






















# Pathways to Success: Partnerships & Purpose: At-a-Glance Schedule and Full Program (9/10/2020)

Monday, November 2, 2020 (remember clocks "fall back" Sunday morning!)						
Monday AM	8:30 am - 10:00 am	WELCOME ADDRESS AND PLENARY				
	10:00 am - 10:20 am	BREAK				
	10:20 am - 12:00 pm	 Adaptive Management in Action	 Novel Detections Part 1: eDNA & Other Strategies	 Control of Floating-Leaf & Emergent Invasive Plants	 Jumping Worms: New Research & Outreach	 Invasive Plant Genetics & Implications for Management
Monday PM	12:00 pm - 1:30 pm	LUNCH				
	1:30 pm - 3:10 pm	 Unique Outreach for Unique Audiences	 Novel Detections Part 2: eDNA & Other Strategies	 Improved Eurasian Watermilfoil Management	 Protecting Mighty Oaks: Advances in Oak Wilt Detection	 Translating Science into Practice for Climate-Smart Invasive Species Management
	3:10 pm - 3:30 pm	BREAK				
	3:30 pm - 3:45 pm	VIRTUAL POSTER & EXHIBIT HALL WELCOME				
	3:45 pm - 5:00 pm	EXPLORE THE POSTER & EXHIBIT HALL				
	5:00 pm - 6:00 pm	HAPPY HOUR SOCIAL SPACE				
Tuesday, November 3, 2020 (Don't forget to VOTE!)						
Tuesday AM	9:00 am - 10:00 am	PLENARY				
	10:00 am - 10:20 am	BREAK				
	10:20 am - 12:00 pm	 Modeling to Understand Ecology & Invasive Species Spread	 Sustaining Community & Citizen Science through Volunteer Training	 Tackling Dreissenid Mussels and New Zealand Mudsnaills	 Emerging Invasive Plants: Control & Prevention	 Invasives & Restoration 1: Grazing & Shading as Tools for Restoration & Invasive Control
Tuesday PM	12:00 pm - 1:30 pm	LUNCH				
	1:30 pm - 3:10 pm	 Genetic Biocontrol: Science, Policy, Ethics & Outreach	 Big Data! Invasive Species Mapping Tools	 Assessing & Addressing AIS Risks	 Insect Pests of Forest and Agricultural Lands	 Invasives & Restoration 2: Wetland Restoration - Successes with Cattail Invasions
	3:10 pm - 5:00 pm	EXPLORE THE POSTER & EXHIBIT HALL AND SOCIAL SPACES				

 = Aquatic Track











 = Forest Health Track

 = Special Session or Symposium













 = Terrestrial Track


 = Interdisciplinary

### Wednesday, November 4, 2020

Wednesday AM	9:00 am - 10:00 am	PLENARY				
	10:00 am - 10:20 am	BREAK				
	10:20 am - 12:00 pm	 Cooperative Invasive Species Management Area Round-Table	 WORKSHOP: Diversity, Equity & Inclusion - Best Practices to Improve our Organizations and Engage our Audiences	 Ballast Water: New Policies, Actions & Findings	 Legends of Forest Health: New Answers to Old Questions	 Invasives & Restoration 3: Terrestrial Restoration - Successes & Pollinator Benefits
Wednesday PM	12:00 pm - 1:30 pm	LUNCH				
	1:30 pm - 3:10 pm	 WORKSHOP: Bringing Divergent Views Together with Open Space Meetings	 Why do the Words we Use Matter?	 Boater Behavior: From Theory to Practice	 Improved Herbicide Control of Invasive Plants Part 1	 Invasives & Restoration 4: Lessons Learned - Planning & Improving Future Restorations
	3:10 pm - 5:00 pm	EXPLORE THE POSTER & EXHIBIT HALL AND SOCIAL SPACES				


### Thursday, November 5, 2020

Thursday AM	8:30 am - 10:10 am	 <i>Phragmites</i> Symposium Part 1: Current Approaches to Management	 Organisms in Trade: Fostering Responsible Businesses	 Improved Herbicide Control of Invasive Plants Part 2	 WIGL Summit 1: Welcome to WIGL - Who, What, Where, Why & How?	
	10:10 am - 10:30 am	BREAK				
	10:30 am - 12:10 pm	 <i>Phragmites</i> Symposium Part 2: Future Directions for Research & Management	 Organisms in Trade: Fostering Responsible Consumers	 Diversity, Equity, Inclusion & Justice in the Invasive Species Field Part 1	 WIGL Summit 2: The Importance of Biology in Managing Woody Species	
Thursday PM	12:10 pm - 1:30 pm	LUNCH				
	1:30 pm - 3:10 pm	 Invasive Carp: Modeling and Collaboration	 Promoting Behavior Change for Invasive Species Prevention	 Diversity, Equity, Inclusion & Justice in the Invasive Species Field Part 2	 WIGL Summit 3: The Trade Pathway - When Good Plants Go Bad	
	3:10 pm - 5:00 pm	EXPLORE THE POSTER & EXHIBIT HALL AND SOCIAL SPACES				

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Friday, November 6, 2020					
Friday AM	8:30 am - 10:10 am	<input type="checkbox"/> Right-of-Way Invasive Plant Management	<input type="checkbox"/> Regulatory Toolbox for Invasive Species Prevention & Management	<input type="checkbox"/> Biological Control of Forest Pests	<input type="checkbox"/> WIGL Summit 4: Integrated Strategies for Woody Invasive Control
	10:10 am - 10:30 am	BREAK			
	10:30 am - 12:10 pm	<input type="checkbox"/> On our Radar: New Invasive Plant Threats to the Upper Midwest	<input type="checkbox"/> WORKSHOP: R Statistical Software for Invasive Species Applications	<input type="checkbox"/> Silvicultural Responses to Invasive Species	<input type="checkbox"/> WIGL Summit 5: Herbicide Use to Control Woody Invasive Species
Friday PM	12:10 pm - 1:30 pm	LUNCH			
	1:30 pm - 3:10 pm	<input type="checkbox"/> Landscape Scale Management Approaches	<input type="checkbox"/> Lessons Learned in Starry Stonewort Management		<input type="checkbox"/> WIGL Summit 6: Public Perceptions & Engagement to be Part of the Solution!
	3:10 pm - 3:30 pm				<input type="checkbox"/> WIGL Summit Wrap-up & Next Steps!

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# Technical Program - Concurrent Sessions, Symposia, and Workshops

## Monday, November 2, 2020

### MORNING CONCURRENT SESSIONS

#### Adaptive Management in Action

Moderator:

##### 10:20AM Revising Minnesota's Invasive Species Management Plan: What Are Your Thoughts?

*Chelsea Blanke\*<sup>1</sup>, James Calkins<sup>2</sup>, Doug Jensen<sup>3</sup>; Byron Karns<sup>4</sup>, Sascha Lodge<sup>1</sup>, Cori Mattke<sup>5</sup>, Kelly Pennington<sup>1</sup>, Katie Sickmann<sup>6</sup>; <sup>1</sup> Minnesota Department of Natural Resources; <sup>2</sup> Minnesota Nursery and Landscape Association; <sup>3</sup> University of Minnesota Sea Grant Program; <sup>4</sup> National Park Service - St. Croix National Scenic Riverway; <sup>5</sup> Minnesota Aquatic Invasive Species Research Center; <sup>6</sup> St. Croix River Association*

##### 10:40AM Development, Implementation, & Evaluation of Michigan's Red Swamp Crayfish Adaptive Response Plan

*Lucas Nathan\*<sup>1</sup>, Seth Herbst<sup>1</sup>, Brian Roth<sup>2</sup>, Kelley Smith<sup>2</sup>, Sara Thomas<sup>1</sup>; <sup>1</sup> Michigan Department of Natural Resources; <sup>2</sup> Michigan State University*

##### 11:00AM Using Impact Collaborative Innovation to Forecast Terrestrial Invasive Species Priorities in Minnesota

*Matthew Russell\*<sup>1</sup>, Angela Gupta<sup>2</sup>, Regina McGoff<sup>2</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> University of Minnesota Extension*

##### 11:20AM AIS Rapid Response in Pennsylvania: Case studies of Successes and Lessons Learned

*Sara Stahlman, Pennsylvania Sea Grant*

##### 11:40AM Extended Panel Discussion/Q&A

#### Novel Detections: eDNA & Other Strategies - Part 1

Moderator:

##### 10:20AM AIS and Boating Access Sites: A Study of Michigan's Inland Lakes

*Christina Baugher, Michigan Department of Natural Resources*

##### 10:40AM Sampling Design for Early Detection of Invasive Plants in Great Lakes Ports

*Andrew Tucker\*<sup>1</sup>, Lindsay Chadderton<sup>1</sup>, Erick Elgin<sup>2</sup>, Gust Annis<sup>1</sup>, Joel Hoffman<sup>3</sup>; <sup>1</sup>The Nature Conservancy; <sup>2</sup> Michigan State University Extension; <sup>3</sup> U.S. Environmental Protection Agency Office of Research and Development*

