



Schedule of Events

March 9–11, 2021

Tuesday, March 9

	Room 1	Room 2	Room 3	Room 4
10:00	<p>Welcome: Ed Verhamme, President, International Association for Great Lakes Research Opening: Dorothy Taylor, Elder and Water Walker, Curve Lake First Nation Welcome Address: The Honourable Elizabeth Dowdeswell, Lieutenant Governor of Ontario (Introduction by Mark Fisher, Council of the Great Lakes Region)</p>			
	Lake Ontario's Areas of Concern	Indigenous Peoples Science	Lake Ontario Contaminants	Watershed Land to Lake Connections
10:50	<p>C. Polap Hamilton Conservation Authority Water Quality Program</p>	<p>N. Patterson Justice for the Land: Indigenous Tenure and Access</p>	<p>W. Richter, L. Skinner PBDEs and Dioxins in Fish from New York's Great Lakes and Connecting Waters</p>	<p>A. Singh Nearshore Water Quality of Lake Ontario under Credit Valley Conservation's jurisdiction</p>
11:00	<p>A. Anderson, J. Meyer Implementing the Proposed Long Term Phosphorus Management Strategy for the Bay of Quinte Area of Concern</p>	<p>J. Jock Integrating Indigenous Traditional Ecological Knowledge and Scientific Ecological Knowledge for restoration in an AOC</p>	<p>L. Sealock Chemicals of Mutual Concern in Lake Ontario: Achievements and Ongoing Challenges</p>	<p>F. Liu Effects of intensive agriculture and tile drainage on nutrient export in southern Ontario</p>
11:10	<p>M. Dittrich, A. Blukacz-Richards Speciation and bioavailability of particulate phosphorus in forested karst watersheds of southern Ontario during rain events</p>	<p>S. Bucktooth Invasive species management and Mohawk cultural use of plants</p>	<p>R. Lohmann, Y. Ma Spatial Distribution and Air-Water Exchange of Organophosphate Esters in Lakes Ontario and Erie</p>	<p>N. Benoit Measuring drivers of water quality along the Mississauga - Toronto waterfront of Lake Ontario</p>
11:20	<p>V. Francella, N. Green Eat Safe Fish: A Collaborative Engagement with the Mississaugas of the Credit First Nation</p>	<p>A. Johnson Indigenous perspective of lake sturgeon, muskrat, and beaver</p>	<p>B. Awonaike Polycyclic Aromatic Hydrocarbons and Quinone Substituted Congeners in Urban and Rural Stormwater Run-off: Effects of Land Use & Storm Characteristics</p>	<p>T. Howell, N. Benoit Nutrient Footprint on the Toronto-Mississauga Waterfront of Lake Ontario</p>
11:30	Discussion	Discussion	Discussion	Discussion
11:40				
11:50	Lunch Break / Exhibits Open			
12:40	<p>Plenary: Historical Perspective, Ora Johannsson, University of British Columbia, Lars Rudstam, Cornell University (Introduction /Q&A Moderation by Warren Currie, Fisheries and Oceans Canada)</p>			
1:30	<p>S. George Status of resident fish communities in the Eighteenmile Creek Area of Concern, New York</p>	<p>Zooplankton, Phytoplankton and Microbial Community Structure and Function</p> <p>A. Scofield Vertical structure of phytoplankton in Lake Ontario based on fluoroprobe profiles</p>	<p>A. Renaguli Comprehensive analysis of halogenated compounds in the Great Lakes fish using two dimensional gas chromatography with high-resolution mass spectrometry</p>	<p>T. Edge Microbial source tracking: 100 years of advances in fecal pollution source attribution in Lake Ontario</p>
1:40	<p>L. Cartwright, R. Portiss Fish community response to embayment habitat restoration at Tommy Thompson Park, Toronto</p>	<p>S. Crevecoeur Characterisation of Lake Ontario microbial and algal communities with high throughput sequencing</p>	<p>B. Alipour Parvzian Concentration and Temporal trend (1978-2016) of Hexaboromocyclododecane (HBCDD) in fish tissues from the Great Lakes</p>	<p>B. Lockett Anthropogenic Land Use Modifications of Stream Flow Regimes in East-Central Ontario</p>
1:50	<p>C. Oaks Rehabilitating Lower Spencer Creek - The challenges and compromise required for success when working on the largest tributary of Hamilton Harbour</p>	<p>T. Evans Size spectra analysis in Lake Ontario detects food web changes and provides insight into energy transfer efficiency</p>	<p>T. Long Spatiotemporal trends of polychlorinated biphenyls in surface and suspended sediments from the Lake Ontario Canadian nearshore between 1994 and 2018</p>	<p>J. Stille Determining practical key performance measures for wetland restoration practitioners: Challenges and considerations</p>
2:00	<p>A. Wallace Don River Mouth Naturalization Project: Restoration of Fish Habitat in Toronto - The First Piece in a Very Large Puzzle</p>	<p>T. Holda Comparing mysid abundance & trends across the 5 Great Lakes</p>	<p>A. Point Blood Protein Diversity as a Potential Driver for Perfluoroalkyl Acid Trophodynamics in Lake Ontario's Aquatic Food Web</p>	Discussion
2:10	Discussion	Discussion	Discussion	
2:20				
2:30	Break	Break	Break	Break

