



# IS THE COAST CLEAR?

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LAKE HURON CONFERENCE

GRAND BEND, ONTARIO

May 5, 2023

THANK YOU TO OUR CONFERENCE PARTNERS!



WEST WAWANOSH  
MUTUAL INSURANCE





**LAKE HURON  
COASTAL CENTRE**

## CELEBRATING 25 YEARS OF COASTAL CONSERVATION

Lake Huron Coastal Centre fosters community awareness and action for a healthy Lake Huron coast, inspiring this generation to protect and restore coastal waters, life, and landscapes for those that follow.

Lake Huron Coastal Centre is a non-government charitable organization established in 1998 and has been working since then to support a resilient Lake Huron coast through education, restoration, and research projects. We have several ongoing programs including the Coastal Conservation Youth Corps, Coast Watchers community science, Green Ribbon Champion beach-dune stewardship, Shoreline Cleanups, and the Microplastic Awareness Project.





## Welcome: A Message from the Executive Director

*Is the Coast Clear?* is the 12<sup>th</sup> biennial conference that has united people interested in learning about the state of Lake Huron's coastal environment. This conference provides a forum for a diverse audience to network and learn from experts in the Great Lakes region about coastal topics, local actions, and solutions to environmental challenges.

This year's conference will explore the theme *Opposite Shores, Shared Values: International Perspectives on Lake Huron*. Water doesn't recognize borders. Cross-border partnerships are more important now than ever, as we urgently need to learn to manage our water resources, together, as we face a rapidly changing climate.

We have assembled an exciting program of presentations that address Great Lakes coastal management. This conference will energize new and continued partnerships that can actively work toward solutions to benefit our coastal communities, economies, and ecosystems.

Thank you for attending *Is the Coast Clear? 2023*. We hope you enjoy the conference!

*Erinn Lawrie*

# PROGRAM AT A GLANCE

START TIME	END TIME	EVENT
8:00AM	9:00AM	<b>REGISTRATION &amp; REFRESHMENTS</b> Lobby
9:00AM	9:15AM	<b>OPENING REMARKS</b> Terrace Room
9:15AM	9:45AM	<b>KEYNOTE ADDRESS</b> Terrace Room  <b>Introduction to Biinaagami - A shared responsibility for the Great Lakes</b> Mark Mattson, Founder and President Swim Drink Fish
9:45AM	10:45AM	<b>PANEL DISCUSSION: Coastal Resilience &amp; Climate Change</b> Terrace Room
10:45AM	11:15AM	<b>REFRESHMENT BREAK &amp; NETWORKING</b> Terrace Room & Deck
11:15AM	12:15PM	<b>CONCURRENT SESSIONS 1</b> Terrace Room, Huron Room, Birch South Room
12:15PM	1:45PM	<b>LUNCH &amp; NETWORKING</b> Terrace Deck (Oak Dining Room if inclement weather)
1:45PM	2:45PM	<b>CONCURRENT SESSIONS 2</b> Terrace Room, Huron Room, Birch South Room
2:45PM	3:00PM	<b>REFRESHMENT BREAK &amp; NETWORKING</b> Concurrent Session Rooms
3:00PM	4:00PM	<b>CONCURRENT SESSIONS 3</b> Terrace Room, Huron Room, Birch South Room

# KEYNOTE SPEAKER



## Introduction to Biinaagami: A shared responsibility for the Great Lakes

### **Mark Mattson**

Founder and President  
*Swim Drink Fish*

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In the past century, the Great Lakes-St. Lawrence watershed has been disrespected, exploited, developed and polluted, despite the fact that the Great Lakes hold approximately one-quarter of the planet's freshwater and sustain life for countless species, Indigenous Nations and communities. The Great Lakes-St. Lawrence watershed is the world's largest freshwater ecosystem, and we have an incredible responsibility to protect and restore this global treasure. Biinaagami is a shared responsibility. We celebrate the Great Lakes-St. Lawrence and advocate for their cultural and ecological sustainability. To share the stories of the watershed. To bring people together. To help communities, organizations, and people help each other take collective action to ensure the health of this incredible resource. Currently, there are divided jurisdictions over the Great Lakes with different politics, pollution like nuclear waste, sewage, and various toxins, and water diversions between the US and Canada. We need to work together, not apart.

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*Mark is one of Canada's most seasoned environmental lawyers and the founder of several water charities, including Swim Drink Fish. In addition to being Swim Drink Fish's President, he is the Waterkeeper for Lake Ontario, a water quality advisor to the International Joint Commission, a board member for the US-based Waterkeeper Alliance, and a member of Ontario's Great Lakes Guardians Council.*

# COASTAL RESILIENCE & CLIMATE CHANGE: A PANEL DISCUSSION

The panel discussion will centre around coastal resilience and climate change along the Lake Huron coast. Allison Devereaux, host of the *Unsalted* podcast will sit down with four Great Lakes coastal experts to discuss the impacts of climate change on our coastal communities and ecosystems, top adaptation actions that residents and municipalities can take, and the future of climate change research and policy development.

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## MODERATOR:



**Allison Devereaux**

Broadcaster, Host of *Unsalted* Podcast, Instructor  
*Western University*

## PANELISTS:



**Dr. Mary-Louise Byrne**

Professor & Chair - Geography  
& Environmental Studies  
*Wilfrid Laurier University*



**Daniel King**

Regulations Coordinator &  
Provincial Offences Officer  
*Ausable Bayfield  
Conservation Authority*



**Patrick Huber-Kidby**

Planning & Regulations Supervisor  
*Maitland Valley  
Conservation Authority*



**Pete Zuzek**

President  
*Zuzek Inc.*



# Love Lake Huron





# PROGRAM DETAILS

## REGISTRATION & REFRESHMENTS

8:00 - 9:00 AM Lobby

## OPENING REMARKS

9:00 - 9:15 AM Terrace Room

## KEYNOTE ADDRESS

9:15 - 9:45 AM Terrace Room

Introduction to Biinaagami - A shared responsibility for the Great Lakes  
Mark Mattson, Founder and President  
Swim Drink Fish

