



Miistakis
Institute

Miistakis Institute
Annual Report
2016

Executive Director Message

Miistakis made considerable conservation impact across our six research focus areas over the past year. We are often asked about our research focus areas – why these areas?

Our research areas are dynamic and are continually refined to address current conservation challenges. Today, our research areas focus on themes that play a significant role in conservation and involve working with landowners, industry, citizens, municipalities, agencies, conservation partners and academics. They also require a broad spectrum of methodologies including on-line mapping, jurisdictional scans, literature reviews, spatial analyses, modeling, facilitation, tool development, community engagement, policy analysis and catalyzing community conservation action.

These are all areas in which Miistakis has developed significant expertise. Environmental conservation is complex. It requires engagement of a diversity of perspectives and stakeholders and a multitude of approaches to realize conservation success. Our approach to research at Miistakis embraces the complexity – and our track record exemplifies it. We are excited to showcase this year’s projects that have contributed to conservation in Alberta and the research areas we undertake at Miistakis. Please read our 2016 annual report to see the difference Miistakis has made.



Danah Duke
Executive Director

WE FOCUS OUR CONSERVATION RESEARCH ACROSS SIX THEMATIC AREAS. OUR CONSERVATION IMPACT THROUGHOUT 2016 IN EACH AREA IS PROFILED ON THE FOLLOWING PAGES.

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01 CITIZEN SCIENCE FOR CONSERVATION

Citizens are facing complex conservation challenges. Stronger sustainable solutions engage citizens in better understanding the issue, contributing personal knowledge and experience, and implementation. Miistakis uses a citizen science approach to generate data to inform conservation challenges, and create a knowledgeable and engaged citizenry. Miistakis develops tools and frameworks that contribute to successful citizen science projects.

CONSERVATION IMPACT

Improved biodiversity monitoring and community engagement through delivery of citizen science programs

Finding wildlife crossing hotspots in BC

RoadWatchBC engaged 72 volunteers in documenting over 780 wildlife observations. This dataset will be used to determine wildlife crossing and mortality hotspots to inform future highway mitigation.

PARTNERS/FUNDERS: WILDSIGHT, YELLOWSTONE TO YUKON CONSERVATION INITIATIVE, VANCOUVER FOUNDATION

A new way to collect grizzly observations

GrizzTracker established a new methodology for systematically collected grizzly bear observations that will allow more comprehensive analysis of citizen collected data.

PARTNERS/FUNDERS: ALBERTA ENVIRONMENT AND PARKS

Calgary citizens monitoring amphibians

Launched Call of the Wetland, which engaged 80 volunteers in monitoring amphibians in Calgary's wetlands. These observations will inform City of Calgary biodiversity management and will be submitted to the Alberta Environment and Parks (AEP), Fish and Wildlife Management Information System (FWMIS).

PARTNERS/FUNDERS: CITY OF CALGARY, CALGARY ZOO, ALBERTA CONSERVATION ASSOCIATION, ENBRIDGE

CONSERVATION IMPACT

Enhanced the field of practice of citizen science in Alberta

Helping to develop citizen science policy

Miistakis worked with both AEP and the City of Calgary to **determine barriers and opportunities** to implementing citizen science in government agencies through facilitated workshops.

PARTNERS/FUNDERS: ALBERTA ENVIRONMENT AND PARKS, CITY OF CALGARY URBAN CONSERVATION

Joining the international discussion

Miistakis, together with AEP, presented "*Barriers and Strategies to accelerate the use of citizen science by government agencies*" at the 2017 Citizen Science Association conference.

PARTNERS/FUNDERS: ALBERTA ENVIRONMENT AND PARKS

Usability testing for effective citizen science

Miistakis, together with Brian Traynor (Information Design, MRU) submitted Case Study: Building UX Design into Citizen Science Applications to the Human Computing Interactions 2017 conference to profile the importance of usability testing to the effectiveness of conservation citizen science projects.

PARTNERS/FUNDERS: MOUNT ROYAL UNIVERSITY



02 MUNICIPALITIES AND CONSERVATION

Environmental conservation is inextricably linked to land use, and municipalities are the front lines of land use. This means land use decisions at the municipal level have a disproportionate ability to conserve – or degrade – the ecological systems on which citizens rely. Miistakis works directly with urban and rural municipalities to develop usable information, tools, and research that can promote more sustainable land use decisions at the local government level.

CONSERVATION IMPACT

Enhanced municipalities' ability to make use of existing conservation tools

Building awareness of conservation tools

Miistakis, together with Environmental Law Centre, Poulton Environmental Strategies, and Legacy Land Trust Society, delivered a series of four [webinars aimed at increasing municipalities' knowledge](#) of the conservation tools under the Alberta Land Stewardship Act. Two hundred participants received an in-depth picture of conservation easements, transfer of development credits, conservation offsets, and conservation directives.