Tuesday, March 9, Continued

	Room 1	Room 2	Room 3	Room 4
	Lake Ontario's Areas of Concern cont'd	Using Decision Support System Tools to Identify Great Lakes Basin Tipping Points	Climate Change and Shoreline Resiliency	Lake Ontario Benthic Community Diversity
2:40	A. Ramesbottom, C. Gibson RAP Delisting and the Adoption of the Integrated Restoration Prioritization Tool: Compiling TRCA data on waterfront and inland restoration planning and projects within the Toronto AOC	L. Wan Quantifying Nutrient Loads to the Great Lakes Coastline with a Spatially Explicit Nutrient Transport Model, SENSEflux	K. Dokoska, F. Delaney State of Climate Modeling in the Great Lakes Basin	S. Daniel, L. Burlakova Great Lakes DNA Barcode Reference Library: Mollusca, Annelida, and Minor Phyla
2:50	E. Xiang, S. Mugalingam Characterization of labile phosphorus fractions and phosphate sorption in two agricultural soils and manures in the catchment of Lake Ontario (Bay of Quinte)	B. Pijanowski The Tipping Point Concept For Use In Great Lakes Ecosystem Decision Making	A. Tariq, K. Ghunowa Municipal Risk and Return on Investment Tool (Version 1.0)	A. Hrycik Lake Ontario Dreissena dynamics as revealed by video analysis
3:00	G. Arhonditsis A probabilistic assessment of the status of Areas of Concern in the Laurentian Great lakes: How far are we from delisting the Hamilton Harbour, Lake Ontario, CA?	Discussion	C. Priddle Coordination required for innovative designs: Difficulties getting offshore structures approved	R. MacLellan Dreissenid density effects on sediment nutrient composition and other benthic organisms
3:10	Discussion	E. Rutherford, D. Mason Modeling Nutrient and Invasive Species Tipping Points on the Lake Ontario Food Web	Discussion	Discussion
3:20		D. Walker, K. Salazar Engagement Uploaded; A Virtual Approach to Environmental Planning		
3:30	Break	K. Bellisario, J. Lenzi Engaging Great Lakes Communities in Soundscapes and Land Use Planning	Break	J. Fang Assessing the condition of Toronto Harbour's benthic macroinvertebrate community
3:40		Discussion	Physical Processes in Lake Ontario	E. Whitmore, J. Connolly Diversity and potential impact of often overlooked Benthic Rotifera (Cladocera: Anomopoda) in Lake Ontario
3:50			B. Flood, M. Wells Basin morphometry and wind direction structure the internal swash zone in Hamilton Harbour, Lake Ontario	J. Connolly Lake Ontario meiobenthic harpacticoid copepod community influenced by nonindigenous species
4:00			Y. Kuai, M. Wells The influence of strong thermal stratification on reduced detection efficiency of acoustic transmitters in eastern Lake Ontario	Discussion
4:00		Break	Discussion	Discussion
4:10			Break	