##### 11:00AM DNA Meta-Barcoding-Based Identification of Fish Larvae for Invasive Species Early Detection


*Joel Hoffman\*<sup>1</sup>, Christy Meredith<sup>2</sup>, Erik Pilgrim<sup>1</sup>, Anett Trebitz<sup>1</sup>, Chelsea Hatzenbuehler<sup>1</sup>, John Russell Kelly<sup>1</sup>; <sup>1</sup> U.S. Environmental Protection Agency Office of Research and Development; <sup>2</sup> Montana Department of Environmental Quality*

##### 11:20AM AIS Aerial Detection Pilot Project

*Tony Brough, Hennepin County, Minnesota, Jim Hughes, Laetitia Moreau*

##### 11:40AM Survey 123 for Fisheries Data Collection: Benefits Realized and Lessons Learned

*Grace Loppnow, U.S. Fish and Wildlife Service*

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## Control of Floating-Leaf & Emergent Invasive Plants

Moderator:

### 10:20AM Update on Promising Biological Control Options for Flowering Rush (*Butomus umbellatus*)

Jennifer Andreas\*<sup>1</sup>, Patrick Haefliger<sup>2</sup>, Harriet Hinz<sup>2</sup>; <sup>1</sup> University of Washington Extension; <sup>2</sup> CABI

### 10:40AM The Phenology of Flowering Rush (*Butomus umbellatus*) in the Western United States

John Madsen\*, USDA - Agricultural Research Service, Kurt Getsinger, U.S. Army - Engineer Research and Development Center

### 11:00AM European Frogbit - An Emerging Concern in the Great Lakes Region

Mark Warman\* and Jennifer Hillman, Cleveland Metroparks

### 11:20AM *Glyceria maxima* (Gly-max) Eradication in a Wisconsin Lacustrine Wetland

Kyle Duquaine, Eco-Resource Consulting, Inc.

### 11:40AM Successful Removal of Yellow Floating Heart (*Nymphoides peltata*)

Chris Hamerla, Golden Sands RC&D Council, Inc.

## Jumping Worms: New Research & Outreach

Moderator:

### 10:20AM Jumping Worms: Impacts, Identification, Actions, and Public Outreach

Laura Van Riper\*, Minnesota Department of Natural Resources, Angela Gupta, University of Minnesota Extension

### 10:40AM Jumping Worms: Become a Worm Ranger!

Ryan Hueffmeier\* and Stephan Carlson, University of Minnesota

### 11:00AM Jumping Worms - Ecology and Management Research

Lee Frelich\*, Yoo Kyungsoo, Tyler Baumann, Shuai Yang, Erin Bucholz, University of Minnesota

### 11:20AM Response of two Pheretimid Earthworms, *Amyntas tokioensis* and *A. agrestis*, to Different Litter Types

Bradley Herrick\* and Marie Johnston, University of Wisconsin - Madison Arboretum

### 11:40AM Extended Panel Discussion/Q&A

## Invasive Plant Genetics & Implications for Management


Moderator:

### 10:20AM Diversity and Introgression of Knotweed (*Fallopia* spp.) in Minnesota

Dallas Drazen\*, Alan Smith, Neil Anderson, Roger Becker, Matt Clark, Andrzej Noyszewski, Marie Abbey, University of Minnesota

### 10:40AM Improvements in Genetic Testing for the Identification of Palmer Amaranth in Seed Mixtures

Anthony Brusa\*<sup>1</sup>, Eric Patterson<sup>2</sup>, Todd Gaines<sup>3</sup>, Philip Westra<sup>3</sup>, Don Wyse<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> University of Michigan; <sup>3</sup> Colorado State University

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### 11:00AM Regional Patterns of Reed Canarygrass (*Phalaris arundinacea* L.) Genetic Structure along Six Major Minnesota Rivers

*Andrzej Noyszewski\*<sup>1</sup>, Neil Anderson<sup>1</sup>, Alan Smith<sup>1</sup>, Andrzej Killan<sup>2</sup>, Diana Dalbotton<sup>3</sup>, Emi Ito<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> Diversity Arrays Technology; <sup>3</sup> St. Anthony Falls Laboratory*

### 11:20AM Trait Based Approach Showing Variations of Reed Canarygrass along Urbanization Gradient

*Leah Weston\*<sup>1</sup>, Charles Day<sup>2</sup>, Stephen Hovick<sup>1</sup>; <sup>1</sup> The Ohio State University; <sup>2</sup> Cornell University*

### 11:40AM Extended Panel Discussion/Q&A

## AFTERNOON CONCURRENT SESSIONS

### Unique Outreach for Unique Audiences

#### 1:30PM Don't Pack a Pest for Academic Travelers - Minnesota

*Doug Jensen\*<sup>1</sup>, John Vreyens<sup>2</sup>, Sam Chan<sup>3</sup>, Tiana Siemens<sup>3</sup>; <sup>1</sup> University of Minnesota Sea Grant Program; <sup>2</sup> University of Minnesota Extension Global Initiatives; <sup>3</sup> Oregon State University Sea Grant Extension*

#### 1:50PM A Survey of Practitioners of Buddhist "Life Release" Residing in the United States and how such Information may lead to Reducing Invasion Risk

*Tim Campbell\*<sup>1</sup>, Bret Shaw<sup>2</sup>, Evelyn Hammond<sup>3</sup>, Luye Bao<sup>2</sup>, Shiyu Yang<sup>2</sup>, Peter Jurich<sup>2</sup>; <sup>1</sup> University of Wisconsin Sea Grant; <sup>2</sup> University of Wisconsin Department of Life Science Communication; <sup>3</sup> University of Wisconsin Division of Extension*

#### 2:10PM Invasive Species Outreach to Waterfowl Hunters and Furbearer Trappers

*Chris Hamerla, Golden Sands RC&D Council, Inc.*

#### 2:30PM Managing Aquatic Plants Together: Programs and Policies to Support Collaborative Natural Resource Management

*Alison Mikulyuk\*, Madison Johansen, Michelle Nault, Wisconsin Department of Natural Resources*

#### 2:50PM Fostering Informed Consumers of Aquatic Invasive Species Management

*Megan Weber\*, Daniel Larkin, Patrick Mulcahy, Michelle Nault, University of Minnesota*

### Novel Detections: eDNA & Other Strategies - Part 2


Moderator:

#### 1:30PM Dispersal Dynamic and Recruitment of a Freshwater Invader using Otolith Chemistry

*Olivier Morissette\*<sup>1</sup>, Frédéric Lecomte<sup>1</sup>, Nathalie Vachon<sup>1</sup>, Annick Drouin<sup>1</sup>, Pascal Sirois<sup>2</sup>; <sup>1</sup> Ministère des Forêts, de la Faune et des Parcs; <sup>2</sup> Université du Québec à Chicoutimi*

#### 1:50PM Spatial Comparison of eDNA vs. Physical Fish Data from a Complex Freshwater Estuary

*Anett Trebitz\*, Chelsea Hatzenbuehler, Joel Hoffman, Jon Barge, Greg Peterson, Erik Pilgrim, U.S. Environmental Protection Agency Office of Research and Development*

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## 2:10PM Tracking the Invasion Front of Round Goby using eDNA and Traditional Methods

Scott George\*<sup>1</sup>, Barry Baldigo<sup>1</sup>, Christopher Rees<sup>2</sup>, Meredith Bartron<sup>2</sup>; <sup>1</sup> U.S. Geological Service; <sup>2</sup> U.S. Fish and Wildlife Service

## 2:30PM eDNA for Early Detection of AIS: Where are We and Where are We Going?

Justin Townsend, Ramsey County Parks

## 2:50PM Extended Panel Discussion/Q&A

## Improved Eurasian Watermilfoil Management

Moderator:

### 1:30PM Advancements in Eurasian Watermilfoil Research and Management in Wisconsin

Michelle Nault, Wisconsin Department of Natural Resources

### 1:50PM Assessment of Two Large-Scale ProcellaCOR EC Treatments in Northern Indiana

Reid Morehouse\*<sup>1</sup>, Willey Leif<sup>2</sup>, Mark Heilman<sup>1</sup>; <sup>1</sup> SePRO; <sup>2</sup> Aquatic Control

### 2:10PM In-lake Evaluation of Florpyrauxifen-benzyl (ProcellaCOR) on Invasive Hybrid Watermilfoil in a Central Minnesota Lake

Keegan Lund\*, Kylie Kattoor\*, April Londo, Minnesota Department of Natural Resources

### 2:30PM Integrating Genetics and Herbicide Studies to Improve Watermilfoil Management Outcomes

Ryan Thum\*<sup>1</sup>, Gregory Chorak<sup>1</sup>, Raymond Newman<sup>2</sup>, Jo Latimore<sup>3</sup>, Erick Elgin<sup>3</sup>; <sup>1</sup> Montana State University; <sup>2</sup> University of Minnesota; <sup>3</sup> Michigan State University

## 2:50PM Extended Panel Discussion/Q&A

## Protecting Mighty Oaks: Advances in Oak Wilt Detection

Moderator:

