

# Annual Nova Scotia Invasive Species Conference 2023

February 28<sup>th</sup>



## Agenda

9:30 – 10:00

**Registration**

10:00 – 10:10

**Opening Remarks**

10:10 – 10:30

**Indigenous Welcome**

10:30 – 10:50

**Current and Upcoming Projects (Newly reported invasives in past year)**

Kristen Noel

*Nova Scotia Invasive Species Council*

10:50 – 11:10

**Path to Eradication: A Rapid Response to an Aquatic Invasive Species in Dobsons Lake, Guysborough**

Colin Buhariwalla and J.L. MacMillan

*Nova Scotia Department of Fisheries and Aquaculture*

Smallmouth Bass (*Micropterus dolomieu*) were discovered in Dobsons Lake, Half Island Cove, Guysborough County in May 2020. A rapid response was initiated to contain, triage, and develop a plan to address the presence of this aquatic invasive species in one Nova Scotia's few regions where it is currently absent. Temporary barriers were used to delay downstream spread, while triage via eDNA, electrofishing, and angling suggested Smallmouth were confined to Dobsons Lake and adjacent waters. A decision was made to chemically eradicate the Smallmouth Bass to prevent further spread through the watershed and avoid proliferation of potential donor populations. Noxfish Fish Toxicant II (5% rotenone) was used to treat Dobsons Lake and adjacent Black Duck Run over two days in September 2022. Waters leaving the treatment area were detoxified using potassium permanganate to mitigate downstream impacts of rotenone. This presentation will discuss the eradication efforts to date, but we will not be certain of the success of this project for several years.

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11:10 – 11:30

### **A Quick Look at the Aquatic Invasive Species Program**

Sarah Kingsbury  
*Fisheries and Oceans Canada*

In recognition of the severe impacts aquatic invasive species (AIS) have on aquatic ecosystems, the Aquatic Invasive Species Regulations (AISR) under the Fisheries Act, were enacted May 29th, 2015. Two years later, the Aquatic Invasive Species National Core Program (AIS NCP) was created. Since establishment, the AIS NCP has slowly grown in terms of network and capacity. This presentation will provide a brief overview of the AISR, the AIS NCP, regional projects that AIS NCP has participated in, and future projects. Additionally, new species reports and AIS range expansions will be shared.

11:30 – 11:50

### **Responding to Aquatic Invasive Species: Lessons from the Miramichi Smallmouth Bass Project**

Neville Crabbe and Nathan Wilbur  
*Atlantic Salmon Federation*

Canada's Aquatic Invasive Species Regulations were enacted to empower public agencies to act quickly and effectively, however, in practice, it is apparent the drafters did not consider the needs and complexity of large eradication projects, or the prospect of non-government organizations acting.

Using the Miramichi smallmouth bass eradication project as an example, Neville Crabbe and Nathan Wilbur from the Atlantic Salmon Federation will offer a critique of the regulations and make recommendations for Canada's approach to aquatic invasive species.

11:50 – 12:10

### **Endangered Atlantic Whitefish: Managing the Threats from Invasive Fish Species**

Amy Russel  
*Coastal Action*

The Atlantic whitefish is one of the most endangered and ancient fish species in Canada. The last remaining wild population is believed to reside in only three lakes in a single watershed in southwestern Nova Scotia, making up its global range. Threats such as introduced fish species have played a major role in the decline as well as in impeding the recovery of Atlantic whitefish populations. To help ensure the survival of the residual population, Coastal Action began the Atlantic Whitefish Recovery Project in 2004 in collaboration with the Atlantic Whitefish Conservation and Recovery Team. Amy will be giving a background on this critically endangered fish and discussing the activities that Coastal Action has been carrying out to manage invasive smallmouth bass and chain pickerel in their critical habitat.

## Annual Nova Scotia Invasive Species Conference 2023

12:10 – 1:10

### Lunch Break

1:10 – 1:30

### NSISC Fieldwork: Invasive Common Reed and Dog Strangling Vine in Nova Scotia

Hughstin Grimshaw-Surette  
*Nova Scotia Invasive Species Council*

Invasive common reed, (*Phragmites australis ssp. australis*) and dog strangling vine, (*Cynanchum rossicum* and *C. louiseae*) are highly invasive plant species that pose a significant threat to Nova Scotia biodiversity. In the summer of 2022, NSISC conducted fieldwork focused on these invasive plant species. Common reed surveys were completed along all the major roadways within the Kespukwitk region. The distributions of the two known populations of dog strangling vine in Nova Scotia were mapped, and control measures were implemented for the Kentville population. The outcomes of these surveys and the threats that these invasive plant species pose to Nova Scotia will be discussed.

