

FIFTH BIENNIAL

Upper Midwest Invasive Species Conference

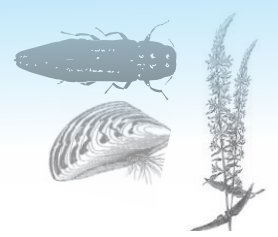
Sharing Innovative and Practical Solutions

La Crosse Center,
La Crosse, WI
October 16-19, 2016



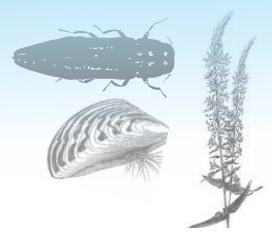
umisc.net





Letter from the Co-Chairs	1
Conference Schedule At-a-Glance	2
Host Organizations.....	4
Committees and Acknowledgments	5
General Information	6
La Crosse Center Layout	7
Plenaries.....	8
Field Trips	12
Workshops	13
Sessions	14
Poster Presentations	30
Sponsors.....	32
Exhibitors.....	36





Greetings Conference Participants:

On behalf of conference hosts, the Minnesota Invasive Species Advisory Council, Wisconsin Invasive Species Council, Invasive Plants Association of Wisconsin, and Midwest Invasive Plant Network, we welcome you to La Crosse for the 2016 Upper Midwest Invasive Species Conference!

Building to a fifth biennial conference from its genesis in Minnesota in 2008, UMISC has grown to be the largest invasive species conference in North America. It is considered to be the most comprehensive source of information for all terrestrial, aquatic, and forest health invasive species. Over three and a half days, experts from industry, federal, state, and tribal natural resource agencies, universities, local government units, lake associations, and citizen scientists will share their knowledge to help manage and minimize the impacts of invasive species across Wisconsin, Minnesota, Iowa, Michigan, Illinois, Indiana, Ohio and beyond.

Renowned plenary speakers will share their insights and expertise from policy and risk assessment to adaptive evolution in a rapidly changing climate. Spanning six concurrent sessions most days, more than 260 presentations and posters will address the latest in integrated pest management, innovations in control techniques, policy, risk assessment, and outreach aimed at strengthening and improving invasive species management.

Almost 50 exhibitors of invasive species tools, services, and educational materials will be open throughout the conference. Join us in South Hall A to network and relax at our evening receptions and breaks. We are excited to offer several field trips to local invasive species management and research sites, and world-class facilities to showcase local management and the latest research. For the first time, a special workshop for Attorneys General of the Mississippi River Basin will be held in conjunction with the conference on Wednesday.

Our hope is that this conference will continue to educate and invigorate your efforts towards reducing the multi-billion-dollar-a-year impact of invasive species on our fisheries, agriculture, tourism and forestry industries, and our rich natural resource heritage.

Fall colors should be at their peak just in time to enjoy a scenic hike, bike ride, or paddle on the Mississippi River after learning about the latest tools and state-of-the-art techniques to improve invasive species management. Many dining options are steps away in the city's downtown.

On behalf of the conference sponsors, executive committee, planning committees and everyone who has contributed to this event, we hope that you enjoy the conference and everything that the La Crosse area has to offer.



Douglas A. Jensen

Douglas A. Jensen
Conference Co-Chair and
Aquatic Invasive Species Program Coordinator
University of Minnesota Sea Grant Program



Mark J. Renz

Mark J. Renz
Conference Co-Chair and
Extension Weed Specialist
University of Wisconsin Extension

Conference Schedule At-a-Glance

SUNDAY, OCTOBER 16, 2016															
3:00 pm–7:00 pm	Registration Opens at La Crosse Center; Exhibitor Move-in														
4:00 pm–6:30 pm	Workshop: Techniques for Better Communication [†] — Ballroom A														
MONDAY, OCTOBER 17, 2016															
8:00 am–9:30 am	BREAKFAST / MEET EXHIBITORS — South Hall A														
9:30 am–11:30 am	WELCOME PLENARY: Matt Miller, The Nature Conservancy; Iris Caldwell, Energy Resources Center, University of Illinois at Chicago; Anthony Ricciardi, Redpath Museum and School of Environment, McGill University — South Hall A														
11:30 am–1:00 pm	NETWORKING LUNCH — South Hall A														
12:00 pm–5:00 pm	FIELD TRIPS (Note: Trip lengths vary)														
1:00 pm–2:40 pm	Inspection and Decontamination Policy, Protocols and Effective Data Management	Ballroom A	Dreissenid (Zebra and Quagga Mussel) Research and Control – 1	Ballroom B	Workshop: Identification of Native and Exotic Aquatic Plants of the Upper Midwest [†]	Ballroom C	Invasive Species Management on Tribal Lands – 1	South Hall B1	<table><tr><td>Aquatic Species</td><td>Interdisciplinary</td></tr><tr><td>Forest Health</td><td>Plenaries and Receptions</td></tr><tr><td>Terrestrial Species</td><td>Field Trips/Workshops</td></tr></table>	Aquatic Species	Interdisciplinary	Forest Health	Plenaries and Receptions	Terrestrial Species	Field Trips/Workshops
Aquatic Species	Interdisciplinary														
Forest Health	Plenaries and Receptions														
Terrestrial Species	Field Trips/Workshops														
2:40 pm–3:00 pm	BREAK / REFRESHMENTS — South Hall A														
3:00 pm–4:40 pm	Locally Led Efforts*	Ballroom A	Dreissenid (Zebra and Quagga Mussel) Research and Control – 2	Ballroom B	Workshop: Identification of Grasses, Sedges, and Rushes [†]	Ballroom C	Invasive Species Management on Tribal Lands – 2	South Hall B1	How to Recruit and Manage Volunteers South Hall B2						
4:45 pm–6:30 pm	WELCOME RECEPTION AND AWARDS—Ballroom Foyer – West														
TUESDAY, OCTOBER 18, 2016															
7:00 am–8:00 am	BREAKFAST — SOUTH HALL A														
8:00 am–9:40 am	Emerald Ash Borer Control And Management	Ballroom A	Responsive Management Of Fish	Ballroom B	Rapid Response and Eradication Case Studies from around the Great Lakes	Ballroom C	Ecology And Biology Of Invasives – 1	South Hall B1	Prioritizing And Controlling New Terrestrial Invasive Plants Minnesota Invasive Terrestrial Plants And Pests Center: Research Updates And Management South Hall B2 South Hall B3						
9:40 am–10:00 am	BREAK / REFRESHMENTS — South Hall A														
10:00 am–11:40 am	"New" Invasive Plants Threatening Our Forests*	Ballroom A	Industry Solutions for Better Aquatic Invasive Species Management	Ballroom B	Locally Led Efforts and Organisms in Trade	Ballroom C	Ecology and Biology of Invasives – 2	South Hall B1	Phragmites (Common Reed) Research, Prevention and Control – 1 Cooperative Weed Management Areas: Updates and Future Direction South Hall B2 South Hall B3						

* Alternate session format such as 10 minute presentations followed by a longer discussion. See session details for more information.

