

2020 OIPC & OPWG Invasive Species Conference

Conference Overview

Date:	January 15-16, 2020
Time:	Day 1: January 15 - OIPC Conference & Evening Networking Event 8:30 AM – 9:00 PM Day 2: January 16 - OPWG Annual Meeting 8:30 AM- 4:00 PM
Location:	Conference: Boardroom of the Watershed Conservation Centre, Upper Thames River Conservation Authority, 1424 Clarke Road, London ON Evening Networking Event: Chelsea Room at the Best Western Plus Lamplighter Inn & Conference Centre, 591 Wellington Rd, London ON

Day 1 (Wednesday, January 15):

OIPC Conference and Annual General Meeting:

8:30 PM - 5:00 PM, Boardroom of the UTRCA Watershed Conservation Centre, London ON

This one-day event is an excellent opportunity for management professionals, researchers and members of the public to network and engage in the topic of invasive plant control and restoration project initiatives. It will feature a broad range of speakers, topics and themes relating to current invasive species research and management projects including restoration initiatives, mapping & reporting tools, *Phragmites* management and economic impacts of invasive species. *Doors open at 8:30 AM.*

Evening Networking Event:

5:30 PM - 9:00 PM, Chelsea Room, Best Western Plus Lamplighter Inn & Conference Centre, London ON

Take this time to mingle and connect with your fellow colleagues and others actively engaged in Invasive Plant management. This is an opportunity to network while enjoying a light snack. A cash bar will be available.

Day 2 (Thursday, January 16):

OPWG Annual Meeting:

8:30 PM - 4:00 PM, Boardroom of the UTRCA Watershed Conservation Centre, London ON

The second day will resume in the boardroom of the UTRCA Watershed Conservation Centre, where the Ontario Phragmites Working Group (OPWG) will host its Annual Meeting. This event will bring together environmental professionals and other interested people from across Ontario to connect with others managing invasive Phragmites and to stay up-to-date on new projects and control methods. *Doors open at 8:30 am.*

AGENDA: Day 1 – OIPC Conference & Annual General Meeting

(Wednesday, January 15, 8:30am – 5:00pm)

**Presentations are eligible for Integrated Pest Management Continuing Education Credits*

8:30 – 9:00 AM	REGISTRATION – with coffee and refreshments
9:00 – 9:30 AM	Welcome
9:30 – 10:30 AM	<p>Updates -</p> <p>Ontario Invasive Plant Council <i>John Urquhart, OIPC President</i></p> <p>Horticultural Outreach Collaborative <i>Colin Cassin (presenting author) & Colleen Cirillo, HOC co-chairs</i></p> <p>Ontario Phragmites Working Group <i>Janice Gilbert & Karen Alexander, OPWG co-chairs</i></p> <p>Canadian Council of Invasive Species <i>Kellie Sherman, Communications Coordinator</i></p>
10:30 – 11:00 AM	<p>BREAK AND NETWORK</p> <p><u>Series 1 - Management & Restoration:</u></p>
11:00 – 11:20 AM	<p>Innovative, Large Scale Restoration of a Buckthorn Monoculture with Dead Ash Overstory *, <i>Linda McDougall, City of London</i></p>
11:20 – 11:40 AM	<p>Invasive Species Biological Control: Supporting Habitat Protection and Restoration in the City of London ESAs, <i>Donna MacKenzie, Ontario Beetles</i></p>
11:40 – 12:00 AM	<p>Dog Strangling Vine & Phragmites Management in Tommy Thompson Park, <i>Jennifer Smith, Toronto and Region Conservation Authority</i></p>
12:00 – 1:00 PM	LUNCH
1:00 – 1:10 PM	<p>Watershed Conservation Centre, LEED Platinum Building <i>Alex Shivas, Upper Thames River Conservation Authority</i></p>
1:10 – 1:40 PM	OIPC Annual General Meeting
1:40 – 2:00 PM	<p>Volunteers Collaborate to Reduce Giant Hogweed Populations Along the Grand River, <i>John Kemp, Giant Hogweed Mitigation Project</i></p>