## PANEL DISCUSSION: Coastal Resilience & Climate Change

9:45 - 10:45 AM Terrace Room

## REFRESHMENT BREAK & NETWORKING

10:45 - 11:15 AM Terrace Room & Deck



## CONCURRENT SESSION 1A

11:15 AM - 12:15 PM Terrace Room

### Managing Public Beaches – Dune Grass and Towel Space

**Frank Burrows**, Manager, Parks

*Town of Saugeen Shores*

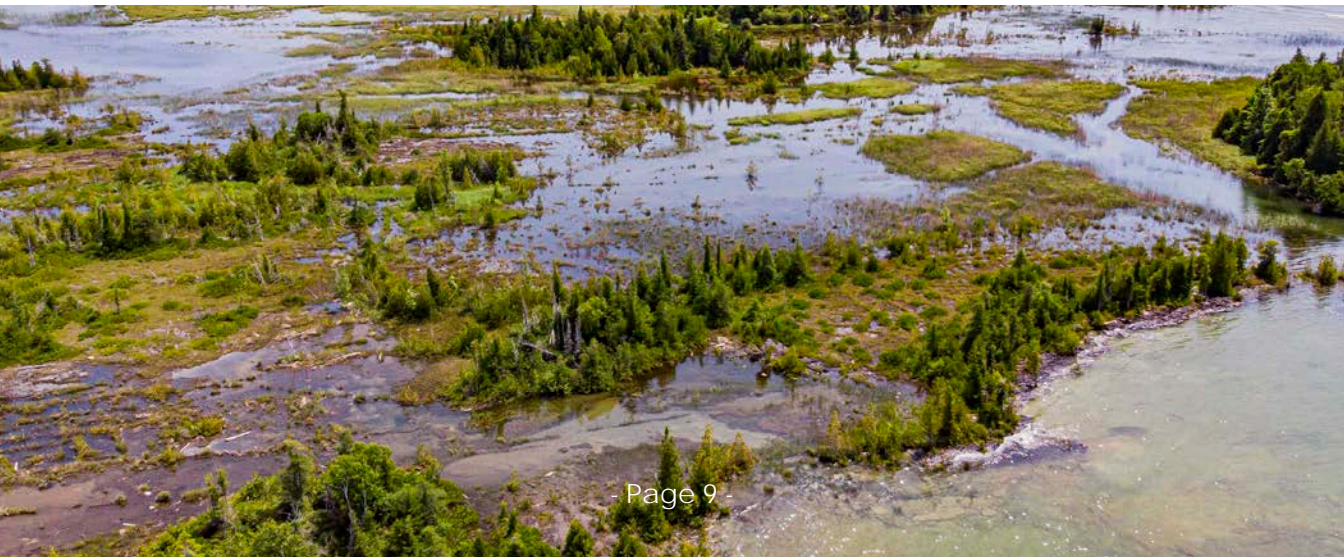
The Town of Saugeen Shores encompasses 18km of spectacular Lake Huron shoreline. It's a mixture of cottage properties, public sandy beaches, and natural rocky and wetland ecosystems all much loved and cherished by residents and its many visitors. The shoreline allowance is a ribbon of public lands that is managed by the Town. This presentation will discuss beach maintenance practices and share the various approaches the Town takes to manage this special place. To groom or not groom; to leave natural or to landscape; leave those logs, take those logs away; what is the purpose of sand dunes anyway; are some of the more common topics that will be discussed.

### Beach Naturalization Extending From Habitat Protection

**Dr. Mary-Louise Byrne**, Professor and Chair - Geography and Environmental Studies

*Wilfrid Laurier University*

The Piping Plover (*Charadrius melodus*) are an endangered species that was once abundant at Wasaga Beach and throughout the Great Lakes. Their numbers declined because of increased recreational and development pressures along the beaches - their nesting sites. At the lowest, they were down to just around 16 nesting pairs and had disappeared from Wasaga Beach. With habitat protection, the numbers have rebounded and in 2007 they returned to the area. Each year, the Provincial Park takes steps to protect the habitat and a peripheral change has been the naturalization of the beach in the area. This preliminary report will present information about the changes to the geomorphology of the beach/dune system that extend from the habitat protection work carried out annually by park staff.





## Influence of Beachgrass Morphology on Geomorphic Processes in Great Lakes Foredues

**Pete Zuzek**, President, *Zuzek Inc.*

In Phase 1 of our Building Beach Resilience Program, Zuzek Inc. in association with Albert Garofalo and Dr. Mary-Louise Byrne from Wilfrid Laurier University collaborated with staff from Wasaga Beach Provincial Park and Burlington Beach to develop and implement projects to increase resilience to high lake levels, coastal storms, and visitor impacts. Management recommendations included limiting or ceasing beach raking, returning aeolian transported sand from parking lots to the waters edge, and constructing controlled access walkways through the dunes to connect parking lots to the dry beach. Fall and spring beachgrass transplanting was also completed to restore foredues.

Phase 2 has commenced and will continue work to increase the resilience of high-use urban beaches. The focus of the presentation, however, will be new morphological and genetic testing of beachgrass colonies throughout the lower lakes as significant differences in the American beachgrass and sub-species Champlain beachgrass have been observed. These morphological traits (e.g., size, root structure) in turn appear to be responsible for dramatically different geomorphic responses in the dunes. For example, the shorter Champlain Beachgrass maintains smaller propagules, spread by rhizomes, and feature significantly lower overall plant density, which allows other species to survive in the foredues. The low plant density also allows aeolian processes to transport new sand into the foredues during the fall, winter, and spring storm season which inflates the dunes and builds resilience naturally.

The taller American Beachgrass propagules grow into progressively larger patches and quickly blanket restoration sites with such density that aeolian processes are not able to delivery new sand and inflate the foredune. They also out-compete other native grasses and shrubs found in more diverse foredune environments that feature Champlain beachgrass. There is also evidence that nurseries are propagating and selling ocean varieties of beachgrass for dune restoration projects in the Great Lakes, which feature similar morphological characteristics as American beachgrass. With the growing focus on nature-based solutions, better understanding on the linkages between beachgrass morphology and genetics on the corresponding geomorphic evolution of foredues is needed.

## CONCURRENT SESSION 1B

11:15 AM - 12:15 PM *Huron Room*

### Community Science for Improved Coastal Monitoring

**Alyssa Bourassa**, Coastal Stewardship Technician, *Lake Huron Coastal Centre*  
& **Kiersten McCutcheon**, Coastal Science Coordinator, *Niagara Coastal*

Community involvement through citizen science fosters a deeper connection to the coast and improves coastal literacy by engaging participants in routine monitoring. This joint presentation will feature the LHCC's Coast Watchers program and Niagara Coastal's VAST project as local initiatives which empower community members to take action to protect the Great Lakes coast.

### Nothing About Us Without Us: Community-Led Research for Equitable Climate Resilience

**Hannah Mico**, Resilient Communities Manager, *River Network*

In 2020, River Network invested in authoring a two-part toolkit focused on strategies for equitable climate resilience at the local level. The second of that two-part series is titled "Fostering Community-Led Research and Knowledge", and outlines the process of embarking on a community-led research (CLR) project that promotes local knowledge & experience in decision-making spaces. This session will work through the steps of the toolkit and help attendees understand how to tap into the power and expertise within their communities with CLR, with a special focus on the final stage of CLR projects with "data to action" recommendations to actually advance data-driven change. River Network has supported over 10 organizations with CLR projects with this toolkit throughout the US and Puerto Rico, including two projects in the Great Lakes basin.