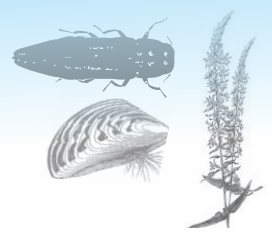
† Pre-registration required

Conference Schedule At-a-Glance—continued

TUESDAY, OCTOBER 18—CONTINUED												
11:50 am –1:20 pm	LUNCH PLENARY: Roger Fish, Motivational Speaker; Hilary Smith, Invasive Species Coordinator, U.S. Department of the Interior—South Hall A											
1:30 pm–3:10 pm	Forest Ecosystem Connections and Invasive Plant Species Ballroom A	Minnesota Counties' Prevention Aid Outcomes and Impacts* South Hall B1	Responsive Management of Aquatic Plants – 1 South Hall B2	Policy, Law, and Legislation Ballroom B	Phragmites (Common Reed) Research, Prevention and Control – 2 South Hall B3	Tools For Invasive Plant Removal Ballroom C						
3:10 pm–3:30 pm	BREAK / REFRESHMENTS — South Hall A											
3:30 pm–5:10 pm	Threats On The Horizon Ballroom A	Responsive Management of Aquatic Plants-2 South Hall B1	Biology and Impacts of Starry Stonewort* South Hall B2	Organisms In Trade Ballroom C	Emerging Threats, Assessment and Management of Aquatic Invasive Species South Hall B3	Wood Utilization: Impacts of Invasives on Timber and Value Ballroom B						
5:00 pm–6:30 pm	POSTER AND EXHIBIT RECEPTION—South Hall A											
WEDNESDAY, OCTOBER 19, 2016												
7:00 am–8:30 am	BREAKFAST — South Hall A											
8:30 am–11:45 am	Mississippi River Basin Panel (MRBP) on Aquatic Nuisance Species Workshop for Attorneys General - Open to all UMISC attendees – Ballroom C											
8:00 am–9:40 am	Emerging Forest Insect Pests South Hall B3	Advances in Aquatic Plant Control South Hall B1	Early Detection of New Invasive Fish and Invertebrates South Hall B2	Invasive Species Observations and Assessment Ballroom A	New Developments in Biocontrol – 1 Ballroom B	Practical Approaches to Education and Outreach South Hall B4						
9:40 am–10:00 am	BREAK / REFRESHMENTS — South Hall A											
10:00 am–11:40 am	Oak Wilt, Deer, and Gypsy Moths South Hall B3	Early Detection, Prioritization, and Response South Hall B1	Environmental DNA as a Tool for Early Detection South Hall B2	Using Novel Technology to Manage Invasives Ballroom A	New Developments in Biocontrol – 2 Ballroom B	Minnesota Aquatic Invasive Species Research Center: Priorities and Future Direction South Hall B4						
11:40 am–12:50 pm	LUNCH (pre-order required separate from general conference registration) and SPECIAL DEMONSTRATION: Zebra Mussels Snuffed Out by Sniffer Dogs											
1:00 pm–2:40 pm	Workshop: ISM Track Training† Ballroom B	Fire as a Tool for Invasive Plant Management Ballroom A	Upland and Roadside Vegetation Management South Hall B4	<div></div> <table><tr><td>Aquatic Species</td><td>Interdisciplinary</td></tr><tr><td>Forest Health</td><td>Plenaries and Receptions</td></tr><tr><td>Terrestrial Species</td><td>Field Trips/Workshops</td></tr></table>			Aquatic Species	Interdisciplinary	Forest Health	Plenaries and Receptions	Terrestrial Species	Field Trips/Workshops
Aquatic Species	Interdisciplinary											
Forest Health	Plenaries and Receptions											
Terrestrial Species	Field Trips/Workshops											
1:00 pm–3:30 pm	Mississippi River Basin Panel (MRBP) on Aquatic Nuisance Species Workshop for Attorneys General (Closed Session, not open to UMISC attendees)—Boardroom B											

* Alternate session format such as 10 minute presentations followed by a longer discussion. See session details for more information.

† Pre-registration required



MIDWEST INVASIVE PLANT NETWORK



The Midwest Invasive Plant Network's mission is to reduce the impact of invasive plants in the Midwest. Our network brings together government agencies, nonprofit and for-profit corporations, scientists, and private citizens across the Midwest to collaborate on projects and share information on invasive plants. MIPN's efforts are focused on providing education on invasive plants in the Midwest; promoting effective prevention methods and early detection of new invaders; providing information on recent research that is relevant to management of invasive species; supporting the growth and development of Cooperative Weed Management Areas; and connecting states within our region to each other and to invasive species organizations at a national level.

INVASIVE PLANTS ASSOCIATION OF WISCONSIN



The mission of the Invasive Plants Association of Wisconsin (IPAW) is to promote better stewardship of the natural resources of Wisconsin by advancing the understanding of invasive plants and encouraging the control of their spread. IPAW's main goals in achieving this mission are geared toward being an umbrella organization for Cooperative Invasive

Species Management Areas while creating an effective way in which to reach legislators to voice the concerns about invasive species control. The membership of IPAW is made up of concerned citizens, agronomists, horticulturalists, professors, state agencies, and businesses.

MINNESOTA INVASIVE SPECIES ADVISORY COUNCIL

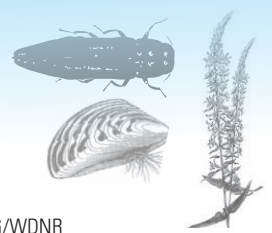
Minnesota Invasive Species Advisory Council

The Minnesota Invasive Species Advisory Council (MISAC), a diverse group with a common interest in protecting Minnesota's resources from invasive species, was initiated in 2001. It was formed in response to Presidential Executive Order 13112, the

National Invasive Species Management Plan, and Minnesota Legislation. An Interagency Exotic Species Task Force formed in 1990, preceded the current state invasive species council. The purpose of MISAC is to provide coordination among member organizations to implement the Minnesota Statewide Invasive Species Management Plan. Activities include advocating for research, early detection and management for the species and pathways deemed greatest risk, coordinating outreach, recognizing outstanding work related to invasive species, supporting multi-state conferences, trainings and field visits, and maintaining the MISAC website to help members and the public locate invasive species resources. MISAC members number about 80 and represent over 30 organizations. The Council is led by three elected co-chairs, each representing a different member organization and serving a three-year term.

WISCONSIN INVASIVE SPECIES COUNCIL

The Wisconsin Legislature created the Wisconsin Invasive Species Council to assist the Wisconsin Department of Natural Resources in establishing a statewide program to control invasive species. The Council meets quarterly to discuss invasive species program activity around the state, promotes invasive species management activities through an online calendar, and promotes Invasive Species Awareness Month every June.



CONFERENCE HOST ORGANIZATIONS

Invasive Plants Association of Wisconsin

Board of Directors

Mic Armstrong, Armstrong Landscaping
Tom Boos, Montana Fish, Wildlife & Parks, AIS Coordinator
Willis Brown, Michler and Brown, LLC; IPAW Treasurer
Greg Bunker, Stockbridge-Munsee Community
Jeremy Chiamulera, Compass Land Consultants, Inc.
Jerry Doll, UW-Extension, Weed Scientist, Emeritus
Mark Feider, Milwaukee Audubon Society
Environmental Educator; IPAW Vice President
John Lunz, The Park People - Weed-Out Program; Vice President, The Wild Ones; President, Preserve Our Parks
Jamie Nuthals, Natural Resource Management, Integrity Energy Group
Diane Schauer, Calumet County, Aquatic Invasive Species Coordinator
Tony Summers, Wisconsin First Detector Network, Outreach Specialist
Patricia Trochlell, Bureau of Watershed Management, Waterways and Wetlands Protection Wisconsin DNR
Christa Wollenzien, State Transportation Landscape Architect, WisDOT Bureau of Highway Maintenance

Midwest Invasive Plant Network

Board of Directors

Jason Stevens, U.S. Forest Service (Wisconsin)
Marcus Keyes, National Park Service (Indiana) Nat'l Dunes
Laura Van Riper, Minnesota Department of Natural Resources (Minnesota)
Kim Bogenschutz, Iowa Department of Natural Resources (Iowa)
Ryan Wheeler, Michigan Department of Natural Resources (Iowa)
David Gorden, Mark M. Holeman, Inc. (Indiana)
Tim Power, MN Nursery & Landscape Association (Minnesota)
Kellie Sherman, Ontario Invasive Plant Council (Ontario)
Chris May, The Nature Conservancy (Michigan)
Darcy Rutkowski, Upper Peninsula RC & D (Michigan)
Bob Hartzler, Iowa State University (Iowa)
Ron Rathfon, Purdue University (Indiana)
Mark Renz, University of Wisconsin (Wisconsin)
Theresa Culley, Cincinnati University (Ohio)
Mike Daab, Champaign County Forest Preserve District (Illinois)
Chris Henze, Johnson County Secondary Road Department (Iowa)
Kurt Dreiskilker, Morton Arboretum (Illinois)

Minnesota Invasive Species Advisory Council

Mark Abrahamson, MN Dept. of Agriculture
Angie Ambourn, MN Dept. of Agriculture
Brian Aukema, Uof MN Entomology
Lisa Becker, Leech Lake Band of Ojibwe
Roger Becker, U of MN Agronomy & Plant Genetics
Robert Bruesewitz, US Fish & Wildlife Service
Eleanor Burkette, University of Minnesota Extension
Susan Burks, MN Dept. of Natural Resources
Shannon Carpenter, MN Soil & Water Conservation District Chapter
James Calkins, MN Nursery & Landscape Assoc.
Val Cervenka, MN Dept. of Natural Resources
Monika Chandler, MN Dept. of Agriculture
Jean Ciborowski, MN Dept. of Agriculture
Pat Conzemius, Wildlife Forever
Meredith Cornett, The Nature Conservancy
Tony Cortilet, MN Dept. of Agriculture
Rachel Crabb, Mpls. Parks
Essam Dabaan, USDA-APHIS PPO
Angelique Dahlberg, St. Croix River Association
Norman Deschampe, Grand Portage Reservation, MN Chippewa Tribe

