Dr. Michael David Rennie
Curriculum Vitae

Office/Fax: 807.346.7860/7796 · mrennie@lakeheadu.ca

RESEARCH INTERESTS *("Statement of Research Achievements and Interests" available on request)*

My research group (www.ceelab.ca) seeks to understand the fundamental linkages between metabolic performance of individuals and ecosystem-level processes, and how these relationships change in altered environments. Human activities affect ecosystems through multiple pathways of effects, or stressors, which in turn alter the physiological performance of individuals (e.g., activity, feeding efficiency, growth and reproduction) and community composition. Changes at both scales have direct consequences for the pathway and efficiency of energy flow through food webs. Using a combination of fish tracking technology, hydroacoustics, respirometry, calorimetry, computer modeling and life history theory, we seek to demonstrate the mechanistic relationship between individual, population and ecosystem-level traits.

PROFESSIONAL EMPLOYMENT HISTORY

Jul 2018-Present ***Associate Professor and Canada Research Chair in Freshwater Ecology and Fisheries*, Department of Biology, Lakehead University, Thunder Bay, ON**

- Lead the Community Ecology and Energetics (CEE) Lab, guiding and conducting research on freshwater environments and fisheries, evaluating metabolic and community change in the face of ecosystem disturbance http://www.ceelab.ca/ (see also "*Research Interests*")
- Supervise postdoctoral researchers, undergraduate and graduate students (see also "*Training of highly qualified personnel*")
- Developed and teach courses in experimental limnology, biostatistics and fisheries ecology (see also "*Teaching experience*")
- Secure National, Provincial and International funding for research activities
- Service on faculty, departmental, institutional and supervisory committees
- Manage financial accounts

Jul 2018-Present ***Director, Aquatic Toxicology Research Centre (ATRC),* Lakehead University, Thunder, Bay, ON**

- Oversee operations in the ATRC, including budgeting and ensuring financial viability
- Guide research projects relating to toxicology of anthropogenic contaminants
- Ensure ISO 17025 accreditation is maintained

Jan 2015–Present ***Research Fellow,* International Institute for Sustainable Development (IISD)-Experimental Lakes Area, Winnipeg, MB**

- Oversee and provide guidance on fish research program at the Experimental Lakes Area
- Oversee and provide guidance on transfer of ELA database to new platform
- Core team member for IISD-ELA strategic planning, 2014-2019

Jan 2015-Jun 2018 ***Assistant Professor and Canada Research Chair in Freshwater Ecology and Fisheries*, Department of Biology, Lakehead University, Thunder Bay, ON**

Apr 2014–Dec 2014 ***Research Scientist,* IISD- Experimental Lakes Area, Winnipeg, MB**

- Led independent research on fish populations at the Experimental Lakes Area (ELA)
- Supervised staff (1 full-time, 1-2 students, 2-3 seasonal employees per year)
- Led and developed youth science outreach initiatives at ELA

Sept 2010–Apr 2014 ***Research Scientist*, Fisheries and Oceans Canada, Winnipeg, MB**
•Led independent research on fish populations at the Experimental Lakes Area (ELA) and participated in highly collaborative whole-lake manipulation studies
•Provided scientific advice to DFO managers and biologists and to external clients
•Supervised staff (1 full-time, 1-2 students, 2-3 seasonal employees annually)
•Managed financial accounts
•Used mark-recapture methods for population abundance estimation
•Updated 40+ year dataset on ELA fishes; initiated archive and data rescue initiative for fish samples, bony structures and data
•Collaborated with Environment Canada on mercury sampling on ELA lakes in support of the Clean Air Regulatory Agenda
•Co-chair, Physical Samples subcommittee, National Science Data Management Committee

Jan–Apr 2010 ***Instructor*, University of Toronto Mississauga, ON** (see also "Teaching Experience")
•Designed course outline, lectures and labs for a course in advanced biostatistics
•Supervised four teaching assistants and assisted in tutorial instruction
•Graded student tests and assignments

Sep 2008–Sep 2010 ***Postdoctoral Fellow*, Trent University, ON** (see also "Academic Experience")
•Investigated temporal changes in food web structure associated with environmental change and species invasions on Lake Simcoe

Consulting services:
2021: **Norway House First Nation,** initial consultation on erosion impacts on fisheries
2018: **Petrone & Partners,** consultation regarding potential for fisheries in compensation agreement with first nations
2017-18: **Fisheries and Oceans Canada**, analysis and reporting of a whole-lake aquaculture experiment on fish populations
2017: **Pays Plat First Nation**, Analysis of historic fishing records in the region of Pays Plat, 1864-present
2014: **Bruce Power**, document review

EDUCATION AND ACADEMIC EXPERIENCE

Academic Work:

Jul 2018-Present **Associate Professor,** Department of Biology, Lakehead University, ON, Canada
Tier II Canada Research Chair in Freshwater Ecology and Fisheries
•Principal Investigator, Community Ecology and Energetics (CEE) Laboratory

Sept 2018-Present **Adjunct Professor,** Department of Environment and Geography, University of Manitoba
•Supervising graduate and undergraduate students, serving on student committees in multiple departments

Jan 2015-Jul 2018 **Assistant Professor,** Department of Biology, Lakehead University, ON, Canada
Tier II Canada Research Chair in Freshwater Ecology and Fisheries
•Principal Investigator, Community Ecology and Energetics (CEE) Laboratory

Sept 2015-Present **Adjunct Professor,** Department of Biology, University of Waterloo
•Participation on graduate student committees

Jul 2012-18 Nov 2021-24 **Special Graduate Faculty,** Environment and Life Sciences Program, Trent University, ON, Canada
•Participation on graduate student committees

Sept 2012–Aug 2018 **Adjunct Professor,** Department of Biological Sciences, University of Manitoba
•Supervising graduate and undergraduate students, serving on student committees

Sep 2008–Sep 2010 **Postdoctoral Fellow,** Environmental and Life Sciences Program, Trent University
Supervisor: Dr. David O. Evans
Research Topic: Evaluating historical food web changes in Lake Simcoe

Degrees:

Oct 2003–Oct 2008 **Doctor of Philosophy,** Department of Ecology and Evolutionary Biology, University of Toronto
Convocation: June 2009
Supervisors: Dr. W. Gary Sprules, Dr. Timothy B. Johnson
Thesis title: Influence of invasive species, climate change and population density on life histories and mercury dynamics of two *Coregonus* species

Sep 2001–Oct 2003 **Master of Science, Zoology,** University of Toronto
Supervisors: Dr. Nicholas Collins, Dr. Brian Shuter
Thesis title: Mercury in aquatic food webs: refining the use of mercury in energetics models of wild fish populations

Sep 1994–Jun 1999 **Bachelor of Science, Ecology,** University of Calgary
Undergraduate thesis Supervisor: Dr. Leland J. Jackson
Thesis title: Patterns in submerged aquatic macrophyte structure and littoral invertebrate abundance

Training of Highly Qualified Personnel:

Technical Staff (27)

2023: Simon Pollard, Lakehead University
Marjorie Scott, Lakehead University
2022-present: Leif Buxton, **Dean's Undergraduate Research Awardee (2022)**, **NSERC USRA Awardee (2023),** Lakehead University
Henry Trinh, toxicology assistant, Lakehead University
2022: Jose de Campos Marin, toxicology assistant, Lakehead University
2021: Wade Dombroskie, research assistant (casual), **Dean's Undergraduate Research Awardee**, Lakehead University
2020-present: Tyson Bouchard, Toxicologist, Lakehead University
Sydney-Lyn Bernardi, toxicology assistant, Lakehead University
2020-2022: Nadine Elmehriki, toxicology assistant/**NOHFC intern,** Lakehead University
2020: Danielle Gartshore, research assistant (casual), **Dean's Undergraduate Research Awardee** Lakehead University
Cody Veneruzzo, research assistant (casual), **Dean's Undergraduate Research Awardee** Lakehead University

2019, 2021: Kimberly Geils, Undergraduate research assistant (casual), Lakehead University
2019: Reginald Adiele, Toxicologist, Lakehead University
Colin St. James, toxicology assistant, Lakehead University
Faith Cordiero, toxicology assistant, Lakehead University
2018: Maarit Wolfe, Toxicologist, Lakehead University
2017: Corwin Andrews, Lab Technician (casual), Lakehead University
2016: John Kereliuk, Lab Technician (casual), Lakehead University
2014: Katie Shepard, Fisheries Technician (casual), Fisheries and Oceans Canada
2013-2014: Chandra Rodgers, Fisheries Biologist, Fisheries and Oceans Canada and IISD-Experimental Lakes Area
2012: Kim Palmquist, Fisheries Technician (casual), Fisheries and Oceans Canada
Brendan Allan, University of Manitoba
2011: Sara Braun, Fisheries Technician (casual), Fisheries and Oceans Canada
Amy Gilbert (co-op), University of Winnipeg
Candace Wright (co-op), University of Manitoba
2010-2014: Sandy Chalanchuk, Fisheries Technician, Fisheries and Oceans Canada
2010: Sara Braun, University of Manitoba

Postdoctoral (3)

Jan-Dec 2018: Liset Cruz-Font, Postdoctoral Fellow, Wildlife Conservation Society of Canada (co-supervised with Constance O'Connor)
Movement ecology of Lake Sturgeon related to hydroelectric water management
Sept-Dec 2018: Bryan Matthias, Fulbright Visiting Fellow
Ecosystem modeling of whole-lake manipulations
2013-2014: Sonya Havens, Visiting Postdoctoral Fellow, Fisheries and Oceans Canada
Evaluating links between environmental change and fish productivity

Graduate students (4 PhD, 26 MSc)

PhD: **2020-present:** Cody Veneruzzo, Lakehead University
Impact of microplastics on oxygen uptake in freshwater fishes
2019-present: Alex Ross, Lakehead University **(NSERC PGS-D, 2020-2023)**
Life history and behavioural response of a mobile predator to complexity in prey food webs
2019-2023: Ryan Grow, Lakehead University **(OGS, 2020-21; Presidents Award, 2022-23)**
The contribution of fish movement to ecosystem function in Lake Superior
2018-present: Haley Macleod, Lakehead University **(MITACS Accelerate, 2018-2021; Garfield Weston Award, 2020-21)**
Evaluating predictors and correlates of freshwater fish productivity

MSc: **2021-present:** Wyatt Beach, Lakehead University **(OGS Award, 2022-23)**
Determining contributions of hydrological connectivity, environment and biology in determining fish communities
2021-2023: James (Ben) Wood, Lakehead University
Effects of Bythotrephe*s invasion on mercury accumulation of fishes*
2020-present: Mark Schutte, Lakehead University (co-supervised with Rob Mackereth)
*The efficacy of eRNA and eDNA in determining the presence of Brook Trout (*Salvelinus fontinalis*) in Northern Ontario streams, and for the prediction of abundance and biomass*
2020-2022: Amber Fedus, Lakehead University
Effects of macrophyte cutting on a whole lake ecosystem
2020-2022: Danielle Gartshore, Lakehead University