### 1:30PM Spectral Reflectance Detects Oak Wilt Decline in Oaks at the Landscape Scale


Gerard Sapes\*<sup>1</sup>, Cathleen Lapadat<sup>1</sup>, Jennifer Juzwik<sup>2</sup>, Rebecca Montgomery<sup>1</sup>, Nanfeng Liu<sup>3</sup>, Phillip Townsend<sup>3</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> USDA Forest Service; <sup>3</sup> University of Wisconsin - Madison


### 1:50PM Seasonal and Regional Distributions, Degree-Day Models, and Phoresy Rates of the Major Sap Beetle (Coleoptera: Nitidulidae), Vectors of the Oak Wilt Fungus, *Bretziella fagacearum*, in Wisconsin

Stephanie Jentz\*<sup>1</sup>, Jennifer Juzwik<sup>2</sup>, Patrick Tobin<sup>3</sup>, Kenneth Raffa<sup>4</sup>; <sup>1</sup> Wisconsin Department of Agriculture and Consumer Protection; <sup>2</sup> USDA Forest Service; <sup>3</sup> University of Washington; <sup>4</sup> University of Wisconsin - Madison (emeritus)

### 2:10PM Novel Rapid Detection Technology for Oak Wilt Disease

Vinni Thekkudan Novi\*<sup>1</sup>, Melanie Moore<sup>2</sup>, Quichen Dong<sup>1</sup>, Jennifer Juzwik<sup>2</sup>, Abdennour Abbas<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> USDA Forest Service

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**2:30PM Oak Wilt Outreach in Ontario: A Model for Educating Communities on Invasive Species**

*Mackenzie DiGasparro, Invasive Species Centre*

**2:50PM Extended Panel Discussion/Q&A**

**Translating Science into Practice for Climate-Smart Invasive Species Management**



Moderator:

**1:30PM Translational Invasion Ecology: Bridging Research and Practice to Address One of the Greatest Drivers of Global Change**

*Toni Lyn Morelli\*<sup>1</sup>, Carrie Brown-Lima<sup>2</sup>, Jenica Allen<sup>3</sup>, Audrey Barker Plotkin<sup>4</sup>, Evelyn Beaury<sup>4</sup>, Emily Fusco<sup>4</sup>, Bridget Griffin<sup>4</sup>, Brittany Laginhas<sup>4</sup>, Lara Munro<sup>4</sup>, Bethany Bradley<sup>4</sup>;<sup>1</sup> U.S. Geological Survey; <sup>2</sup> New York Invasive Species Research Institute; <sup>3</sup> Mount Holyoke College; <sup>4</sup> University of Massachusetts - Amherst*

**1:50PM Biological Control Programs as a Model of Translational Invasion Research**

*Carrie Brown-Lima, New York Invasive Species Research Institute*

**2:10PM Resilient and Connected: Our Vision for Protecting Biodiversity**


*Shaun Howard, The Nature Conservancy*

**2:30PM Stakeholder-Driven Tools for Visualizing and Listing Climate-Driven Range Shifts in Terrestrial Invasive Plants**

*Jenica Allen\*<sup>1</sup>, Jeff Garnas<sup>2</sup>, Chuck Barger<sup>3</sup>, Joseph LaForest<sup>3</sup>, Bethany Bradley<sup>4</sup>;<sup>1</sup> Mount Holyoke College; <sup>2</sup> University of New Hampshire; <sup>3</sup> University of Georgia; <sup>4</sup> University of Massachusetts - Amherst*

**2:50PM Building a Regional Collaboration of Northeast State Invasive Species Councils to Proactively Address Range-Shifting Invasive Plants**

*Bethany Bradley\*<sup>1</sup>, Carrie Brown-Lima<sup>2</sup>, Toni Lyn Morelli<sup>3</sup>, Jenica Allen<sup>4</sup>, Evelyn Beaury<sup>1</sup>, Emily Fusco<sup>4</sup>, Brittany Laginhas<sup>1</sup>;<sup>1</sup> University of Massachusetts - Amherst; <sup>2</sup> New York Invasive Species Research Institute; <sup>3</sup> U.S. Geological Survey; <sup>4</sup> Mount Holyoke College*

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Tuesday, November 3, 2020 (**Election Day, U.S.**)

## MORNING CONCURRENT SESSIONS

### Modeling to Understand Ecology & Invasive Species Spread

Moderator:

#### 10:20AM Developing Phenological Models to Improve Management of Pesky Plants

*Rebecca Montgomery\**, Abigail Anderson, Byju Govindan, Stephan Carlson; University of Minnesota

#### 10:40AM Assessing Eastern U.S. Forest Susceptibility to Four Invasive Insect Pests in the Context of Landscape Connectivity

*Jason Reinhardt\** and Matthew Russell; University of Minnesota

#### 11:00AM Making Better MaxEnt Models for Invasive Species

*Amy Morey\**; University of Minnesota, Rob Venette; USDA Forest Service and University of Minnesota

#### 11:20AM Improving Predictions of Range Expansion for Invasive Species using Joint Species Distribution Models and Surrogate Co-occurring Species

*Ryan Briscoe Runquist\**, Thomas Lake, David Moeller; University of Minnesota

#### 11:40AM Terrestrial Eutrophication and Afforestation as Major Driver of Invasion

*Stephen Thomforde*; Stantec Consulting Environmental Services

### Sustaining Community & Citizen Science through Volunteer Training

Moderator:

#### 10:20AM Invasive Species and Community Action

*Lauren Bell*; Invasive Species Centre

#### 10:40AM Managing Invasive Species with the Help of Citizen Scientists and Experienced Mentors

*Christopher Gaetzke*; Lower Chippewa Invasives Partnership, Inc.

#### 11:00AM EmpowerU: Energizing Citizens with the Skills to Affect Change in their Communities

*Gail Epping Overholt\**<sup>1</sup>, *Anne Pearce\**<sup>2</sup>; <sup>1</sup> University of Wisconsin - Arboretum, <sup>2</sup> University of Wisconsin - Madison


#### 11:20AM Online Volunteer Program: Increasing Accessibility, Flexibility, and Engagement in Rural Communities

*Lindsay Peterson*; Wild Rivers Invasive Species Coalition (WRISC)

#### 11:40AM Successfully Inheriting an Invasive Species Outreach Program

*Rachel Carroll\**, Rebekah Wallace, Chuck Bargeron; University of Georgia

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## Tackling Dreissenid Mussels and New Zealand Mudsnaails

Moderator:

### 10:20AM Lake Michigan Quagga Mussel (*Dreissena rostriformis bugensis*) Control Demonstration Project

Erika Jensen\*<sup>1</sup>, Doug Bradley<sup>2</sup>, Harvey Bootsma<sup>3</sup>, Vincent Deneff<sup>4</sup>, Kathryn Schmidt<sup>4</sup>, Brenda Moraska Lafrancois<sup>5</sup>;  
<sup>1</sup> Great Lakes Commission; <sup>2</sup> LimnoTech; <sup>3</sup> University of Wisconsin - Milwaukee; <sup>4</sup> University of Michigan; <sup>5</sup> National Park Service

### 10:40AM Eradicating Invasive Mollusks (*Dreissena* and NZMS) when Fish are Present

David Hammond\*, EarthTec QZ, Gavin Ferris, Solitude Lake Management, Inc.

### 11:00AM Field Studies on Low-dose Copper Treatments for Dreissenid Mussel Control

Angelique Dahlberg\*<sup>1</sup>, Diane Waller<sup>2</sup>, James Luoma<sup>2</sup>, Nicholas Phelps<sup>1</sup>, Matthew Barbour<sup>2</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> U.S. Geological Survey

### 11:20AM The Great Lakes New Zealand Mud Snail Collaborative

Jeremy Geist; Trout Unlimited, Inc.

### 11:40AM Conservation Dogs Locate AIS Infestations: A Collaborative Project Overview

Amy Wagnitz\* and Laura Holder; Midwest Conservation Dogs, Inc.

## Emerging Invasive Plants: Control & Prevention

Moderator:

### 10:20AM Japanese Stiltgrass (*Microstegium vimineum*) Management in Southern Indiana

Emily Finch; Dubois County Soil & Water Conservation District

### 10:40AM EDDMapS Pro Mapping Applications Aid in Early Detection and Rapid Response to Potential Pest Threats

Tricia Bethke; The Morton Arboretum


### 11:00AM Biocontrol of Tree of Heaven (*Ailanthus altissima*) in an Integrated Management Plan

Francesca Marini\*<sup>1</sup>, Massimo Cristofaro<sup>1</sup>, Enrico de Lillo<sup>2</sup>, Radmila Petanović<sup>3</sup>, René Sforza<sup>4</sup>, Biljana Vidović<sup>3</sup>, Philip Weyl<sup>5</sup>; <sup>1</sup> Biotechnological and Biological Control Agency; <sup>2</sup> University of Bari Aldo Moro; <sup>3</sup> University of Belgrade; <sup>4</sup> USDA-ARS European Biological Control Laboratory; <sup>5</sup> CABI

### 11:20AM NAISMA Certified Weed Free Mulch Standards: A New Tool for a Critical Invasive Species Pathway

Elizabeth Brown\* and Belle Bergner; North American Invasive Species Management Association

### 11:40AM Extended Panel Discussion/Q&A

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## Invasives & Restoration 1: Grazing & Shading as Tools for Restoration & Invasive Control