Natasha DeVoe, MN Board of Water and Soil Resources
Chuck Erickson, Minnesota Forestry Association
Gary Frazer, Minnesota Chippewa Tribe
Allison Gamble, MN Dept. of Natural Resources
Ken Graeve, MN Dept. of Transportation
Jack Greenlee, Superior National Forest
Angela Gupta, U of MN Extension - Forestry
John Haanstad, USDA-APHIS PPO
Dave Hanson, MN Dept. of Transportation
Bonnie Harper-Lore, National Invasive Species Advisory Committee
Linda Haugen, USFS, Northeastern Area, St. Paul Office
Bobby Henderson, Leech Lake Band of Ojibwe
Calder Hibbard, Minnesota Forest Resources Council
Michael Hoff, U.S. Fish & Wildlife Service
Angela Isackson, Three Rivers Park District
Douglas Jensen, University of Minnesota Sea Grant
Emilie Justen, MN Dept. of Agriculture
Byron Karns, St. Croix National Scenic Riverway
Tyler Kaspar, 1854 Treaty Authority
Marte Kitson, University of Minnesota Sea Grant
Heather Koop, MN Invasive Terrestrial Plant Pest Center
Ginger Kopp, USDA Natural Resources Conservation Service
Kathy Kromroy, MN Dept. of Agriculture
Ben Lang, MN Crop Improvement Association
Kristen Lease, Bureau of Indian Affairs, Midwest Region
Tina Markeson, MN Dept. of Transportation
Mike Merriman, MN Dept. of Agriculture
Joseph Mortzheim, Bureau of Indian Affairs, Midwest Region
Becca Nash, Minnesota Aquatic Invasive Species Research Center
Jonathan Osthus, MN Dept. of Agriculture
Kelly Pennington, MN Dept. of Natural Resources
Ann Pierce, MN Dept. of Natural Resources
Danielle Quist, University of Minnesota
C. Radatz, Minnesota Farm Bureau
Jay Rendall, Retired, MN Dept. of Natural Resources
April Rust, MN Dept. of Natural Resources
Greg Sens, MN Assoc. of County Agricultural Inspectors
Dan Shaw, MN Board of Water and Soil Resources
Mike Sorensen, Comfort Lake - Forest Lake Watershed District
A. Strauss, University of Minnesota
Carol Strojny, MN Board of Water and Soil Resources
Kimberly Thielen Cremers, MN Dept. of Agriculture
Laura Van Riper, MN Dept. of Natural Resources
Rob Venette, MN Invasive Terrestrial Plant Pest Center, US Forest Service
Jim Walker, MN Dept. of Agriculture
Megan Weber, Minnesota Aquatic Invasive Species Research Center
Chip Welling, MN Dept. of Natural Resources
Karen Westphall, U.S. Fish & Wildlife Service
Laurel Wilson, Boreal Access
Brian Winter, The Nature Conservancy
Heidi Wolf, MN Dept. of Natural Resources
Gary Wyatt, University of Minnesota Extension

Wisconsin Invasive Species Council

Thomas Bressner, Wisconsin Agri-Business Association
Thomas Buechel, McKay Nursery Company
James Kerkman, Council on Forestry
Gregory Long, Needles & Leaves Nursery
Kenneth Raffa, UW Department of Entomology
Paul Schumacher, Wisconsin Association of Lakes
Hannah Spaul, The Nature Conservancy
Drew Feldkirchner, Department of Natural Resources
James Hughes, Department of Transportation
Brian Kuhn, Department of Agriculture Trade and Consumer Protection
Travis Olson, Department of Administration

EXECUTIVE COMMITTEE

Tim Campbell, UWEX/WISG/WDNR
Chris Henze, Johnson County Secondary Road Department (IA)
Doug Jensen,* Minnesota Sea Grant
Kelly Kearns, Wisconsin Department of Resources
Kathryn Kromroy, Minnesota Department of Agriculture
Mark Renz,* University of Wisconsin - Extension
Christa Wollenzien, Wisconsin Department of Transportation

FIELD TRIP COMMITTEE

Monika Chandler, Minnesota Department of Agriculture
Angelique Dahlberg, Cook County Invasive Species Team
Doug Jensen, Minnesota Sea Grant
Tina Wolbers, Minnesota Department of Natural Resources
Scott Caven, River Alliance of Wisconsin

PROGRAM COMMITTEE

Mark Abrahamson, Minnesota Department of Agriculture
Kim Bogenschutz, Iowa Department of Natural Resources
Susan Burks, Minnesota Department of Natural Resources
Eleanor Burkett, University of Minnesota - Extension
Tim Campbell, UWEX/WISG/WDNR
Scott Caven, River Alliance of Wisconsin
Monika Chandler,* Minnesota Department of Agriculture
Paul W. Cigan, Department of Natural Resources
Angelique Dahlberg, Cook County Invasive Species Team
Eric Fischer, Indiana Department of Natural Resources
Allison Gamble, Minnesota Department of Natural Resources
Ken Grob, Hubbard County
Angela Gupta,* University of Minnesota Extension
Linda Haugen, USDA Forest Service
Chris Henze, Johnson County Roadsides (Iowa)
Michael Hoff, U.S. Fish & Wildlife Service
Doug Jensen, University of Minnesota Sea Grant
Jim Calkins, MN Nursery & Landscape Assoc.
Krista Kamke, Golden Sands RC&D
Tyler Kaspar, 1854 Treaty Authority
Kelly Kearns, Wisconsin Department of Natural Resources
Marte Kitson,* MN Sea Grant
Kathryn Kromroy, Minnesota Department of Agriculture
Sarah LeSage, Michigan Dept. Env. Quality
Renee Pinski, WI Department of Agriculture
Mark Renz,* * University of Wisconsin - Extension
Matthew Russell, University of Minnesota
Paul Skawinski, UW-Extension Lakes
Laura Van Riper, Minnesota Department of Natural Resources
Kevin Walters, Michigan Department of Environmental Quality
Chip H. Welling, Minnesota Department of Natural Resources
Natalie White
Tina Wolbers, Minnesota Department of Natural Resources
Darcy Rutkowski, UP RC&D
Kimberly Thielen Cremers, MN Dept. of Agriculture
Val Cervenka, MN Dept. of Natural Resources

SPONSORSHIP COMMITTEE

Doug Jensen, Minnesota Sea Grant
Mark Renz, University of Wisconsin - Extension
Darcy Rutkowski, UP RC&D
Roger Becker, University of Minnesota - Extension

Conference Administration

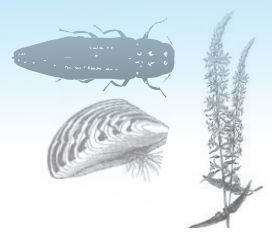
Bergner Associates

Graphic Design

Andy Haas Design, Inc.

* = Committee Chair or Co-Chair

¥ = Section Chair



CONFERENCE LOCATION

All conference sessions, poster displays, lunches, receptions, and plenary presentations will be held at the La Crosse Center, 300 Harborview Plaza, La Crosse, WI 54601.

PARKING

There is a parking ramp across the street from the La Crosse Center that charges \$1.00 per hour with a maximum charge of \$6.00 per day. The first three hours are free. After 6pm the parking is free until 6am.

CONFERENCE REGISTRATION

Registration is located at the ground-level kiosk of the La Crosse Center. Registration will be open according to the schedule below. Limited on-site registration is available.

Sunday, October 16, 3:00 PM – 7:00 PM
Monday, October 17, 7:00 AM – 4:00 PM
Tuesday, October 18, 7:00 AM – 4:00 PM
Wednesday, October 19, 7:00 AM – 10:00 AM

SPEAKER PREPARATION ROOM

The speaker preparation room will be in Boardroom A on the 2nd floor. Laptops will be available for presentation upload in Boardroom A Sunday 3 pm–7 pm at the registration area. Speakers can practice their presentations in a quiet space during the following times:

Sunday, October 16, 3:00 PM – 7:00 PM
Monday, October 17, 7:00 AM – 3:00 PM
Tuesday, October 18, 7:00 AM – 3:00 PM
Wednesday, October 19, 7:00 AM – 10:00 AM

RESOURCE TABLES

Attendees and presenters are encouraged to provide complimentary invasive species publications and related materials for distribution on resources tables located in the registration area and exhibit hall.

POSTERS & EXHIBITS

Posters and Exhibits will be on display in South Hall A for the duration of the conference. Please see the list of exhibitors with organization descriptions on pages 36–39 for more information. Exhibitors will be available throughout the conference to answer questions about their products and services concerning invasive species prevention, identification, management, control, and restoration. Please be sure to stop by and visit them.

MESSAGE BOARD

A message board will be located at the entrance of South Hall A. Attendees are welcome to post job opportunities, networking opportunities, and other communications.