Wednesday, March 10

	Room 1	Room 2	Room 3	Room 4
10:00	Welcome: Andy Bramburger , Vice President, International Association for Great Lakes Research Plenary: Global to Local: Canada's 2020 International Freshwater Biodiversity Targets , Catherine Masson , Trent University (<i>Introduction/Q&A Moderation by Jeff Ridal, River Institute</i>)			
10:50	Plastic Pollution in Lake Ontario J. Daily Modeling the 3D distribution and mass estimate of microplastic in Lake Ontario	Fisheries S. Larocque Combining movement and feeding ecology to assess niche overlap of salmonids in Lake Ontario	Applying Models to Understand, Quantify and Predict Nutrients and Algae in Lake Ontario T. Hollenhorst, P. Mckinney Can Autonomous Glider Results be Used to Ground Truth a Hydrodynamics Model? An Example from Lake Ontario CSMI 2018	Coastal Wetlands C. Scoles, R. Schultz Vegetation Response to Wetland Restoration in Braddock Bay of Lake Ontario
11:00	E. Hellquist Plastic abundance across habitats and biota of Lake Ontario: Shoreline wrack, prey fish, and introduced salmon	J. Midwood Assessment of fish populations in the Toronto and Region Area of Concern	J. Pauer Will remediation in Lake Erie improve nearshore phosphorus concentrations in southern Lake Ontario?	K. Thomas Long-term monitoring of four Lake Ontario coastal wetlands reveals functional differences between natural and hydrologically altered ecosystems
11:10	K. Chomiak Differential toxicity of microplastics over time in two freshwater bodies	J. Rinchard, M. Futia Prevalence of Thiamine Deficiency Complex in salmonines from Lake Ontario	D. Robertson Use of SPARROW ratios with limited tributary monitoring to estimate loading from the entire Great Lakes Basin	G. Lawrence Application of the Great Lakes Coastal Wetland Monitoring Program to Restoration Projects in Lake Ontario Wetlands
11:20	Discussion	Discussion	D. Schlea Model development for nutrient dynamics in Lake Ontario	Discussion
11:30			Discussion	
11:40	Break	Break	Discussion	Break
11:50	Lunch Break / Exhibits Open			
12:40	Plenary: Bridging the Ways of Knowing , Gary Pritchard , Curve Lake First Nation (<i>Introduction/Q&A Moderation by Paul Parete, Environment and Climate Change Canada</i>)			
1:30	P. Semcesen, M. Wells Biofouling induces sinking of buoyant microplastics in freshwater systems	Native Fish Species Restoration T. Johnson, N. Klinard Using acoustic telemetry to assess potential for bloater restoration in Lake Ontario	Modeling and Hydrodynamics B. Hlevca, M. Wells Small oscillations in Toronto Harbour and their effect on flushing shallow embayments	Outreach and Education R. Gutierrez, S. Debreceni Creating a waste free tomorrow: Assessing waste literacy and behaviour change in grade 5 students
1:40	K. Munno Nearshore fish in urbanized regions of Lake Ontario are heavily contaminated with microplastics and other anthropogenic particles	T. Brown Contemporary spatial extent and environmental drivers of larval coregonine distributions across Lake Ontario	E. Rasmussen, M. Madani Lake Ontario ecological model system	G. Casimirri Depaving Paradise and a Raingarden for Every Yard: Community Engagement for Green Stormwater Infrastructure in Hamilton, ON
1:50	R. Giles, C. Rochman Plastic Pollution in a Lake Ontario Tributary: Impacts of rubber microplastics on benthic macroinvertebrate communities	M. Futia Thiamine deficiency monitoring in Lake Ontario lake trout during the 2013 and 2018 CSMI	R. Valipour Episodic nearshore-offshore exchanges via coastal upwelling events in Lake Ontario: Observations and three-dimensional modelling	E. Sheridan Bridging Science, Outreach and Education to Promote Action in NY's Great Lakes
2:00	C. Tyler, K. Chomiak Impact of microplastic on benthic ecosystem function in Lake Ontario	Discussion	E. Rasmussen, M. Madani Hydrodynamic and wave modeling for development of Cladophora and dreissenid mussels interaction model in Lake Ontario	E. Mallon, K. Rundle Hamilton Harbour Water Conservation Fund
2:10	Discussion		Discussion	Discussion
2:20		Break		
2:30	Break	Break	Break	Break