PARTNERS/FUNDERS: MAX BELL FOUNDATION, ANONYMOUS FUNDER

Implementing TDCs in Rocky View County

After deciding to use the Transfer of Development Credits (TDC) tool to reconcile their development and conservation goals for the Glenbow Ranch Area Structure Plan, Rocky View County approached Miistakis to help them design the TDC component.

PARTNERS/FUNDERS: ROCKY VIEW COUNTY

Guidance on ecological connectivity

Working with the Calgary Regional Partnership (CRP), Miistakis identified that municipalities struggled to incorporate ecological connectivity concerns into their planning. Miistakis created two [connectivity guides for municipalities](#), one written for GIS staff, and one written for planning staff.

PARTNERS/FUNDERS: CALGARY REGIONAL PARTNERSHIP

CONSERVATION IMPACT

Expanded the capacity of Alberta municipalities to address environment and conservation challenges

Climate resiliency for communities

Miistakis met with four Edmonton-area municipalities to orient them to our climate change adaptation tool, [Adapt-action](#), enhancing their knowledge and introducing them to resources they can use to help their communities become climate resilient.

PARTNERS/FUNDERS: EDMONTON COMMUNITY FOUNDATION, INTACT INSURANCE FOUNDATION.

Conservation crowd-funding platform

Working with the Environmental Law Centre, Miistakis created [Community Conserve](#), a free online tool that lets municipalities post and vote on environment and conservation issues, then 'crowd-fund' (pool their money) projects to address the most common issues/ideas.

PARTNERS/FUNDERS: ENVIRONMENTAL LAW CENTRE, ALBERTA URBAN MUNICIPALITIES ASSOCIATION (AUMA), ALBERTA ASSOCIATION OF MUNICIPAL DISTRICTS AND COUNTIES (AAMDC), MAX BELL FOUNDATION, ANONYMOUS FOUNDATION

Planning using 'Human Footprint' data

The Human Footprint Intensity model created a [spatially-explicit representation of the human 'footprint'](#) on the landscape across the Calgary region, allowing the Calgary Regional Partnership and its members to assess the change in human activity which may have an impact on ecological infrastructure, and incorporate that information into their local and regional planning.

PARTNERS/FUNDERS: CALGARY REGIONAL PARTNERSHIP

03 HUMAN WILDLIFE COEXISTENCE

In today's changing landscape it is often challenging for wildlife to coexist on the landscape with humans. Human developments including housing, agriculture, industry and recreation infringe on wildlife habitat and movement areas. Wildlife management attempts to balance the needs of wildlife with the needs of people using the best available science. Miistakis is interested in examining the ways to improve the coexistence of humans and wildlife. This often includes determining wildlife needs, assessing human impacts to wildlife habitat and exploring adaptive management for both humans and wildlife.

CONSERVATION IMPACT

Improved human-wildlife coexistence

Promoting coexistence with beavers

Delivered a beaver coexistence workshop to 18 stakeholders, with accompanying [videos](#), to demonstrate [coexistence techniques](#) to enhance watershed resiliency.

PARTNERS/FUNDERS: COWS AND FISH, ALBERTA WATERSHED RESILIENCY AND RESTORATION PROGRAM, CALGARY FOUNDATION, TD FRIENDS OF THE ENVIRONMENT FOUNDATION

Carnivore compensation research

Published Rangelands [journal paper](#) entitled "*Cattle and Carnivore Coexistence in Alberta: the role of compensation programs*".

PARTNERS/FUNDERS: MOUNT ROYAL UNIVERSITY

Understanding wildlife and renewables

Completed a jurisdictional review to determine how wildlife populations and wildlife habitats are being considered relative to [wind, solar and geothermal](#) energy developments. This information is being used to support the development of AEP directives.

PARTNERS/FUNDERS: ALBERTA ENVIRONMENT AND PARKS



04 TRANSPORTATION ECOLOGY

Transportation infrastructure across the world poses numerous environmental challenges, affecting our air, landscapes and water. From a landscape perspective, roads and railways cause wildlife mortality through collisions and act as a significant barrier to wildlife movements. The Miistakis Institute aims to: generate awareness of the challenges that transportation infrastructure poses to wildlife; to promote workable solutions to these challenges; and to generate support for implementing these solutions.

CONSERVATION IMPACT

Improved wildlife connectivity by integrating research into highway mitigation

Clarity on corridors in the Crowsnest Pass

Worked with stakeholders (scientists, government staff and ENGO's) to identify wildlife corridors along Highway 3 through the Crowsnest Pass region and to identify strategies to optimize connectivity.