COMPLIMENTARY WIFI

Complimentary Wifi is available throughout the La Crosse Center. Password: WAMOWAMO

FOOD AND BEVERAGES

Coffee and teas will be offered each morning and at all breaks in South Hall A. A continental breakfast will be offered Monday morning from 8:00 – 9:30 AM; Tuesday 7:00 – 8:00 AM and Wednesday 7:00 – 8:30 AM.

A box lunch will be provided on Monday, October 17 in the foyer outside of South Hall A. On Monday evening there will be a Welcome Reception held in the Ballroom Foyer – West at the La Crosse Center. Heavy hors d'oeuvres will be served, and a cash bar will be available.

On Tuesday, October 18, a plated lunch will be served at the Plenary Luncheon in South Hall A. On Tuesday evening, a Poster Reception for all attendees will also be held in South Hall A. Light hors d'oeuvres and a cash bar will be offered.

Lunch on Wednesday, October 19 is provided for pre-orders. This lunch is separate from general conference registration.

GET SOCIAL!

Mix, mingle, and find new colleagues at receptions on Monday and Tuesday evening receptions.

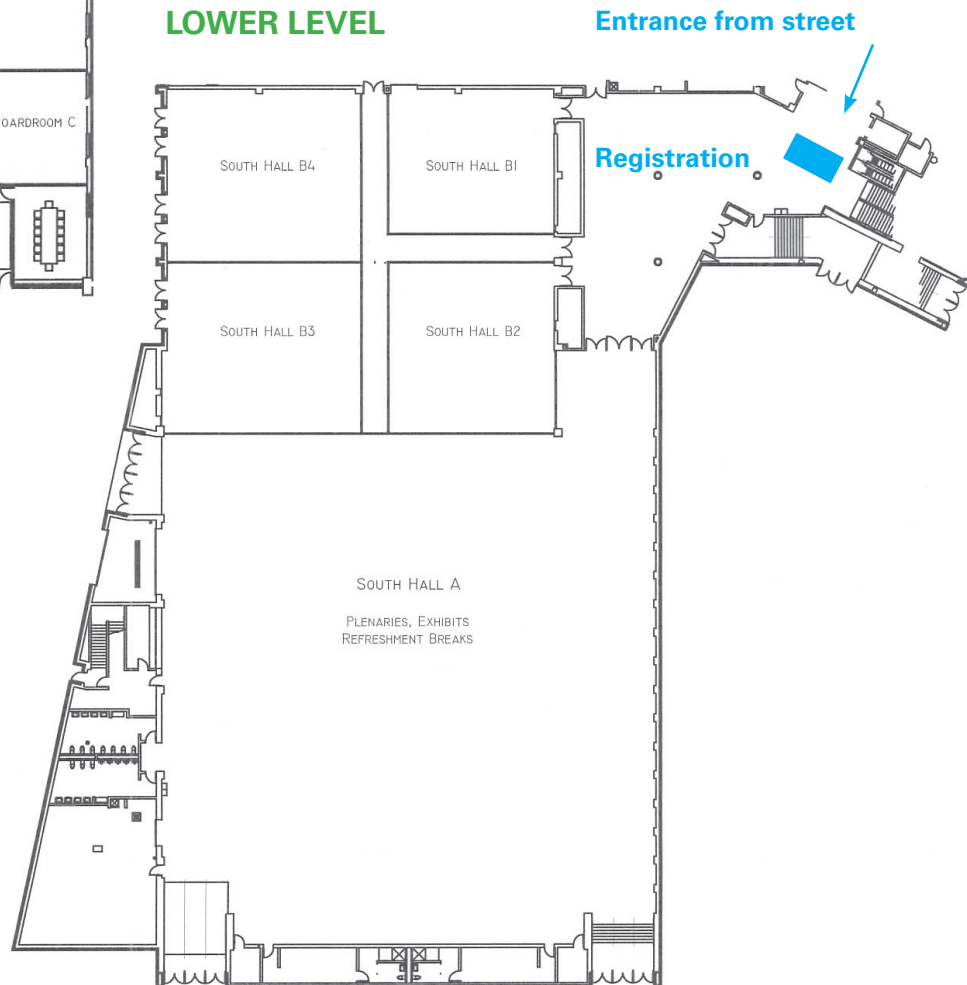
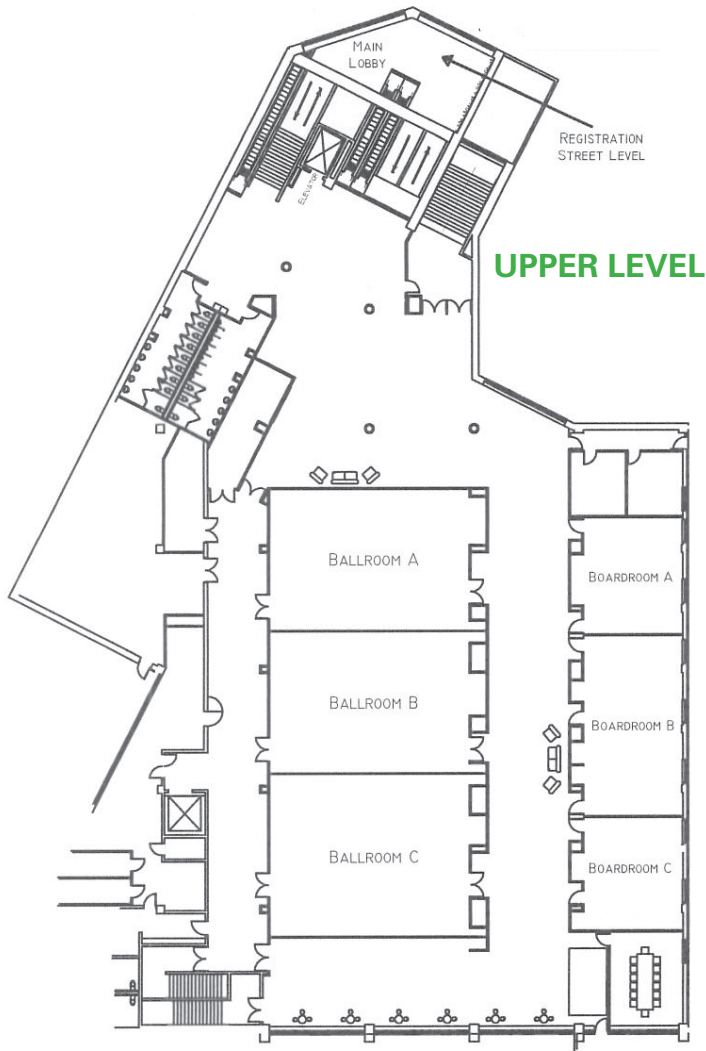
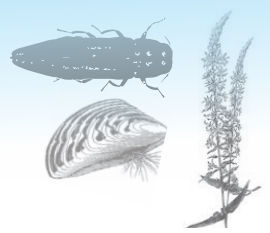
The welcome reception in the Ballroom Foyer - West by the large river-view windows starts at 4:45 pm on Monday, October 17. This reception will feature an awards presentation in Ballroom C by the Minnesota Invasive Species Advisory Council and a slideshow of invasive species, as well as complimentary hors d'oeuvres and a cash bar.

The Tuesday Poster reception starts at 5 pm in South Hall A. Generous hors d'oeuvres and a cash bar will be available. Visit with exhibitors and get a stamp on your passport for each company or organization you spend at least 3 minutes with. If you get 15 stamps, you can enter your Exhibitor Passport into our raffle for great prizes! Exhibitor Passport Raffle prize winners will be announced toward the end of the Tuesday reception.!

Share your experiences real-time with attendees on Twitter @UMISC2016 or our Facebook page: www.facebook.com/UMISC/

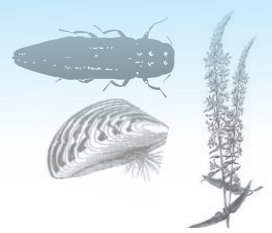


La Crosse Center Layout



WELCOME PLENARY MONDAY, OCTOBER 17, 2016

South Hall A | 9:30 am–11:30 am



TELL ME A STORY: COMMUNICATING ABOUT INVASIVES IN THE INFORMATION AGE

Matt Miller, The Nature Conservancy

A recent *Washington Post* story proclaimed: “The answers to the world’s most pressing problems are buried in reports that no one reads.” Hyperbole? Perhaps. But the fact remains that reports, white papers and brochures are more likely to attract dust than your audience. At the same time, a growing number of readers are flocking to science blogs and online science content. They’re highly enthusiastic and eager to learn more about the invasives issue. But if you bore them: well, they’ll just go read something else. How do you tell your story in a way that connects to them? What makes messages stick? Matt Miller, director of science communications for The Nature Conservancy, will share the secrets of standing out in an age of information overload. He’ll break down successful stories, how to reach your intended audience and how to avoid common communications pitfalls. Along the way, he’ll share his own stories from the field. You’ll think about framing your own work in new ways—you’ll be conveying the science of your work and have fun doing so!