*Invasive spiny water flea (*Bythotrephes cederströmii*) and their impacts on young-of-year walleye (*Sander vitreus*) growth*

2019-2023: Erin Kelly, Lakehead University (co-supervised with Joe Carney)
Suitability of biomarker responses in freshwater mussels, Pyganodon grandis, as indicators of water quality in Constance Lake, ON

2019-2022: Mallory Weibe, Lakehead University (co-supervised with Rob Mackereth)
Brook Trout abundance and distribution at multiple spatial scales in Lake Superior tributaries

2019-2022: Tyler Ripku, Lakehead University **(MITACS Accelerate Award, 2020-21)**
Evaluating the Utility of a Point of Care Device to Assess Physiological Differences Among Wild Boreal Fishes

2019-2022: Brenden Slongo, Lakehead University
The Effects of Climate Change on the Growth and Spawning Phenology of Boreal Fishes

2019-2021: Scott Bergson, Lakehead University
Abundance, Transportation, and Preservation of Mysis diluviana *eDNA in Freshwater Ecosystems*

2018-2020: Nicole Turner, Lakehead University
Walleye (Sander vitreus) *movement ecology in Lake Winnipeg, Canada*

2017-2021: Sarah Warrack, University of Manitoba (co-supervised with Mark Hanson)
Microplastic fate and behaviour in freshwater mesocosm wetlands

2017-2021: Ashley Salomon, MSc, Lakehead University (co-supervised with Carney Matheson)
Recovering the Proteome of Archived Biomedical Specimens

2017-2020: Hannah Hancock, Lakehead University (co-supervised with Nanda Kanavillil)
Physical habitat associations of fish species in the Kivalliq region of Nunavut, Canada

2017-2020: Andrew Milling, Lakehead University
Mysis diluvania *as a keystone species in aquatic ecosystems*

2017-2019: Cameron Leitrants, Lakehead University (co-supervised with Rob Mackereth)
Climate change and brook trout distribution in Lake Superior tributaries

2017-2019: Kyle Stratton, Lakehead University
Food web changes in Black Bay, Lake Superior

2016-2019: Victoria Langen, Lakehead University **(OGS Award, 2017-18)**
Changes in the offshore food web of Lake Simcoe following dreissenid invasion

2016-2019: Graydon McKee, Lakehead University
*Movement, resource use, and life history strategies of Black Bay Walleye (*Sander vitreus*)*

2016-2019: Marissa Wegher, Lakehead University
Evaluating Spatial Variation in Food Web Connectivity and Energetics within the Lake Superior Fish Community

2015-2019: Brendan Allan, Lakehead University
Influence of prey naiveté on predator detection and response

2015-2018: Lauren Hayhurst, Lakehead University **(MITACS Accelerate Award, 2016)**
Nanosilver effects on fish populations and energetics in a whole ecosystem experiment

2015-2018: Stephen Slongo, Lakehead University (co-supervised with Brian McLaren)
Influence of hydroelectric development on Brook Trout spawning phenology

2015-2017: Patrick Kennedy, University of Manitoba
The influence of the prey community on the growth and life history variation of aquatic apex predators in the Canadian boreal shield

2012-2015: Laura Murray, University of Manitoba (co-supervised with Jim Roth)
Effects of nanosilver on stress and metabolism of fish

2012-2015: Marianne Geisler, University of Manitoba (co-supervised with Darren Gillis)

*Forecasting the effect of invasive mussels on walleye (*Sander vitreus*) habitat occupancy and production*

Undergraduate theses, project-based Co-operative education and summer undergraduate students (30)
(*Undergraduate students who produced first-authored peer-reviewed publications from their research)

2023-24: Rowan Gallichan, Lakehead University, *Ontogenic diet shifts in Walleye* (Sander vitreus)
Grant Tipping, Lakehead University, *Impacts of aquaculture on minnow energy densities*
Courtney MacIssac, Lakehead University, *Impacts of acidification on minnow communities*

2022-23: Amy Campbell, Lakehead University, *Sediment characterization of Goulais Bay, Lake Superior, in relation to habitat selection of Lake Sturgeon*
Connor Kubinec, **Work-study student,** Lakehead University, *Impacts of aquaculture on minnow energy densities and mercury bioaccumulation*

2021-23: Kelvi Toskovich, **NSERC USRA (twice),** Lakehead University, *Changes in the winter community and phenology of birds in the Thunder Bay region*

2021-22: Tristan Morrison, Lakehead University *Effects of microplastics exposure on larval fish behaviour* **(best NRM thesis presentation, 2022)**
Adam Poulin, University of Toronto Scarborough, *eDNA detection of fishes* (co-supervised with Nick Mandarak)

2020-21: ***Kim Geils, **NSERC USRA**, Lakehead University *Effect of nanosilver on Northern Pike (*Esox lucius*) bioenergetics*
Lauren Dupuis, Lakehead University *The invasion of dreisssenid mussels into Lake Simcoe and their effect on benthic invertebrates*

2019-21: Emily Meek, **Dean's Undergraduate Research Awardee**, Lakehead University *An investigation of white sucker* (Catostomus commersonii) *respiration across a range of biologically relevant temperatures*

2019-20: Nadine Elmehriki, Lakehead University *Understanding connections in the Superior Shoals food web*
Cody Veneruzzo, Lakehead University *Changes in the energetic status and mercury concentrations of native Lake Trout (*Salvelinus namaycush*) during aquaculture operations*

2018-19: Ty Colvin, **NSERC USRA,** BSc Honours, Lakehead University *Changes in benthic communities associated with the loss of* Mysis diluviana
***Tyler Ripku,** Lakehead University *Impacts of nanosilver additions on resource use of Northern Pike*
***Brenden Slongo,** Lakehead University *Impacts of nanosilver additions on growth rates of Northern Pike*

2017-18: Liam Spicer, Lakehead University *Spatial variation in pelagic fish diets, Lake Superior*
***Justin Hubbard**, Trent University *Effects of surgical implants on lake trout survival*
Anouch Tamian, Lakehead University *Spatial variation in energy densities among Lake Superior fishes*

2016-17: Brennan Deboer, BSc Honours, Lakehead University *Changes in yellow perch diets associated with nanosilver exposure in freshwater lakes*
Kyle Stratton, BSc Honours, Lakehead University *Diversity of life history characteristics of Lake Superior migratory rainbow trout*
***Brandon Greenaway (nee Vennell)**, **NSERC USRA**, BSc Honours, Lakehead University *Differences in resting metabolic rate between domestic and wild rainbow trout*
***Sarah Warrack**, BSc Honours, University of Manitoba *The occurrence of microplastics in the Red and Assiniboine Rivers*

2015-16: Marissa Wegher, BSc Honours, Lakehead University *Evaluating correspondence between baitfish communities in bait shops vs. natural lakes*

*Philip Anderson, Queen's University. *Evaluating sample processing techniques for enumerating surface microplastics in Lake Winnipeg*

2014-15: Riley Bartel (co-op), University of Manitoba. *Climate variation drives annual growth in warmwater fishes*

Lauren Hayhurst (co-op), University of Manitoba. *Fish community structure in Lake 302*

2013: Jessica Mai (co-op), University of Manitoba. *The effects of climate change on lake trout and white sucker spawning phenologies*

2012: *Michele Nicholson (co-op), University of Manitoba. *Apparent extirpation of prey fish communities following northern pike introduction*

Emianka Sotiri (co-op), University of Manitoba. *Seasonal and spatial variation in Yellow perch energy densities at the ELA*

Graduate and undergraduate student supervisory committees (15)

2022-present: Mikayla Lekun, MSc Biology, Lakehead University
2021: Aislinn Nichol, BSc Chemistry, Lakehead University
2021-2023: Giulio Navarroli, MSc, University of Winnipeg
2021-present: Courtney Taylor, MSc, Trent University
2020-2022: Colin St. James, MSc, Lakehead University
2019-present: Tim Hollinger, MSc, Lakehead University
2018-present: Lilian Weins, PhD, University of Manitoba
2018: Dallas Nygard, BSc Chemistry, Lakehead University
2017-present: Nathan Wilson, PhD, Lakehead University
2017-2021: Nancy Cummings, MSc, Lakehead University
2017-2018: Cameron Robb-MacKay, MSc, Lakehead University
2016-2019: Adam Pun, MSc, Lakehead University
2016-2019: Joseph Tonin, MSc, University of Manitoba
2016-2019: Kerman Bajina, MSc, Lakehead University
2015-2019: Michael St. James, MSc, Lakehead University
2015-2018: Brent Lewis, MSc, University of Waterloo
2012-2018: Jonathan Martin, PhD, Trent University (withdrawn)
2011-2018: Matthew Guzzo, PhD, University of Manitoba

AWARDS

Recognition:

2023 Outstanding Service Recognition Award, Society of Canadian Aquatic Sciences for outstanding service in helping establish the new society, coordinating work for the new society logo and assisting with development of society web page

2023 Merit award*, Lakehead University for exceptional performance in Research, 202/21-2021/2022

2022 Visiting Scientist Award, University of Padova, Italy (€2,500) Provided short courses on bioenergetics modelling and lectures regarding fish movement and whole lake experimentation during sabbatical visit.

2021 Merit award*, Lakehead University for exceptional performance in Research, 2018/19-2019/2020

2020 Journal of Great Lakes Research Reviewer Award issued by the International Association of Great Lakes Research.

2020 Service Award, Society of Canadian Limnologists recognizing "significant and long-term contributions" to the society.

2019 Merit award*, Lakehead University for exceptional performance in Research, 2016/17-2017/18

2016 Prix D'Excellence Award for Excellence in Science. Fisheries and Oceans Canada. Recognizing leadership role and efforts while a DFO employee towards the National Physical Samples Steering Committee. *"the Prix d'Excellence is the Department's most prestigious award and was established to honour the best and most exemplary employee contributions to Fisheries and Oceans Canada."*

*Merit awards at Lakehead University are valued at $2,000, for which faculty are eligible to apply every 2 years.