Moderator:

### 10:20AM Invasive Species Before, During and After Restorations

*Gina Quiram\* and Wade Johnson; Minnesota Department of Natural Resources*

### 10:40AM Cover it Up! Four Years of Restoring Herbs to Control Common Buckthorn

*Peter Wragg\*<sup>1</sup>, Michael Schuster<sup>1</sup>, Lee Frelich<sup>1</sup>, Alex Roth<sup>2</sup>, Paul Bockenstedt<sup>3</sup>, Shawn Schottler<sup>4</sup>, Mike Goodnature<sup>5</sup>, Paul Kortebein<sup>6</sup>, Peter Reich<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> Friends of the Mississippi River; <sup>3</sup> Stantec; <sup>4</sup> St. Croix Watershed Research Station; <sup>5</sup> Ramsey County; <sup>6</sup> Three Rivers Park District*

### 11:00AM The Effectiveness of using Targeted Grazing for Vegetation Management: A Meta-Analysis

*Katherine Marchetto\*, Tiffany Wolf, Daniel Larkin; University of Minnesota*

### 11:20AM Using Sheep to Control Buckthorn, Honeysuckle, and Garlic Mustard

*Angela Miner; The Nature Conservancy*

### 11:40AM Suppression of *Phalaris arundinacea* by Assisted Succession: A 16-Year Restoration Experiment

*Kattia Palacio-Lopez\*, Steve Hovick, Kali Mattingly, Leah Weston, Nathaniel Hofford, Logan Finley; The Ohio State University*

## AFTERNOON CONCURRENT SESSIONS

### Genetic Biocontrol: Science, Policy, Ethics & Outreach

Moderator:

#### 1:30PM Engineering Genetic Biocontrol Agents for Terrestrial and Aquatic Invasive Species

*Michael Smanski; University of Minnesota*

#### 1:50PM Gene Drive: A Novel Tool for Non-Native Invasive Plant Management

*Alan Smith\*, Nicholas Johnson, Roger Becker, Neil Anderson; University of Minnesota*

#### 2:10PM U.S. and Other Policy Considerations Relevant to Invasive Species Control


*Stas Burgiel, National Invasive Species Council*

#### 2:30PM Thinking Beyond the Federal Framework Governing Genetic Biocontrol: Legal and Policy Considerations from the International to Local Scale

*Stephanie Otts; National Sea Grant Law Center, University of Mississippi*


#### 2:50PM Engaging the Public when Biotechnology Goes "Wild"

*Jason Delborne; North Carolina State University*

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## Big Data! Invasive Species Mapping Tools

Moderator:

Session Sponsor: Center for Invasive Species and Ecosystem Health, University of Georgia

### 1:30PM Wild Spotter - Mapping Invasives in America's Wild Places

Mike Ielmini <sup>\*1</sup>, Pat Conzemius <sup>2</sup>, Dane Huinker <sup>2</sup>, Chuck Bargeron <sup>3</sup>, Rachel Carroll <sup>3</sup>; <sup>1</sup> USDA - Forest Service; <sup>2</sup> Wildlife Forever; <sup>3</sup> University of Georgia

### 1:50PM The USGS NAS Database: Actionable Tools and Data for AIS Management

Matthew Neilson\*, Daniel Wesley, Ian Pfungsten; U.S. Geological Survey

### 2:10PM ISMTrack: Easing Coordination for Long-term Management of Invasive Knotweeds (*Polygonum* spp.)

Christina Basch <sup>\*1</sup>, Monika Chandler <sup>1</sup>, Chuck Bargeron <sup>2</sup>, Barb Perry <sup>3</sup>, Edward Dittmer <sup>4</sup>, Dustin Looman <sup>4</sup>; <sup>1</sup> Minnesota Department of Agriculture; <sup>2</sup> University of Georgia; <sup>3</sup> Minnesota Department of Natural Resources; <sup>4</sup> Conservation Corps of MN & IA

### 2:30PM Focus on the Audience, Not the Technology

Chuck Bargeron\*, Rebekah Wallace, Rachel Carroll, Joe LaForest; University of Georgia

### 2:50PM Extended Panel Discussion/Q&A

## Assessing & Addressing AIS Risks

Moderator:

### 1:30PM Aquatic Plant Pathway Risk Assessment for the Laurentian Great Lakes

Ceci Weibert <sup>\*1</sup>, Erika Jensen <sup>1</sup>, Lindsay Chadderton <sup>2</sup>, Andrew Tucker <sup>2</sup>, Kate Wyman-Grothem <sup>3</sup>; <sup>1</sup> Great Lakes Commission; <sup>2</sup> The Nature Conservancy; <sup>3</sup> U.S. Fish and Wildlife Service

### 1:50PM Online Decision Support Tool to Prioritize AIS Surveillance and Watercraft Inspection Activities

Nicholas Phelps <sup>\*1</sup>, Amy Kinsley <sup>1</sup>, Robert Haight <sup>2</sup>, Petra Muellner <sup>3</sup>. Ulrich Muellner <sup>3</sup>, Zoe Kao <sup>1</sup>, Eva Enns <sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> USDA - Forest Service; <sup>3</sup> Epi-Interactive

### 2:10PM Assessing the Risk of Fish Pathogen Introduction via Illegal Release of Live Baitfish in Minnesota

Meg McEachran\*, Janice Mladonicky, Catalina Picasso, Nicholas Phelps; University of Minnesota

### 2:30PM How "Hidden Mitten" Exposed an Illicit Invasive Species Threat

Sharon Gary\* and Holli Polansky\*; U.S. Fish and Wildlife Service

### 2:50PM Potential Sources of Infectious Disease Introduction: An Overview of the U.S. Live Exotic Aquatic Animal Trade from Asia

Alexander Primus <sup>\*1</sup>, Amy Kinsley <sup>1</sup>, Tiffany Wolf <sup>1</sup>, Kristine Smith <sup>2</sup>, Carlos Zambrana <sup>2</sup>, Nicholas Phelps <sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> EcoHealth Alliance

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author

## Insect Pests of Forest and Agricultural Lands

Moderator:

### 1:30PM Host Preferences of Velvet Longhorned Beetle, *Trichoferus campestris*

Grace Haynes\*<sup>1</sup>, Marissa Streifel<sup>2</sup>, Angie Ambourn<sup>2</sup>, Brian Aukema<sup>1</sup>; <sup>1</sup>University of Minnesota; <sup>2</sup>Minnesota Department of Agriculture

### 1:50PM The History of Gypsy Moth (*Lymantria dispar*) Management in Wisconsin: From Weather Balloons to iPhones

Christopher Foelker; Wisconsin Department of Agriculture, Trade & Consumer Protection

### 2:10PM Gypsy Moth (*Lymantria dispar*) Program Updates on Surveys and Treatments

Natasha Northrop; Minnesota Department of Agriculture

### 2:30PM Cost-effective Organic Controls for Spotted-wing Drosophila: Bio-pesticides and High Tunnel Exclusion

Matthew Gullickson\*, Gigi DiGiacomo, Mary Rogers; University of Minnesota

### 2:50PM The Parasitoid *Aphelinus certus* as a Biological Control Agent of the Soybean Aphid

James Miksanek\* and George Heimpel; University of Minnesota

## Invasives & Restoration 2: Wetland Restoration - Successes with Cattail Invasions

Moderator:

### 1:30PM Restoration of Wetlands Infested with Hybrid Cattail in Voyageurs National Park

Reid Plumb\*<sup>1</sup>, Steve Windels<sup>1</sup>, Chandra Wiley<sup>1</sup>, Bryce Olson<sup>2</sup>; <sup>1</sup>National Park Service; <sup>2</sup>Russurs Consulting LLC

### 1:50PM Sediment Excavation in Wetland Restoration Modestly Reduced Cattail Invasion Probability

Danelle Larson\*<sup>1</sup>, John Riens<sup>2</sup>, Sheldon Myerchin<sup>2</sup>, Shawn Papon<sup>2</sup>, Melinda Knutson<sup>2</sup>, Sara Vaskek<sup>2</sup>; <sup>1</sup>U.S. Geological Survey; <sup>2</sup>U.S. Fish and Wildlife Service


### 2:10PM Wetland Restoration Implications of Invasive Plants and High Water Levels in the St. Louis River Estuary

Dustin Haines\*<sup>1</sup>, Anna Hall<sup>2</sup>, Hannah Ramage<sup>1</sup>; <sup>1</sup>Lake Superior National Estuarine Research Reserve; <sup>2</sup>U.S. EPA

### 2:30PM Removing Invasive Cattail to Restore Wild Rice in Allouez Bay


Kelly Beaster\* and Amy Eliot; University of Wisconsin - Superior

### 2:50PM Extended Panel Discussion/Q&A

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author

Wednesday, November 4, 2020

## MORNING CONCURRENT SESSIONS

### Cooperative Invasive Species Management Area Round-Table

Moderator: Kelly Kearns, Wisconsin Department of Natural Resources

**10:20AM - 12:00PM** - *Lightning talks by CISMA representatives focused on what's new, what has been successful, and what has been particularly challenging.*