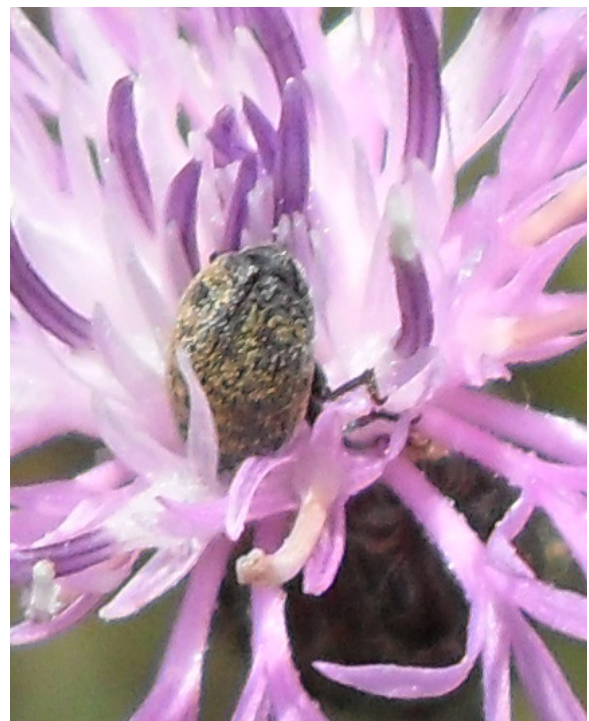


Matt Miller is director of science communications for The Nature Conservancy. He is responsible for telling the stories of the Conservancy’s research programs around the globe, including many invasive species outreach, detection and management projects. He is the editor and feature writer for the popular Cool Green Science blog and a regular columnist for Nature Conservancy Magazine. Matt previously worked for 11 years as the director of communications for the Conservancy’s Idaho Chapter, where he also served as the first chair of the Governor’s Idaho Weed Awareness Campaign. A graduate of Penn State, Matt brings 25 years experience in feature writing, blogging, media relations and media training. He has traveled to 6 continents in his search for unusual wildlife and good stories. An avid hunter, angler and naturalist, he lives in Boise, Idaho with his wife and young son.

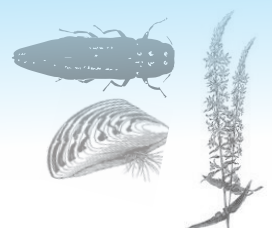
FINDING OPPORTUNITIES FOR NATIVE HABITAT ALONG RIGHTS-OF-WAY

Iris Caldwell, P.E. Energy Resources Center (ERC), University of Illinois at Chicago

Last spring the White House released the *National Strategy to Promote the Health of Honey Bees and Other Pollinators*, which noted that beekeepers lost 40 percent of their honey bee colonies in 2014, monarch butterfly populations have declined by as much as 90 percent over the last two decades, and other severe declines have been observed in native bee populations. With increasing attention being given to these startling figures, a number of collaborative efforts have emerged to foster conservation activities in key sectors and support an “all-hands-on-deck” approach to habitat restoration. Working with industries in the utility and transportation sectors, the Energy Resources Center (ERC) at the University of Illinois-Chicago formed the Rights-of-Way as Habitat Working Group in March 2015 to focus attention on opportunities for utilizing native vegetation in rights-of-way to support pollinator conservation efforts. More than 100 organizations from across the U.S. have engaged in the



Seed head weevil in spotted knapweed.
Photo by Laura Van Riper, MN DNR.



working group since. The working group's overarching aim is to provide a forum to collaborate and share ideas, best practices, and other information that promote successful habitat projects along rights-of-way. Activities of the working group include facilitating workshops and webinars, assembling an online resources database, developing a unified message about rights-of-way as habitat, encouraging collaboration between landowners, and providing industry recognition. This presentation will provide an overview of the Rights-of-Way as Habitat Working Group's efforts as well as highlight some specific success stories and challenges faced by working group participants, including making a business case for habitat programs, changing management practices, and controlling for invasive species in rights-of-way landscapes.



Iris Caldwell is a Research Engineer at the Energy Resources Center (ERC) located at the University of Illinois at Chicago, where she primarily works to engage the agricultural, transportation, and utility sectors on special projects such as pollinator habitat development. Over the past year, she has facilitated the Rights-of-Way as Habitat Working Group to promote habitat restoration along transportation and utility corridors. Prior to joining the ERC, Iris worked for more than eight years in industry, both as a manufacturing plant environmental engineer and as an environmental consultant. She has a strong background in environmental regulatory compliance, greenhouse gas accounting, carbon offset verification, low-carbon fuel standards, and other environmental and sustainability reporting. Iris holds a Bachelor of Science degree in Civil – Environmental Engineering from Iowa State University and is a licensed professional engineer in the State of Illinois.

WHY BIOLOGICAL INVASIONS MATTER

Anthony Ricciardi, Redpath Museum and the School of Environment at McGill University

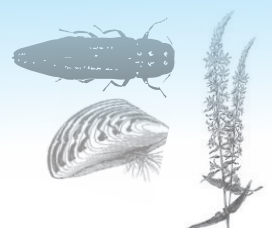
Driven by the movement of people and cargo across the planet, thousands of species of plants, animals and microbes are spreading into new regions faster and farther than at any other time in Earth's history. These biological invasions can cause extinctions, disrupt ecosystems, alter natural resources, threaten human health, and even pose national security problems. In spite of these risks, there have appeared several recent opinion articles in the scientific literature and the popular media that downplay the impacts of invasions and, furthermore, question the scientific merit of attempting to prevent incursions of non-native species. Collectively, these articles claim that 1) modern invasions are nothing new, i.e. the magnitude and impacts of recent invasions are similar to those that have occurred prehistorically and, thus, the role of humans in the modern mass invasion event and concern over its consequences have been exaggerated; 2) with rare exceptions, non-native species are innocuous passengers rather than drivers of changes to biodiversity and ecosystem functioning; and 3) non-native species are no more likely than natives to cause undesirable impacts, and so the biogeographic origins of species are not relevant to conservation and resource management. However, each of these claims is refuted by empirical evidence from field surveys, experiments and meta-analyses. Examples from freshwater, terrestrial and marine studies demonstrate the importance of incorporating biogeographic origins and evolutionary context in the risk assessment of invasions.



Dr. Anthony Ricciardi is a professor in the Redpath Museum and the School of Environment at McGill University, and a McGill Trottier Fellow in Science and Public Policy. For over 20 years, his research has examined the causes and consequences of biological invasions in aquatic ecosystems. He is an editorial board member for the journal *Biological Invasions* and the journal *Diversity and Distributions*. For ten years, he served on the scientific committee of the Canadian Aquatic Invasive Species Network, a research group that examined the risks of invasion in Canada's lakes, rivers and coastal waters. He and his students are currently working on projects in North America, Europe and South Africa that aim to predict the impacts of invasive aquatic invertebrates and fishes, using experimental and statistical approaches.

TUESDAY, OCTOBER 18, 2016

LUNCH PLENARY



LUNCH PLENARY: TUESDAY, OCTOBER 18
11:50 am –1:20 pm | South Hall A

Collaboration and Innovation: Working at Multiple Scales to Manage Invasive Species

Hilary Smith

Office of Policy Analysis

United States Department of the Interior

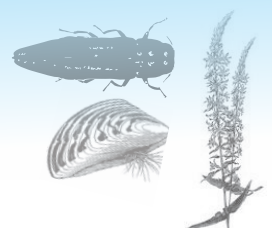
The U.S. Department of Interior has been actively engaged in prevention, early detection and rapid response, control and management, and research related to invasive species for nearly 60 years. Current and emerging invasive species continue to threaten the ecological, economic, and cultural integrity of America's landscapes. This presentation will: 1) Provide an overview of the Department and the importance of minimizing the risk and impacts of invasive species. 2) Describe various invasive species activities underway at the Department, such as landscape level invasive species initiatives; novel approaches for prevention, detection, and control; and, policy and planning actions. 3) Highlight early detection and rapid response efforts, including the Department's role in developing the interdepartmental report, *Safeguarding America's Lands and Waters from Invasive Species: A National Framework for Early Detection and Rapid Response*, released February 2016. The Department manages one-fifth of the country's land area, 135,000 miles of coastline, 476 dams and 348 reservoirs, and 1.76 billion acres of the Outer Continental Shelf. It upholds the federal government's trust responsibilities to 567 Indian tribes, supplies water to more than 30 million people, protects the icons of the country's national heritage, and conserves fish, wildlife, and their habitats. The Department's lands, facilities, and resources are vulnerable to biological invasions and can in turn be pathways and sources for invasive species introductions to both public and private lands.