External Research Grants:

Grant Title/ *Granting agency*	Value	Institution	Period Held
Calories in, calories out / *MITACS*	$20,000	Lakehead University	2023-24
Community-led monitoring of hydro-related impacts... using both Indigenous and western science/ *NSERC Discovery Horizons*	$500,000	University of Manitoba/Lakehead University/Others	2023-28
Mentoring and Training the Next Generation of Environmental Researchers Working in the Indigenous North/ *NSERC CREATE*	$1,650,000	University of Manitoba/Lakehead University/Others	2023-29
Grants and Contributions Program/ *Environment and Climate Change Canada*	$90,000	Lakehead University	2022-23
International Research Partnership Award/ *Lakehead University*	$10,000	Lakehead University	2022-23
Discovery Grant/ *NSERC*	$200,000	Lakehead University	2022-2027
Ecological Applications and Transfer of Fisheries Acoustic Technologies/ *CIEE* (Co-applicant)	$11,540	Lakehead University	2022
pELAstic whole lake experiment/ *NSERC Plastic Science for a Cleaner Future* (Co-applicant)	$1,000,000	University of Toronto/Lakehead University/Others	2021-2025
Natural selection in wild populations/ *Royal Society International Exchange* (Co-applicant)	$20,950	University of St. Andrews/Lakehead	2021-2023
Canada Research Chair in Freshwater Ecology and Fisheries (Renewal)/ *NSERC*	$500,000	Lakehead University	2020-2024
Impacts of plastics in aquatic ecosystems/ *DFO NCAG* (Co-Applicant)	$217,998	Lakehead University	2020-2023
Impacts of Species Invasions and Climate Change on Growth and Mercury of Fishes/ *Quetico Foundation*	$75,000	Lakehead University	2020-2023
Impacts of plastics on lake trout recruitment and production/ *ECCC IKPP initiative*	$56,221	Lakehead University	2020-2022
Impacts of species invasions on fish growth/ *Rainy Lakes Fishery Charity Trust (RLFCT)*	$10,000	Lakehead University	2020-2022
Internship in Aquatic Toxicology/ *Northern Ontario Heritage Fund Corporation*	$31,500	Lakehead University	2020-2021
Natural and induced stress on fish populations/ *MITACS Accelerate*	$54,000	Lakehead University	2020-2021
Impacts and Indicators/ *Fisheries and Oceans Canada Grants and Contributions* (Co-investigator)	$393,215	IISD-Experimental Lakes Area	2019-2023
Lake Superior Living Labs Network/ *SSHRC* (Co-investigator)	$188,106	Lakehead University	2019-2022
Early Researcher Award/ *Government of Ontario*	$150,000	Lakehead University	2018-2023

Grant Title/ *Granting agency*	Value	Institution	Period Held
Matawa Water Futures/ *Global Water Futures* (Co-investigator)	$399,528	Lakehead University	2018-2021
Canada Research Chair Supplement	$35,000	Lakehead University	2018-2019
Size-dependent Walleye movement/ *Fisheries and Wildlife Enhancement Fund, Province of Manitoba*	$14,000	Lakehead University	2018-2019
NSERC RTI (Co-investigator)	$76,099	Lakehead University	2018
Photons to Fish (PHISH): Ecosystem indicators of fish productivity/*MITACS Accelerate*	$133,333	Lakehead University	2017-2020
Changes in the Food Web of Black Bay, Lake Superior/ *North Shore Steelhead Association*	$20,000	Lakehead University	2017-2019
Great Lakes food web research/*Ontario Ministry of Natural Resources and Forestry*	$30,000	Lakehead University	2017-2018
Food web ecology of offshore Lake Superior/*Lakehead University, University of Minnesota Duluth*	$6,000	Lakehead University, University of Minnesota Duluth	2017
Evaluating change in fisheries for Lake Superior North Shore First Nations/ *various First Nations*	$15,525	Lakehead University	2017
Spatial variation in Lake Superior fish energetics/ *Ontario Ministry of Natural Resources and Forestry*	$15,000	Lakehead University, University of Windsor	2017
Infrastructure operating grant/ *CFI*	$32,400	Lakehead University	2016-2022
Discovery Grant/ *NSERC*	$140,000	Lakehead University	2016-2022
Indicators of fish productivity/ *Manitoba Hydro* (Co-investigator)	$340,000	IISD-Experimental Lakes Area	2016-2019
Walleye Movement in the Red River and Lake Winnipeg/ *Fish and Wildlife Enhancement Fund* (Co-investigator)	$136,100	Manitoba Sustainable Development, Lakehead University	2016-2018
Evaluating changes in nearshore carbon delivery in Lake Simcoe /*Ontario Ministry of Environment and Climate Change*	$34,000	Lakehead University	2016-2018
Recovery of fish populations from environmental nanosilver release/ *MITACS Accelerate*	$15,000	Lakehead University	2016
Canada Research Chair in Freshwater Ecology and Fisheries/ *NSERC*	$500,000	Lakehead University	2015-2019
IISD-ELA Research Fellow support in aid of research (up to $20,000 annual support)	$130,000	IISD-Experimental Lakes Area	2015-2022
Habitat and community dynamics as drivers of Northern Pike (*Esox lucius*) growth potential/ *RLFCT*	$10,000	University of Manitoba	2015-2017
Canadian Foundation for Innovation John Evans Leadership Fund/Ontario Research Fund	$337,500	Lakehead University	2015-2016
Determining the extent of plastics pollution in Lake Winnipeg/ *Lake Winnipeg Foundation*	$6,000	IISD-Experimental Lakes Area	2015-2016
Effects of nanosilver on a lake ecosystem (Collaborator)/ *NSERC Strategic Grant*	$736,200	Trent University, University of Manitoba, ELA	2011–2014
Determining stability in relationships between fish	$4,000	University of Toronto	2010–2012

Grant Title/ *Granting agency*	Value	Institution	Period Held
trophic position and mercury concentration following *Bythotrephes* invasion (Co-investigator)/ *Ontario Federation of Anglers and Hunters*			
Evaluating changes in lake whitefish feeding habits (Co-investigator)/ *Great Lakes Fishery Commission*	USD $67,091	Trent University	2010–2012
Internal versus external sources of carbon in Lake Simcoe and effects on offshore water quality (Co-investigator)/ *Environment Canada Lake Simcoe Clean Up Fund*	$204,000	Trent University	2009–2011
Ontario Federation of Anglers and Hunters/ *Toronto Sportsmen's Show Sport Fisheries Research Grant*	$2,000	University of Toronto	2006–2007
Undergraduate Industrial Research Award/ *NSERC*	$3,600	Chemex Labs Alberta	1996

Competitive funding internal to Fisheries and Oceans Canada:

Funding envelope/ *Grant title*	Value	Period Held
Strategic Program for Ecosystem-Based Research and Advice/ *Evaluation of ecosystem measures for assessing impacts to fish productivity* (co-applicant)	$86,000	2013-2015
Aquatic Invasive Research/ *Potential effects of zebra mussels on walleye production*	$2,000	2013-2014
Strategic Program for Ecosystem-Based Research and Advice/ *Forecasting the Effects of Invasive Dreissenid Mussels on Habitat Occupancy and Production of Walleye (*Sander vitreus*)*	$34,000	2013-2014
Strategic Program for Ecosystem-Based Research and Advice/ *Evaluation of ecosystem measures for assessing impacts to fish productivity* (co-applicant)	$65,000	2012-2013
Aquatic Invasive Species Research/ *Potential effects of zebra mussels on walleye production*	$8,000	2012-2013
Aquatic Invasive Species Monitoring/ *Monitoring the spread of the spiny water flea, rusty crayfish, smallmouth bass in Northwestern Ontario and the Prairie Region* (co-applicant)	$13,000	2012-2013
Aquatic Climate Change Adaptation Services Program/ *Assessing climate-mediated impacts to boreal lakes through whole-ecosystem manipulation* (co-applicant)	$76,000	2012-2013
Aquatic Invasive Species Monitoring/ *Evaluating the distribution of the spiny water flea in Northwestern Ontario* (co-applicant)	$5,000	2011-2012

(Over $175,000 in Student/Postdoctoral Academic Awards, details available upon request)

SCIENCE COMMUNICATION

Peer Reviewed Publications: (*denotes trainees; <u>underline</u> denotes corresponding author when not first author)

Accepted:

69. **Rennie, M.D.,** James, L.A.H., Arnott, S., Casselman, J.M., Evans, D.O. and Sprules, W.G. Species invasion alters fish mercury biomagnification rates. Accepted for publication in Biological Invasions, 20 December 2023. MS # BINV-D-23-00206R2. Preprint: https://www.researchsquare.com/article/rs-2918058/v1

68. *Kennedy, P.J. and **Rennie, M.D.** Environmental and Life History Associations with Female-Biased Sexual Size Dimorphism in Northern Pike (*Esox lucius*). Accepted for publication in Evolutionary Ecology Research, 14 March 2022. Manuscript # 3224. Preprint at: https://www.biorxiv.org/content/10.1101/2023.03.06.531313v1

In Press:

67. *Ripku, T.J., *Hayhurst, L.D., Metcalfe, C.D. and **<u>Rennie, M.D.</u>** 2023. Isotopic-based evidence for reduced benthic contributions to fish following a whole lake addition of nanosilver. Published early view at Journal of Fish Biology. https://doi.org/10.1111/jfb.15526

66. *Greenaway, B., *Veneruzzo, C. and **<u>Rennie, M.D.</u>** 2023. Standard metabolic rate differs between Rainbow Trout (*Onchorhynchus mykiss*) growth forms. Published early on-line at the Canadian Journal of Zoology. https://doi.org/10.1139/cjz-2023-0043

Published:

65. Shuter, B.J., Milne, S.W., Hrenchuk, L.E., de Kerckhove, D.T. and **Rennie, M.D.** 2023. Integrating hydroacoustic and telemetric surveys to estimate fish abundance: a new approach to an old problem. Canadian Journal of Fisheries and Aquatic Sciences 80 (10) 1562–1578. https://doi.org/10.1139/cjfas-2022-0183

64. Littlefair, J.E., Hleap, J.S., Palace, V., **Rennie, M.D.**, Paterson, M.J. and Cristescu, M.E. 2023. Freshwater connectivity transforms spatially-integrated signals of biodiversity. Proceedings of the Royal Society B, 290 (2006): 20230841.

