders: Government of Alberta Watershed Resiliency and Restoration Program, Alberta Ecotrust Foundation, Environment and Climate Change Canada

TESTIMONIAL...

Through the work Miistakis has undertaken with the land trust database and metric management, NCC has been able to use a variety of information to further our conservation work within Alberta. Being able to access the securement location data of multiple land trust sites has allowed NCC to fill gaps in already protected areas and target areas that are under protected. The metric work Miistakis has completed has helped us understand where we are strong and where we can support and partner with other land trusts to have greater and more efficient conservation outcomes. The database and metrics help us learn and grow with the expertise of other land trusts in Alberta. The benefit of having a third party manage the data is a tremendous benefit to all of our organizations and we acknowledge all the hard work that has gone into the process. We are pleased to continue and support the partnership that Miistakis has created.

> Tom Lynch-Staunton - Regional Vice President, **Nature Conservancy of Canada**



BIODIVERSITY PROJECT...

Redesign of Alberta Volunteer Steward Program

Miistakis worked with the Alberta Ministry of Forestry and Parks (FP), Lands Operations Division, and Ministry of Environment and Protected Areas (EPA), Office of the Chief scientist to develop a framework describing a renewed Volunteer Steward Program and the necessary steps to implementation. We designed and facilitated workshops that engaged staff and current volunteer stewards, and developed the framework with a focus on utilizing steward effort to gather data such that it aligns with and can be integrated into provincial operations and priorities to support managing public lands.

Funders: Alberta Environment and Protected Areas



BIODIVERSITY PROJECT...

Improving Urban Wetland Management

To support biodiversity goals, Miistakis partnered with the City of Calgary on a comprehensive four-part project to inform wetland management, protection and restoration. The first component, the Aquatic Condition Index (ACI), involved the development of an innovative rapid field assessment to score urban wetlands on hydrology, water quality and ecological function, and roll up to a combined score to indicate overall ecosystem health. The second component, the modelled-ACI, took a remote approach and identified and modelled the overall ecosystem score and its component parts based on GIS-derived characteristics of each wetland. The two remaining components were initiated this past year and are still currently underway. These include a project to prioritize wetlands and corridors for protection and restoration, and the development of a beneficial management plan to promote wetland biodiversity. The project relied heavily on expert input from Dr. Felix Nwiashi (MRU, Associate Professor), Dr. Irena Creed (UofT, Professor), and Dr. Lea Randall (Wilder Institute, Calgary Zoo).

Partners/Funders: City of Calgary

TESTIMONIAL...

Working with Miistakis Institute has been an incredible asset to my research program. Their expertise in conservation science and their commitment to practical, evidence-based solutions have greatly enhanced the impact of my research in the community. One aspect of our collaboration that I particularly value is the student training opportunity that the project offered. Through my partnership with Miistakis Institute, we were able to train two Mount Royal University Environmental Science students in wetland ecosystem assessment. This hands-on experience not only advanced their academic and practical skills but also provided them with a unique opportunity to contribute to real-world conservation efforts. I am truly grateful for the collaboration with the Miistakis Institute and the opportunities it has provided to advance my research program in urban wetland conservation. The ACI framework and our collective efforts will undoubtedly have a lasting impact on the conservation and management of wetland ecosystems.

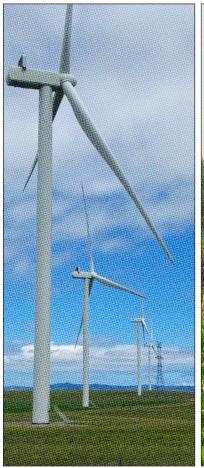
Felix Nwaishi, PhD, Associate Professor, Wetlands Ecosystem Science, Mount Royal University

ECOSYSTEM-BASED CLIMATE ADAPTATION

MIISTAKIS PRIORITIZES ECOSYSTEM-BASED CLIMATE ADAPTATION AS A STRATEGY TO MAINTAIN RESILIENT, HEALTHY LANDSCAPES IN THE FACE OF A CHANGING CLIMATE.

Ecosystem-based climate adaptation refers to a variety of approaches that involve the conservation, sustainable management, and restoration of ecosystems, and is aimed at reducing the vulnerability of humans to climate change hazards. Examples of approaches include habitat restoration, wetland management, and sustainable forest management practices.

Our work over the past year focused on informing the conservation and restoration of natural landscapes and systems and promote nature conservation to enhance ecosystem-based adaptation.





ECOSYSTEM-BASED CLIMATE ADAPTATION PROJECT...

Municipal Land Suitability Tool

When municipal governments consider industrial scale solar or wind energy development, it immediately becomes clear that not everywhere is suitable for those activities, and not everywhere is unsuitable. For some areas it is a clear-cut 'yes' or 'no' but most areas sit somewhere on the continuum between those two extremes. In 2022, we worked with Rocky View County to apply the Municipal Land Use Suitability Tool developed by Miistkais to assist the county in identifying where renewable energy development is most suitable in consideration of high valued agricultural, ecological and cultural lands.