Tansy flower. Photo by Laura Van Riper, MN DNR.



Hilary Smith is the Invasive Species Coordinator for the U.S. Department of the Interior in Washington, D.C. She works closely with invasive species program leads within Interior's bureaus and offices and coordinates Department-wide invasive species strategic action plans, policy initiatives, and working groups. Hilary previously worked for The Nature Conservancy directing an award-winning program to protect lands, waters, and local communities from invasive species in the six-million acre Adirondack Park in NY. Hilary received a M.S. in Biodiversity, Conservation, and Policy from the State University of NY in Albany and a B.A. in Biology from Hamilton College in Clinton, NY.



It's Your Attitude, It's Your Day, Make It a Good One

Roger D. Fish, Motivational Speaker from La Crosse, WI

How important is your attitude at work? When communicating? Do your eyes, voice tone, and body language enhance or diminish your ability to convey your thoughts and lead a group to consensus or a decision? Are you a Team player? What does a smile, hand shake, ready-aim-fire, the iceberg and airplane theory have to do with communication? What would you do with \$84,600? How important is laughter in your life? This 15 minute session will move along quickly so be prepared to listen fast and if you're not "humor impaired" you may even share a laugh or two from the "Book of Roger."



Roger D. Fish is an energetic and humorous speaker who melds more that 30 years of teaching, administration, and leadership experiences in the field of public education and professional speaking. Roger's local and state presentations to thousands have lent themselves well to engaging others into recognizing and providing stewardship for the critical relationships in their lives. Roger's enthusiastic, humorous and positive delivery style challenges the audience to pursue a positive outlook on life and its many challenges. His philosophy of building strong relationships - both personal and professional - along with his belief that, "It's your attitude, it's your day, make it a good one," will set you on a course of accountability for your life.



Boot brush kiosk at State Fair. Photo by Laura Van Riper, MN DNR.



All field trips will be held on Monday, October 17 after the morning plenary. Field trips will depart from outside the main entrance to the La Crosse Center at 12:00 pm.

SCIENCE OF MONITORING IN LA CROSSE - COST: \$35

Tour Leader: Randy Hines, U.S. Geological Survey's Upper Midwest Environmental Sciences Center, La Crosse

Visit the U.S. Geological Survey's Upper Midwest Environmental Sciences Center for a 2 hour tour focused on aquatic invasives and learn about state-of-the-art research, prevention and management activities. The Center is the science leader of the Long Term Resource Monitoring (LTRM) element of the U.S. Army Corps of Engineers' Upper Mississippi River Restoration Program. LTRM is the nation's largest river monitoring program with six remote state-operated field stations along the river. This 2.5 hour field trip includes 30 minutes of roundtrip travel time. Max: 30 participants.

REFUGE TOUR AND LAKE ONALASKA PADDLE - COST: \$50

Tour Leaders: Scott Caven, River Alliance of Wisconsin, Tim Miller, Kendra Niemec and Hallie Rasmussen, U.S. Fish and Wildlife Service

Tour the Upper Mississippi River National Wildlife and Fish Refuge in Onalaska, explore educational exhibits and paddle Lake Onalaska (part of Pool 7 of the Mississippi River). Learn about water hyacinth and water lettuce early detection and rapid response efforts. The 5 hour tour includes 1 hour of roundtrip travel. Max: 20 participants.

DAM ASIAN CARP - COST: \$35

Tour Leader: Elliott Stefanik, U.S. Army Corps of Engineers

Visit Lock and Dam 7 in La Crescent, MN, for technical tour covering engineering measures designed to prevent the spread of Asian carp. Learn about efforts to contain and control existing populations, including bubble barriers used in other areas. The 3.5 hour tour includes one hour of roundtrip travel. Max: 25 participants.

"KICK" AROUND RIPARIAN INVASIVES - COST: \$50

Team Leaders: Monika Chandler, MN Department of Agriculture, Kelly Kearns, WI Department of Natural Resources and Ben Johnston, Kickapoo Valley Reserve

Hike through the beautiful Kickapoo Valley Reserve to learn about early detection of Japanese hops, Japanese knotweed, and other invasive plants spread by water movement. Some upland invasives will also be included. The Kickapoo is a state designated Wild and Scenic River. This 5-hour tour includes 2 hours roundtrip travel. Max: 40 participants.

INVASIVES BY LAND, LAKE, AND STREAM - COST: \$45

Team Leaders: Amanda Gentry, Winona County SWCD, and Tina Wolbers, MN Department of Natural Resources

Leaders will demonstrate monitoring methods for aquatic invasive species on a stream leading into West Lake Winona. Participants will also enjoy a stroll around the lake while learning about Eurasian watermilfoil monitoring techniques and identification and management of purple loosestrife. The tour will end at an Oriental bittersweet infestation where control methods will be discussed. Total tour will be 4.5 hours including 1.5 hours of travel. Max: 25 participants.

PEDAL AROUND INVASIVES - COST: \$50

Tour Leaders: Mike Merriman, MN Department of Agriculture, and Tim Campbell, WI Department of Natural Resources

Bike about 10 miles roundtrip on a scenic, paved trail through diverse habitats. Learn about reed canary grass, Asian bush honeysuckle and purple loosestrife identification and management. Practice AIS Bridge Snapshot Day stream monitoring protocol. Tour is 4 hours including 1-hour round trip travel. Max: 15 participants. Bikes will be provided to participants at no charge.

HATCH A PLAN IN GENOA - COST: \$40

Tour Leaders: Angelique Dahlberg, St. Croix River Association and Jonathan Osthus, MN Department of Agriculture

Visit a fish hatchery and learn about safety practices for invasives. Talk about invasive bait used in fishing and early detection of cutleaf teasel as well as emerald ash borer identification and management. Total tour is 4 hours including 1.5 hours at the hatchery, 1 hour focused on identification methods plus travel time. Max: 25 participants.

THIS IS THE REAL MCCOY - COST: \$50

Tour Leaders: Tim Wilder, Ft. McCoy and Val Cervanka, MN Dept of Natural Resources

Learn about the unique challenges of managing invasive species on a military installation, where management methods are integrated to improve outcomes. Participants will view a previously treated oak wilt center with the possibility of viewing a center as it is being treated using a vibratory root plow. Some of Wisconsin's best remaining examples of oak savannas will be visited to discuss the use of biological controls, herbicide choice and additional integrated management techniques that can be used to minimize the spread of invasive species in a unique but heavily used landscape. Further discussion on management practices for species such as leafy spurge, spotted knapweed, St. John's-wort, garlic mustard and buckthorn will be open for discussion. This 5 hour tour includes 2 hours roundtrip driving. Max: 40 participants.

PADDLEWHEEL CRUISE – ON YOUR OWN. NO REGISTRATION THROUGH UMISC.

The La Crosse Queen is a modern-day replica of the grand river boats that plied the Mississippi River in the late 19th Century. Cruising out of La Crosse, WI, she is one of the few authentic Mississippi River paddlewheel river boats still in operation in the United States today. Scenic cruises are offered daily from 1:30-3:00 p.m. for \$16. Conveniently located for UMISC attendees, the La Crosse Queen departs 3 blocks south of the La Crosse Center at the end of Riverside Park. For tour information and registration, visit www.lacrossequeen.com/



All Workshops are \$15 except for the ISM Track Workshop and Mississippi River Basin Panel Workshop on Wednesday, which are free.

SUNDAY October 16, 2016: 4:00 PM - 6:30 PM

IMPROVISATIONAL THEATRE FOR SCIENCE COMMUNICATION

Presenters: Clare Haden, Oral Communication Specialist at Saint Meinrad Seminary and School of Theology; Amy Zelenski, Director of Education, Department of Medicine in the School of Medicine and Public Health at UW-Madison.

Improvisers are experts in storytelling, spontaneity, and using observation skills to adjust to their audiences and team members accordingly. Among other skills, this 2.5 hour workshop will introduce you to exercises that can teach you how to (1) effectively communicate your work to different audiences, (2) adjust your behavior in real time to respond to audience feedback, and (3) manipulate your vocal and physical presence to communicate more effectively. This workshop will build your skills and confidence; enabling you to effectively communicate your work to different audiences. You will develop and improve presentation skills with the objective to distill your message and present your science in a clear, concise, and compelling manner. You will be able to use these skills when giving lectures, presenting abstracts, describing research posters, and talking with mentors and peers.