- 2:00 – 2:20 PM** **Economic Impacts of Invasive Species to Ontario Municipalities and Conservation Authorities,**
Colin Cassin (presenting author) and David Nisbet, Invasive Species Centre
- 2:30 – 3:00 PM** **BREAK AND NETWORK**
- Series 2 - Reporting Tools:**
- 3:00 – 3:20 PM** **An analysis of invasive species management in the Niagara region of Ontario: Establishment of a database to improve knowledge sharing,**
Lyn Brown, Brock University
- Series 3 – Phragmites:**
- 3:20 – 3:35 PM** **Control of Invasive Phragmites Increases Breeding Marsh Birds But Not Frogs,**
Doug Tozer, Bird Studies Canada
- 3:35 – 3:45 PM** **Invasive Phragmites (*Phragmites australis*) Monitoring and Management***,
Prabir Roy, Parks Canada
- 3:45 – 3:55 PM** **Experimental Control Methods for European Common Reed (*Phragmites australis*)***, *Sarah Marshall, rare Charitable Research Reserve*
- 3:55 – 4:05 PM** **The Efficacy of a New *Phragmites australis* Management Strategy,**
Sara Bowman, EcoSpark
- 4:05 – 4:45 PM** OIPC Session; We want to hear from you! A candid discussion.
- 4:45 – 5:00 PM** **WRAP UP AND CLOSE**

OIPC Updates: Speakers

Colin Cassin and Colleen Cirillo, Horticultural Outreach Collaborative (HOC) Co-Chairs -

10 Years of Invasive-Free Gardening: A look back, and forward, with OIPC's Horticulture Outreach Collaborative

The Horticulture Outreach Collaborative (HOC) is an active committee of the OIPC that meets regularly to discuss current topics at the intersection of invasive plants and horticulture. Over the past 10 years the committee has created and distributed the popular *Grow Me Instead* program, organized bus tours highlighting the impacts of invasive horticultural plants and led other valuable projects. In this presentation, HOC Co-Chairs will provide context on what is to be gained by advancing invasive-free landscaping in Ontario, and where our efforts complement government policy. They will provide an update on recent work completed by the HOC including a major update to the popular *Grow Me Instead* guide for southern Ontario. The updated guide features more than 35 new invasive and alternative species profiles, marking the most comprehensive revision completed to date. In honour of the GMI's 10-year anniversary they will also highlight some of the program's key outreach and distribution milestones. Finally, the co-chairs will also provide insights into future priorities of the HOC.

Janice Gilbert & Karen Alexander, Ontario Phragmites Working Group (OPWG) Co-Chairs -

The Ontario Phragmites Working Group (OPWG) is an active OIPC committee and they will provide an update on their work over the past year. Last year the OPWG hosted a very successful one-day annual meeting to talk "phrag", which was attended by over 80 people and another 60 watched via the web. This year, they have combined this meeting with the OIPC conference which will take place on January 16th.

Kellie Sherman, Communications Coordinator, CCIS

Canadian Council of Invasive Species (CCIS): Enabling Canadians to take action on invasive species through recreation

Healthy ecosystems provide the foundation for Canada's natural diversity and promote the health and well-being of residents and visitors. Invasive species can threaten ecosystems, as they often displace native species and disrupt natural ecological processes. There are numerous pathways of introduction and vectors of spread for invasive plants and one of these pathways is recreation. To reduce the spread of invasive species from the recreation pathway, the CCIS has conducted extensive research into the behaviours of Canadians when it comes to preventing the spread of invasive species, including through the recreation pathway. This research has provided us with critical information on barriers preventing Canadians from taking action on preventing the spread of invasive species. Therefore, we have tailored our campaigns that focus on the recreation pathway, including Clean Drain Dry and Buy Local, Burn Local to focus on easy steps Canadians can take while enjoying that activity to prevent the spread of invasive species. This presentation will review in further detail, the Clean Drain Dry and Buy Local, Burn Local campaigns and their resources, including youth specific resources, in Canada and how we are spreading the message and delivery of the campaigns through partners. Learn about how to join forces with like-minded organizations and how you can become a partner in these campaigns.

The Canadian Council on Invasive Species (CCIS) serves as a national voice and hub to protect Canada from the impacts of invasive species. With members and chapters from all corners of Canada, along with governments and businesses, the CCIS brings people together to build practical solutions to prevent the spread of invasive species.