63. *Gartshore, D.J and **Rennie, M.D.** Decline of young-of-year walleye (*Sander vitreus*) growth due to *Bythotrephes* impacts predicted from bioenergetic principles. 2023. Biological Invasions 25: 2643–2658. https://link.springer.com/article/10.1007/s10530-023-03065-9

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Media/Web/Social Media:

Author, Editor of "Unmuzzled Science" blog: http://www.unmuzzledscience.wordpress.com

- •Blog provided a forum for discussion to help improve the function of government science in the federal public service
- •Between 2013-2017, more than 120,000 views (average 175 views per day)
- •Currently maintained to document challenges faced by government scientists with occasional posts on relevant topics to open communication of government science

Twitter handle: @not_Klaatu

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16 Mar 2022: Interview on the potential impacts of climate change on Lake Superior: https://www.cbc.ca/listen/live-radio/1-84-up-north/clip/15901158-how-climate-change-affecting-lakes-northwestern-ontario

14 Mar 2022: Interview with RCI on Ontario MECP report on chromium contamination of fish in Porcupine Lake: https://ici.radio-canada.ca/nouvelle/1868968/pollution-poissons-chrome-porcupine-timmins

9 Mar 2022: Interview on the Great Lakes "Winter Grab": https://www.cbc.ca/listen/live-radio/1-84-up-north/clip/15899666-winter-grab-great-lakes

7 Feb 2022: Mooney Goes Wild (starts at 39:05) RTE Radio 1, interview on study assessing groundhog predictions in North America https://www.rte.ie/radio/radio1/mooney/programmes/2022/0207/1278423-mooney-goes-wild-monday-7-february-2022/

1 Feb 2022: Lakehead university study finds groundhog predictions should not be trusted. The Walleye Magazine: http://www.thewalleye.ca/lakehead-university-study-finds-groundhog-predictions-should-not-be-trusted/

1 Feb 2022: WTIP 90.7, North Shore Community Radio (Grand Marais), story on study assessing groundhog predictions in North America. (no web link available)

1 Feb 2022: CBC Superior morning, story on study assessing groundhog predictions in North America. https://www.cbc.ca/listen/live-radio/1-391-superior-morning/clip/15892394-michael-rennie-groundhog-study

31 Jan 2022: TBnewswatch story on publication: A scientific study shreds the credibility of groundhogs. https://www.tbnewswatch.com/local-news/a-scientific-study-shreds-the-credibility-of-groundhogs-5010867

27 Jan 2022: Interview with TBnewswatch: "Mayor Mauro hopes to lure federal water agency to Thunder Bay". https://www.tbnewswatch.com/local-news/mauro-hopes-to-lure-federal-water-agency-to-thunder-bay-5005018

11 Nov 2021: Interview on Iran International TV on impacts of COVID-19 on plastics pollution. https://www.instagram.com/tv/CWI3f9kj0t8/?utm_source=ig_web_copy_link

28 Sept 2021: Seabin at Thunder Bay marina helps raise awareness of plastics in Great Lakes. Interview with CBC Superior Morning. https://www.cbc.ca/news/canada/thunder-bay/seabin-thunder-bay-1.6191095

22 Sept 2021: Comment: Management key to zebra mussel challenge. Manitoba co-operator. https://www.manitobacooperator.ca/comment/comment-management-key-to-zebra-mussel-challenge/

17 June 2021: 'Whatever happened to…?' Episode 16 on Acid Rain. Interview for Podcast. https://omny.fm/shows/whatever-happened-to/acid-rain

4 May 2021: 'We really need to understand this' ELA to study effects of anti-depressants on fish (discussion of microplastics research which also appears in the article). Kenora Online. https://www.kenoraonline.com/articles/we-really-need-to-understand-this-ela-to-study-effects-of-anti-depressants-on-fish

30 April 2021: Interview with Service Radio Canada on PFAS in Lake Superior Rainbow Smelt: Les poissons du lac Supérieur pourraient être menacés par un nouveau contaminant https://ici.radio-canada.ca/nouvelle/1789027/mercure-eperlans-ecosysteme-peche-pollution

1 April 2021: A big threat to your favourite fish: zebra mussels threaten recreational fisheries in northwestern Ontario. The Walleye, April 2021, page 16 (cover story): http://www.thewalleye.ca/april-2021

22 March 2021: What can we do about increased plastic use during the pandemic? https://www.thestar.com/life/2021/03/22/what-can-we-do-about-increased-plastic-use-during-the-pandemic.html

26 Feb 2021: How COVID-19 could be leaving its imprint on Canada's lakes, rivers and streams. toronto.com https://www.toronto.com/news-story/10336083-how-covid-19-could-be-leaving-its-imprint-on-canada-s-lakes-rivers-and-streams/

1 Feb 2021: Plenty of low-hanging fruit for feds to pick in curbing consumption of single-use plastics. Op-Ed, The Hill Times: https://www.hilltimes.com/2021/02/01/single-plastic/281531 (see also https://www.iisd.org/ela/blog/commentary/plenty-of-low-hanging-fruit-for-feds-to-pick-in-curbing-consumption-of-single-use-plastics/)

19 October 2020: Silver particles in consumer goods harm environment, study finds. Globe and mail (front page) highlighting Lakehead MSc Research by Lauren Hayhurst at the IISD-ELA. https://www.theglobeandmail.com/canada/article-nanosilver-found-to-harm-fish-in-ontario-lake-study/

23 June 2020: Lakehead researcher studies invasive species in Quetico. TBNews Watch https://www.tbnewswatch.com/local-news/lakehead-researcher-studies-invasive-species-in-quetico-3-photos-2454272

23 June 2020: Invasive spiny water flea the focus of Quetico-based study. CBC Radio Superior Morning audio interview and web: https://www.cbc.ca/news/canada/thunder-bay/invasive-spiny-water-flea-the-focus-of-quetico-based-study-1.5622600

25 January 2020: Why whole-lake experiments matter. TBNews Watch, discussing subject of discussion at "In Conversation" public lecture https://youtu.be/B0wGgz8QPrA?t=389

14 August, 2019: Acid rain: it's not over yet for this tiny shrimp. The Narwhal, feature on our *Mysis* re-establishment experiment https://thenarwhal.ca/acid-rain-not-over-yet-tiny-shrimp/

12 July, 2019: Microplastics study at the IISD-Experimental Lakes Area; radio interview on Up To Speed, CBC Radio Manitoba

12 July, 2019: Microplastics are filling our lakes: https://omny.fm/shows/alan-carter/microplastics-are-filling-our-lakes

12 July, 2019: Researchers to measure microplastics in pristine northwestern Ontario lakes: https://www.cbc.ca/news/canada/manitoba/experimental-lakes-area-microplastics-research-1.5206716?cmp=rss

1 July 2019: How remote lakes could help unravel the mysteries of microplastic: https://www.wired.com/story/remote-lakes-microplastic/

15 April 2019: TV interview regarding upcoming experiments at the IISD-ELA and the importance of whole-lake experiments in shaping government policy. TBay Newswatch.

4 April 2019: Expert opinion on recently-released climate change report by Environment and Climate Change Canada: https://www.cbc.ca/news/canada/thunder-bay/climate-change-report-1.5083440

15 March 2019: A study reveals the ecological impact of aquaculture in Ontario's Great Lakes: https://cottagelife.com/outdoors/a-study-reveals-the-ecological-impact-of-aquaculture-in-ontarios-great-lakes/

13 March 2019: Why you may not need to worry about Ontario farmed fish after all: https://www.tvo.org/article/current-affairs/why-you-may-not-need-to-worry-about-ontario-farmed-fish-after-all

13 June 2018: Restoring freshwater ecosystems: funding announcement of Early Researcher Award: https://www.tbnewswatch.com/local-news/restoring-freshwater-ecosystems-952505

13 June 2018: LU prof gets funding to study the Great Lakes: http://country1053.ca/news/1984808189/lu-prof-gets-funding-study-great-lakes

15 March 2018: National Post, expert opinion on recently released report showing plastics in bottled water: http://nationalpost.com/health/global-study-finds-microplastics-in-93-of-bottled-water-but-little-known-about-effect-on-humans

11 October 2017: CBC Thunder Bay, regarding new memorandum of understanding between the IISD-ELA and Lakehead University: http://www.cbc.ca/news/canada/thunder-bay/lu-ela-mou-1.4350352

11 October 2017: Thunder Bay Newswatch: IISD-ELA and Lakehead MOU: https://www.tbnewswatch.com/local-news/lakehead-u-inks-collaboration-deal-for-experimental-lakes-area-736427

11 October 2017: CJUK Thunder Bay: IISD-ELA and Lakehead MOU: http://www.magic999.ca/news/1457647493/lu-partners-experimental-lakes-area

17 August 2017: CBC Thunder Bay outdoor column, with Gord Ellis (coverage of Guzzo et al. 2017) http://www.cbc.ca/player/play/1026743875728/

16 August 2017: IISD-ELA study confirms lake trout adapt behaviour with climate change. Kenora Daily Miner (coverage of Guzzo et al. 2017) http://www.kenoradailyminerandnews.com/2017/08/16/iisd-ela-study-confirms-lake-trout-adapt-behaviour-with-climate-change

15 August 2017: Tbay news watch: Lake Trout vulnerable to long-term climate change (coverage of Guzzo et al. 2017) https://www.tbnewswatch.com/local-news/lake-trout-vulnerable-to-long-term-climate-change-696606

15 August 2017: Lake Trout reacting to climate change: Country 105 FM (coverage of Guzzo et al. 2017) http://country1053.ca/news/972021157/lake-trout-reacting-climate-change

6 April 2017: Audio interview with CBC Information Radio reporting results of Anderson et al. 2017 reporting microplastic concentrations in Lake Winnipeg comparable to Lake Erie http://www.cbc.ca/news/canada/manitoba/lake-winnipeg-microplastics-1.4058070

6 April 2017: Television interview with Radio Canada «Lac Winnipeg : des quantités de microplastiques comparables à celles du lac Érié» reporting results of Anderson et al. 2017 http://ici.radio-canada.ca/nouvelle/1026630/lac-winnipeg-quantites-microplastiques-comparables-lac-erie

25 January 2017: Audio interview with CBC Up North: Reaction to limitation of communications by US federal scientists under Trump administration and the importance of communicating publicly funded federal science http://www.cbc.ca/player/play/862680643766

11 May 2016: Audio interview with CBC As It Happens about the announced hiring of 135 science staff at Fisheries and Oceans Canada http://www.cbc.ca/radio/asithappens/as-it-happens-wednesday-edition-1.3577228/ottawa-goes-on-a-fish-scientist-hiring-binge-1.3577230

10 November 2015: Audio interview on CBC Superior Morning, “Liberals' promise to unmuzzle scientists a good first step, researcher says” http://www.cbc.ca/news/canada/thunder-bay/scientists-liberal-government-relationship-1.3312001

26 October 2015: Interview with Vice Canada about the outlook for Canadian Science following the election of a Liberal majority government. http://www.vice.com/en_ca/read/we-asked-scientists-about-how-much-better-life-will-be-with-harper-gone

15 October 2015: Interview with CBC Radio, Manitoba, countering assertions that instances of government science muzzling were fabricated or heresy. Web story based on interview discussion: http://www.cbc.ca/news/canada/manitoba/conservatives-not-muzzling-scientists-experimental-lakes-researcher-disagrees-1.3271830

6 September 2015: Video interview: Operations at the Experimental Lakes Area looking much different than 2 years ago. TBT News Hour. https://www.youtube.com/watch?v=dL2P6XXLdw4#action=share Story starts at 4:04.

