

# THE Ripple Effect



Creating Change at  
the World's Freshwater  
Laboratory

IISD Experimental  
Lakes Area  
2024–2025  
Annual Report

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Fisheries and Oceans Canada Pêches et Océans Canada

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The word "Canada" in a large, black, serif font, with a small Canadian flag icon integrated into the letter 'a'.

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MESSAGE FROM THE CHAIR OF THE BOARD AND EXECUTIVE DIRECTOR



**Sara Daniels**  
Chair of the Board (from June 2025)



**Pauline Gerrard**  
Executive Director, IISD-ELA

With the turning of the year, it is always good to take a moment and reflect on our accomplishments.

We gave the world a much better understanding of how microplastics affect every part of a lake, from the chemistry to the fish and plants to soil. The team also travelled to the various United Nations negotiations on plastics pollution, entering discussion rooms and mingling with policy-makers from across the globe to ensure that international policy and practice are informed by our research on plastics in fresh water.

The canine members of the team made a big splash in international media, as they proved to be 100% reliable at detecting certain types of oil under ice—an invaluable ability for dealing with oil spills. We were proud to learn that northern communities have been inspired to use this oil detection technique.

Reaching 10 years of administration under the International Institute for Sustainable Development (IISD) was also great cause for celebration. Since joining IISD in 2014, Experimental Lakes Area has grown its reach and diversified its work with important

projects delivered over the last decade—and none of that would have been possible without Matthew McCandless. It is thanks to his leadership that IISD-ELA grew into its role as the world’s freshwater laboratory. We are lucky to be left with his impressive legacy and many happy memories.

As wonderful as it is to reflect, we are very excited to look forward and tackle new challenges—whether it’s new research into emerging threats on fresh water, introducing natural infrastructure across Canada, or reaching more students in person or users on YouTube.

The team is working hard on the new Centre for Climate and Lake Learning—a 10,000-square-foot beacon of environmental learning in northwestern Ontario designed for science, stories, and solutions. Slated for completion in 2026, it will be a place where the next generation of freshwater stewards can learn, collaborate, and grow.

So, join us over the next few pages as we celebrate the success of the year we have had and dream with us about the years to come.



An aerial photograph of a lush green forest surrounding a body of water. The water is dark blue-green, and the forest is a mix of evergreen and deciduous trees. In the foreground, there are several white, wavy lines that resemble water ripples or a stylized graphic element. The text 'Exhibit' is overlaid in a large, white, pixelated font.

Exhibit

AI

In case you hadn't noticed, the world's freshwater laboratory is located in a very remote part of northwestern Ontario, Canada. The intense winters and glorious summers mean that we must work within the changing cycles of weather and a changing climate.

And, we are actually making the most of these unique conditions to test out a new way to use artificial intelligence (AI) to make our work easier and smarter—to harvest and analyze our rich dataset on the history of our lakes to accurately predict when we can expect “ice-off” (when Lake 239 has thawed).

Using the historical data that we already have for Lake 239, we trained a random forest model on decades of the historical data that we already have for Lake 239, as well as ice-off dates leading back to 1969.

This model is definitely in its pilot stage, but we have already determined that it can predict the ice-off date up to a month in advance and has proven to be accurate to within about 1.7 days, on average. In fact, in 2025, it was only a day off, predicting May 3, 2025, when ice-off was officially declared on May 4, 2025.

This means we can prepare for boots on the ground ahead of time, making planning for

research, materials, and logistics so much more efficient and cost-effective.

Next step? We want to see if we could train the model to make similar predictions for other lakes at the site, and even further afield from IISD-ELA in the boreal forest.

And that's not the only way we're exploring how AI can make our work more efficient. We are also exploring how AI can identify patterns in our data, from mislabeled samples to damaged or malfunctioning sensors, so we can nip issues in the bud, earlier.

Beyond these 58 lakes, we're also exploring how AI could provide decision-makers with data on river flows, wetlands, and nutrients in Manitoba watersheds, to help them make better-informed, more effective water management and conservation decisions.

# Why Manito Aki Inaakonigewin Matters to Us



“It’s kind of a two-way street. We learn from ELA, and ELA learns from us. So, it’s a good partnership...”

Niigaanibines, Don Jones  
Nigigoonsiminikaaning Anishinaabeg, Treaty #3

Over the last couple of years, we have been on a journey, working with Grand Council Treaty #3 to deepen our understanding and application of Manito Aki Inaakonigewin, or the Great Earth Law, that outlines Anishinaabe governance of the land and water in Treaty #3 territory.

Manito Aki Inaakonigewin states that the Anishinaabe Nation in Treaty #3 maintains rights to all lands and water in the territory throughout Northwestern Ontario and Southeastern

Manitoba. Accordingly, any development in the Treaty #3 territory requires the consent, agreement, and participation of the Anishinaabe Nation.