### Swimmable, Drinkable, Fishable - Community Water Monitoring Hubs Throughout the Great Lakes

**Gregory Ford**, Director of Water Programs, *Swim Drink Fish*

Swim Drink Fish has been monitoring recreational water quality in the Great Lakes basin since 2001. Originally, we monitored water quality on an "as-needed" basis to support our investigations into water bodies of concern. For example, in 2005 we undertook a study of recreational water quality at Bluffer's Beach in Toronto, where we observed an elevated level of e.coli bacteria in the water. E.coli is used as an indicator bacteria that suggests the presence of fecal contamination present in the water. This monitoring eventually led to corrective actions being undertaken which resulted in a restoration of water quality to the site. Eventually, this approach is what led Swim Drink Fish to develop our monitoring process and theory of change: Connect, Collect, Share, and Restore. We Connect people to their waters. Train them to Collect water quality samples and environmental observations.

We develop tools to Share this information with the public. And we use this data and information to Restore these areas. Since 2016, Swim Drink Fish has adopted a community-based water monitoring (CBWM) approach to sampling recreational water quality on a routine basis to establish a baseline inventory of conditions for areas that are historically unmonitored or underserved by existing monitoring programs. This CBWM approach sees the formation of “Swim Drink Fish Water Hubs” in communities where there is a need for water quality monitoring. These “Hubs” serve their communities by routinely sampling recreational waters for e.coli and total coliform bacteria, general water quality parameters, and environmental observations. Each hub also routinely collects Environmental Health and Safety Surveys, which are an important way to begin to assess and address the level of risk present in our waters. Most importantly, however, is that the Hubs perform an outreach and education function in the community through the promotion of “Water Literacy”. Being water literate means you know how your water affects you and how your actions affect the waters around you. Through the Hubs, communities are encouraged not only to connect with their waters, but also with each other, and to solve a problem larger than themselves.

## CONCURRENT SESSION 1C

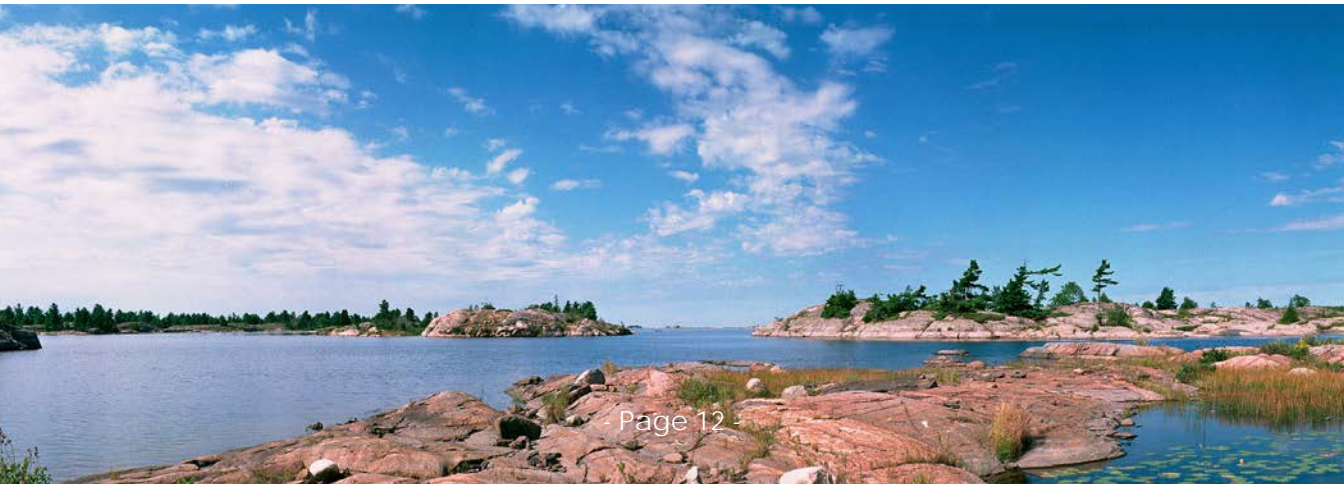
11:15 AM - 12:15 PM Birch South Room

### Conserving and Capturing the Beauty of Lake Huron

Esme Batten, Program Director - Midwestern Ontario

*Nature Conservancy of Canada*

For generations people have been drawn to the shores of Lake Huron. From the dramatic cliffs of the Niagara Escarpment to sandy beaches, rock and cobble shorelines, and spectacular coastal wetlands full of life, we can all find beauty and peace along the water's edge. However, increasing development pressures, habitat fragmentation, and a rise in invasive species are threatening this important landscape. We need to work together to protect our shorelines to ensure they continue to support the species and people living along them, as well as our health for future generations. Join Esme Batten and explore the beauty of Lake Huron through her photography and learn about what the Nature Conservancy of Canada is doing to protect this globally significant area.



## State of the Bay Ecosystem Health Report

**Erika Kolli**, Aquatic Conservation Programs Technician

*Georgian Bay Mnidoo Gamii Biosphere*

GBB's first State of the Bay ecosystem health report was released in 2013 with the goal of summarizing available research about water, wetlands, fisheries, and habitats in this unique landscape, and sharing it with people who care about Georgian Bay. In 2018, the second report was published with new information on climate change, landscape biodiversity, and a recognition of the work of conservation groups and Indigenous communities. The 2023 report will build on past reports by incorporating Indigenous knowledges to compliment scientific analyses and deepen our collective understanding of environmental change.

## Lake Huron 101

**Elizabeth LaPlante**, Lake Huron and Superior Lake Manager

*US Environmental Protection Agency*

Overview of the binational Lake Huron partnership, the Lake Huron Lakewide Action and Management Plan (LAMP), the critical projects and actions included in the LAMP and how the public can become involved.

## LUNCH & NETWORKING

**12:15 - 1:45 PM** *Terrace Deck (Oak Dining Room if inclement weather)*



## CONCURRENT SESSION 2A

1:45 - 2:45 PM Terrace Room

### Regulations: The Good, the Bad, the Ugly

**Jennifer Stephens**, General Manager/Secretary - Treasurer  
*Saugeen Valley Conservation Authority*

Legislation and regulations are in-depth, creative tools necessary for protecting our environment. This presentation will explore the regulatory framework in place to protect shorelines. It will introduce conservation authorities as regulatory agencies and their design on a watershed scale. Recent changes to the Conservation Authorities Act and the new More Homes Built Faster Act, 2022 will be discussed.

### Introduction to Healthy Lake Huron

**Emily Febrey**, Stewardship Communications Technician  
*St. Clair Region Conservation Authority*

Healthy Lake Huron is a concerted effort to address shoreline water quality concerns such as nuisance algae and bacterial issues and to promote safe and clean beaches from Sarnia to Tobermory. Water quality concerns along the Lake Huron shoreline have been ongoing for many years. This situation is caused by a combination of nutrient and bacterial pollution from sources such as poorly functioning private septic systems, municipal wastewater, runoff from farm fields and other rural and urban properties, and natural sources such as waterfowl. Discussion will include how partners coordinate actions aimed at lowering phosphorus entering the Lake and reducing the incidences of high levels of bacteria.