30 August 2015: Experimental Lakes Area expands mandate far beyond fish (web). Thunder Bay News Watch. http://www.tbnewswatch.com/News/374836/Experimental_Lakes_Area_expands_mandate_far_beyond_fish____

22 May 2015: Government scientists should speak freely- sometimes. Globe and Mail (with Andrew Leach; print) http://www.theglobeandmail.com/globe-debate/government-scientists-should-speak-freely-sometimes/article24552056/

22 May 2015: Interview with CBC radio, Thunder Bay: Ex-government scientist in northwestern Ontario says muzzling was part of "toxic" work environment http://www.cbc.ca/news/canada/thunder-bay/ex-government-scientist-in-northwestern-ontario-says-muzzling-was-part-of-toxic-work-environment-1.3083325

5 May 2015: Article for Canadian Journalists for Free Expression 2014-15 Review: All quiet on the science front: silencing scientists threatens evidence-based decision making (print). Pages 34-35. https://issuu.com/cjfe/docs/cjfe_2014-15_review_of_free_express/35?e=1482178/12659173

26 Feb. 2015: Expert opinion, Blue bristles littering Red River Mutual Trail from snow clearing machine (print) http://metronews.ca/news/winnipeg/1297191/blue-bristles-littering-red-river-mutual-trail-from-snow-clearing-machine/

6 Feb. 2015: Coverage of Samarasin et al. 2015, Ottawa citizen (print): http://ottawacitizen.com/news/national/arctic-lakes-hold-more-fish-than-anyone-knew

15 Jan. 2015: Live in-studio interview with CBC Information Radio on plastic pollution in Lake Winnipeg

15 Jan. 2015: Selkirk Record interview on study evaluating plastic pollution in Lake Winnipeg (print)

14 Jan. 2015: Interlake spectator interview on successful funding to investigate plastic pollution in Lake Winnipeg (print): http://www.interlaketoday.ca/2015/01/14/lake-winnipeg-foundation-gives-cash-for-projects

10 Nov. 2014: Radio Interview with CBC "As It Happens" on the Ottawa Citizen editorial, below http://www.cbc.ca/news/technology/muzzling-federal-scientists-may-be-damaging-to-government-itself-1.2831576

6 Nov. 2014: Editorial, "Let my fellow scientists speak", Ottawa Citizen (print): http://ottawacitizen.com/news/politics/michael-rennie-let-my-fellow-scientists-speak

28 Oct. 2014: Canadian Chemical News, print interview on whole-lake nanosilver experiment at the Experimental Lakes Area

17 Oct. 2014: Radio interview with CBC Thunder Bay on published collaborative research (Kidd et al. 2014): http://www.cbc.ca/superiormorning/episodes/2014/10/17/blame-the-pill-1/

1 Oct. 2014: Guest post on Science Borealis (Canadian science communication website): Rising from the ashes: Canada's Experimental Lakes Area (web) http://blog.scienceborealis.ca/rising-from-the-ashes-canadas-experimental-lakes-area/

8 Sept. 2014: National Public Radio interview on effects of aquaculture on native fish populations (radio, web): http://www.npr.org/blogs/thesalt/2014/09/08/346874331/could-great-lakes-fisheries-be-revived-through-fish-farms

26 Aug. 2014: Maclean's Magazine on-line, "Unmuzzle the scientists? Critics say 'Yes, Please'" (web): http://www.macleans.ca/society/science/un-muzzle-the-scientists-mp-ted-hsu-responds/#Michael

Invited Lectures:

Using lakes as test tubes: why ecosystem-level experiments are the scale needed to inform environmental policy. 16 November 2022. University of Padua, Padua, Italy.

Considering fish behaviour and habitat use in lake management and restoration. 4 October 2022. Visiting scientist lecture, University of Padua, Chioggia, Italy.

Invasive species: re-engineering Great Lakes food webs. Let's Talk Science Great Lakes Initiative lecture series. 4 March 2022. Thunder Bay, ON, Canada (virtual).

Whole-ecosystem impacts of antimicrobials: a nanosilver story. 11 February 2022. Lakehead Biology Seminar Series. Thunder Bay, ON, Canada (virtual).

Impacts of a whole-lake addition of nanosilver on fishes. 2 November 2021. Laurentian SETAC "Pub Night" invited lecture. Ottawa, ON, Canada (virtual).

Microplastics in freshwater- understanding the problem to find solutions. 17 June 2021. Lake of the Woods District Stewardship Association. Kenora, ON, Canada (virtual).

Evaluating correlates and drivers of fish production and rapid fish health assessment tools. 25 March 2021. Fisheries and Oceans Canada. Thunder Bay, ON, Canada (virtual).

Embracing complexity: Using whole-ecosystem experiments to inform environmental policy. 4 March 2021. Complexity Science graduate seminar course, Lakehead University, Thunder Bay, ON, Canada (virtual).

Microplastics in freshwater- how big is the problem? Presentation to the Alberta Lake Management Society seminar series, 11 September 2020. Alberta, Canada (virtual).

Whole-ecosystem experiments lead to effective, comprehensive environmental policy. Canadian Environmental Law (LAWS 2512) invited guest speaker. 11 March 2020. Lakehead University, Thunder Bay, ON.

Whole-ecosystem research makes the best environmental policy. Northern Ignite 180 second Research Challenge. 4 March 2020. Lakehead University, Thunder Bay, ON.

You put WHAT in the Lake? Why whole lake experiments are necessary to understand human impacts on freshwater. 25 January 2020. Lakehead University "In Conversation" talk, Mary JL Black Public Library, Thunder Bay, ON.

Impacts of freshwater aquaculture on fish communities: a whole-ecosystem approach. 11 December 2019. Ontario Ministry of Natural Resources and Forestry. Thunder Bay, ON, Canada (also web broadcast to staff in Owen Sound ON).

Using ecological insights to guide restoration efforts. 4 December 2019. Center For Limnology, University of Wisconsin Madison, Madison, WI, USA.

Impacts of a whole-lake addition of nanosilver on fish communities. IISD-Experimental Lakes Area Seminar Series, ON, Canada. August 2019.

Potential impact of climate on freshwater fishes. January 24, 2019. Nowiikin workshop, Thunder Bay, ON, Canada.

Seeing the forest for the trees: Scaling individual-level processes to populations in aquatic ecosystems. November 15, 2018. McMaster University, Hamilton, ON, Canada.

Community level impacts of experimental aquaculture. 8 November 2018. Ontario Ministry of Natural Resources and Forestry workshop. Thunder Bay, ON, Canada.

Plastic microfiber pollution in inland waters. October 20, 2017. 63rd annual Northwestern Ontario Water and Wastewater Conference. Thunder Bay, ON, Canada.

Aquaculture: A fish story. 30 August 2017. IISD Experimental Lakes Area Seminar Series, ON, Canada.

Tiny particles, (potentially) big problem? Microplastics in Lake Winnipeg, Canada (Keynote speaker). April 26, 2017. Annual General Meeting of the Lake Winnipeg Foundation, Winnipeg, MB, Canada.

A multi-scale approach to fisheries conservation. January 12, 2017. University of Alberta Department of Biological Sciences, Edmonton, AB, Canada.

Current threats to the Lake Winnipeg Ecosystem. October 24, 2016. Presentation to Science First, Winnipeg, MB, Canada.

The threat of invasive dreissenid mussels to inland fisheries. October 18, 2016. Presentation to the Faculty of Natural Resource Management, Lakehead University, Thunder Bay, ON, Canada.

Microplastic pollution in inland waters (Plenary speaker). June 17, 2016 SETAC Prairie Northern Chapter 7th Annual Meeting, Winnipeg, MB, Canada.

Evaluating (and anticipating) the effects of dreissenid mussels on inland fisheries. April 14, 2016. University of Minnesota, St. Paul, MN, USA.

The role of dressenids in changing Great Lakes Fisheries. April 7, 2016. Large Lakes Observatory, University of Minnesota, Duluth, MN, USA.

IISD-Experimental Lakes Area Research: small lakes, global impact. September 26, 2015. (Keynote speaker). Annual meeting of the Prairie Division of the Canadian Association of Geographers. Kenora, ON, Canada.

Effects of large scale ecological change on fish life histories. April 1, 2015. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Kastainenbaum, Switzerland.

Assessing plastic pollution in freshwater systems- what's the threat to Lake Winnipeg? February 25, 2015. Manitoba Environmental Industry Association Remediation and Prevention Conference, Winnipeg, MB, Canada.

Life history consequences of large-scale ecological change. February 11, 2015. University of Lethbridge, Lethbridge, AB, Canada.

Changes in lake whitefish diet, growth and behaviour following dreissenid establishment. February 19, 2014. Lake Winnipeg Research Consortium Annual Science Workshop, Winnipeg MB, Canada.

Linking behaviour to life history through ecosystem change. January 15, 2014. Lakehead University, Department of Biological Sciences, Thunder Bay, ON, Canada.

Drivers and consequences of ecosystem-level change. November 25, 2013. University of Alberta Department of Biological Sciences, Edmonton, AB, Canada.

Finding the ghost of ecosystems past: Gaining ecological insights from biological tissue archives. November 23, 2012. University of Manitoba, Department of Biological Sciences, Winnipeg, MB, Canada.

Species invasions should affect fish contaminant levels, but do they? July 10, 2012. Experimental Lakes Area Seminar Series, Experimental Lakes Area, ON, Canada.

What drives yellow perch young-of-year growth? A case study from ELA lake 239. February 11, 2012. Freshwater Institute Ecosystem Research Discussion Group, Winnipeg, MB, Canada.

Temporal changes in resource use among Lake Simcoe fishes. August 17 2011. Experimental Lakes Area Seminar Series, Experimental Lakes Area, ON, Canada.

Teasing apart the effects of multiple stressors on aquatic food webs. Feb. 2, 2010. Freshwater Institute, Winnipeg, MB, Canada.

Identifying drivers of change in aquatic food web structure. January 27, 2010. Trent University, Peterborough, ON, Canada.

Using chemical tracers to gain ecological insights. Sep 25, 2009. Ontario Ministry of Natural Resources Aquatic Research and Development Section Annual Meeting, Algonquin Park, ON, Canada.

Dreissenid mussels: Bonus or blight for lake whitefish populations? December 8, 2008. Trent University, Department of Biology, Peterborough, ON, Canada.

Plasticity in the growth and life history lake whitefish populations: A case study of potential factors affecting change. Feb 22, 2006. Ontario Ministry of Natural Resources Upper Great Lakes Management Unit Seminar Series. Owen Sound, ON, Canada.

Contributed Presentations (presenting author only):

Greenaway, B., Veneruzzo, C. and **Rennie, M.D.** Differential resting metabolism between rainbow trout growth forms supports pace of life hypothesis. 13 June 2023. Annual meeting of the Canadian Society for Ecology and Evolution, Winnipeg, MB, Canada.