Engaging with Manito Aki Inaakonigewin is not merely symbolic. We believe that freshwater science and education can thrive when guided by Indigenous legal traditions, laws, and worldviews. In practice, this means continuing the annual

ceremonies—a Spring Nibi (water) ceremony and a Fall Feast—to mark and celebrate the start and end of the research season. These gatherings have become an integral part of IISD-ELA, offering a space where knowledge is shared, lessons are learned, and new insights spark meaningful collaboration.

And this also fits into a broader picture of our work over the last decade—actively building relationships with local Indigenous communities to understand their concerns and needs. This involves collaboration and communication in areas of shared interest, including the environmental impacts of resource development, education (and active learning!), youth engagement, and finding ways to bring traditional knowledge and freshwater science together to build a more holistic picture of the health and future of fresh water.

**From  
Plastics.  
To  
Policy.  
To  
Practice.**



# It feels urgent. It feels personal. But it also feels solvable.

Over recent years, we have all seen plastic litter polluting the environment and threatening wildlife such as turtles and seabirds, whether on the shores of our local lake or river or popping up on our social media feeds.

Microplastics—those seemingly ubiquitous plastic fragments smaller than 5 mm are woven into modern existence. Yet, a critical knowledge gap persists regarding their ultimate fate, especially once they reach our lakes and rivers.

This is exactly the challenge we are tackling.

After years spent working out the baseline data of a whole lake and then working in small mesocosms isolated from the rest of the ecosystem, we have spent the last few years carefully introducing plastics into a whole lake.

All of these stages of research allow us to garner the richest data possible on what happens when plastics find their way into a lake, and how this affects all aspects of the ecosystem.

It is only then, armed with these scientific findings, that we can lead



on to the next stage of research—changing policy.

And whether it is being front and centre at the ongoing United Nations' Intergovernmental Negotiating Committee on Plastic Pollution talks, speaking directly with policy-makers at home and abroad, or taking to the pages of Canadian media, we are always making sure our research doesn't just sit on a dusty shelf.

It does what it is meant to do. Change how we act and govern ourselves for the better, to ensure a healthy environment and freshwater systems for generations to enjoy.

# TOGETHER, *we are building* A LEGACY





## Long-term thinking is in our DNA.

Every data point, every breakthrough, every student who steps into the field depends on stability and foresight. That's why we launched the **Tomorrow Needs Us Today Campaign**, to secure the future of freshwater science in Canada by investing in the infrastructure and sustainability that make discovery possible.

## Campus Renewal Initiative

Scientific demand and public interest in IISD-ELA are growing rapidly. To meet this momentum, we're transforming our campus with \$23 million in Capital investments.

At the heart of the campus renewal is the new **Centre for Climate and Lake Learning**.

This Centre will be a hub for research, education, and community engagement. It will house our expanding programs, welcome more students and scientists, and serve as a national platform for freshwater innovation. Alongside the Centre, we're upgrading lodging and transitioning to clean, modern power systems, ensuring our campus reflects the excellence of our science.

We're proud to share that we've already reached 80% of our goal. With your support, we can cross the finish line and bring this vision fully to life.

These investments are not just about bricks and mortar, they're about capacity, they're about collaboration. They will allow us to train the next generation of freshwater leaders and advance national research priorities for years to come.

**EVERY GIFT**  
*makes a difference.*  
**EVERY DOLLAR**  
*is doubled.*

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## Endowment Fund

To complement this transformation, we are also growing our Endowment Fund, a permanent source of support for research, education, and operations.

To mark IISD-ELA's 10th anniversary under IISD's leadership, Gail Asper and Michael Paterson announced a \$1 million matching gift in August 2025 to help grow the Fund toward our \$10 million goal, doubling the impact of every contribution.

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*Let's shape*  
**THE  
FUTURE OF  
FRESHWATER  
SCIENCE**  
*together.*



To make a donation or to learn more about ways you can help IISD-ELA, please visit our website or contact Hammad Babatunde, Philanthropy Officer, at [hbabatunde@iisd-ela.org](mailto:hbabatunde@iisd-ela.org).

## 2024–2025 IISD-ELA Board of Directors

### BOARD MEMBER AND OUTGOING CHAIR OF THE BOARD

#### **Martha Casey**

CANADA

Chief Operating Officer,  
EfficiencyOne

### INCOMING CHAIR OF THE BOARD (JUNE 2025)

#### **Sara Daniels**

CANADA

Associate Vice-President,  
Government Relations, University  
of Saskatchewan

#### **Pauline Gerrard**

CANADA

Executive Director, IISD-ELA

#### **Andrea Moffat**

CANADA

Senior Director, Investment  
Stewardship, Addenda Capital

#### **Matthew McCandless**

CANADA

Former IISD-ELA Executive Director,  
and IISD Vice-President of Water,  
Innovation, and Impact