Speaker Biographies and Abstracts



Linda McDougall, MES, OALA, RPP

Linda McDougall is an Ecologist with the City of London. Linda is the lead on many of the City's natural heritage studies, ecological restoration plans and programs such as the Adopt-an-ESA program to protect and enhance London's natural heritage system. In her free time Linda enjoys watching monarchs on the milkweed in her front yard and donates volunteer seedlings from her native dogwood tree to ReForest London for use in local naturalization projects.

Innovative, Large Scale Restoration of a Buckthorn Monoculture with Dead Ash Overstory - After the Emerald Ash Borer swept through London and killed the majority of our ash trees, opportunistic invasive species including buckthorn filled in some of the gaps. The London Invasive Plant Management Strategy identifies buckthorn as a priority invasive species, however a 4 hectare, monoculture infestation is not typically a priority for management under an Early Detection Rapid Response (EDRR) approach. It was the high-profile location of this site, directly behind the Tourism Information Centre in Westminster Ponds Pond Mills Environmentally Significant Area beside a Provincially Significant Wetland (Saunders Pond) that made the project a priority. The City retained St. William's Nursery and Ecology Centre to assist in drafting and implementing the restoration plan. The City was awarded with a Canada 150 grant in 2017 towards the implementation of this innovative and complex ecological restoration project including the installation of an accessible trail and boardwalk. Native species were inventoried, mapped and retained where possible. Due to the severe infestation, the work included mulching the buckthorn and majority of the dead ash during the winter of 2017 to allow the ecological restoration and multi-year adaptive management to begin. Monitoring and touch up spraying of buckthorn regrowth and other invasive species is ongoing by the Upper Thames River Conservation Authority (funded by the City) and will continue until the buckthorn seed bank is under control. The restoration is progressing well and native species are now dominant. This spring a pair of bluebirds nested in the restoration area giving the project their seal of approval.

Donna MacKenzie, MSc

*Donna has been involved in purple loosestrife biocontrol research and implementation since 1992, first through the University of Guelph and later through her company Ontario Beetles. She has worked extensively with provincial and municipal governments, conservation groups and volunteers to deliver purple loosestrife biocontrol programs throughout Ontario, and other Canadian provinces, using *Neogalerucella californiensis* and *N. pusilla*.*



Invasive Species Biological Control: Supporting Habitat Protection and Restoration in the City of London ESAs - In this presentation I will discuss and review the purple loosestrife biocontrol and management initiative underway at the City of London ESAs (2015-present). I will also briefly outline the dog strangling vine biocontrol initiative (using *Hypena opulenta*) underway at Kilally Meadows ESA (as conducted by Silv-Econ Ltd).

Jennifer Smith

Tommy Thompson Park (TTP) - DSV and Phragmites Management - represents some of the largest existing natural habitat on the Toronto waterfront, encompassing wildflower meadows, cottonwood forests, coastal marshes, cobble beaches and sand dunes. Wildlife, especially birds, flourish at the park, making it one of the best nature-watching areas in the Greater Toronto Area. Due to the differing ages of different sections of the park and the various habitats associated with those sections, as well as the levels of disturbance, moisture and nutrients, there is a high diversity of vegetation found in the park including non-native and/or invasive vegetation. TRCA has been focusing on management of Dog Strangling Vine and Phragmites in this park and this presentation will provide an overview of the objectives, results, and lessons learned.



John Kemp

John has been working to find and eradicate giant hogweed along the Grand River since 2010. His enthusiasm for eradicating giant hogweed stems from his love of the outdoors. It started with Scouts when he was looking into local poisonous plants to teach young scouts, and his family, what to watch out for while exploring in the wild. Since then he has connected with local officials and local outdoors groups while attempting to increase the scale of the project. John has a patent and has published papers regarding his professional experience as electronics product developer. More giant hogweed activities are being planned. John presently resides in St. George Brant.