### Climate Change Actions in Huron County

**Derry Wallis**, Climate Change & Energy Specialist, *County of Huron*

Huron County initiated its Corporate Climate Change Adaptation Plan in 2020 with the goal to become a leader in taking action to reduce, respond to, and recover from the impacts of climate change on the corporation and local communities. Since its conception, the County has been implementing strategies to improve the resiliency of the County's services, operations, and assets to the impacts of climate change including a single-use plastic reduction strategy, high performance building standard and green fleet strategy. This presentation will provide an overview of the County's Corporate Climate Change Adaptation Plan and highlight some of the upcoming projects related to natural infrastructure.

## CONCURRENT SESSION 2B

1:45 - 2:45 PM Huron Room

### **No Bluffing! Will our Coastal Bluffs Survive Climate Change?**

**Patrick Donnelly**, Coastal Science & Stewardship Advisor, *Lake Huron Coastal Centre*

Using local examples, Pat will describe how our past focus on managing vegetation, drainage and development pressure may not be enough to maintain bluff stability. Climate change will add further challenges for landowners, municipalities, and coastal resource managers to consider in land use planning and decision-making.

### **Maitland Conservation's Shoreline Hazard Mapping Update: Understanding Risk and Working Towards a Climate-resilient Future**

**Anna Soleski**, Environmental Planner/Regulations Officer  
*Maitland Valley Conservation Authority*

Since 2019 Lake Huron's water levels have been close to record highs set in 1986, and in 2020 all previous records were exceeded for 8 of 12 months. These high-water levels have resulted in extensive erosion and inland flooding along Maitland Conservation's (MC) shoreline. Current shoreline hazard mapping within MC's jurisdiction was prepared in 2012 during low water levels and did not account for climate change impacts. The most severe climate change impacts on the shoreline are the increase in the range of high and low lake levels and the number of ice-free days under 1.5° C in global mean temperature (GMT). In the 2020 Ontario Provincial Policy Statement under the Planning Act, planning officials must prepare for climate change impacts on natural hazards. These climate risks can be incorporated into natural hazard mapping by modelling changes in wave energy resulting from changes to lake level and ice conditions. MC's 2023 DRAFT Shoreline Hazard Mapping Update includes a high-resolution remapping of the Shoreline Erosion Hazard, Shoreline Flood Hazard, and Dynamic Beach Hazard. This mapping intends to identify and inform the public of natural hazards on the shoreline and advise on how individuals and planning agencies can work towards a more climate-resilient future.





## An Introduction to the Georgian Bay Geopark & Research Projects in the Aspiring Georgian Bay Geopark: Glacial History, Geocultural Landscapes and a Vision for the Future

**Tony Pigott**, Executive Director, *Georgian Bay Geopark*

& **Dr. Kirsten Kennedy**, Research Fellow, *Georgian Bay Geopark*

Georgian Bay is an under-recognized Global Treasure whose future holds both wonderful opportunities and daunting risks: its extraordinary and unique geology, history and sacred/spiritual character lie just a few hours from an urban megaregion that will hold over 10 million people by 2045. We believe a UNESCO Global Geopark for all of Georgian Bay including the North Channel has the potential to inspire and engage the many local communities of the Bay, the people of the megaregion, people across Canada and around the world to understand and revere Georgian Bay's deep natural and human history while helping create a more resilient and sustainable future. Geoparks are designated areas with significant geological, cultural, ecological, and scenic value. As such, they have a responsibility to promote research, education, and conservation efforts related to their unique heritage. The geologically contrasting shorelines of Georgian Bay form the foundation for the region's rich ecological and cultural diversity, making it an exceptional natural laboratory for innovative research initiatives of both local and global significance. Currently, the Georgian Bay Geopark is supporting several novel research projects using drone-mounted LiDAR technology to visualise the land surface in ways that were never before possible. The first project utilises high-resolution topographic datasets to identify and map the landforms left by the last Laurentide Ice Sheet approximately 18,000 years ago. The project aims to better understand the morphology and origin of subglacial bedforms, including drumlins, moraines, and megascale glacial lineations, which relate to ice sheet dynamics, specifically the onset of fast-flowing "ice streams" at the edge of the Canadian Shield. Studying ancient ice streams is critical in predicting how modern ice sheets may respond to climate and oceanographic changes today. The second ongoing research project embraces the concept of "two-eyed seeing" by reconciling indigenous perspectives and history with state-of-the-art mapping technologies to describe the changing environments of the Bay over the past 11,000 years and the associated cultural response. Finally, we will outline our research vision for the future, including incorporating water quality monitoring of outlets of rivers to Georgian Bay.

## CONCURRENT SESSION 2C

1:45 - 2:45 PM Birch South Room

### Huron Pines: Taking a Holistic Approach to Lake Huron Watershed Conservation Samantha Nellis, Water Program Director, *Huron Pines*

Huron Pines is celebrating our 50th year working to protect and enhance Northern Michigan's natural resources. This presentation will provide an overview of how we strive to protect the vitality of Lake Huron by protecting the entire watershed from the headwaters to the lakeshore and all the forests, wetlands and prairies in between. We take a holistic approach to safeguard our resources, working with partners, communities, experts, and landowners to educate, steward, conserve and sustain the health of Lake Huron.

### Winning the Battle: Phragmites Control on Lake Huron Dr. Janice Gilbert, Executive Director, *Invasive Phragmites Control Centre*

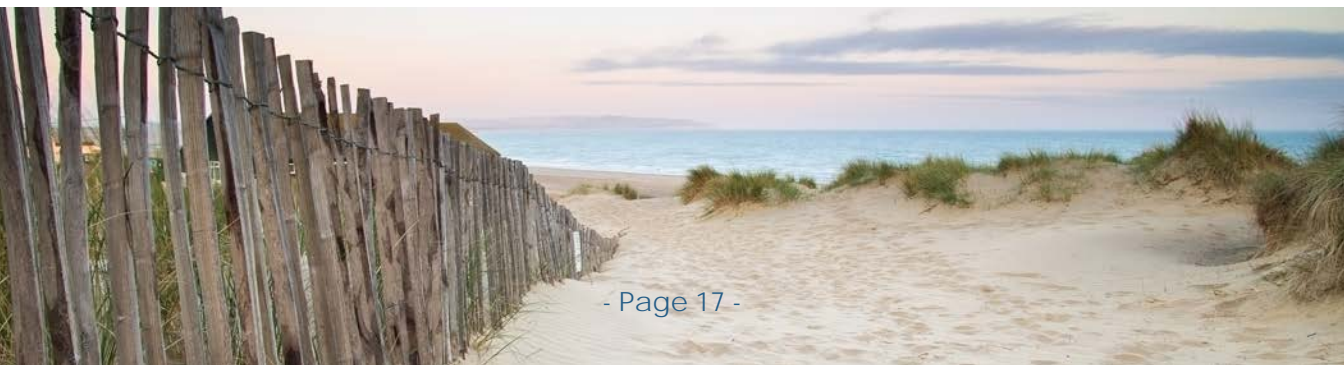
There have been a number of invasive Phragmites control projects taking place along the Lake Huron shoreline over the past decade. As a result of this work, the Phragmites population has been substantially reduced and, at many of these sites, minimal effort is now required to maintain a 'Phrag Phree' status. This presentation provides an overview of some of these projects, considerations for control options during the high and low lake level cycles, and maintaining long-term control.