Wednesday, March 10, Continued

	Room 1	Room 2	Room 3	Room 4
	Plastic Pollution in Lake Ontario cont'd	Harmful Algae Blooms	Modeling and Hydrodynamics cont'd	Invasive Species Management
2:40	J. Yu Sources of microplastics in surface waters of the Great Lakes	S. Yang Control Harmful Algal Blooms Using Electrochemical Oxidation Method: From Bench-scale Study to Field Application	J.A. Shore Impact of the monthly variability of Trent River flows on flushing and particle transport in the Bay of Quinte	M. Labib The uncertain concept of native range as applied to the invasive rusty crayfish in Ontario and the rest of the Great Lakes region
2:50	C. Sherlock Fighting Floatables in the Toronto Harbour: Trapping trash in Lake Ontario using Seabins	T. Flaherty Determining the effects of harmful algae blooms on fish from environment and laboratory-based studies through the use of proteomics	B. Snodgrass, P. Delaney Development of the Lake Ontario Hydrodynamic and Water Quality Forecasting System (LOWQFS)	J. Smith Winning the war one battle at a time: managing phragmites and DSV at a Toronto waterfront park
3:00	K. Bucci Microplastics from Lake Ontario impact fathead minnow development and reproduction	Discussion	P. McKinney, T. Hollenhorst Buoyancy glider observations for modeling distinct water quality zones in Lake Ontario	T. Heer, M. Wells Asian carp spawning success: Predictions from a 3-D hydrodynamic model for Toronto's Don River
3:10	O. Martin, M. Cureaux The chemical and physical changes to plastics aged in surface and benthic of freshwater aquatic systems.	Break	Discussion	Discussion
3:20	Discussion			
3:30				
3:40	Break			Break
3:50				
4:00	Poster Session (4:00-5:00) Introduction by <i>Andy Bramburger</i>, Vice President, International Association for Great Lakes Research			
	<p>D. Beers Evaluating effects of Braddock Bay barrier beach restoration on water quality and trophic state</p> <p>C. Burant Working together to restore our Niagara River: Collaborative Habitat Restoration Projects</p> <p>M. Filipski Collaborative Efforts to Address Contaminated Sediment in the U.S. Niagara River Area of Concern</p> <p>A. Heisey Spatial variability of thiamine concentration and fatty acid signatures in lake trout</p> <p>P. Helm Changes in PFAS concentrations in Lake Ontario surface waters following restrictions on production and use</p> <p>G. Jiang "Top-down" analysis of trace metal transport through the Great Lakes</p> <p>S. Kirkpatrick Evaluating restoration techniques for a coastal fen on Lake Ontario degraded by <i>Typha x glauca</i> and shrub encroachment</p> <p>J. Lehnen Accelerated Progress in NYS Areas of Concern (GLRI and GLLA 2010 – Present)</p> <p>D. McNabney Identifying Metabolic Indicators of <i>Microcystis aeruginosa</i> and Comparing the Temporal Changes in Algal Community Composition in Two Lake Ontario Areas of Concern</p> <p>J. Ren Bioaccumulation of Perfluoroalkyl Substances in a Lake Ontario Food Web</p>			