#### **Kevin Obiero**

KENYA

Assistant Director, Principal  
Research Scientist, Kenya Marine  
and Fisheries Research Institute  
(KMFRI), Sangoro Aquaculture  
Centre

#### **Glenn Crook**

CANADA

Retired Vice-President, Commercial  
Financial Services, Royal Bank of  
Canada

#### **Joseph Bastien**

CANADA

Associate Director, Inclusive  
Economy for the Shareholder  
Association for Research and  
Education (SHARE)

#### **Andrew A. Lennox**

CANADA

Retired former Assistant Auditor  
General and executive committee  
member of the Office of Auditor  
General of Canada



<b>STATEMENT OF FINANCIAL POSITION</b>	<b>2025</b>	<b>2024</b>
	<b>\$</b>	<b>\$</b>
<b>Assets</b>		
<b>Current</b>		
Cash and cash equivalents	4,618,120	3,953,599
Restricted cash	830,587	724,862
Current portion of grants receivable	12,796,544	11,465,917
Accounts receivable	283,085	273,734
Prepaid expenses	34,961	150,212
<b>Total current assets</b>	<b>18,563,297</b>	<b>16,568,324</b>
Grants receivable	17,010,202	25,971,256
Investments	3,261,114	2,076,026
Capital assets, net	5,747,497	5,219,680
Intangible assets	28,584	28,584
	<b>44,610,694</b>	<b>49,863,870</b>
<b>Liabilities and net assets</b>		
<b>Current</b>		
Accounts payable and accrued liabilities	1,186,112	2,318,253
Due to International Institute for Sustainable Development	344,552	278,510
Current portion of deferred contributions	11,364,170	10,943,540
<b>Total current liabilities</b>	<b>12,894,834</b>	<b>13,540,303</b>
Deferred contributions	16,040,771	25,095,539
Deferred capital contributions	10,330,687	6,913,587
<b>Total liabilities</b>	<b>39,266,292</b>	<b>45,549,429</b>
<b>Net assets</b>		
Net assets invested in capital assets	253,702	390,760
Sustainable Future Fund	800,000	800,000
Remediation fund	830,587	724,862
Internally restricted net assets	3,460,113	2,398,819
<b>Total net assets</b>	<b>5,344,402</b>	<b>4,314,441</b>
	<b>44,610,694</b>	<b>49,863,870</b>

<b>STATEMENT OF OPERATIONS AND CHANGES IN UNRESTRICTED NET OPERATING SURPLUS</b>	<b>2025 \$</b>	<b>2024 \$</b>
<b>Revenue</b>		
Designated grants	7,875,674	8,486,102
Sustainable Future Fund	6,292	5,844
Donations – unrestricted	81,109	19,970
Amortization of deferred capital contributions	917,000	761,435
Other	737,136	455,071
Investment income	255,172	269,269
	<b>9,872,383</b>	<b>9,997,691</b>
<b>Expenses</b>		
Field station operations	2,176,747	2,213,474
Field research	3,776,922	3,706,111
Administration	1,220,129	1,201,264
Marketing and fundraising	445,143	197,031
Outreach and education	383,662	893,227
Laboratory research	207,396	270,863
Offsite research and technical review	632,423	787,078
	<b>8,842,422</b>	<b>9,269,048</b>
<b>Excess of revenue over expenses for the year</b>	<b>1,029,961</b>	<b>728,643</b>
<b>Appropriation from and to unrestricted net operating surplus</b>		
Change in net assets invested in remediation fund	(105,725)	(105,103)
Transfer to internally restricted net assets	(1,061,294)	(779,706)
Change in net assets invested in capital assets	137,058	156,166
<b>Increase in unrestricted net operating surplus</b>	<b>—</b>	<b>—</b>
Unrestricted net operating surplus, beginning of year	—	—
<b>Unrestricted net operating surplus, end of year</b>	<b>—</b>	<b>—</b>

<b>GRANTS RECEIVABLE</b>	<b>2025 \$000s</b>	<b>2024 \$000s</b>
Environment and Climate Change Canada	12,328	16,757
Canada Foundation for Innovation	8,358	9,296
Government of Ontario	3,800	5,700
Fisheries and Oceans Canada	2,479	3,347
Federal Economic Development Initiative for Northern Ontario [FedNor]	1,000	—
Natural Resources Canada	632	1,093
Northern Ontario Heritage Fund Corporation	448	550
Myera Group	364	364
Canada Life	150	—
The Winnipeg Foundation	100	100
Jacor LLC	83	83
Genome Canada and Genome Prairie	40	50
University of Toronto	24	76
RBC Foundation	1	1
Graham C Lount Family Foundation	—	20
	<b>29,807</b>	<b>37,437</b>
Less current portion	12,797	11,466
	<b>17,010</b>	<b>25,971</b>

To see the full IISD-ELA financial statements, visit our website at [iisd.org/ela/annual-report](https://iisd.org/ela/annual-report)