### Coastal Conservation in Action: Experiential Learning for Youth Kerry Kennedy, Coastal Education Technician, *Lake Huron Coastal Centre*

Leveraging high school volunteer hours to build tomorrow's coastal conservationists, the Lake Huron Coastal Centre established a youth engagement program in 2020. This presentation highlights the impact, the journey and the joy of supporting participants in the Coastal Conservation Youth Corps.

## REFRESHMENT BREAK & NETWORKING

2:45 - 3:00 PM All Concurrent Session Rooms



## CONCURRENT SESSION 3A

3:00 - 4:00 PM Terrace Room

### Two-Eyed Seeing and Fisheries Governance: The Saugeen Ojibway Nation Perspective

**Ryan Lauzon** (Fisheries Biologist), **Breanna Redford** (Fisheries Research Coordinator), and **Naomi Jones** (Program Coordinator), *Chippewas of Nawash Unceded First Nation*

The Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation, collectively the Saugeen Ojibway Nation (SON), are First Nations in Ontario with an exclusive commercial fishery from Point Clark in Lake Huron, around the Saugeen (Bruce) Peninsula, and over to Craigeleith in Georgian Bay. These two Nations have relied on fishing for ceremony, commerce, and sustenance since time immemorial. This presentation will explore the SON fishery through a contemporary lens, showcasing how SON has created their own unique path to achieve self-governance and reconciliation via research, Nation-to-Nation negotiations, consultation, collaboration, and when necessary, litigation. There are many lessons to be learned from SON's experiences and the purpose of this session is to share these lessons with a broader audience.

### GLFC: Binationally Supporting the Great Lakes Resource

**Christina Carter**, Communications Program Manager, *Great Lakes Fishery Commission*

An overview of the Great Lakes Fishery Commission, its role in the preservation and conservation of the fishery, and how the Sea Lamprey Control Program is managing the parasitic invader.

### Whitefish and Climate Change

**Natahsa Akiwenzie**, Manager, *Bagida'waad Alliance*

Bagida'waad Alliance's discussion will be around how climate change has impacted the lake whitefish in Georgian Bay. Natasha's family were fishers from Neyaashiinigmiiing for many years. They decided 5 years ago to leave the business because they were worried about the decline of the whitefish. Bagida'waad was formed in March 2018 and are now in their 5th year. They spend a large amount of time talking about climate change and its effect on the Great Lakes and the inhabitants that call it home. They also talk about solutions. What people can do themselves and how they can hopefully make a change for the future generations.



## CONCURRENT SESSION 3B

3:00 - 4:00 PM Huron Room

### Lake Huron Coastal Engineering Projects: A Review

**Pat Prodanovic**, Coastal Engineer, *TRUE Consulting*

The intent of this talk is to present typical coastal engineering projects undertaken within the shoreline reaches of Lake Huron. These projects may include preparation of design drawings for repair or construction of new shoreline protection systems, along with impact assessments that speak to how the proposed shoreline alternation affects natural coastal processes. Other project examples will include those that develop building setbacks and assist homeowners in obtaining permits for homes and cottages proposed near the shoreline. Such projects are required to complete detailed impact assessments of natural hazards and quantify impacts on coastal processes (flooding, erosion, and dynamic beach assessments). To carry out such assessment requires understanding of shoreline characterization (such studies along Lake Huron shoreline are over 40 years old and are still very relevant), site inspections (observing on site consequences of coastal processes at play), numerical coastal modeling (using computer simulations to quantify waves, lake currents, beach profile evolution, storm surges), along with professional judgment. Examples of several such projects will be presented, along with main findings and eventual project outcomes.

### Live Staking Along the Lake Huron Shoreline

**Becky Adams**, Environmental Research Assistant, *B.M. Ross and Associates Limited*

In 2022, BMROSS was involved with multiple projects along the Lake Huron shoreline in Port Elgin. Live staking, a bioengineering technique, was incorporated into the projects to restore sections of the shoreline. In her presentation, Becky will discuss the process of sourcing, harvesting and installing live stakes and the benefits of bioengineering techniques compared to shoreline hardening techniques.

# Protecting Property from Erosion and Creating Living Shorelines with Geotube Geotextile Containers

**Kevin Bossy**, Chief Executive Officer, *Bishop Water*

Shorelines along the Great Lakes are experiencing unprecedented erosion caused by rising water levels, higher waves and more frequent, intense storms. Some areas have lost as much as 10 metres of land during a single event. The severe scouring is increasingly threatening property, infrastructure, public recreational areas and environmentally sensitive zones.

This presentation will explain how Geotube Shoreline Protection Systems can provide reliable, cost-effective alternatives to conventional hard armouring approaches. Whether installed permanently or temporarily, Geotubes offer a softer, more versatile method to withstand erosion and restore storm-damaged areas. Geotube containers have been used for more than 60 years and are installed along hundreds of kilometres of coastal areas and inland waterways to stabilize vulnerable slopes, protect erosion zones, reduce wave energy and storm surges, renourish beaches with sand, and more.

Design considerations and case studies will be presented for Geotube shoreline applications in Ontario and Michigan, including a recent local project in Port Franks to restore and protect a property that suffered heavy storm-related erosion damage. Other applications profiled may include breakwalls, breakwaters, sand dune cores, groynes and more. Insights will also be provided on the advantages of Geotubes for developing hybrid systems that incorporate native plants and cover materials with the structural geotextile tube as part of a living shoreline solution.

An overview of the Geotube materials, container configurations, durability and lifecycle testing, installation process, will also be presented along with complementary reinforcement and stabilization technologies, such as sand-filled mattresses.



## CONCURRENT SESSION 3C

3:00 - 4:00 PM Birch South Room

### Lake Huron Forever: Two Shores, One Water

**Abigail Ertel**, Community Program Director, *Huron Pines*

The Lake Huron Forever initiative was started in 2019 by shoreline community foundations and conservation partners from the United States and Canada. Their goal is to advance water quality protection and sustainable communities on both sides of the lake. The initiative supports design and implementation of on-the-ground projects that strengthen the health of communities and their natural resources. By leveraging shared resources and expertise Lake Huron Forever is inspiring Lake Huron communities to put common waters first as they plan and implement projects for the benefit of their residents. In this session, attendees will learn about how Lake Huron Forever is motivating collective action at the community level using a unique partnership model that aligns community philanthropy with technical watershed protection approaches. Participants will also have a chance to share their ideas, interests and connections to this work as the initiative prepares to launch their next 5 year Action Agenda.

### First Nation Treaty History in Southwestern Ontario & Beyond

**Jordan George**, Communications Specialist

*Chippewas of Kettle and Stony Point First Nation*

This presentation will focus on the foundation of First Nation Treaties in Southwest Ontario and the “penumbra” of Aboriginal/Indigenous Law as it relates to the Waters of the Great Lakes. The importance of Lake Huron in particular and the Wiiwkwedong-Aazhoodenaang region as a meeting place and significant spiritual site for Anishinaabeg (Ojibwe) people will all be discussed. Questions are welcome and appreciated. Miigwetch-Thank you.