Rennie, M.D., James, L., Arnott, S., Casselman, J., Evans, D.O. and Sprules, W.G. Species invasion alters fish biomagnification rates. 23 February 2023. Annual meeting of the Society of Canadian Aquatic Sciences. Montreal, QC, Canada.

Rennie, M.D., Hayhurst, L.D., Geils, K., Slongo, B., Ripku, T. and Metcalfe, C. Where's the beef? Nanosilver exposure reduces food web energy transfer in natural fish populations by half. 25 February 2022. Canadian Conference for Fisheries Research, Vancouver, BC, Canada.

Rennie, M.D., Matthias, B., Milling, A., Colvin, T., and Paterson, M.P. Hold the shrimp: does extirpation of Mysis alter aquatic communities? January 5, 2019. Canadian Conference for Fisheries Research, London, ON, Canada.

Rennie, M.D., Geisler, M., Gillis, D., Koops, M. and Hoyle, J. Declines in Walleye yield following dreissenid mussel invasion: Ecological or physiological? June 18, 2018. International Congress of Fish Biology, Calgary AB, Canada.

Rennie, M.D., Kennedy, P.J., Mills, K.H., Rodgers, C., Chalanchuk, S., Blanchfield, P., Paterson, M. and Podemski, C. Community-level impacts of an experimental aquaculture operation. January 6, 2018. Canadian Conference for Fisheries Research, Edmonton, AB, Canada.

Rennie, M.D., Evans, D.O., James, L., Arnott, S. and Sprules, W.G. September 11, 2017. *Bythotrephes* invasion alters Lake Herring Biomagnification rates. 13th International Coregonid Symposium, Bayfield, WI, USA.

Rennie, M.D., Murray, L., Enders, E.C., Pleskach, K., Martin, J., Svendsen, J.C. and Hayhurst, L. January 8, 2017. Direct exposure of nanosilver induces a stress response but does not affect whole body performance measures. Canadian Conference for Fisheries Research, Montreal, QC, Canada.

Rennie, M.D., Charles, C., Bartel, R., Higgins, S., Chalanchuk, S. and Mills, K. October 9, 2016. Effects of climatic trends and variability on fish growth and survival in freshwater lakes. Society for Environmental Toxicology and Chemistry 7th World Congress, Orlando, FL, USA.

Rennie, M.D., Blanchfield, P.J., Orihel, D. and Biro, P. July 9, 2016. Personality-biased differences in metabolic efficiency as a mechanism for divergent contaminant accumulation rates. Canadian Society for Ecology and Evolution, St. John's, NL, Canada.

Rennie, M.D., Anderson, P. and Langen, V. June 10, 2016. First estimate of microplastic pollution in Lake Winnipeg. International Association for Great Lakes Research Annual Meeting, Guelph, ON, Canada.

Rennie, M.D., Kling, H. and Scott, K. Feb. 18, 2015. Assessing plastic pollution in Lake Winnipeg. Lake Winnipeg Research Consortium Annual Science Workshop, Winnipeg, MB, Canada.

Rennie, M.D., Nicholson, M. and Mills, K.H. Jan 8, 2015. Extirpation of prey fish following pike introduction. Canadian Conference for Fisheries Research, Ottawa, ON, Canada.

Rennie, M.D., Paterson, M.J. and Findlay, D. Aug 19, 2014. Testing biomass size spectrum theory with whole-lake experiments. Annual meeting for the American Fisheries Society, Quebec City, QC, Canada.

Rennie, M.D., Chalanchuk, S. and Mai, J. May 27, 2014. Climatic drivers of fish life history traits at the Experimental Lakes Area. Genomes to biomes: joint meeting of the Canadian Society for Ecology and Evolution, Society for Canadian Limnologists and Society of Canadian Zoologists. Montreal, QC, Canada.

Rennie, M.D., Weidel, B., Claramunt, R. and Dunlop, E.S. Jan. 5, 2014. Changes in the depth distribution of Great Lakes lake whitefish. Canadian Conference for Fisheries Research, Yellowknife, NWT, Canada.

Rennie, M.D., Dupuis, A. and Paterson, M. Jan. 4, 2013. Ontogenic effects of climate warming in warm water fishes. Canadian Conference for Fisheries Research, Windsor, ON, Canada.

Rennie, M.D., Evans, D.O., LaRose, J.K.L. and Robillard, M.M. May 27, 2011. Temporal changes in resource use among Lake Simcoe fishes. Lake Simcoe Science Forum, Barrie, ON, Canada.

Rennie, M.D. and Evans, D.O. Jan 9, 2011. Temporal changes in the bioenergetics of Lake Simcoe fishes. Canadian Conference for Fisheries Research, Toronto, ON, Canada.

Rennie, M.D., Evans, D.O., LaRose, J.K.L. and Robillard, M.M. May 19, 2010. Temporal changes in the importance and identity of coldwater fish resources. Annual Meeting of the International Association of Great Lakes Research. Toronto, ON, Canada.

Rennie, M.D., Wagner, T. and Ebener, M. May 18, 2010. Can migration mitigate the effects of ecosystem change? Patterns of dispersal, energy allocation and acquisition in Great Lakes lake whitefish (*Coregonus clupeaformis*) (Poster). Annual Meeting of the International Association of Great Lakes Research. Toronto, ON, Canada.

Rennie, M.D. and Evans, D.O. Jan. 9, 2010. Long-term changes in the benthic invertebrate community of Lake Simcoe, Ontario. Canadian Conference for Fisheries Research, Winnipeg, ON, Canada.

Rennie, M.D., Strecker, A.L. and Palmer, M. Oct. 1, 2009. *Bythotrephes* invasion elevates trophic position of fish and zooplankton communities. 4th International *Bythotrephes* workshop, Oct 1, Dorset, ON, Canada.

Rennie, M.D., Jimenez, A., LaRose, J. and Sprules, W.G. Apr 21, 2009. Multivariate approaches to evaluating change in the Lake Simcoe benthic invertebrate community (Poster). Inaugural Lake Simcoe Synthesis Workshop, Toronto, ON, Canada.

Rennie, M.D. Randomization and graphing in R. Feb 2, 2009. Toolbox Seminar Series, Department of Ecology and Evolutionary Biology, Toronto ON, Canada

Rennie, M.D., Sprules, W.G., Vaillancourt, A. Jan 10, 2009. Changes in fish condition and mercury vary by region rather than food chain length: A result of climate change? Canadian Conference for Fisheries Research, Ottawa, ON, Canada.

Rennie, M.D. Dec 5, 2008. Dreissenid mussels: blight or bonus for lake whitefish populations? Trent University Ecology and Evolution Seminar Series, Peterborough, ON, Canada.

Rennie, M.D. Nov 19, 2008. Human effects on ecosystems: Aquatic ecosystems in a changing climate. Presentation made to Grade 8 students through Virtual Researcher On Call program. Toronto, ON, Canada.

Rennie, M.D., Johnson, T.B., and Sprules, W.G. Aug 28, 2008. More fish or more active? Invader-induced changes in lake whitefish activity rates. 10th International Symposium on the Biology and Management of Coregonid Fishes. Winnipeg, MB, Canada.

Rennie, M.D., Murphy, S., Heaton, M. and Robinson, C. Aug 21, 2008. Multi-partner educational programs based on salmon re-introduction initiatives 138th Annual Meeting of the American Fisheries Society, Ottawa, ON, Canada.

Rennie, M.D., Johnson, T.B., and Sprules, W.G. May 12, 2008. Evaluating growth declines in lake whitefish. 3rd annual meeting of the Canadian Society for Ecology and Evolution, Vancouver, BC, Canada.

Rennie, M.D., Sprules, W.G. and Johnson, T.B. Apr 19, 2008. Resource switching in fish following a major food web disruption. 2nd annual Ecology and Evolutionary Biology Colloquium, University of Toronto, Toronto, ON, Canada.

Rennie, M.D. Mar 14, 2008. Evaluating the effects of food web disruptions on fish populations. University of Toronto at Mississauga Biology Seminar Series (Ph.D. exit seminar), Mississauga, ON, Canada.

Rennie, M.D., Johnson, T.B. and Sprules, W.G. Sep 6, 2007. Are dreissenids a red herring? Evaluating alternative explanations for growth declines of lake whitefish (*Coregonus clupeaformis*) in the Great Lakes basin. 137th Annual Meeting of the American Fisheries Society, San Fransisco, CA, USA.

Rennie, M.D., Sprules, W.G., and Johnson, T.B. Aug 17, 2007. Evaluating the role of the invasive spiny water flea (*Bythotrephes longimanus*) on fish contaminant burdens. 30th Congress of the International Association of Theoretical and Applied Limnology, Montreal, QC, Canada.

Rennie, M.D., Sprules, W.G., and Johnson, T.B. Jun 1, 2007. Assessing temporal diet changes in whitefish using stable isotopes. 50th Annual Meeting of the International Association of Great Lakes Research. University Park, PA, USA.

Rennie, M.D. Apr 28, 2007. Re-introducing Atlantic salmon to Lake Ontario via classrooms. Annual Conference of the Ontario Society for Environmental Education. Lakefield, ON, CA.

Rennie, M.D. Oct 3, 2006. Contribution of diet to growth differences between lake whitefish stocks in the Upper Great Lakes. Lake Whitefish Natural Mortality Workshop, Ann Arbour, MI, USA.

Rennie, M.D., Sprules, W.G. and Johnson, T.B. May 24, 2006. Identifying correlates of historic growth and condition records for the lake whitefish, *Coregonus clupeaformis*. International Association of Great Lakes Research. Annual Meeting, Windsor, ON, Canada.

Rennie, M.D. Jan 14, 2006. Atlantic Salmon re-introduction efforts on Lake Ontario: Building on the Fish Friends model. Let's Talk Science Partnership Program Eastern Regional Conference, Hamilton, ON, Canada.

Rennie, M.D., Sprules, W.G. and Johnson, T.B. Jan 7, 2006. Evaluating changes in lake whitefish life histories after aquatic invertebrate invasions. Society of Canadian Limnologists, Annual Meeting, Calgary, AB, Canada.

Rennie, M.D., Sprules, W.G. and Johnson, T.B. Sep 21, 2005. How do we know when the menu has changed? Evaluating spatial and temporal variation in Great Lakes lake whitefish diets. Lake Whitefish Natural Mortality Workshop, Ann Arbour, MI, USA.

Rennie, M.D., Sprules, W.G., Johnson, T. and McNickle, G.G. Jun 22, 2005. Long-term trends in growth and life histories of lake whitefish in Lake Huron: Climate, diet or density? Summer meeting of the American Society of Limnologists and Oceanographers, Santiago de Compostela, Spain.