MONDAY October 17, 2016: 1:00 – 2:40 PM

IDENTIFICATION OF NATIVE AND EXOTIC AQUATIC PLANTS OF THE UPPER MIDWEST

*Presenters: Paul Skawinski, UW-Extension Lakes Program, Author of Aquatic Plants of the Upper Midwest
Michelle Nault, Wisconsin Department of Natural Resources
Susan Knight, University of Wisconsin – Trout Lake Station*

The Upper Midwest region is blessed with an amazing diversity of aquatic plants – over 150 species. Knowing what to look for is the key to distinguishing between the members of this important group of plants. Participants will learn through a combination of classroom and hands-on instruction. Many invasive species will be discussed, including how to distinguish them from similar native species. Participants will be able to purchase a copy of Aquatic Plants of the Upper Midwest for \$30 at the Workshop.

MONDAY October 17, 2016: 3:00 – 4:40 PM

IDENTIFICATION OF GRASSES, SEDGES, AND RUSHES

*Presenters: Steve Eggers, U.S. Army Corps of Engineers
Patricia Trochlell, Wisconsin Department of Natural Resources*

This workshop will introduce participants to the basics of identification of grasses, sedges, and rushes; three graminoid families with species commonly found growing in wetlands and adjacent uplands. Taxonomy, plant structure and use of appropriate plant keys for identification will be discussed with species samples available for close observation. Several grass species that are invasive in the Midwest will be covered.

WEDNESDAY October 19, 2016: 8:30 – 11:45 AM

MISSISSIPPI RIVER BASIN PANEL ON AQUATIC NUISANCE SPECIES WORKSHOP

See page 25 for presenter information.

Preventing the Spread of Aquatic Invasive Species by Baitfish: A Regional Workshop to Facilitate Interstate Dialogue and Cooperation. Open to all UMISC attendees.

WEDNESDAY October 19, 2016: 1:00 – 2:40 PM

INVASIVE SPECIES MANAGEMENT (ISM) TRACK

Presenter: Mark Renz, UW-Madison

Are you interested in tracking invasive species management information? If so ISMTrack may be a solution. ISMTrack is a cloud based software system to help land managers track and summarize invasive species management across sites and over time. ISMTrack is integrated with EDDMapS, a web and app based invasive species reporting system. ISMTrack can be used to track many invasive species management activities including: staffing, treatment method, travel time, volunteer or crew hours, weather conditions, completion dates and other critical information. Data can be shared, downloaded and analyzed to increase efficiency and improve invasive species management by a team and across organizations. The mobile-friendly design also allows for access and entry of data in the field, eliminating the need for office time during the field season. If interested in learning more about this resource (currently available in WI and MN) please attend this workshop. Participants will be introduced to ISMTrack and participate in a hands-on training session that will allow them to setup their land for use of this system.



Zebra mussels (*D. polymorpha*). Photo credit: Paul Skawinski



SUNDAY AFTERNOON: 4:00 – 6:30 PM

BALLROOM A

Workshop: Improvisational Theatre for Science Communication

Clare Haden, Oral Communication Specialist at Saint Meinrad Seminary and School of Theology; and Amy Zelenski, Director of Education, Department of Medicine in the School of Medicine and Public Health at UW-Madison.

This 2.5 hour workshop will introduce you to exercises that can teach you how to (1) effectively communicate your work to different audiences, (2) adjust your behavior in real time to respond to audience feedback, and (3) manipulate your vocal and physical presence to communicate more effectively. This workshop will build your skills and confidence; enabling you to effectively communicate your work to different audiences. You will learn how to distill your message and present your science in a clear, concise, and compelling manner. You will be able to use these skills when giving lectures, presenting abstracts, describing research posters, and talking with mentors and peers.

MONDAY AFTERNOON I: 1:00 – 2:40 PM

BALLROOM A

Inspection and Decontamination Policy, Protocols and Effective Data Management

Moderator: Adam Doll, Minnesota Department of Natural Resources

- 1:00 pm **Tracking the Zebra Mussel: Analyzing Watercraft Inspection Data for Effective Lake Monitoring**
Baishali Bakshi¹, Adam Doll²; ¹Minnesota Department of Natural Resources Data Governance Unit, ²Minnesota Department of Natural Resources
- 1:20 pm **An Overview of Watercraft Inspections in the State of Minnesota**
Adam Doll, Minnesota Department of Natural Resources
- 1:40 pm **Wisconsin DNR's Decontamination and Disinfection Manual Code**
Maureen Ferry¹, Julia Riley¹, Amanda Perdzock², David Rowe¹, Timothy Campbell³; ¹Wisconsin Department of Natural Resources, ²River Alliance of Wisconsin, ³University of Wisconsin Extension
- 2:00 pm **Clean Boats, Clean Waters: Citizens and Staff Work Together to Protect Wisconsin's Lakes**
Erin McFarlane, UW-Extension Lakes
- 2:20 pm **Enhanced Training for AIS Watercraft Inspectors in Cass County MN**
Rima Smith-Keprios, Cass County, Minnesota

BALLROOM B

Dreissenid (Zebra and Quagga Mussel) Research and Control – 1

Moderator: James Luoma, USGS Environmental Science Center

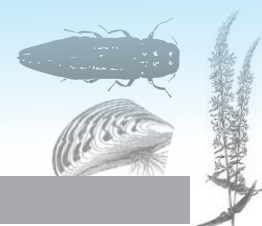
- 1:00 pm **Effects of Cyanobacteria on Quagga Mussel (*Dreissena rostriformis bugensis*) Reproduction**
Anna Boegehold¹, Karim Alame¹, Donna Kashian¹, Nick Johnson²; ¹Wayne State University, ²U.S. Geological Survey
- 1:20 pm **Combating Dreissenids in Open Water and in Water Transport Vectors with Zequanox**
Carolyn Link, Marrone Bio Innovations
- 1:40 pm **Zebra Mussel (*Dreissena polymorpha*) Eradication Efforts in Christmas Lake, Minnesota**
Keegan Lund¹, Eric Fieldseth², Dr. Michael McCartney³, Kylie Cattoor¹, Jill Sweet²; ¹Minnesota Department of Natural Resources, ²Minnehaha Creek Watershed District, ³University of Minnesota
- 2:00 pm **Effects of Zequanox Exposure to Non-Target Fish**
James Luoma¹, Diane Waller, Todd Severson, Jeremy Wise, Matt Barbour; U.S. Geological Survey
- 2:20 pm **Pattern of Spread of Zebra Mussel in Minnesota**
Sophie Mallez¹, Michael McCartney; Minnesota Aquatic Invasive Species Research Center at the University of Minnesota

SOUTH HALL B1

Invasive Species Management on Tribal Lands -1

Moderators: Tyler Kaspar, 1854 Treaty Authority & Susan Burks, Minnesota DNR

- 1:00 pm **Working with Native American Peoples: Key Tribal Partners and the Work They Do (Part 1)**
Tyler Kaspar¹, Miles Falck², Joe Mortzheim³, Pat Pelky⁴; ¹1854 Treaty Authority, ²Great Lakes Indian Fish and Wildlife Commission, ³U.S. Bureau of Indian Affairs, ⁴Wisconsin Tribal Conservation Advisory Council
- 1:20 pm **Working with Native American Peoples: Key Tribal Partners and the Work They Do (Part 2)**
Tyler Kaspar¹, Miles Falck², Joe Mortzheim³, Pat Pelky⁴; ¹1854 Treaty Authority, ²Great Lakes Indian Fish and Wildlife Commission, ³U.S. Bureau of Indian Affairs, ⁴Wisconsin Tribal Conservation Advisory Council
- 1:40 pm **Federal Quarantine Regulations and Their Implication for Tribal Lands (Part 1)**
JoAnn Cruse¹, Patrick Pelky²; ¹U.S. Department of Agriculture, ²Wisconsin Tribal Conservation Advisory Council
- 2:00 pm **Federal Quarantine Regulations and Their Implication for Tribal Lands (Part 2)**
JoAnn Cruse¹, Patrick Pelky²; ¹U.S. Department of Agriculture, ²Wisconsin Tribal Conservation Advisory Council
- 2:20 pm **Implementation of Invasive Species Management Based on Large-scale Inventory and Prioritization**
Paul Quinlan¹, Randy Poelma², Cardno, Inc., ²Ho-Chunk Nation Division of Environmental Health



MONDAY AFTERNOON I: 1:00 – 2:40 PM

BALLROOM C

Workshop: Identification of Native and Exotic Aquatic Plants of the Upper Midwest

Paul Skawinski^{1,2}, Michelle Nault³, Susan Knight⁴; ¹Wisconsin Citizen Lake Monitoring Network, ²UW-Extension Lakes Program, ³Wisconsin Department of Natural Resources, ⁴University of Wisconsin – Trout Lake Station

- 1:00 pm The Upper Midwest region is blessed with an amazing diversity of aquatic plants – over 150 species. Knowing what to look for is the key to distinguishing between the members of this important group of plants. Participants will learn through a combination of classroom and hands-on instruction. Many non-native species will also be discussed, including how to distinguish them from similar native species.