### Workshop: Why Diversity, Equity and Inclusion are Vital to Conservation Goals

Instructor: C. Parker McMullen Bushman; EcoInclusive Strategies, LLC

**10:20AM - 12:00PM** - [Please register here if you plan to attend](#) (included with UMISC registration)

### Ballast Water: New Policies, Actions & Findings

Moderator: Jeff Stollenwerk, Duluth Seaway Port Authority

Session Sponsor: Duluth Seaway Port Authority

#### **10:20AM Predicting the Risk of Pathogen Introduction from Ballast Water Discharge into the St. Louis River Estuary, Minnesota**

*Julia Zimmer\**, Randall Hicks, Chan Lan Chun; University of Minnesota - Duluth

#### **10:40AM Great Waters Research Collaborative's Journey to Find Effective Ballast Water Management Strategies**

*Kelsey Prihoda\*<sup>1</sup>, Lisa DeGuire\*<sup>1</sup>, Meagan Aliff<sup>2</sup>, Kimberly Beesley<sup>1</sup>, Chan Lan Chun<sup>1</sup>, Lana Fanberg<sup>1</sup>, Steven Gebhard<sup>1</sup>, Randall Hicks<sup>1</sup>, Holly Wellard Kelly<sup>2</sup>, Marylee Murphy<sup>1</sup>, Christine Polkinghorne<sup>2</sup>, Euan Reavie<sup>2</sup>, Elaine Ruzycki<sup>1</sup>, Heidi Saillard<sup>1</sup>, Heidi Schaefer<sup>1</sup>, Tyler Schwerdt<sup>3</sup>, Matthew TenEyck<sup>1</sup>; <sup>1</sup> University of Wisconsin - Superior; <sup>2</sup> University of Minnesota - Duluth; <sup>3</sup> AMI Consulting Engineers, P.A.*


#### **11:00AM Vessel Incidental Discharge Act (VIDA) – The U.S. Regulatory Framework for Discharges from Commercial Vessels**

*Jack Faulk; U.S. Environmental Protection Agency*

#### **11:20AM Ballast Water Management in the Great Lakes**


*Thomas Rayburn; Lake Carriers' Association*

#### **11:40AM Extended Panel Discussion/Q&A**

 = Aquatic Track

 = Forest Health Track

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## Legends of Forest Health: New Answers to Old Questions

Moderator:

**10:20AM American Chestnut (*Castanea dentata*) as a Model for Tackling Introduced Pests and Pathogens**  
*Keith Gilland; University of Wisconsin - Stout*

**10:40AM Butternut Canker Disease: 50 years of Study and We Still Have Questions**  
*James Jacobs; USDA - Forest Service*

**11:00AM The Resurgence of Larch Casebearer in the Great Lakes Region**  
*Brian Aukema\*<sup>1</sup>, Spencer Stout<sup>1</sup>, Samuel Ward<sup>2</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> Mississippi State University*

**11:20AM Winning the Dutch Elm Disease Battle by Developing Resistant Elms for Minnesota**  
*Benjamin Held\*<sup>1</sup>, Chad Giblin<sup>1</sup>, Ryan Murphy<sup>1</sup>, Garrett Beier<sup>2</sup>, Robert Blanchette<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> Farmingdale State College*

**11:40AM Extended Panel Discussion/Q&A**

## Invasives & Restoration 3: Terrestrial Restoration - Successes & Pollinator Benefits

Moderator:

**10:20AM Influence of Landscape, Establishment Practices and Management on Invasive Plants and Native Forbs when Establishing Pollinator Habitat**  
*Mark Renz\*, Yuebo Su, Jasmine Wyant, Erin Warner, Laura Judge; University of Wisconsin - Madison*

**10:40AM Restoration of Native-Dominated Plant Communities on a Spotted Knapweed-Infested Site**  
*Neil MacDonald, Grand Valley State University*

**11:00AM Best Management Practices for Pollinator-friendly Invasive Species Management**  
*Baerbel Ehrig\* and Michele Sadauskas; Oneida County Land & Water Conservation Department*

**11:20AM Long-term Impacts of Organic Soil Amendments on Urban Prairie Restoration**  
*Leah Weston\*, Stephen Hovick, Scott Demyen, Nicholas Basta; The Ohio State University*


**11:40AM Extended Panel Discussion/Q&A**

## AFTERNOON CONCURRENT SESSIONS

### Workshop: Bringing Divergent Views Together with Open Space Meetings


Instructor: April Rust, Minnesota Department of Natural Resources

**1:30PM - 3:10PM - [Please register here if you plan to attend](#) (included with UMISC registration)**

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author

## Why the Words We Use Matter

Moderator:

### **1:30PM Disconnects between Communicated Impact and Ecological Impact of Biological Invasions**

*Kali Mattingly\**, Tara Pelletier, Jessie Lanterman, Danielle Frevola, Benjamin Stucke, Kaitlin Kinney, Ross Schwartz, Drew Spacht, Graham Dixon, Stephen Hovick; *The Ohio State University*

### **1:50PM What's In a Name? Thoughtful Nomenclature Makes a Difference**

*Angela Gupta\**<sup>1</sup>, Megan Weber<sup>1</sup>, Doug Jensen<sup>2</sup>; <sup>1</sup> *University of Minnesota Extension*; <sup>2</sup> *University of Minnesota Sea Grant Program*

### **2:10PM Outreach in a Digital World**

*Rebekah Wallace\**, Chuck Bargeron, Rachel Carroll; *University of Georgia*

### **2:30PM Seeing, Hearing and Feeling: The Clean Drain Dry Partnership Message**

*Dane Huinker*; *Wildlife Forever*

### **2:50PM PlayCleanGo®: Upper Midwest Partnerships and How Your Organization Can Participate**

*Krista Lutzke*; *North American Invasive Species Management Association*

## Boater Behavior: From Theory to Practice

Moderator:

### **1:30PM Lake Public Access Observations for Aquatic Invasive Species Prevention Behaviors**

*Tony Brough\**<sup>1</sup>, Carolyn Dindorf<sup>2</sup>, Katie Farber<sup>2</sup>; <sup>1</sup> *Hennepin County*; <sup>2</sup> *Fortin Consulting, Inc.*

### **1:50PM A Comparison of Watercraft Decontamination Methods: Invasive Species Removal, Boater Outreach, and Cost**

*Maria Bleitz\**<sup>1</sup>, Jo Latimore<sup>1</sup>, Kevin Walters<sup>2</sup>; <sup>1</sup> *Michigan State University*; <sup>2</sup> *Michigan Department of Environment, Great Lakes, and Energy*


### **2:10PM Online Boater Led Check-In/Check-Out Alternative to In-Person Inspections: A COVID-19 Response Pilot**

*Edgar Rudberg*; *CD3, General Benefit Corporation*

### **2:30PM AIS Prevention During COVID-19**

*Erin McFarlane\**<sup>1</sup>, Jeanne Scherer<sup>2</sup>; <sup>1</sup> *University of Wisconsin Extension Lakes*; <sup>2</sup> *Wisconsin Department of Natural Resources & University of Wisconsin - Madison Extension*

### **2:50PM Extended Panel Discussion/Q&A**

 = Aquatic Track

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## Using Herbicides to Improve Management of Invasive Plants, Part 1



Moderator:

Session Sponsor: Corteva Agriscience

### Introduction to Rinskor™: A New Molecule for Increased Control of Broadleaf Weeds and Brush

Scott Flynn; Corteva Agriscience

### Comparison of Effectiveness of TerraVue to Standards on Roadsides in Wisconsin

Mark Renz; University of Wisconsin - Madison

### Desirable Forb Tolerance to Applications of Rinskor®-containing Herbicides (Duracor™ & TerraVue™) in Rangeland, Pastures and Non-Crop Sites

Chad Cummings; Corteva Agriscience

### Effectiveness of Herbicides when Controlling Golden Creeper (*Thladiantha dubia*)

Leo Roth; University of Wisconsin - Madison

## Invasives & Restoration 4: Lessons Learned - Planning & Improving Future Restorations



Moderator:

### 1:30PM The Effects of Dams on Minnesota Fish Communities

Amy Childers\* and Luther Aadland; Minnesota Department of Natural Resources

### 1:50PM Reed Canarygrass: Implications for Control of an Invasive Species When It Is Native

Neil Anderson\*<sup>1</sup>, Andrzej Noyszewski<sup>1</sup>, Alan Smith<sup>1</sup>, Diana Dalbotten<sup>1</sup>, Emi Ito<sup>1</sup>, Anne Timm<sup>2,1</sup>; <sup>1</sup>University of Minnesota; <sup>2</sup>USDA - Forest Service

### 2:10PM Diversity Makes the World Go Round: Resisting Invasion by Design


Megan Benage; Minnesota Department of Natural Resources

### 2:30PM Reducing Risk of Exotic Plant Introduction in Native Prairie Seed Provenancing

Jennifer Larson\*<sup>1</sup>, Holly Bernardo<sup>2</sup>, Diane Larson<sup>1</sup>, Rob Venette<sup>3,1</sup>; <sup>1</sup>U.S. Geological Survey; <sup>2</sup>Minnesota Department of Natural Resources; <sup>3</sup>USDA - Forest Service & University of Minnesota