### St. Clair “The Big” River Story

**Kristina Lee**, Director, *Ontario Friends of St. Clair River*

Ontario Friends of St. Clair River (FOSCR) have been working to protect and preserve the St. Clair River for over 20 years in support of the federal and provincial government’s St. Clair River Remedial Action Plan. Huge strides have been made to address pollutants and other stressors on the River ecosystem. This presentation will address current and historical environmental conditions and the unique social aspects of the watershed. In close proximity to the US and two First Nation territories, work to engage and restore the River has been complex and required cooperation and extensive inter-agency, First Nation, industry and community engagement. The journey has been long and challenging but the results are most encouraging. We hope that the strategies used on the “Big River” will provide valuable examples that can be utilized for other areas.

# SPEAKER BIOGRAPHIES



**Dr. Mary-Louise Byrne, P.Geo**, Professor & Chair - Geography & Environmental Studies  
**Wilfrid Laurier University**

Dr. Mary-Louise Byrne is a coastal geomorphologist researching Great Lakes beaches and dunes for over 30 years. She is a Professor in Geography and Environmental Studies at Wilfrid Laurier University and a Professional Geoscientist. Focusing on applications for coastal management in parks, her research concentrates on beach and dune interactions and restoration of impacted coastal environments. Most of her current research is in the Great Lakes in both Ontario Parks (Pinery Provincial Park) and Parks Canada (Point Pelee) locations. Dr. Byrne has a wide range of experience in administrative service to the University and to the external community. In addition to her Board and Senate experience on campus, she was Financial Director for Canadian Federation of Earth Sciences from 2011 to April of 2016 and Treasurer for the Canadian Association of Geographers from 2005 to 2011. In those positions she was responsible for the development and reconciliation of budgets for each of these national associations.



**Pete Zuzek P.Geo**, President  
**Zuzek Inc.**

Pete received his Bachelor and Master of Environmental Studies from the University of Waterloo, specializing in coastal geomorphology and geology. He is a Certified Floodplain Manager and a Professional Geoscientist. Pete has 30 years of consulting experience managing multi-disciplinary investigations across the Great Lakes and world's coastal regions.



**Kristina Lee**, Director  
**Ontario Friends of St. Clair River**

Kris Lee is the Canadian Co-chair for the St. Clair River Area of Concern BPAC, community co-chair of the Sarnia Area Environmental Health Project and serves as a director on the Ontario Friends of St. Clair River. She is passionate about environmental impacts on human health and biodiversity of the Great Lakes watershed.



**Daniel King, P.Eng**, Regulations Coordinator and Provincial Offences Officer  
**Ausable Bayfield Conservation Authority**

Daniel King is the Regulations Coordinator for the Ausable Bayfield Conservation Authority (ABCA). He has a Bachelor of Environmental Engineering from the University of Waterloo with a Water Resources Option. He completed a Master of Engineering and Public Policy at McMaster University and prior to his position at the ABCA worked in consulting in Ontario and British Columbia in various fields of environmental engineering, hydrogeology and risk assessment. At the ABCA Daniel coordinates the administration of conservation authority programs focused on prevention of loss of life and property damage from natural hazards such as flooding and erosion. The ABCA accomplishes this through programs, including planning and regulations, supported by the Conservation Authorities Act and Ontario Regulation 147/06 (the Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses).



**Patrick Huber-Kidby**, Planning and Regulations Supervisor  
**Maitland Valley Conservation Authority**

Patrick is a graduate of the University of Guelph Arts & Sciences program. For the past five years he has worked in the Flood & Erosion Safety Services department at Maitland Conservation (MVCA). In his current role he supports and supervises the Regulations Officer, Environmental Planner, & Outreach Technician positions; Coordinates the administration of MVCA's section 28 CA Act responsibilities & Natural Hazard Planning responsibilities; Leads the review of large planning applications and documents such as official plan updates; Coordinates special projects - such as providing technical support to shoreline municipalities and lakefront home owners regarding the potential for bluff collapse; and Coordinates the shoreline hazard mapping update project with Ashfield-Colborne-Wawanosh, Central Huron, and the Town of Goderich. Patrick is also the back-up communications lead for Flood Emergencies and participates as a Duty-Officer officer on weekends and holidays to monitor for possible storm events that could result in flooding. He participates in inter-Authority discussion groups related to land use Planning, Regulations activities, and the Conservation Authority Coastal Working Group, and is a member of the Drinking Water Source Protection Technical Advisory Committee.





**Allison Devereaux**, Broadcaster, Host of Unsalted Podcast, Instructor  
Western University

Allison Devereaux is host and producer of Unsalted Great Lakes podcast, a passion project she began in her closet during lockdowns. She speaks to writers, academics, storytellers, environmentalists and people who live, work and play on the Great Lakes. Allison has been broadcaster and writer for fifteen years, filing stories from the edges of the Pacific, Atlantic and Arctic Oceans. Growing up on a farm in Huron County, the lake has always been a source of inspiration and refuge, and now a focus for storytelling. Currently based in London, Allison teaches podcasting at Western University. She can often be found stand-up paddling on the lake.



**Samantha Nellis**, Water Program Director  
Huron Pines

Samantha Nellis is the Water Program Director at Huron Pines, a conservation non-profit working to conserve and enhance Northern Michigan's natural resources to ensure healthy water, protected places and vibrant communities. Samantha also serves as the Michigan Project Team lead for the Lake Huron Forever initiative where she works with Michigan coastal communities to develop programs that reduce stormwater runoff and improve water quality.



**Abigail Ertel**, Community Program Director  
Huron Pines

Born and raised in New Brunswick, Canada, Abby joined Huron Pines in 2010 and currently leads all aspects of their community programming. She joined the Huron Pines staff as Watershed Project Manager and eventually led the Kirtland's Warbler Initiative. Abby graduated from Mount Allison University in Sackville, New Brunswick then earned her Master of Arts in Geography and Certificate in Conservation Biology from Ohio University. Abby resides in Grayling with her husband and two daughters.



**Patrick Donnelly**, Coastal Science & Stewardship Advisor  
**Lake Huron Coastal Centre**

Pat is the Co-founder and Director of the Lake Huron Coastal Centre. He has had the pleasure of working with communities along the coastline during both the high and low water periods. He is continually amazed at the resilience of the shore ecosystems under the pressure humankind places on them. And with climate change, he remains an optimist (but worries a lot). When he is not advising the LHCC, Pat is the Manager of Watersheds & Climate Change for the City of London. His experience as a Member of the Canadian Institute of Planners and a Registered Professional Planner with a Masters of Science Degree provides a wide range of tools and knowledge to the benefit of the shoreline projects and community initiatives. His skill in communicating complex issues and principles to a wide audience has successfully steered many projects. He has a keen interest in climate change adaptation and assisting municipalities through the transition that is required.