PARTNERS/FUNDERS: ALBERTA ENVIRONMENT AND PARKS

Connectivity modelling for Alberta roads

Initiated a collaborative connectivity modeling initiative to identify priority connectivity areas for highway mitigation consideration in the South Saskatchewan River Basin.

PARTNERS/FUNDERS: ALBERTA TRANSPORTATION, ALBERTA ENVIRONMENT AND PARKS, DR. ADAM FORD, CENTRE FOR LARGE LANDSCAPE CONNECTIVITY



05 CONSERVATION PLANNING AND POLICY

Success in environmental conservation largely relies on being proactive. This requires developing plans of various types, catalyzing improvements in the policy process, and working with a wide variety of ENGOs, provincial agencies, local governments, and industry players. Miistakis provides support in many areas of conservation planning (wildlife management, private land securement, connectivity, municipal conservation, park management, strategic conservation, watershed management, and others), and works to catalyze innovation in policy making of various types (land use policy, fiscal policy, conservation policy, science policy, and others)

CONSERVATION IMPACT

Supported and participated in regional conservation planning initiatives

Conservation plan for the Eastern Slopes

As a central player in the East Slopes Collaborative, Miistakis worked with the broader conservation community to create a regional conservation plan that included the identification of ecological targets and practical strategies that will guide the collective action of the participants.

PARTNERS/FUNDERS: YELLOWSTONE TO YUKON CONSERVATION INITIATIVE, SOUTHERN ALBERTA LAND TRUST SOCIETY, CANADIAN PARKS AND WILDERNESS SOCIETY, CALGARY FOUNDATION

'EcoPlan' for the Calgary Region

Miistakis developed the [CRP Regional EcoPlan](#) for the Calgary Regional Partnership to provide the basis for a practical, measurable plan for the on-going protection of the ecological features and functions on which the citizens of the Calgary Region depend.

PARTNERS/FUNDERS: CALGARY REGIONAL PARTNERSHIP, MEMBER MUNICIPALITIES

Urban ecosystem management review

As part of the review of their Natural Areas Management Plan, the City of Calgary asked Miistakis to undertake a literature and case review of the urban ecosystem management approach and its applicability to the City of Calgary.

PARTNERS/FUNDERS: CALGARY OF CALGARY URBAN CONSERVATION

CONSERVATION IMPACT

Worked to improve the conservation capacity of municipalities through the Municipal Government Act Review

Conservation-based review of new MGA

As the Government of Alberta review of the Municipal Government Act included several revisions significant for conservation, Miistakis became involved in the consultation, reviewing and assessing the relevant pieces, making submissions, and ultimately meeting with the Minister of Municipal Affairs to discuss our conclusions.

PARTNERS/FUNDERS: ENVIRONMENTAL LAW CENTRE, MINISTER OF MUNICIPAL AFFAIRS

'Conservation Reserve' tool usability

When the Conservation Reserve tool appeared in the draft Modernized Municipal Government Act, Miistakis surveyed a range of municipalities across Alberta as to the tool's potential use, providing that information back to participants and Municipal affairs.

PARTNERS/FUNDERS: SEVERAL PARTNER MUNICIPALITIES, MUNICIPAL AFFAIRS

Assessing 'Environmental Reserves'

Miistakis undertook a review of the Environmental Reserve tool, assessing its current use, opportunities for expanded use, and the potential implications of the proposed revisions under the revised Municipal Government Act.

PARTNERS/FUNDERS: COMMUNITY CONSERVE (ENVIRONMENTAL LAW CENTRE, AUMA, AAMDC), MAX BELL FOUNDATION, ANONYMOUS FOUNDATION



06 PRIVATE LAND CONSERVATION

Much of the land that is critical for wildlife habitat, water cycling, nutrient flows and other ecological processes across the broad landscape is privately held. Land trusts and municipalities are working to ensure those parcels continue to play these important roles. Miistakis supports both the individual organizations and the private land conservation community, including landowners, by providing necessary research services, tools, resources, and planning, management and policy assistance.

CONSERVATION IMPACT

Increased the private land conservation capacity of Alberta's Conservation Easement (CE) holders

Supporting 'Land Trust Grants' program

After creating the original Land Trust Grants Assessment Tool for the Government of Alberta's Land Trust Grant program, Miistakis was asked to facilitate Alberta Environment and Parks' process of revising the tool for the new granting round.