1:30 – 1:50

### Jumping Worm Invasions in Atlantic Canada

Samantha Bennett, Helen R. P. Phillips, and Erin K. Cameron  
*Department of Environmental Science, Saint Mary's University*

Earthworms are ecosystem engineers which alter soil structure and impact other organisms and ecosystem functioning. In 2014, pheretimoid “jumping worms” (*Megascolecidae spp.*) were discovered in Ontario, Canada, with later discoveries in New Brunswick (2021), Nova Scotia (2022), and Quebec (2022). Jumping worms are having substantial impacts in the northeastern United States, including effects on nutrient cycling and other soil organisms. In Canada, little research has been done to examine spread or effects of jumping worms since they have established only recently. Thus, we conducted surveys in the Fredericton – Saint John region of New Brunswick in fall 2022 to assess the current distribution of jumping worms. Sampling focused on sites where jumping worms were especially likely to be introduced (e.g., compost facilities). In total, jumping worms were found at 4 new sites out of 19 surveyed. We also sampled more intensively at a residential property in Oromocto, New Brunswick, which was the first location where jumping worms were found in the province. Our work at this site is aiming to evaluate how soil properties (i.e., pH, nitrogen, carbon) influence the distribution of jumping worms at small scales, as well as how their presence impacts the abundance of European earthworms. Over the longer term, we hope to track the expansion of this population in order to determine rates of spread. The findings from this study will hopefully provide incentive to limit the distribution and anthropogenic spread of jumping worms and provide greater insight into what terrestrial environments favour their establishment.

## Annual Nova Scotia Invasive Species Conference 2023

1:50 – 2:10

### **The Himalayan Blackberry (*Rubus bifrons*) in Eastern Canada: A Timely Discovery**

Shayla Nickerson  
*SWNS Biosphere*

The Himalayan Blackberry (*Rubus bifrons*) is one of the world's worst weeds, it forms tall (3m+), impenetrable thickets of sharp spines. In the 1890s Luther Burbank came upon a packet of blackberry seeds from India. He marketed it as the Himalaya Giant and sold it throughout the US. It has been repeatedly introduced to new areas by humans attracted to its large crop of delicious fruit ever since. Until recently, it has not been documented as occurring in eastern Canada, though it is in southern Ontario and New England. Here we report a new invasion of the Himalayan Blackberry in the counties of Yarmouth and Digby at the southern tip of Nova Scotia. Thirty years after its introduction, the warming climate and the established network of *Rosa multiflora*, appear to have provided conditions ideal for the rapid spread of the Himalayan blackberry in Nova Scotia. We want to make clear that left to itself, this new invasive will spread widely throughout Nova Scotia. Mechanical removal of the thickets from Yarmouth and Digby is still possible and their regrowth may be prevented by spot applications of herbicide. We call this a timely discovery because there is a limited time window for action. Failure to eradicate the invasion and maintain monitoring thereafter will mean the loss of public and private recreation areas and reduced property values.

2:10 – 2:30

### **In the Weeds: A Municipality's Approach to Managing Yellow Floating Heart**

Elizabeth Montgomery  
*Halifax Regional Municipality*

Since 2009, residents living around Little Albro Lake in Dartmouth have been voicing their concerns about the abundance of invasive yellow floating heart in the lake. Currently, yellow floating heart is contained to this Little Albro Lake, where in summer it covers more than 50% of the surface. To prevent the further spread of the invasive pond weed, and pursuant to its Integrated Pest Management Plan, Halifax Regional Municipality (HRM) is pursuing eradication of yellow floating heart. This presentation will discuss the methods HRM has deployed in the past to manage yellow floating heart, and its current proposals for eradication. The presentation will also discuss key lessons learned from this ongoing process, and how HRM will apply these lessons to future management of other invasive species in the municipality.

2:30 – 2:50

### **Afternoon Break**

## Annual Nova Scotia Invasive Species Conference 2023

2:50 – 3:10

### **Operation Strike Team'! Conserving Hemlock Forests Against Hemlock Woolly Adelgid in NS.**

Donna Crossland  
*HWA Project Coordinator, Medway Community Forest Coop*

Eastern hemlocks form some of the most uniquely beautiful and oldest forest stand types in NS, but they are rapidly dying from infestations of a tiny insect, Hemlock Woolly Adelgid (HWA). The province has begun to deploy 'strike teams' to treat and conserve a network of high-value hemlock forests across NS. Learn about HWA control strategies to treat hemlock using small amounts of chemicals. You may have a role to play in hemlock conservation if you like adventure in old growth forests and working on a team. Strike teams will be supplemented with volunteers from all ages and walks of life. Learn more of the chemical control strategies in use until a provincial biocontrol strategy is in place to control HWA.

3:10 – 3:30

### **Emerald Ash Borer in Nova Scotia**

Ron Neville  
*Canadian Food Inspection Agency*

The highly destructive emerald ash borer (EAB) was confirmed in Nova Scotia in the fall of 2018 after already killing hundreds of millions of ash trees in North America. An update of the current status of EAB in the province will be provided including impact, surveillance and management strategies.

3:30 – 3:50

### **Hemlock Woolly Adelgid treatment**

Robert Gordon  
*ArborJet*

A demonstration of Hemlock Woolly Adelgid injections.

3:50 – 4:00

### **Closing Remarks**

4:00

### **End of Conference**

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