**Alyssa Bourassa**, Coastal Stewardship Technician  
**Lake Huron Coastal Centre**

As Coastal Stewardship Technician with the Lake Huron Coastal Centre, Alyssa coordinates the Coast Watchers Community Science program, Microplastic Awareness Project, and beach cleanups. Alyssa earned her undergraduate degree in Environmental Science and Sustainability from Dalhousie University. It was her passion for water and the environment that brought her to Nova Scotia where she spent time enjoying and learning about the Atlantic coastal environment. There, she was an intern at World Wildlife Fund and worked with Halifax-based environmental organizations on multiple school projects. While Alyssa was in high school, she completed a co-op at the Lake Huron Coastal Centre and she is excited to be back working in her hometown of Goderich on beautiful Lake Huron.



**Kiersten McCutcheon, BSc, CERPIT**, Coastal Science Coordinator  
**Niagara Coastal Community Collaborative**

Kiersten is the developer and project coordinator of Niagara Coastal's Visual Assessment Survey Tool (VAST). She develops data collection and analytical tools to engage community members across the Great Lakes in coastal stewardship activities. Kiersten advocates for applying innovative technology to tackle some of the most concerning environmental issues of the 21st century.



**Gregory Ford, MSc**, Director of Water Programs  
**Swim Drink Fish**

Gregory Ford is the director of water programs for Swim Drink Fish (SDF) and founder and executive director of Niagara Coastal. He has mobilized more than 5 million dollars to support water protection and established nearly a dozen community water monitoring hubs that promote water literacy in partnership with Indigenous and western groups. He oversees development and delivery of Swim Guide, a free website and app providing data for 10,000+ swimming spots in 12 countries, giving millions access to critical information about water quality and associated health risks. Swim Guide sites have been viewed over 60,000,000 times.



**Becky Adams**, Environmental Research Assistant  
**B.M. Ross and Associates Limited**

In 2018, Becky Adams graduated from the University of Guelph with a major in Marine and Freshwater Biology. Since then, she has worked for multiple companies monitoring aquatic and terrestrial wildlife. Currently, she works at B.M. Ross and Associates Limited as an Environmental Research Assistant. She completes natural heritage background reviews, aquatic habitat assessments and completes fish and mussel salvages at construction sites.



**Emily Febrey**, Stewardship Communications Technician  
**St. Clair Region Conservation Authority**

As Stewardship Communications Technician for St. Clair Region Conservation Authority, Emily works to effect change in landowner stewardship and land use in target watersheds by increasing awareness and landowner engagement of the importance of water quality, habitat, and soil conservation through public events and various media to reach landowners where they are at.



**Natasha Akiwenzie**, Manager  
**Bagida'waad Alliance**

Natasha Akiwenzie, member of Lac Seul First Nation living with her family at Neyaashiinigmiing. They ran a sustainable commercial fishing business for 15 years and saw the effects climate change had on the fish. This is why the Bagida'waad Alliance was formed just over 5 years ago. Later, the family decided to close their business.



**Kerry Kennedy**, Coastal Education Technician  
**Lake Huron Coastal Centre**

As the Education Technician delivering the Coastal Conservation Youth Corps program, Kerry is passionate about the connection between healthy ecosystems and healthy communities. Kerry combines her background in education with her passion for the environment to engage high school aged youth with coastal conservation issues. She earned a Bachelor of Education from the University of Alberta and a graduate certificate in Ecosystem Restoration at Niagara College. Kerry lives in Niagara where she is an outdoor educator with the District School Board of Niagara. Spending as much time as she can on the shores of Lake Huron, Kerry is passionate about dune restoration and invasive species management. She also rarely passes up an opportunity to pick up stray plastics from the beach.



**Erika Kolli**, Aquatic Conservation Programs Technician  
**Georgian Bay Mnidoo Gamii Biosphere**

Erika joined the Georgian Bay Biosphere after finishing her Bachelor of Environmental Studies at the University of Waterloo in May 2022. She is currently the Aquatic Conservation Programs Technician and assists with the GBB's State of the Bay program and water quality monitoring in inland lakes throughout the biosphere. In her time with GBB, she has enjoyed expanding her knowledge on all things Georgian Bay and sharing with others what makes this landscape so unique.



**Dr. Pat Prodanovic**, Coastal Engineer  
**TRUE Consulting**

Pat is a coastal engineer with 16 years of consulting engineering experience along the Great Lakes. He has been involved in various coastal and riverine studies, ranging from small (single individual assessments) to medium (large commercial and residential developments) and very large (multi-year, complex, federal-level) assignments. Additionally, Pat has expertise in performing various numerical modeling studies, utilizing state-of-the-art numerical solvers to support coastal projects.



**Anna Soleski**, Environmental Planner/Regulations Officer  
**Maitland Valley Conservation Authority**

Anna Marie Soleski is a Ph.D. candidate at the University of Toronto in Physical and Environmental Geography. Her research interests focus on the influence of climate change on geomorphic processes, with an emphasis on meandering river floodplains in glaciated landscapes. Maitland Valley Conservation Authority hired Anna in February 2022 as their Environmental Planner/Regulations Officer, and she leads the Shoreline Hazard Mapping Update with her supervisor, Patrick Huber-Kidby.



**Esme Batten**, Program Director - Midwestern Ontario  
**The Nature Conservancy of Canada**

Esme has always been fascinated by the natural world and entered the world of ecology through a love of birds during her environmental science degree. Eight years ago she moved to the Saugeen Peninsula to work as a biologist for the Chippewas of Nawash Unceded First Nation's Species at Risk Program and fell in love with the landscapes, species, and people of the Peninsula. Since then, she has dedicated her personal and professional life to protecting this landscape and the species that call it home. Currently, Esme works as Program Director of Midwestern Ontario for the Nature Conservancy of Canada (NCC) based out of Dyers Bay and leads NCC's conservation work on the Saugeen Peninsula and other landscapes across Midwestern Ontario. A few years ago Esme developed a passion for astrophotography and landscape photography and loves to share the beauty of the natural world through her images and hopes to inspire others to protect our natural spaces while we can.



**Ryan Lauzon**, Fisheries Biologist  
**Chippewas of Nawash Unceded First Nation**

Largely of European settler descent, Ryan Lauzon has been working as the Chippewas of Nawash Unceded Fisheries Assessment Biologist since 2008. His research mainly focuses on bridging SON and Western knowledge systems.



**Naomi Jones**, Program Coordinator  
**Chippewas of Nawash Unceded First Nation**

Naomi Jones is a member of the Chippewas of Nawash Unceded First Nation and grew up on the lands and waters of the SON territory. She has worked in the SON territory for several years and is currently in the role of Program Coordinator for the Chippewas of Nawash Fisheries Assessment Program. Naomi graduated from Fleming College with a diploma in Fish and Wildlife.