Rennie, M.D., Sprules, W.G., Yan, N., Villiancourt, A., and Hayton, A. Apr 27, 2005. Utility of a government database to assess affects of non-indigenous species on mercury levels of coregonines. Second North American Biennial Cercopagid workshop, Kingston, ON, Canada.

Rennie, M.D., Apr 14, 2005. Evaluation of a condition index for the lake whitefish, *Coregonus clupeaformis*. Ontario Ministry of Natural Resources Fisheries Assessment Unit Meeting. Barrie, ON, Canada.

Rennie, M.D., McNickle, G.G., Sprules, W.G. and Johnson, T. Jan 8, 2005. Prey electivity of lake whitefish in the Canadian waters of Lake Huron. Society of Canadian Limnologists, Annual Meeting, Windsor, ON, Canada.

Rennie, M.D., Collins, N.C., Purchase, C.F. and Tremblay, A. Jun 14, 2004. Predictive models of benthic invertebrate methylmercury in Ontario and Québec lakes. Summer Meeting of the American Society of Limnologists and Oceanographers, Savannah, GA, USA.

Rennie, M.D. May 11, 2004. Establishing a graduate student-based science outreach program at an Ontario University. (Poster) Ontario Ecology and Ethology Colloquium, Mississauga, ON, Canada.

Rennie, M.D., Collins, N.C., Henderson, B. and Shuter, B.J. Jan 10, 2004. Minimizing error in model estimates of consumption and activity for wild fish populations. Canadian Conference for Fisheries Research, Annual Meeting. St. John's, NF, Canada.

Rennie, M.D., Collins, N.C., Henderson, B., Shuter, B. and Coture, P. Aug 12, 2003. Can growth variation between populations of perch be explained by variation in consumption and activity? 133rd Annual Meeting of the American Fisheries Society, Québec City, QC, Canada.

Rennie, M.D., Collins, N.C., Henderson, B. and Shuter, B. Apr 3, 2003. Validating activity costs in wild fish populations. Ontario Ministry of Natural Resources Fisheries Assessment Unit Meeting. Dorset, ON, Canada.

Rennie, M.D., Collins, N.C., Henderson, B. and Shuter, B. Mar 22, 2003. Using enzyme activity and independent observations to evaluate modelled activity estimates. University of Toronto Research Colloquium. Toronto, ON, Canada.

Rennie, M.D., Collins, N.C., Henderson, B. and Shuter, B. Jan 4, 2003. Evaluating bioenergetic activity costs in yellow perch populations using the mercury mass balance model. Canadian Conference for Fisheries Research, Annual Meeting. Ottawa, ON, Canada.

Rennie, M.D. and Collins, N.C. Jan 4, 2003. Do environmental factors affect mercury concentrations in benthic invertebrates? (Poster). Society of Canadian Limnologists, Annual Meeting. Ottawa, ON, Canada.

Rennie, M.D. and Jackson, L.J. Jan 5, 2002. Does fish predation affect patterns of littoral invertebrate distribution and abundance in ponds? Society of Canadian Limnologists, Annual Meeting. Vancouver, BC, Canada.

Public outreach:

Skype talk with First LEGO League team, York Region, Ontario, answering questions on the topic of microplastic pollution. November 8, 2017.

Gairdner talk, Lakehead University (to local high school students). All lake Great and small (and the slimy things that live in them). March 9, 2017.

Government Consultation:

External reviewer of Canadian Science Advisory Secretariat document on Pygmy Whitefish. Fisheries and Oceans Canada, January 2020.

Recycling Task Force Meeting discussing microplastics in freshwater ecosystems, Manitoba Sustainable Development (Sept 4, 2018)

Expert panel discussions:

What can we do about mercury in our water? March 6, 2017. Lakehead University, Thunder Bay, ON, Canada.

Current threats to the Lake Winnipeg Ecosystem. October 24, 2016. Hosted by Science First, Winnipeg, MB, Canada.

TEACHING EXPERIENCE *(Full Dossier available upon request)*

Instructor:

2024 ***Structural equation modelling*** **(Biology 5131- reading course), Lakehead University**
•Led an individualized reading course on structural equation modelling, including theory and methodology, exploring several different R packages for implementation and assisting with practical application to a dataset to advance thesis-related research

2022 ***Multivariate statistics*** **(Biology 5131- reading course), Lakehead University**
•Led an individualized reading course on multivariate statistics, introducing the student to common methods and assisting with practical application to a dataset to advance thesis-related research

2021 ***Fish bioenergetics*** **(Biology 5131- reading course), Lakehead University**
•Developed a graduate seminar course on fish bioenergetics, including practical applications using common and context-specific software/estimation methods, including applications integrating contaminant accumulation models

2020 ***Fisheries and Climate Change*** **(Biology 5131- reading course), Lakehead University**
•Developed a graduate seminar course to evaluate the impacts of climate change on fish and fisheries, including physiological and ecological responses

2017-present ***Biology of Fishes*** **(Biology 4212), Lakehead University**
•Developed a course to provide students with an understanding of the evolutionary history of fishes, comparative anatomy and the use of fisheries life history data to inform management practices. Includes hands-on labs focused on identification, preparation and determination of age using calcified structures, mark-recapture techniques of population estimation and the use of mathematical models in describing and understanding fisheries.

2017 ***Stable Isotope Ecology*** **(Biology 5131- reading course), Lakehead University**
•Developed a graduate seminar course exploring the use of stable isotopes in the fields of ecology and environmental science
•Following an organization and introductory seminar, graduate students prepared seminars and guided discussions on topics relevant to field of study/interest, submitted papers on topic that was presented to the class.

2017, 2019, 2020 ***Population Estimation Methodology*** **(Biology 5131- reading course), Lakehead University**
•Developed a graduate level reading course to explore methods of population estimation and apply to datasets required by the graduate student, including instruction in the use of Program MARK open-source software. Student-led discussions, hands-on experience with Program MARK using data sets and reporting of results in a final paper.

2016-present ***Biostatistics*** **(Biology 3112/5171), Lakehead University**
•Developed and taught a winter semester course to provide students with the skills to analyze typical ecological data using traditional and modern approaches.
•Instructed students in using statistical program R.
•Advised teaching assistants in appropriately managing their time and in tutorial instruction.
•Managed course content and discussion forums using web-based software.

2015-present ***Experimental Limnology and Aquatic Ecology*** **(Biology 4152), Lakehead University**
•Developed and taught a 2-week intensive field course based at the IISD-Experimental Lakes Area investigating hands-on field-based approaches to aquatic research with an emphasis on experimentation and student-driven research projects.

Winter 2010 ***Biometrics Level II*** **(Biology 361), University of Toronto Mississauga**
•Designed course outline, lectures and examinations for a third and fourth-year advanced undergraduate course on statistics applied to biological investigations. Topics included regression, analysis of variance, non-parametric and resampling techniques.
•Advised teaching assistants in appropriately managing their time and in tutorial instruction.
•Managed course content and discussion forums using web-based software.

Course facilitation:

2016-present ***Ontario Universities Program in Field Biology*** **(Biology 4153), Lakehead University**
•As University coordinator, advise, enroll and administer Lakehead University students participating in other Ontario University field courses

Fall 2014-present ***Fish and Wildlife Practice*** **(Natural Resources Management 4251), Lakehead University**
•With staff at the Experimental Lakes Area, organized, facilitated and led students through collection, marking and release of fishes for mark-recapture program

•Constructed an exercise for students to use Schnabel census methods to estimate fish abundance from an ELA reference lake, combine and discuss results as a class.

(Teaching experience during Graduate and Undergraduate training available upon request)

PROFESSIONAL AND ACADEMIC SERVICE

2022 ***Decanal search Committee*, Lakehead University**
•Evaluated applicants and participated in multiple interviews and committee meetings for the external search for a new Dean of Natural Resource Management

2021 ***Lakehead University Research Chair Evaluation Committee,* Lakehead University**
•Reviewed Research Chair applications and served on a panel to select successful candidates

July 2020-2023 ***Graduate coordinator, Department of Biology*, Lakehead University**
•Oversee Graduate enrollment and recruitment in the Department and ensure all departmental procedures are followed

2020 ***NSERC PGS-D review panel*, Lakehead University**
•Reviewed PGS-D application files and recommended applicants to forward to Ottawa

2020 ***Department of Biology Tenure Track Search Committee,* Lakehead University**
•Reviewed applications and ranked applicants for a tenure track appointment

2020 ***Department of Biology Visioning Committee,* Lakehead University**
•Drafted consensus-based vision statements for research and teaching that will be used for future hires and departmental program reviews to update instruction

2020, 2021 ***CFI review panels, JELF and COVID-19 iterations,* Lakehead University**
•Reviewed applications and provided ranking submission to CFI

2020-2022 ***NSERC USRA review panel*, Department of Biology, Lakehead University**
•Reviewed applications and provided ranking for Student Awards for selection

2019-2022 ***Coordinating Committee*, Society for Canadian Aquatic Sciences**
•Part of a group to help develop a new aquatic science society in Canada
•Coordinated new logo design, website

2019-present ***Adjunct Committee*, Department of Biology, Lakehead University**
•Maintained up to date list of adjuncts, organized renewals and evaluated applications

2017-present ***Science Advisory Committee,* Lake Winnipeg Foundation**
•Provide feedback in my area of expertise on topics relevant to Lake Winnipeg

2017–present ***Faculty representative*, Let's Talk Science Outreach Program, Lakehead University**
•Provide a point of first contact for Let's Talk Science student volunteers

•Provide guidance and suggestions on program development
•Advocate for the program to University Administration

2017-2020 ***Science Advisory Board*, International Joint Commission**
•Participating in a working group investigating declines in the offshore productivity of the Great Lakes.

2017 ***CRC Renewal Committee*, Lakehead University**
•Participated in a Tier I Renewal Committee process for a Lakehead researcher; attended seminar, interview and critically evaluated application as a member of a larger evaluation group**.**

2017 ***Biology Chair Search Committee*, Lakehead University**
•Solicited and evaluated nominations for Chair among internal candidates. Acted as Scrutineer for voting.