PARTNERS/FUNDERS: ALBERTA ENVIRONMENT AND PARKS

Created CE guide for municipalities

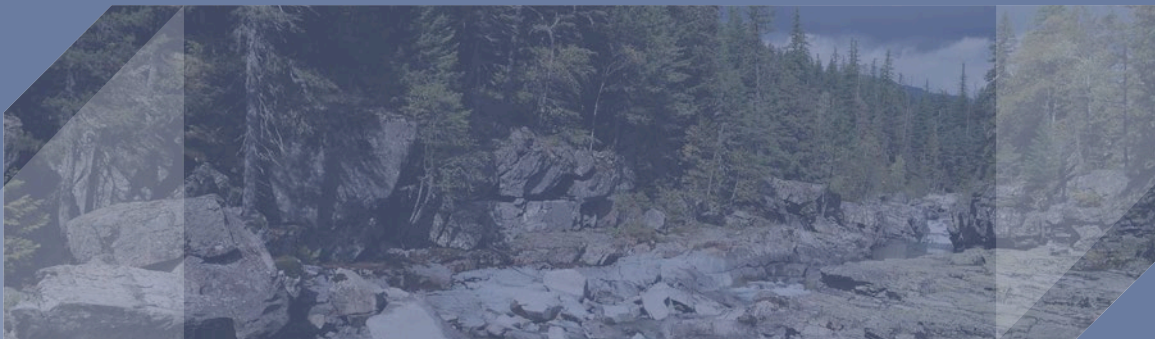
Recognizing that Alberta municipalities are increasingly looking to hold conservation easements Miistakis developed the **Conservation Easement Guide for Municipalities**.

PARTNERS/FUNDERS: COMMUNITY CONSERVE (ENVIRONMENTAL LAW CENTRE, AUMA, AAMDC), MAX BELL FOUNDATION, ANONYMOUS FOUNDATION

Assisting new CE holders

Miistakis assisted the Glenbow Ranch Park Foundation make the structural changes they needed to become an eligible conservation easement holder for the area's Transfer of Development Credits program.

PARTNERS/FUNDERS: GLENBOW RANCH PARK FOUNDATION



FINANCIAL STATEMENTS

March 31, 2017

These statements are excerpts from the audited financial statements prepared for the organization and exclude the audit report, other pertinent statements and notes to the financial statements. Users are cautioned that these statements alone may be inappropriate for their purposes.

Statement of Financial Position

As at March 31, 2017

	2017	2016
ASSETS		
Current		
Cash and cash equivalents	\$ 493,637	\$ 343,820
Accounts receivable	89,878	100,417
Accrued project receivable	25,976	75,949
Goods and services tax recoverable	2,018	498
Prepaid expenses	2,448	1,022
	613,957	521,706
Property, plant and equipment (Note 4)	12,617	14,892
Long term investment (Note 3)	120,000	140,000
	\$ 746,574	\$ 676,598
LIABILITIES AND NET ASSETS		
Current		
Accounts payable and accrued liabilities	\$ 15,000	\$ 24,174
Wages payable	24,785	44,457
	39,785	68,631
Deferred contributions		
Related to operations (Note 5)	388,708	283,600
Contributions held as fiscal agent (Note 6)	2,409	34,385
Related to property and equipment (Note 7)	2,256	3,064
	433,158	389,680
Net Assets		
Invested in property and equipment	10,361	11,828
Internally restricted (Note 8)	140,000	140,000
Unrestricted	163,055	135,090
	313,416	286,918
	\$ 746,574	\$ 676,598

Statement of Operations

For the Year Ended March 31, 2017

	2017	2016
REVENUE		
Foundation and other grants	\$ 522,937	\$ 345,662
Services	186,291	321,430
Government grants	104,460	135,840
Interest and other income	20,316	23,843
	834,004	826,775
EXPENSES		
	\$ -	\$ -
Salaries and wages	530,298	592,578
Subcontractors	199,998	125,514
Professional fees	19,737	21,952
Travel	15,432	15,251
Supplies	9,405	4,712
Insurance	8,246	9,088
Workshop	5,490	14,571
Amortization	4,567	4,939
Internet and web domain	4,294	4,578
Telephone	3,811	4,623
Software	3,065	751
Training	2,369	-
Advertising and promotion	794	507
Interest and bank charges	-	278
	807,506	799,342
EXCESS OF REVENUE OVER EXPENSES	\$ 26,498	\$ 27,433

Statement of Changes in Net Assets

For the Year Ended March 31, 2017

	Invested in property and equipment	Internally restricted	Unrestricted	2017	2016
Net assets - beginning of year	\$ 11,828	\$ 140,000	\$ 135,090	\$ 286,918	\$ 259,485
Excess (deficiency) of revenue over expenses	(3,758)	-	30,256	26,498	27,433
Purchase of property and equipment	2,291	-	(2,291)	-	-
Net assets - end of year	\$ 10,361	\$ 140,000	\$ 163,055	\$ 313,416	\$ 286,918



Miistakis Institute

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