Volunteers Collaborate to Reduce Giant Hogweed Populations Along the Grand River, John Kemp, Giant Hogweed Mitigation Project –

- Community groups within the watershed were activated by a common desire to retain the recreational use of the riparian areas of the Grand River.
 - Presentations were made to environmental groups, canoeing and kayaking clubs and to local outfitters to provide education for plant identification and safety.
 - Results of the volunteer's searches were collected, confirmed, and plotted on a watershed map.
 - Studying plant population locations identified patterns pointing toward seed back sources.
 - Empirical data from prior years searches, combined with the additional findings of this large number of spotters allowed the development of a model of the natural plant population spread.
 - Plant population quantity and location have now been documented for the northern portion of Brant County providing a baseline for future work. A significant quantity of plants and seed have been removed from the invasion profile. Public / volunteer assistance is hoped to have a significant impact on the population over the next few years.
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Colin Cassin, MSc

Colin Cassin is the Policy and Program Development Analyst at the Invasive Species Centre (ISC). In his role with the ISC, Colin supports the development of risk assessments and other projects supporting ISC's vision of reducing the spread of invasive species in Canada.



Economic Impacts of Invasive Species to Ontario Municipalities and Conservation Authorities - From 2017 - 2019, the ISC conducted a survey of Ontario municipalities and CA's to assess their annual direct expenditures on invasive species prevention, detection, control and management. Analysis and projection on this accumulated data indicate that Ontario municipalities and CA's are collectively spending \$50.8M/year on invasive species. This presentation will provide an overview of methodologies, and discuss species-specific costs revealed by these surveys. We will also discuss how these results can inform policy at the municipal and provincial level in Ontario. This work was completed in collaboration with the Ontario Ministry of Natural Resources and Forestry and the Regional Public Works Commissioners of Ontario.



Lyn Brown, MSc

Lyn Brown studied invasive species management through her Master's at Brock University, and graduated in October 2019. Since then, she has been working on various projects with the U.S. Fish and Wildlife Service mostly surrounding shorebird conservation.

An Analysis of Invasive Species Management in the Niagara Region of Ontario: Establishment of a Database to Improve Knowledge Sharing - The UN and Convention on Biological Diversity have declared invasive species a global initiative and requested increased data sharing on invasives. No database focuses on invasive species management for the Niagara Region, ON, Canada. This study used sustainability science and the Ecosystem Approach Principle to guide the design of an invasive species management database. The goal of the study was to document current aquatic and riparian invasive management activities in the Niagara Region and develop a database that would become a tool to facilitate collaboration at the regional level. The objectives were to (1) inventory current invasive detection and control activities in the Niagara Region and make comparisons to recommended techniques in the literature; (2) examine perceived efficacy of control techniques; and (3) develop a database integrated with a GIS mapping component. Seventy-one organizations involved in riparian/aquatic invasive management in the Niagara Region were contacted and 16 were interviewed in-depth. In 2017/2018 there were 35 separate control efforts reported, involving 10 riparian invasives and two aquatic invasives, with most concentrated along the Niagara River. Collaboration efforts were minimal, occurring for only six specific projects. Recommendations from this study include: develop a regional invasive species plan; increase control efforts along the Welland Canal and Lake Erie shoreline; consider a wider variety of control techniques; and increase collaboration, information-sharing and resource-sharing among organizations.

Doug Tozer, PhD

Doug is Director, Waterbirds and Wetlands at Birds Canada's National Headquarters in Port Rowan, Ontario, where he leads the Great Lakes Marsh Monitoring Program, Canadian Lakes Loon Survey, and Long Point Waterfowl and Wetlands Research Program.

Doug Tozer from Birds Canada will present Great Lakes Marsh Monitoring Program data on abundance and occupancy of marsh-breeding birds and frogs before and after control of invasive *Phragmites* at Long Point, Rondeau, and Kettle Point. The results show that control of invasive *Phragmites* has a significant positive effect on marsh-breeding birds of conservation concern.

Prabir Roy, PhD

Prabir has been an Ecosystem Scientist working for Parks Canada since 2007. He completed his Ph.D. (2002) in the field of biology from Dalhousie University and postdoctoral studies at Cornell University. At Parks Canada, his current interests concentrate on forecasting ecological change, the importance of invasive species and habitat restoration. He has published more than 20 scientific articles in peer reviewed journals.