Partners: Rocky View County, Oldman River Regional Services Commission



I had the pleasure of working with the
Miistakis Institute team to create a Municipal Land
Use Suitability Tool and renewable energy strategy for
Rocky View County. Their team members were professional,
knowledgeable, and easy to work with. They made the process very
easy and provided us with valuable insights that will help us make
land use decisions going forward in consideration of natural,
cultural and agricultural assets.

Jeff Fleischer - Manager, Operational Services, Rocky View County

The Oldman River Regional Services Commission (ORRSC)
was pleased to collaborate with the Miistakis Institute on the
Rocky View MLUST project. It was an excellent opportunity to investigate
different options to integrate the results of the MLUST process into the local
land use planning framework. By leveraging the lessons learned, our member
municipalities can use the results of the Rocky View County project to strengthen
and advance their own understanding of utility scale renewable energy
development on municipalities in southern Alberta.

Diane Horvath – Senior Planner, Oldman River Regional Services Commission

ECOSYSTEM-BASED CLIMATE ADAPTATION PROJECT...

Supporting Climate Adaptation and Post Fire Management in Waterton Lakes National Park

In 2022 Miistakis supported Waterton Lakes National Park in the design and facilitation of two key workshops: the 2022 Post-Kenow Wildfire Research Symposium and the Ecological Integrity Monitoring Program Climate Change and Kenow Wildfire Adaptation Workshop. The results from these gatherings provides guidance for integrating climate change into decision making, processes or programs, identified information gaps, and identified management implications and recommendations resulting from the Kenow fire.

Partners: Parks Canada

TESTIMONIAL...

Miistakis Institute played key roles in the planning, facilitation and reporting on our 2022 Post-Kenow Wildfire Research Symposium, in follow-up to a similar, foundational workshop they guided us through in 2018. A unique non-profit, southern Alberta-based conservation research institute, Miistakis Institute's decades of experience specializing in analysis of large, complex conservation datasets and facilitation of multifaceted, conservation-focused conversations were critical to supporting and guiding our team. Their excellent work has set us up to make informed decisions and accomplish important conservation-based work in the post-fire environment of Waterton Lakes National Park.

Waterton Lakes National Park

ECOSYSTEM-BASED CLIMATE ADAPTATION PROJECT...

Working with Beavers K

Working with Beavers is one of the longest running projects at Miistakis, marking its 10th anniversary of promoting coexistence with beavers to realize the ecosystem and watershed benefits they bring to the landscape. This year has been especially significant for the project as we have achieved a goal we've been working towards for many years – the installation of a beaver dam analogue (BDA) as a stream restoration tool. The BDA was installed in partnership with our project partner Cows and Fish – Alberta Riparian Habitat Management Society and local partner Blood Tribe Land Management – Environmental Protection Division. At the BDA site we will be monitoring changes to water storage and riparian health over several years. In addition to this work, we've also launched a citizen science initiative called Beavers from Space, asking volunteers to search through satellite imagery for beaver dams to inform stream restoration site selection while also raising awareness about the benefits of beavers. We've continued to host webinars and workshops and have drafted an Alberta Beaver Beneficial Management Practices resource which will be finalized in fall 2023.

Partners: Cows and Fish – Alberta Riparian Habitat Management Society, Blood Tribe Land Management **Funders**: Government of Alberta Watershed Resiliency and Restoration Program, Alberta Innovates, Calgary Foundation, Alberta Ecotrust Foundation

TESTIMONIAL...

Working with Miistakis has enabled our beaver collaborative to have the structure, solid funding commitments and continuity that really makes a collaborative effort work. They are a valuable core partner, recognizing when we sometimes need assistance, and being flexible when we need it too. They trust our work, and we can trust theirs because of the professionalism, strong work ethic and commitment to science and honest conversations.

Norine Ambrose - Executive Director, Cows and Fish -Alberta Riparian Habitat Management Society



BOARD OF DIRECTORS...