### 2:50PM Improving Ecological Restoration to Curb Biotic Invasion

Diane Larson\*<sup>1</sup>, Qinfeng Guo<sup>2</sup>, Dale Brockway<sup>2</sup>, Deli Wang<sup>3</sup>, Hai Ren<sup>4,1</sup>; <sup>1</sup>U.S. Geological Survey; <sup>2</sup>USDA - Forest Service; <sup>3</sup>Northeast Normal University; <sup>4</sup>Chinese Academy of Sciences

 = Aquatic Track

 = Forest Health Track

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\* = Presenting author

Thursday, November 5, 2020

## EARLY MORNING CONCURRENT SESSIONS

### **Phragmites Symposium 1: Current Approaches to Management**

Moderator:

Session Sponsor: The Great Lakes *Phragmites* Collaborative

#### **8:30AM Great Lakes *Phragmites* Collaborative: Working Towards a Common Agenda**

*Erika Jensen*\*<sup>1</sup>, *Samantha Tank*<sup>1</sup>, *Patrick Canniff*<sup>1</sup>, *Kurt Kowalski*<sup>2</sup>; <sup>1</sup> Great Lakes Commission; <sup>2</sup> U.S. Geological Survey

#### **8:50AM Non-native *Phragmites* (*Phragmites australis* subsp. *australis*) Management in Coastal Southwestern Lake Superior**

*Travis Bartnick*; Great Lakes Indian Fish & Wildlife Commission

#### **9:10AM Coordinated Response to Invasive *Phragmites* in Minnesota**

*Julia Bohnen*\*, *Daniel Larkin*, *Susan Galatowitsch*; University of Minnesota

#### **9:30AM Semi-Automated Identification and Monitoring of *Phragmites australis* Using Drones and Satellites**

*Connor Anderson*\*, *Daniel Heins*, *Keith Pelletier*, *Joseph Knight*; University of Minnesota

#### **9:50AM Mapping invasive *Phragmites* Treatment Outcomes with UAS Imagery**

*Charlotte Weinstein*\*, *Colin Brooks*, *Andrew Poley*, *Amanda Grimm*, *Nicholas Marion*, *Dana Hansen*; Michigan Tech Research Institute

### **Organisms in Trade: Fostering Responsible Businesses**

Moderator:

#### **8:30AM Recent Trade-Pathway Invasive Species Prevention Efforts in Minnesota**

*Chelsea Blanke*; Minnesota Department of Natural Resources

#### **8:50AM Preventing Aquatic Invasive Species Introductions through Retailer Engagement**

*Paige Filice*\*<sup>1</sup>, *Jo Latimore*<sup>2</sup>; <sup>1</sup> Michigan State University Extension; <sup>2</sup> Michigan State University


#### **9:10AM "Don't Let It Loose" - Building an Outreach Campaign to Prevent Aquatic Invasive Species**

*Sara Cowell*\*<sup>1</sup>, *Stephanie Sardelis*<sup>1</sup>, *Julie Carpentier*<sup>1</sup>, *Jeff Brinsmead*<sup>2</sup>, *Laureen Janusz*<sup>3</sup>, *Martina Beck*<sup>4</sup>; <sup>1</sup> Fisheries and Oceans Canada; <sup>2</sup> Ontario Ministry of Natural Resources and Forestry; <sup>3</sup> Government of Manitoba; <sup>4</sup> Government of British Columbia

#### **9:30AM Be PlantWise – Making a Difference to Reduce the Spread of Horticulturally Invasive Plants in British Columbia**

*Danielle Toperczer*; Invasive Species Council of BC

#### **9:50AM Extended Panel Discussion/Q&A**

 = Aquatic Track

 = Forest Health Track

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## Improved Herbicide Control of Invasive Plants 2

Moderator:

**8:30AM Protecting Valuable Native Plants and Reducing Herbicide Use while Controlling Non-native Invasive Plants**  
*John Lampe\*<sup>1</sup>, Taylor Bokman\*<sup>2</sup>; <sup>1</sup>Green Shoots, LLC; <sup>2</sup>Minnesota Native Landscapes*

**8:50AM Is there a Magic Bullet? Greenhouse Screening of Herbicides on Bohemian Knotweed (*Fallopia x bohemica*)**  
*Roger Becker\*, Alan Smith, Neil Anderson, Jeanie Katovich, Mary Marek-Spartz, Ryan Mentz; University of Minnesota*

**9:10AM How can Adjuvants Improve Herbicide Efficacy?**  
*Joe Vaillancourt; Loveland Products, Inc.*

Additional talks TBD

## WIGL Summit 1: Welcome to WIGL - Who, What, Where, Why & How?

Moderator:

Session Sponsor: The Woody Invasives of the Great Lakes Collaborative

**8:30AM Welcome to WIGL!**  
*Clair Ryan; Midwest Invasive Plant Network*

**8:50AM Restoring Invaded Forests: Ecological Impacts of Woody Shrubs**  
*Sara Kuebbing; University of Pittsburgh*

**9:10AM Woody Invasives of the Future Great Lakes - EDDMapS Predictive Tools Demo**  
*Clair Ryan; Midwest Invasive Plant Network*

**9:30AM The WIGL Collaborative's Tools for Understanding and Managing Woody Invasive Species of the Great Lakes**  
*Kassandra Richardson\*, Clair Ryan; Midwest Invasive Plant Network*

**9:50AM Extended Panel Discussion/Q&A**


## LATE MORNING CONCURRENT SESSIONS

### ***Phragmites* Symposium 2: Future Directions for Research & Management**

Moderator:


**10:30AM The *Phragmites* Adaptive Management Framework: Managing *Phragmites* with Science on Your Side**  
*Samantha Tank\*<sup>1</sup>, Erika Jensen <sup>1</sup>, Christine Dumoulin <sup>2</sup>, Patrick Canniff<sup>1</sup>, Clinton Moore <sup>2&3</sup>, Kurt Kowalski <sup>3</sup>; <sup>1</sup>Great Lakes Commission; <sup>2</sup>University of Georgia; <sup>3</sup>U.S. Geological Survey*

**10:50AM Introducing Biological Control of Introduced Common Reed (*Phragmites australis*) in Ontario**  
*Michael McTavish\*<sup>1</sup>, Sandy Smith <sup>1</sup>, Rob Bouchier <sup>2</sup>; <sup>1</sup>University of Toronto; <sup>2</sup>Agriculture and Agri-Food Canada*

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author

**11:10AM Targeting Gene Expression to Develop Species-specific Approaches to Manage Non-native *Phragmites***

*Kurt Kowalski*\*<sup>1</sup>, *Ping Gong*<sup>2</sup>; <sup>1</sup> U.S. Geological Survey; <sup>2</sup> U.S. Army Engineer Research and Development Center

**11:30AM Microbial Intervention for *Phragmites* Management: Progress and Possibilities**

*Wesley Bickford*\*<sup>1</sup>, *Kurt Kowalski*<sup>1</sup>, *James White*<sup>2</sup>, *Keith Clay*<sup>3</sup>; <sup>1</sup> U.S. Geological Survey; <sup>2</sup> Rutgers University; <sup>3</sup> Tulane University

**11:50AM Is there a New Wetland Invader in Ontario? Assessing Potential Hybridization in *Phragmites***

*Joanna Freeland*\* and *Abigail Warren*; Trent University

**Organisms in Trade: Fostering Responsible Consumers** 

Moderator:

**10:30AM Incidence of Red-eared Slider (*Trachemys scripta elegans*) Surrender to Minnesota Herpetological Society**

*Jorge Polanco*\* and *Jeff LeClere*\*; Minnesota Herpetological Society

**10:50AM Expanding Invasive Species Prevention through Unique Community Partnerships**

*Doug Jensen*\*<sup>1</sup>, *Randy Carey*<sup>2</sup>, *Jeff LeClere*<sup>3</sup>, *Bartley Blume*<sup>4</sup>; <sup>1</sup> University of Minnesota Sea Grant Program; <sup>2</sup> Minnesota Aquarium Society; <sup>3</sup> Minnesota Herpetological Society; <sup>4</sup> Bent Brewstillery

**11:10AM Plant-Smart Water Gardening**

*Janet Schreier*; Minnesota Water Garden Society

**11:30AM A Trusted Spokesperson Can Amplify Your AIS Prevention Message**

*Jeanne Scherer*\*<sup>1</sup> and *Melinda Myers*; <sup>1</sup> University of Wisconsin - Madison Extension

**11:50AM Invasive Crayfish Enforcement in the Live Food and Pet Industries**

*Robert Stroess*; Wisconsin Department of Natural Resources Bureau of Law Enforcement

**Diversity, Equity, Inclusion & Justice: Change-makers in the Midwest** 

Moderator: *Kassandra Richardson*, Midwest Invasive Plant Network

**10:30AM Removing Social Biases from Conservation by Addressing Internal Cultures and Changing the Hiring Pipeline**

*August Ball*; Cream City Conservation


**10:50AM Environmentalists of Color, Catalyzing Racial Equity in the Environmental Field through A Member-Driven Network**