**Breanna Redford**, Fisheries Research Coordinator  
**Chippewas of Nawash Unceded First Nation**

Breanna Redford is of European settler descent and has been working with the Chippewas of Nawash Unceded First Nation since 2021 as the Fisheries Research Coordinator. Originating from Kawartha Lakes, Ontario within the territory of the Michi Saagig, she now resides in the SON traditional territory. Breanna graduated with a B.Sc. in Wildlife Conservation and Biology from the University of Guelph.



**Derry Wallis**, Climate Change & Energy Specialist  
**County of Huron**

As the Climate Change and Energy Specialist for the County of Huron, Derry coordinates the implementation of corporate climate change actions within multiple departments. Derry developed a love for the outdoors at a young age and has grown her passion for protecting the environment through her education and work experiences in environmental planning, waste education, stream restoration, and agricultural research. She has earned her Bachelor of Environmental Science and is currently working towards her Master of Science in Rural Planning and Development, both from the University of Guelph. Her work is currently focused on natural infrastructure projects and energy efficiency opportunities throughout the County.



**Hannah Mico**, Resilient Communities Manager  
**River Network**

Hannah has been working in the water & environmental space in Michigan, supporting local, statewide, and national nonprofits. As the Resilient Communities Manager at River Network, she supports climate resilience work nationwide and holds a special place in her heart (and her work week) for Great Lakes focused work.



**Jordan George**, Communications Specialist  
**Chippewas of Kettle and Stony Point First Nation**

Jordan George is a member of and lives at Wiiwkwedong: Kikonong & Aazhoodenaang First Nation (Kettle & Stony Point FN), and is of the Fish Clan (Giigoohn-Namehbin-Mshiikehn Dodem). He is a Communications Specialist who works with the Kettle & Stony Point administration, as well as with many community departments and programs. He is an Anishinaabemowin (Ojibwe) language teacher and advocates for Anishinaabe (Ojibwe) language revitalization efforts in the education system and in the community as a means to heal the land and the people. His discussions will cover First Nations treaty history, culture, lifeways, spirituality and language, focusing on how the Great Lakes are central to the Anishinaabeg worldview. Outlining the cultural and political structure of First Nations government and how First Nations (status Indian governments) and indigenous peoples fit into Canadian constitutionalism. He is a graduate of Western University (UWO) where he studied Sociology and Philosophy.



**Dr. Kirsten Kennedy**, Research Fellow  
**Georgian Bay Geopark, University of Toronto Scarborough**

Dr. Kirsten Kennedy is a Mitacs Fellow and postdoctoral researcher at the University of Toronto Scarborough. She is also a member of the Georgian Bay Geopark working group, where she focuses on research and education. Dr. Kennedy's research interests revolve around using sedimentary records and landscape data to uncover the changes in Earth's paleoenvironments over time.



**Tony Pigott**, Executive Director  
**Georgian Bay Geopark**

Tony has 35 years experience as a Marketing and Advertising professional including 14 years as CEO of J. Walter Thompson Canada. He also has extensive experience as an economic development specialist designing and implementing go to market programs with artisan communities in Haiti and Peru. Tony has worked closely with UNESCO Paris including initiating and leading a UNESCO, J. Walter Thompson, Government of Canada initiative that was launched at the Johannesburg World Summit on Sustainable Development. Tony is Chair and Executive Director of the Georgian Bay Aspiring Geopark.



**Dr. Janice Gilbert**, Executive Director  
**Invasive Phragmites Control Centre**

Janice is a wetland ecologist with a PhD from Ohio State University and over 27 years of experience researching and assessing these invaluable ecosystems. She began investigating invasive Phragmites impacts on wetlands and appropriate control methods in 2007. Since that time, she has been a lead author on over 170 reports and presentations and is a contributor on a number of guiding documents. She is a founder and Co-Chair of the Ontario Phragmites Working Group and an advisor on two binational programs: the Great Lakes Phragmites Collaborative, and the Phragmites Adaptive Management Framework, which are both operated under the US Geological Service and supported by the Great Lakes Commission. Janice is currently the Executive Director of the Invasive Phragmites Control Centre, a not-for-profit entity she founded to provide effective and environmentally responsible management of Canada's worst invasive plant.



**Christina Carter**, Communications Program Manager  
**Great Lakes Fishery Commission**

As Communications Program Manager with the Great Lakes Fishery Commission (GLFC), Christina uses her background in fishery science to share the different programs supported by the GLFC which aim to protect and better the Great Lakes. Earning her B.S. in Biological Oceanography, and her Master of Fisheries and Aquatic Sciences degree, Christina has a wealth of knowledge from both the classroom and the variety of aquatic ecosystems she has worked on. Her favorite thing to do is SCUBA dive.



**Frank Burrows**, Manager, Parks  
**Town of Saugeen Shores**

Frank Burrows has been the Parks Manager with the Town of Saugeen of Shores since 2016. His portfolio manages a team of Parks and Recreation staff that care for the Town's parks & green spaces, gardens, trails, waterfront, and sports fields. Frank's career includes 26 years with Parks Canada as a Park Ecologist and his last 6 years as the Superintendent of Bruce Peninsula and Fathom Five Marine National Parks. Presently he is the Treasurer with the Lake Huron Coastal Centre. He is a graduate with an Honours BSc in Biology from Trent University and MSc in Forestry from Lakehead University. He calls Southampton home after a recent move from Lions Head.





**Jennifer Stephens**, General Manager/Secretary-Treasurer  
**Saugeen Valley Conservation Authority**

Jennifer began her career at South Nation Conservation Authority. She has worked for Conservation Ontario, as well as with nine other conservation authorities; in Program Management positions related to the Drinking Water Source Protection Program. She came to Saugeen Valley Conservation Authority 3 years ago as their General Manager.



**Kevin Bossy**, Chief Executive Officer  
**Bishop Water**

Kevin Bossy is the CEO of Bishop Water, a rapidly growing Ontario-based company that specializes in simple, low-energy and cost-effective solutions for nutrient removal and solids management for municipal, industrial, agricultural and commercial applications. Kevin has played a key role in the advancement of the Bishop Water solutions portfolio, leading projects to enhance the performance, value and sustainability of these environmentally focused products. Bishop Water's extensive experience with Geotube geotextile containers has also led to more recent application of this technology for erosion protection against rising water levels and more severe weather affecting vulnerable areas in the Great Lakes and other water bodies.

**Elizabeth LaPlante**, Lake Huron and Superior Lake Manager  
**US Environmental Protection Agency**

Liz works at the USEPA's Great Lakes National Program Office where she is the Lake Superior and Huron manager. She works on all substantive issues associated with the Great Lakes including chemical contaminants, invasive species, habitat, nearshore and climate change. Liz worked in Washington DC for many years as a White House legislative and policy analyst, specializing in natural resource issues. She has a BA from University of Illinois and a Master's from Harvard University.



**LAKE HURON  
COASTAL CENTRE**

# NOTES

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**CONTACT US:**



**LAKE HURON  
COASTAL CENTRE**

PO Box 477  
Goderich, ON N7A 4C7

[coastalcentre@lakehuron.ca](mailto:coastalcentre@lakehuron.ca)  
[www.lakehuron.ca](http://www.lakehuron.ca)