Ryan Smith, Chair

Craig Harding

Jason Unger

Kim Pearson

Connie Van der Byl

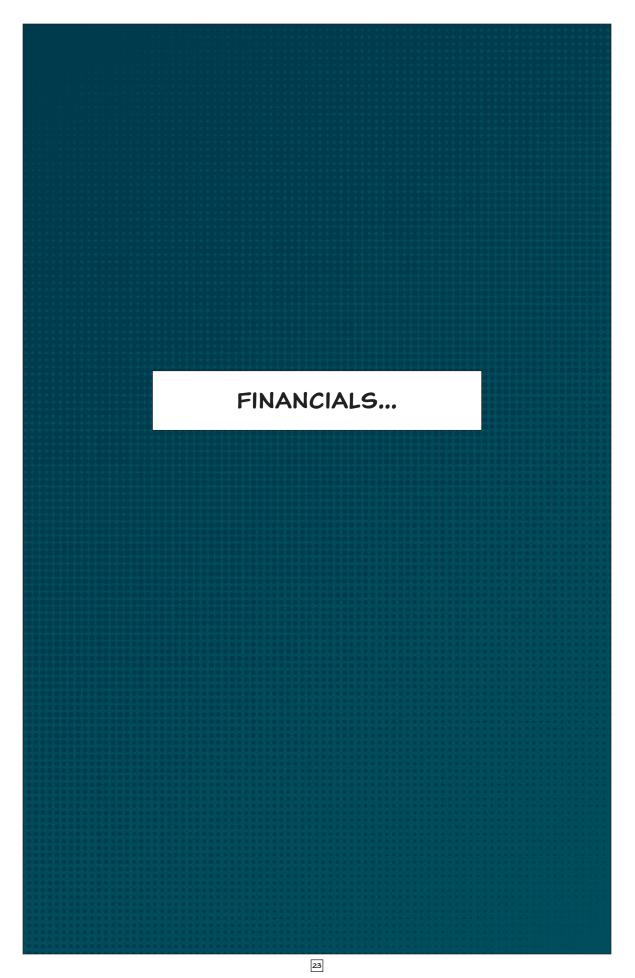
Chad Willms

Dan Farr

STAFF...

Danah Duke, Executive Director
Tracy Lee, Director Conservation Research
Nilo Sinnatamby, Manager Conservation Research
Ken Sanderson, Programmer and GIS Spatial Analyst
Nicole Kahal, Conservation Analyst
Holly Kinas, Conservation Analyst

Elliot Fox, Indigenous Conservation Consultant



STATEMENT OF FINANCIAL POSITION

March 31

	2023	2022		
Assets				
Current				
Cash	\$ 473,707	\$ 54,083		
Accounts receivable	135,965	153,296		
Accrued project receivables	85,838	15,545		
Short term investment (Note 2)	356,881	_		
Goods and services tax recoverable	2,028	1,245		
Prepaid expenses	1,123	4,833		
	1,055,542	229,002		
Investments (Note 3)	453,889	449,284		
Equipment (Note 4)	10,764	12,425		
	\$ 1,520,195	\$ 690,711		
Liabilities and Net Assets				
Current				
Accounts payable and accrued liabilities	\$ 173,405	\$ 24,485		
Wages payable	61,683	24,495		
Deferred contributions related to operations (Note 5)	669,079	87,187		
	904,167	136,167		
Deferred contribution related to equipment (Note 6)	393	521		
	904,560	136,688		
Net assets				
Invested in equipment	5,840	11,904		
Internally restricted (Note 7)	380,000	380,000		
Unrestricted	229,795	162,119		
	615,635	554,023		
	\$ 1,520,195	\$ 690,711		

STATEMENT OF OPERATIONS

For the year ended March 31

	2023	2022		
Revenue				
Services	\$ 521,893	\$ 308,985		
Government grants	397,883	266,023		
Foundation and other grants	148,376	284,788		
Donations	58,411	31,338		
Endowment income (Note 8)	3,738	3,387		
	1,130,301	894,521		
Expenditures				
Wages and benefits	557,613	455,095		
Subcontract	412,204	399,539		
Professional fees	32,820	33,629		
Supplies	26,501	7,601		
Travel	19,844	4,786		
Rent	12,300	10,775		
Software	9,801	8,236		
Insurance	7,975	4,906		
Amortization	3,926	5,072		
Workshop	2,018	1,309		
Telephone and utilities	1,723	1,729		
Internet and web domain	-	2,226		
Training	-	1,539		
Office	(2)	_		
	1,086,723	936,442		
Excess (deficiency) of revenue over expenditures before undernoted items	43,578	(41,921)		
Other income (expense)				
Unrealized (loss) gain on investment	(8,628)	8,814		
Gain on investments	10,090	16,645		
Dividend income	9,691	9,896		
Interest	6,881	_		
	18,034	35,355		
Excess (deficiency) of revenue over expenditures for the year	\$ 61,612	\$ (6,566)		

STATEMENT OF CHANGES IN NET ASSETS

For the year ended March 31

	Invested in equipment		Internally restricted	Unrestricted	Total 2023	Total 2022
Balance, beginning of year	\$	11,904	\$ 380,000	\$ 162,119	\$ 554,023	\$ 560,589
Excess (deficiency) of revenue over expenditures for the year		(3,799)	-	65,411	61,612	(6,566)
Purchase of equipment		(2,265)	-	2,265	-	10,090
Drawings		-	-	-	-	(10,090)
Balance, end of year	\$	5,840	\$ 380,000	\$ 229,795	\$ 615,635	\$ 554,023