*Raquel García-Álvarez*; Forest Preserves of Cook County

**11:10AM Conversations about Racism, Creating Dialogue within Ourselves and Our Organizations to Catalyze Change**

*Rowzat Schipchandler*; Minnesota Department of Natural Resources

**11:30AM Additional Talk TBA**

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author

11:50AM Extended Panel Discussion/Q&A

## WIGL Summit 2: The Importance of Biology in Managing Woody Species

Moderator:

Session Sponsor: The Woody Invasives of the Great Lakes Collaborative

### 10:30AM Nonnative Invasive Woody Species: What Makes Them So Successful?

*Lauren Pile; USDA - Forest Service*

### 10:50AM Biology of the Callery pear (*Pyrus calleryana*) and Why it is so Difficult to Eradicate

*Theresa Culley; University of Cincinnati*

### 11:10AM Interactions between the Invasive Amur Honeysuckle, *Lonicera maackii*, and Overabundant White-tailed Deer, and Implications for Management

*David Gorchoy; University of Miami*

### 11:30AM Some Native Shrubs can Mitigate Phenological Advantages of Invasive Buckthorn (*Rhamnus cathartica*)

*Michael Schuster\*, Peter Wragg, Peter Reich; University of Minnesota*

11:50AM Extended Panel Discussion/Q&A

## AFTERNOON CONCURRENT SESSIONS

### Invasive Carp: Modeling and Collaboration

Moderator:

#### 1:30PM Addressing the Invasion of Grass Carp in Lake Erie

*John Navarro; Ohio Department of Natural Resources*

#### 1:50PM Adaptive Grass Carp (*Ctenopharyngodon idella*) Response Actions in Lake Erie

*John Buszkiewicz\*, Lucas Nathan, Seth Herbst; Michigan Department of Natural Resources*

#### 2:10PM Status of Grass Carp Spawning in Lake Erie Tributaries and Implications for Management


*Nicole King\*<sup>1</sup>, Patrick Kocovsky<sup>2</sup>, Christine Mayer<sup>1</sup>, Song Qian<sup>1</sup>; <sup>1</sup> University of Toledo - Lake Erie Center; <sup>2</sup> U.S. Geological Survey*

#### 2:30PM Identification of Probable Spawning Areas for Invasive Carps using Inverse Drift Modeling

*Ryan Jackson\*<sup>1</sup>, Patrick Kocovsky<sup>1</sup>, Charlie Cigrand<sup>1</sup>, Nicole King<sup>2</sup>, Christine Mayer<sup>2</sup>, Song Qian<sup>2</sup>; <sup>1</sup> U.S. Geological Survey; <sup>2</sup> University of Toledo - Lake Erie Center*


#### 2:50PM Using Collaboration to Prevent the Establishment of Asian Carps

*Rebecca Schroeder\*<sup>1</sup> and Brook Schryer\*<sup>2</sup>; <sup>1</sup> Invasive Species Centre; <sup>2</sup> Ontario Federation of Anglers and Hunters*

 = Aquatic Track

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## Promoting Behavior Change for Invasive Species Prevention

Moderator:

### 1:30PM Utilizing Technology to Understand the Effectiveness of Outreach Initiatives

*Megan Pistoiese\* and Brittney Rogers\*; The Nature Conservancy*

### 1:50PM Wisconsin Boaters' and Anglers' Perceptions of Aquatic Invasive Species Prevention

*Evelyn Hammond\*, Ayse Okur-Ozdemir, Tim Campbell, Jeanne Scherer; University of Wisconsin - Madison*

### 2:10PM Developing a Clean Drain Dry Behavior Change Strategy in New York State

*Ken Donnelly; Beyond Attitude Consulting*

### 2:30PM Bridging the Gap: State and Local Behavior Change Initiatives for AIS Prevention in Minnesota

*Tina Fitzgerald; Minnesota Department of Natural Resources*

### 2:50PM Pathways to Partnership: How Three CISMAs Collaborated for Consistent Messaging

*Rosie Page\*<sup>1</sup>, Lindsay Peterson<sup>2</sup>, Alix Bjorklund<sup>3</sup>, Tracy Beckman<sup>4</sup>; <sup>1</sup> Wisconsin Headwaters Invasives Partnership; <sup>2</sup> Wild Rivers Invasive Species Coalition; <sup>3</sup> Timberland Invasives Partnership; <sup>4</sup> Lumberjack RC&D Council*

## Diversity, Equity, Inclusion & Justice Panel: Conversations about Racism in Conservation

Moderator: Kasandra Richardson, Midwest Invasive Plant Network

### 1:30PM Panelist Introductions and Participant Guidelines

*Ariana Cano; University of Vermont, The Gund Institute*

*Josh Anadu; Oklahoma State University*

*LaTresse Snead; National Parks Foundation*

### 1:50PM – 3:10PM Extended Panel Discussion/Q&A

## WIGL Summit 3: The Trade Pathway - When Good Plants Go Bad

Moderator:

Session Sponsor: The Woody Invasives of the Great Lakes Collaborative

### 1:30PM Indiana's Plant Assessment Process and its Vital Role in Development of the Terrestrial Plant Rule


*Dawn Slack; The Nature Conservancy*

### 1:50PM Use of Plant Sentry™ to Educate Consumers and Provide Plants that only Benefit the Environment

*Tom Buechel; Nature Hills Nursery*

### 2:10PM Mislabeling and Hybridization: Untangling Invasive Bittersweet (*Celastrus orbiculatus*) from its Native Relative (*C. scandens*)

*David Zaya; Illinois Natural History Survey*

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

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\* = Presenting author







**2:30PM Sterile Cultivars: A Plant Breeding Approach to Invasive Species Problems**


*Mark Brand; University of Connecticut*

**2:50PM Go Beyond Beauty: Northwest Michigan's Approach to Invasive Ornamentals**

*Katie Grzesiak; Northwest Michigan Invasive Species Network*

 = Aquatic Track  
 = Terrestrial Track

 = Forest Health Track  
 = Interdisciplinary

 = Special Session or Symposium  
\* = Presenting author

Friday, November 6, 2020

## EARLY MORNING CONCURRENT SESSIONS

### Right-of-Way Invasive Plant Management

Moderator:

Session Sponsor: 4-Control, Inc. & Nutrien Solutions

#### 8:30AM Documenting Impacts of Training Municipalities to Control Invasive Plants on Wisconsin Roads

*Anne Pearce\* and Mark Renz; University of Wisconsin - Madison*

#### 8:50AM Lessons Learned from Plant Growth Regulator (PGR) and Invasive Weed Control Roadside Programs

*Jim Bean; BASF Corporation*

#### 9:10AM Working with Counties & Municipalities to Control Invasive Plants on Roadsides

*Lee Shambeau; 4-Control, Inc.*

#### 9:30AM Integrating Control Methods for Wild Parsnip (*Pastinaca sativa*) in Rights of Way with Imazapic + Metsulfuron for Grass Height Suppression

*Leo Roth\*<sup>1</sup>, Mark Renz<sup>1</sup>, Lee Shambeau<sup>2</sup>, Ken Schroeder<sup>3</sup>, Jerome Clark<sup>3</sup>, Leigh Presley<sup>3</sup>; <sup>1</sup> University of Wisconsin - Madison; <sup>2</sup> 4-Control, Inc.; <sup>3</sup> University of Wisconsin Extension*

#### 9:50AM Extended Panel Discussion/Q&A

### Regulatory Toolbox for Invasive Species Prevention & Management

Moderator:

#### 8:30AM Listing Noxious Weed Seeds in Minnesota: A Risk Assessment Model

*Michael Merriman\*, Denise Thiede, Don Opdahl; Minnesota Department of Agriculture*

#### 8:50AM Timeline of Palmer Amaranth in Minnesota

*Eric Yu\*, Shane Blair, Monika Chandler, Anthony Cortilet, Denise Thiede; Minnesota Department of Agriculture*


#### 9:10AM Executive Action on Aquatic Invasive Species in the Great Lakes Basin


*Kevin Irons; Illinois Department of Natural Resources*

#### 9:30AM The Success of Injurious Wildlife Listing Under the Lacey Act

*Susan Jewell\*<sup>1</sup> and Pam Fuller<sup>2</sup>; <sup>1</sup> U.S. Fish and Wildlife Service; <sup>2</sup> U.S. Geological Survey*

#### 9:50AM Extended Panel Discussion/Q&A

 = Aquatic Track

 = Terrestrial Track

 = Forest Health Track

 = Interdisciplinary

 = Special Session or Symposium

\* = Presenting author



## Biological Control of Forest Pests

Moderator:

### 8:30AM Emerald Ash Borer Biological Control: A Management Strategy for the Forest

Chris Mallet\*<sup>1</sup>, Angie Ambourn<sup>1</sup>, Jonathan Osthus<sup>1</sup>, Brian Aukema<sup>2</sup>, Rob Venette<sup>2&3</sup>; <sup>1</sup> Minnesota Department of Agriculture; <sup>2</sup> University of Minnesota; <sup>3</sup> USDA - Forest Service