2016-present ***Animal Care Committee*, Lakehead University**
•Review Animal Use Protocols and make recommendations for safe and humane handling
•Inspection of laboratories and facilities

2016-present ***Field Safety Committee, Biology Faculty representative*, Lakehead University**
•Represent Biology faculty at the Field Safety Committee, a sub-committee of the Health and Safety committee at Lakehead University
•Helped to align Departmental field safety protocols with those across several field-based university departments for both research and field courses

2016-present ***Biology Aquatics Facility (BAF) Committee*,** Lakehead University
•Assign and allocate space in the BAF according to space availability and research needs
•Identify research needs and infrastructure improvements required to maximize research potential in the facility

2016 ***NSERC PGS-M review panel*, Lakehead University**
•Reviewed PGS-M application files and recommended awardees

Sep 2013–Apr 2015 ***Faculty representative*, Biological Sciences (University of Manitoba), Let's Talk Science Outreach Program**
•Provided a point of first contact for Let's Talk Science student volunteers
•Provided guidance and suggestions on program development

Feb 2011-Dec 2019 ***Communications officer*, Society for Canadian Limnologists**
•Facilitate communications among society members
•Led re-design of society logo, web page (www.socanlimnol.ca)
•Editor-in-chief and creator of society newsletter, "The Current"
•Editor, content manager of society web page, twitter feed (@Can_Limnology)

Jan 2011–Apr 2014 ***Co-chair*, National Science Data Management Physical Samples Steering Committee, Fisheries and Oceans Canada**
•Strategize for national funding for data management priorities among regions
•Led development of a national physical archive database for DFO

Jan 2010–Apr 2014 ***Environmental Science representative*****, Regional Science Data Management Committee, Central and Arctic Region, Fisheries and Oceans Canada**
•Participated in drafting of Terms of Reference, regional update meetings to discuss data management/ data rescue initiatives within the region

(Service during Graduate and Undergraduate training available upon request)

VOLUNTEER EXPERIENCE

Volunteer Awards:

Award	Location/Agency	Period Held
Gordon Cressy Student Leadership Award	University of Toronto Mississauga	2008
Principal's Involvement Award	University of Toronto Mississauga	2008
Graduate Student Leadership Award	University of Toronto Mississauga	2008
Volunteer Recognition Award	University of Toronto Mississauga	2008
Certificate of Recognition	Let's Talk Science	2005
Lifetime Achievement Award, CFRE Radio	University of Toronto Mississauga	2005
Outstanding Volunteer Award	University of Toronto Mississauga	2004
Volunteer Recognition Award	University of Toronto Mississauga	2004
Atomic DJ Award, CFRE Radio	University of Toronto Mississauga	2003

June 2023-Present **Fisheries Management Zone Council Zone 5** (Inland lakes, Thunder Bay region)
•Contribute expert insight related to recreational fisheries management in the region

June 2023-Present **Fisheries Management Zone Council Zone 9** (North Shore Lake Superior)
•Contribute expert insight related to fisheries management on Lake Superior

Sep 2015–Jun 2018 ***Scout leader*****, Scouts Canada, Thunder Bay, ON**
•Leading local Cub pack in weekly activities and weekend outings

Jul 2002–2008 ***Volunteer*****, Let's Talk Science Partnership Program, University of Toronto Mississauga, ON**
•Designed and facilitated hands-on activities with classrooms in the Greater Toronto Area.
•Helped maintain the local Let's Talk Science website.
•Developed and coordinated a program (in association with the Ontario Ministry of Natural Resources and the Lake Ontario Atlantic Salmon Recovery Team) bringing Atlantic Salmon reintroduction efforts in Lake Ontario into primary and secondary school classrooms; helped initiate the program in Halton region and Prince Edward County.
•Participated with coordinators from four other universities to facilitate an emergency funding package for the National Partnership Program.

Jan 2002–Sep 2006 ***Disc Jockey*****, CFRE Campus Radio, University of Toronto Mississauga, ON**
•Produced and hosted a weekly music show, highlighting current Canadian artists.
•Assisted in training of new DJs.
•Recipient of "Atomic DJ" award for best DJ, 2003; Lifetime achievement award, 2005.

Apr 2002–2006 ***Judge*, Peel Region Science Fair, Mississauga, ON**
•Selected medal winners amongst participants, grades 7–12.

Jul 2002–2005 ***Volunteer Coordinator*, Let's Talk Science Partnership Program, University of Toronto Mississauga, ON**
•Founded Mississauga branch of this science outreach program in 2002; organized volunteer recruitment and training; organized partnerships between graduate students and teachers, and volunteer participation in other community-based activities; established strong relationships between university scientists and the broader Mississauga community.
•Participated as a volunteer making classroom visits, judging science fairs and other university/community science outreach events.
•Helped initiate the program at Scarborough Campus, 2004.
•Led funding initiative to secure university support for the program at all three University of Toronto campuses (secured $75,000 for the period 2004/05–2007/08).
•Helped organize the Partnership Program Regional Conference, 2005.

Oct 2001–Dec 2001 ***Volunteer*, CIUT Campus Radio, University of Toronto, ON**
•Aided in studio construction, CD library organisation, marketing.

Mar 2000–Aug 2000 ***Land Use, Development and Special Projects Member*, Calgary River Valleys Committee, AB**
•Promoted public awareness and protection of Calgary's river valley ecosystems.
•Commented on developments and shared concerns with Calgary City Council.

Mar 1999 ***Judge*, Calgary Youth Science Fair, Calgary, AB**
•Selected medal winners with a panel of judges.

PROFESSIONAL MEMBERSHIPS AND SERVICES

Peer Reviewing:

Advances in Limnology
Aquaculture Reports
Aquatic Invasions
Aquatic Living Resources
Archives of Environmental Contamination and Toxicology
Biological Invasions
Canadian Journal of Fisheries and Aquatic Sciences
Comparative Biochemistry and Physiology - Part D: Genomics and Proteomics
Conservation Biology
Ecography
Ecological Applications
Ecology
Ecology of Freshwater Fish
Environmental Pollution
Environmental Science and Technology
Evolution
Freshwater Biology
Frontiers in Ecology and Evolution
Hydrobiologia
Inland Waters
Isotopes in Environmental and Health Studies
Journal of Animal Ecology
Journal of Applied Ecology
Journal of Fish Ecology
Journal of Great Lakes Research
Limnologica
Limnology and Oceanography
Marine Ecology Press Series
North American Journal of Fisheries Management
Oikos
Royal Society Open Science
PLoS ONE

Evolutionary Applications
FACETS
Fisheries Research
Fish and Fisheries
Proceedings of the National Academy of Sciences
Science of the Total Environment
Scientific Reports
Transactions of the American Fisheries Society

Grant Reviewing: Alberta Biodiversity Grants (Alberta Conservation Society), Canadian Foundation for Innovation, Canada Research Chairs Program, Great Lakes Fishery Commission, Great Lakes Fishery Trust, Indigenous and Northern Affairs Canada, Minnesota Aquatic Invasive Species Research Center, MITACS, National Science Centre (Poland), NSERC (various programs), Wisconsin Sea Grant
Grant Review Panels: Ontario Early Career Researcher (2019, 2020)

Editorial positions:
Associate Editor, Special Issue in tribute of Dr. Jeff Hutchings, Canadian Science Publishing (multiple journals), September 2023-present
Associate Editor, FACETS (June 2023-2026)
Associate Editor, Canadian Journal of Fisheries and Aquatic Sciences (July 2015–present)
Editor-in-chief, The Current: newsletter of the Society of Canadian Limnologists (2012–2019)
Assistant Editor, special issue on Lake Simcoe, Inland Waters (2011–2013)
Co-Editor, Proceedings of the 10th Meeting on the Biology of Coregonid Fishes (2010–2012)

Active Professional Memberships:
American Fisheries Society, Canadian Aquatic Resources Section, Ontario Chapter
Society of Canadian Limnologists
Canadian Society for Ecology and Evolution
International Association for Great Lakes Research

Conference Organization Committees:
Session chair, Canadian Conference for Fisheries Research, Feb 15-19, 2021 (Virtual meeting).
Co-chair, session on the IISD-Experimental Lakes Area, International Association for Great Lakes Research, June 6-10, 2020, Winnipeg, MB.
Chair, session on Lake Superior North Shore Research, State of Lake Superior conference, October 9-12 2018, Houghton, MI.
Co-chair, session on the Lake Ecosystem Nanosilver (LENs) Experiment. Annual meeting of the Society of Canadian Limnologists/ Canadian Conference for Fisheries Research, Jan. 8, 2017, Montreal, QC.
Co-chair, session on research at the Experimental Lakes Area, Annual meeting of the Society of Canadian Limnologists/ Canadian Conference for Fisheries Research, Jan. 8–11, 2015, Ottawa, ON.
Chair, session on research at the Experimental Lakes Area, Annual meeting of the Society of Canadian Limnologists/ Canadian Conference for Fisheries Research, Jan. 3–5, 2013, Windsor, ON.
Session Co-chair, special session on Lake Simcoe, 2010 International Association for Great Lakes Research, May 17–21, Toronto, ON
Session Leader, 2009 Littoral-pelagic coupling workshop, April 27–30, Algonquin Park, ON
Lead Organizer, 2009 Lake Simcoe Science Synthesis meeting, April 21–22, Toronto, ON
Co-organizer, 2005 Let's Talk Science Eastern Regional Conference, Jan. 28–30, Toronto, ON
Session Leader, 2005 Lake Whitefish Natural Mortality Workshop, Sept. 21–22, Ann Arbor, MI
Co-chair, Social Committee, 2004 Ontario Ecology, Ethology Colloquium, May 10–12, Mississauga, ON

PROFESSIONAL SKILLS

•*Supervision/mentoring*: Since 2010 I have supervised and trained nearly 100 personnel including undergraduate students and lab/field technicians. Prior to 2010, three undergraduate thesis students at the University of Toronto published their work in peer-reviewed journals under my mentorship.
•*Analytical lab techniques*: More than twenty years experience performing total, organic and methyl-mercury analyses and training others to use equipment and techniques.
•*Independent field research*: Designed, organized and implemented large-scale multi-year field studies.
•*Data management*: Construction and maintenance of relational databases, queries using MS Access and pgAdmin (postgres) using SQL.
•*Modelling*: Use and manipulation of models describing the energetics and mercury accumulation of fish.
•*Statistical analysis*: Data analysis using *R*; Estimation of survival, capture probabilities, recruitment and population size for mark-recapture studies using Program MARK.
•*Programming*: Experienced with the statistical language, *S*, limited experience with *Python* and version-control software (*Subversion*). Learning Github. Participant in Software Carpentry course, Toronto (2006).
•*Marine certification*: Pleasure Craft Operator Card (8 June 2006); MED-A3 (Marine Emergency Duties) certification (8 May 2009); SVOP (Small Vessel Operator Proficiency) certification (11 Sept. 2009).
•*Safety training:* Working-on-ice training (March 2009), Traffic control training (July 2009), ATV training (2011), Transport of Dangerous Goods (2011), Safe Chainsaw operation (2011), Snowmobile operators course (2018), Wilderness First-aid/CPR (certified to September 2023).
•*SCUBA training:* Open-water diver (1998); Oxygen first aid for divers training (2012); Advanced open-water diver (2013); Dry-suit specialty diver (2013); Rescue diver (2013); Ice diver (2014).
•*Media training:* completed a 2-day media training course with Fisheries and Oceans Canada (2012).