Thursday, March 11

	Room 1	Room 2	Room 3	Room 4
10:00	Welcome: Paul Sibley , Past President, International Association for Great Lakes Research Plenary: What is Plan 2014 and How Did It Get Such a Bad Rap? Tony David , Saint Regis Mohawk Tribe, Environment Division (<i>Introduction/Q&A Moderation by Rick Balla, US EPA</i>)			
	2018 CSMI Reporting	50 Years of Lake Ontario Ecology	Nearshore and Offshore Productivity	Lake Ontario Monitoring
10:50	S. Furgal, P. Collingsworth Overview of Lake Ontario CSMI activities in 2018	M. Munawar State of Canadian Ecosystem Health research in Lake Ontario: Down Memory Lane-1970-2020	M. Burrows, J. DePinto Understanding Declining Off-shore Productivity – Findings, Recommendations and Research Implications	J. Moryk, A. Wallace From Rivers downstream to Lake Ontario: 20 years of aquatic sampling through The Regional Watershed Monitoring and Toronto Waterfront Monitoring Programs
11:00	C. Marshall Importance of micro-zooplankton (rotifers, nauplii, veligers) in Lake Ontario	O. Johannsson, R. Dermott The DFO Bioindex Program: its History and Value to Lake Ontario Monitoring	K. Heinemann Lake Ontario Annex 4 Nutrients Objectives and Targets Task Team – 2020 /2021 Charge and Status	K. Bowen East vs. West - Comparison of Lake Ontario zooplankton at three Canadian index stations
11:10	C. Pennuto, J. Wagner Finescale spatiotemporal dynamics of nutrients in and around Cladophora beds	M. Fitzpatrick, M. Munawar Exploring Microbial Food Web Changes in Lake Ontario, 1990 - 2018	L. Rudstam Oligotrophication of the Lake Ontario offshore – the zooplankton perspective	M. Mattson Citizen Science
11:20	A. Elgin Depth-specific differences in quagga mussel growth and body condition in Lake Ontario	H. Niblock Long Term Changes to the Productivity at a Pelagic station in the Kingston basin of Lake Ontario	Discussion	S. Brunner The Future of the Great Lakes Observing System
11:30	Discussion	Discussion		Discussion
11:40			Break	
11:50	Lunch Break / Exhibits Open			
12:40	C. Sullivan Building a Database for the 2018 Lake Ontario CSMI Field Year	A. Grimm Long-term and Lake-Scale Satellite Monitoring of Lake Ontario Cladophora	D. Uzarski Trophic Relationships of Zooplankton and Benthic Invertebrates in Lake Ontario	Connecting Rivers C. Coveart King Street E. Coli Investigation
12:50	D. Gurdak, C. Sullivan Improving information sharing through participatory CSMI database efforts	A. Karatayev Dreissena in Lake Ontario 30 years after the invasion	S. Figary, K. Holeck Comparing Lake Ontario's nearshore and offshore zooplankton communities using long term monitoring datasets	B. Hill The Ins and Outs of Environment and Climate Change Canada Water Quality Monitoring Upstream and Downstream of Lake Ontario
1:00	M. Nevers, M.A. Evans Assessing Cladophora Growth Across the Great Lakes and in Lake Ontario	L. Burlakova, A. Karatayev Six decades of Lake Ontario ecological history according to benthos	W. Currie, K. Bowen Fate of productivity in Lake Ontario: the role of veligers of Dreissena	L. Richman, C. Vieira Identifying Contaminant Sources to the Niagara River: Long-term Monitoring Using Caged Mussels and Passive Samplers: 1983-2018
1:10	M. McCusker An assessment of the nearshore sentinel sites monitoring dataset along the north shore of Lake Ontario	J. Watkins Walking the tightrope in Lake Ontario between nutrient levels and fish production, 2000-2020	Discussion	Discussion
1:20	Discussion	Discussion		
1:30			Break	

Thursday, March 11, Continued

	Room 1	Room 2	Room 3	Room 4
	2018 CSMI Reporting cont'd			Connecting Rivers cont'd
1:40	Discussion <i>Join us to discuss results of the 2018 CSMI field year in Lake Ontario and identify data gaps that may be addressed during the 2023 field year.</i>	Break	Break	K. Laufman, N. Green Water quality improvements at a Niagara River beach resulting from green infrastructure and remedial actions
1:50				Discussion
2:00				
2:10				Break
2:20	Break			
2:30	Wrap-Up: Ed Verhamme , President, International Association for Great Lakes Research Identifying Science Needs for Lake Ontario (Discussion) Presentations and facilitation by Dan Gurdak , Annie Scofield , and Kristina Heinemann , U.S. Environmental Protection Agency, and Luca Cargnelli and Paul Parete , Environment and Climate Change Canada Four Breakouts <ul style="list-style-type: none"> • Nutrient and bacterial-related impacts on Lake Ontario (Kristina Heinemann, Facilitator) • Loss of habitat and native species (Luca Cargnelli, Facilitator) • Impacts of aquatic invasive species (Paul Parete, Facilitator) • Impacts related to critical and emerging chemical contaminants (Steve Clement, Facilitator) 			