### 8:50AM The Continued Search for Associational Protection against Emerald Ash Borer

Dora Mwangola\*<sup>1</sup>, Jennifer Burrington<sup>2</sup>, Angie Ambourn<sup>2</sup>, Mark Abrahamson<sup>2</sup>, Brian Aukema<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> Minnesota Department of Agriculture

### 9:10AM Cold Tolerance and Overwintering Mortality of *Spathius galinae* in Minnesota

Jacob Wittman\*<sup>1</sup>, Jian Duan<sup>2</sup>, Rob Venette<sup>1&3</sup>, Brian Aukema<sup>1</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> USDA - Agricultural Research Service; <sup>3</sup> USDA - Forest Service

### 9:30AM Is There a Way Forward for the Biological Control of Common Buckthorn, *Rhamnus cathartica*?

Philip Weyl\* and Harriet Hinz; CABI

### 9:50AM Crown Rust Fungus Infects Two Wetland Invaders: Glossy Buckthorn and Reed Canarygrass

Nicholas Greatens\*<sup>1</sup>, Pablo Olivera Firpo<sup>1</sup>, Yue Jin<sup>2</sup>; <sup>1</sup> University of Minnesota; <sup>2</sup> USDA - Agricultural Research Service

## WIGL Summit 4: Integrated Strategies for Woody Invasive Control

Moderator:

Session Sponsor: The Woody Invasives of the Great Lakes Collaborative

### 8:30AM Choosing the Right Tools for Mechanical Control of Woody Invasive Species

Chris Evans; University of Illinois Extension

### 8:50AM Directed Flaming to Control Invasive Plants

Jeffery Ward; Connecticut Agricultural Experiment Station


### 9:10AM Integrated Management of Woody Invasives in a Remnant Forest Ecosystem


Kurt Dreisilker; The Morton Arboretum

### 9:30AM Prescribed Grazing for Managing Invasive Woody Vegetation in Eastern Hardwood Forests

Ron Rathfon; Purdue Extension

### 9:50AM Extended Q&A

 = Aquatic Track

 = Terrestrial Track

 = Forest Health Track

 = Interdisciplinary

 = Special Session or Symposium

\* = Presenting author

## LATE MORNING CONCURRENT SESSIONS

### On our Radar: New Terrestrial Invasive Plant Threats to the Upper Midwest

Moderator: Monika Chandler, Minnesota Department of Agriculture

#### 10:30AM Carrot Family Identification, Part 1 - Smaller Species

*Dave Hanson; Minnesota Department of Transportation*

#### 10:50AM Carrot Family Identification, Part 1 - Larger Species

*Dave Hanson; Minnesota Department of Transportation*

#### 11:10AM Public Gardens as Sentinels against Invasive Plants

*Kurt Dreisilker\*<sup>1</sup>, Theresa Culley<sup>2</sup>, Clair Ryan<sup>2</sup>, Hans Landel<sup>3</sup>, Brittany Schultz<sup>4</sup>, Nadia Cavallin<sup>5</sup>, Roger Gettig<sup>6</sup>, Sai Ravichandran<sup>1</sup>; <sup>1</sup> The Morton Arboretum; <sup>2</sup> Midwest Invasive Plant Network; <sup>3</sup> Ladybird Johnson Wildflower Center; <sup>4</sup> Missouri Botanical Garden; <sup>5</sup> Royal Botanical Garden; <sup>6</sup> Holden Arboretum*

#### 11:30AM Heads Up! What we can Learn From our Neighbors - Survey Results and Lightning Talks

*Speakers TBD*

### Workshop: R Statistical Software for Invasive Species Applications

Instructor: Matthew Russell; University of Minnesota

10:30AM - 12:10PM - [Please register here](#) (included with UMISC registration)

### Silvicultural Responses to Invasive Species

Moderator:

#### 10:30AM Wisconsin's Emerald Ash Borer Management Toolkit

*Colleen Matula\* and Paul Cigan; Wisconsin Department of Natural Resources*

#### 10:50AM Native Plant Community Silviculture Strategies Managing Black Ash Forests in Minnesota

*Paul Dubuque\* and Mike Reinikainen\*; Minnesota Department of Natural Resources*


#### 11:10AM Trees and Shrubs in Current and Former Oak Wilt Pockets

*Brian Schwingle\*, Rachael Nicoll, Megan O'Neil, Eric Otto; Minnesota Department of Natural Resources*

#### 11:30AM Minnesota's Dwarf Mistletoes: Investigating a Novel Invasive Through a Native System


*Ella Gray\*, Marcella Windmuller-Campione, Matthew Russell; University of Minnesota*

#### 11:50AM Extended Panel Discussion/Q&A

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author

## WIGL Summit 5: Herbicide Use to Control Woody Invasive Species

Moderator:

Session Sponsor: The Woody Invasives of the Great Lakes Collaborative

### 10:30AM Choosing the Right Application Method for Woody Invasives

*Stephen Enloe, University of Florida*

### 10:50AM Choosing the Herbicide for Woody Invasives

*Stephen Enloe, University of Florida*

### 11:10AM Application Method Lightning Round & Industry Product Updates

*Low-volume foliar application - Jim Bean, BASF Corporation*

*Hack-and-squirt/stem-injection - Jason Belcher, Bayer*

*Low-volume basal bark, cut stump, dormant stem application - Scott Flynn, Corteva Agriscience*

## AFTERNOON CONCURRENT SESSIONS

### Landscape Scale Management Approaches

Moderator:

#### 1:30PM Lessons, Experiences and Insights on Invasive Vegetation Management

*Todd Polacek, Fugui Wang, Brandon Moore; Applied Ecological Services*

#### 1:50PM Innovative Control Methods and Tools to Control Invasive Species on Tribal Lands

*Michael Arce; Oneida Nation - Environmental Health, Safety and Land Division*

#### 2:10PM The Progression of Pulling Together: Becker County Cooperative Weed Management Area Plan 2006-2020

*Marsha Watland; Becker County Cooperative Weed Management Area & Becker County SWCD*

#### 2:30PM Challenges of Riverside Japanese Hop (*Humulus japonicus*) Eradication in Southeast Minnesota

*Christina Basch\*<sup>1</sup>, Monika Chandler<sup>1</sup>, Emilie Justen<sup>1</sup>, Shane Blair<sup>1</sup>, Barb Perry<sup>2</sup>, Edward Dittmer<sup>3</sup>; <sup>1</sup> Minnesota Department of Agriculture; <sup>2</sup> Minnesota Department of Natural Resources; <sup>3</sup> Conservation Corps of MN and IA*


#### 2:50PM Extended Panel Discussion/Q&A

### Lessons Learned in Starry Stonewort Management

Moderator:

#### 1:30PM The Starry Stonewort Collaborative

*David Carr; Finger Lakes Institute*

 = Aquatic Track

 = Terrestrial Track

 = Forest Health Track

 = Interdisciplinary

 = Special Session or Symposium

\* = Presenting author



**1:50PM Predictive Modelling Assessment of Suitable Habitats for Starry Stonewort (*Nitellopsis obtusa*)**

Emily Neuman\*<sup>1</sup>, Sean Woznicki<sup>1</sup>, Kenneth Karol<sup>2</sup>, James McNair<sup>1</sup>, Sarah Hamsher<sup>1</sup>; <sup>1</sup>Grand Valley State University; <sup>2</sup>New York Botanical Garden

**2:10PM Monitoring and Management of Starry Stonewort (*Nitellopsis obtusa*) in Wisconsin Lakes**

Michelle Nault; Wisconsin Department of Natural Resources

**2:30PM Multi-year Evaluation of Copper Sulfate and Hydrothol 191 to Control Starry Stonewort in a Central Minnesota Lake**

Kylie Cattoor\*, Keegan Lund, April Londo; Minnesota Department of Natural Resources

**2:50PM Large-scale Management of Starry Stonewort (*Nitellopsis obtusa*) in a Large Minnesota Lake**

Christine Jurek\* and Emelia Hauck Jacobs; Minnesota Department of Natural Resources

**WIGL Summit 6: Public Perceptions & Engagement to be Part of the Solution!**



Moderator:

Session Sponsor: The Woody Invasives of the Great Lakes Collaborative

**1:30PM Best Practices for Public Engagement**

Ken Donnelly, Beyond Attitude Consulting

**1:50PM Engaging Private Residential Neighbors in Controlling Buckthorn to Benefit a Sensitive Natural Area**

Mathew Ueltzen and Brett Peto, Lake County Forest Preserve District

**2:10PM "Stop the Spread" Outreach and Engagement Campaign to Fell Callery Pear**

David Dittmer, City of Columbia, Missouri


**2:30PM Just Because it's Sold Doesn't Mean it's Good - Using Landscape Alternatives to make Good Plant Choices**

Clair Ryan, Midwest Invasive Plant Network

**2:50PM Tweet! Post! Like! Using Social Media to Promote Forest Health and Invasive Species Awareness**


David Coyle, Clemson University

**3:10PM WIGL Summit Wrap-up & Next Steps!**

 = Aquatic Track

 = Forest Health Track

 = Special Session or Symposium

 = Terrestrial Track

 = Interdisciplinary

\* = Presenting author