Invasive Phragmites (*Phragmites australis*) Monitoring and Management - Wetland water level fluctuations are a natural inherent feature that is essential for ecosystem function. Excessive fluctuations become an ecological challenge, especially in shallow wetlands such as those along the Beausoleil shoreline. Georgian Bay Islands National Park (GBINP) has experienced a rapid growth of non-native common reed (*Phragmites australis*) due to low levels of water in early 2000, possibly enhanced by climate change. This has resulted in a declining trend in the Ecological Integrity (EI) of the park. To restore park EI, GBINP has committed to remove non-native phragmites by mechanical method and re-establish natural shorelines within the park. Although the water in Georgian Bay has returned to a historical high level, invasive phragmites continues to grow. We will discuss (1) the impact of invasive phragmites on Ecological Integrity and (2) the impact of high-water level on phragmites growth and translocation and (3) linking the GBINP project at the waterscape level: strategy to achieve together.



Sarah Marshall

After graduating with an Environmental Biology degree from the University of Saskatchewan, Sarah Marshall moved to Ontario to pursue a career focusing on habitat management. She received a graduate diploma in Ecosystem Restoration from Niagara College and then worked for two years as a habitat technician, reptile monitoring technician, and field house manager in the Muskoka area. She joined rare's Land Management department as a Conservation Technician in 2019 and is responsible for executing land use plans for the property such as invasive plant management, trail maintenance, and habitat restoration. Sarah aspires to pursue a career leading the creation of land use plans for large scale natural urban features, facilitating habitat connectivity and wildlife movement. Outside of her interests in ecology, Sarah can often be found in a local café, journaling and meticulously planning her next international trip.

Experimental Control Methods for European Common Reed (*Phragmites australis*) - The rare Charitable Research Reserve is an urban land trust and environmental institute in Waterloo Region/Wellington. As we are protecting almost 1000 acres of highly sensitive lands, invasive species management is of key importance to achieving our missions and values. Despite over 300 volunteer hours dedicated to mechanical removal in the 2017/2018 fiscal year, we have been unable to eradicate one of our most challenging invasive species, European Common Reed (*Phragmites australis*). In 2018/2019, rare received funding from the Region of Waterloo Community Environmental Fund (ROWCEF) to research the effectiveness of alternative control methods for *Phragmites*. Patches of the grass were mapped in their entirety across the property and suitable 3m x 3m plots were selected to receive each experimental treatment method. Data collected from each plot included *Phragmites* stem density, non-target vegetation composition, and plant stage at the time of control.

Four methods were tested:

1. Mechanical Removal via Spading [Control].
2. Pesticide Use + Mowing.
3. Goat Grazing.
4. Mowing + Infrared Treatment.

Some observations have already been recorded for the control methods, such as cost, ease of acquisition, ability to access sites, and level of habitat destruction during control. Overall success will be measured by a decrease in *Phragmites* stem density and an increase in the density and diversity of non-target species in years to come. Repeat testing over multiple years, can help us determine how effective each experimental treatment method may be.

Sara Bowman



Sara's passion for ecology, environmental restoration, and public education started during her undergraduate degree, where she focused on biodiversity, conservation, and ecology. Through a graduate degree in Environmental Science, Sara discovered the immense value of citizen science for advancing conservation and has been working professionally and on a volunteer basis to encourage the public to take an active role in protecting their local environment and beyond.

The Efficacy of a New *Phragmites australis* Management Strategy - Starting in 2018, EcoSpark, the City of Toronto's Community Stewardship Program (CSP), and Lynn Short from Humber Arboretum, worked together to test the efficacy of a new *Phragmites australis* management strategy. This strategy took the spading technique created by Lynn Short, along with the volunteer power from CSP, to see how effectively citizen scientist volunteers could manage *Phragmites* in public areas. We worked at five sites across the City of Toronto, and at each site we created four transects, each with 3 plots. Before beginning the work, we created a submission to EDDMapS Ontario (Early Detection and Distribution Mapping System) for each of the study areas. We had three treatments and a control at each site. The first treatment mimicked mowing by cutting the stalks at 5-cm above the soil once per season. The second treatment used the spading technique once per season, and the fourth treatment used the spading technique twice per season. Our results consistently showed an increase in overall biodiversity, a decrease in *Phragmites* stalk density, thickness, height, and flowering/seeding. This is consistent with the initial findings of Lynn Short's 2017 study. The *Phragmites* in the area surrounding the transects was also spaded by volunteers. The fact that the work was carried out heavily by volunteers also indicates that invasive species management can be carried out by citizen science volunteers – an important finding considering many municipalities and conservation authorities have difficulty allocating human resources toward environmental stewardship.

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