MONDAY AFTERNOON II: 3:00 – 4:40 PM

BALLROOM A

Locally Led Efforts*

*(10 min. presentations followed by 30 min. discussion)

Moderator: Tina Wolbers, Minnesota Department of Natural Resources

3:00 pm **Michigan's Invasive Species Program**

Christina Baugher, Michigan Department of Natural Resources

3:10 pm **WePIC**

Jennifer Ricker, Iron Baraga Conservation District

3:20 pm **An RC&D-led Regional AIS Program Providing Services in 8 Counties**

Amy Thorstenson, Golden Sands RC&D and Portage, Marathon, Waupaca, Waushara, and Wood Counties

3:30 pm **Living the Dream as a 'Top Ten' County: Cass County MN**

Rima Smith-Keprios, Cass County, Minnesota

3:40 pm **Hubbard County - Local Partnerships With Resorts and Townships**

Kenneth Grob, Hubbard County

3:50 pm **Locally Led AIS efforts**

Tera Guetter, Pelican River Watershed District

4:00 pm **A Review of One Aquatic Invasive Species Coordinator Model in Wisconsin**

Diane Schauer, Calumet County, WI

4:10 pm **Discussion** (30 minutes)

BALLROOM B

Dreissenid (Zebra and Quagga Mussel) Research and Control – 2

Moderator: James Luoma, USGS Environmental Science Center

3:00 pm **Ecology and Genetics of Zebra Mussel Spread in Minnesota: Results and Plans**

Michael McCartney, Sophie Mallez; University of Minnesota*

3:20 pm **The Potential of eDNA to Guide Site Selection for Zebra Mussel Control**

Christopher Merkes¹, Richard Erickson¹, Christopher Rees², Jon Amberg¹, James Luoma¹; ¹U.S. Geological Survey, ²U.S. Fish and Wildlife Service

3:40 pm **A Rapid Response Zebra Mussel (*Dreissena polymorpha*) Control Project, Ruth Lake, Minnesota**

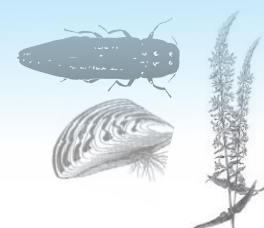
Richard Rezanka, Daniel Swanson (retired), Michael Duval; Minnesota Department of Natural Resources*

4:00 pm **Evaluation of Carbon Dioxide as a *Dreissenid* Mussel Control Tool**

Diane Waller, Michelle Bartsch, Matt Barbour, Jeremy Wise, Todd Severson; U.S. Geological Survey*

4:20 pm **Control of *Dreissenid* Mussels with a More Rational Use of Copper**

David Hammond, Earth Science Labs



SOUTH HALL B1

Invasive Species Management on Tribal Lands – 2

Moderators: Tyler Kaspar, 1854 Treaty Authority & Susan Burks, Minnesota Department of Natural Resources

- 3:00 pm **The Vanishing Goblin Fern: Negative Effects of Non-native Earthworms**
Bobby Henderson, Leech Lake Band of Ojibwe, Division of Resource Management
- 3:20 pm **Adapting to Emerald Ash Borer: Planting Replacement Species in the Understory**
Shannon Kesner, Christian Nelson; Fond du Lac Band of Lake Superior Chippewa*
- 3:40 pm **Is Phragmites Being Spread by Waste Water Treatment Facilities?**
Todd Norwood, Red Cliff Band of Lake Superior Chippewa Treaty Natural Resources Division
- 4:00 pm **Using Drones to Monitor Invasive Species and Wetland Restorations**
Michael Arce, Oneida Environmental Health and Safety Division
- 4:20 pm **Panel Discussion: Enhancing Cooperative Invasive Species Management Across Tribal Borders**

SOUTH HALL B2

How to Recruit and Manage Volunteers

Moderator: Andrea Lorek Strauss, University of Minnesota Extension

- 3:00 pm **Tips for Recruiting and Managing Volunteers to Help with Invasive Species Management**
Andrea Lorek Strauss, University of Minnesota Extension
- 3:20 pm **Mobilizing Citizens: Increasing Volunteer Involvement and Early Detection on Wisconsin's Rivers**
Amanda Perdzock, River Alliance of Wisconsin
- 3:40 pm **Development and Enhancement of the Michigan Invasive Aquatic Plant Citizen Monitoring Program**
Angela De Palma-Dow, Jo Latimore; Michigan State University*
- 4:00 pm **AIS Detectors and Trackers: WANTED**
Eleanor Burkett, Megan Weber; University of Minnesota Extension*
- 4:20 pm **Invasive Blitz: Expanded Roles for Volunteers**
Andrea Lorek Strauss¹, Terri Dugan², Dawn Littleton²; University of Minnesota Extension, Minnesota Master Naturalist

BALLROOM C

Workshop: Identification of Grasses, Sedges, and Rushes

Presenter: Steve Eggers¹, Patricia Trochlell²; ¹U.S. Army Corps of Engineers, ²Wisconsin Department of Natural Resources

- 3:00 pm This workshop will introduce participants to the basics of identification of grasses, sedges, and rushes; three graminoid families with species commonly found growing in wetlands and adjacent uplands. Taxonomy, plant structure and use of appropriate plant keys for identification will be discussed with species samples available for close observation. Several grass species that are invasive in the Midwest will be covered.

TUESDAY, OCTOBER 18, 2016

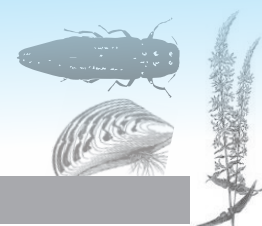
TUESDAY MORNING I: 8:00 – 9:40 AM

BALLROOM A

Emerald Ash Borer Control and Management

Moderator: Mark Abrahamson, Minnesota Department of Agriculture

- 8:00 am **Minnesota Wasp Watchers: An Update on Emerald Ash Borer Biosurveillance**
Jennifer Schultz¹, Monika Chandler², Angela Gupta¹, Jeffrey Hahn¹, Jonathan Osthus²;
¹University of Minnesota Extension, ²Minnesota Department of Agriculture
- 8:20 am **When Do You Pull the Trigger? Using Monitoring Data to Optimize EAB Management**
Mark Abrahamson¹, Angie Ambourn¹, Brian Aukema², Chris Mallet², Aubree Wilke², Rob Venette³;
¹Minnesota Department of Agriculture, ²University of Minnesota, ³U.S. Forest Service
- 8:40 am **An Update on Wisconsin's Forest Management Guidelines for Emerald Ash Borer**
Greg Edge, Wisconsin Department of Natural Resources Division of Forestry
- 9:00 **Discussion**



BALLROOM B

Responsive Management of Fish

Moderator: Brooke Vetter, University of Minnesota – Duluth

- 8:00 am **The Potential Use of Chemical and Auditory Stimuli with Other Control Strategies to Develop an Integrated Pest Management Tool for the Control of Asian Carps**
Robin Calfee, Gregory Thompson, Edward Little, Holly Puglis, Erinn Scott; U.S. Geological Survey*
- 8:20 am **Predation of Juvenile Asian Carp by Native Species in Experimental Ponds**
Cari-Ann Hayer¹, Duane Chapman¹, Curtis Byrd²; ¹U.S. Geological Survey, ²Five Rivers, Inc.
- 8:40 am **The Effects of Anthropogenic Sound on Native and Invasive Fish Behavior in the Upper Mississippi River**
Kelsie Murchy¹, Brooke Vetter¹, Marybeth Brey², Jon Amberg², Mark Gaikowski², Allen Mensinger¹; ¹University of Minnesota Duluth, ²U.S. Geological Survey
- 9:00 am **Bigheaded Carp Movements Past Navigation Dams on the Upper Mississippi River**
Jon Vallazza¹, Kyle Mose², Ann Rundstrom², James Larson¹, Neil Gillespie², Brent Knights¹; ¹U.S. Geological Survey, ²U.S. Fish and Wildlife Service
- 9:20 am **Bigheaded Carp Behavior and Bioacoustics**
Brooke Vetter¹, Kelsie Murchy¹, Jon Amberg², Robin Calfee², Mark Gaikowski², Allen Mensinger¹; ¹University of Minnesota-Duluth, ²U.S. Geological Survey

BALLROOM C

Rapid Response and Eradication: Case Studies from Around the Great Lakes

Moderator: Erika Jensen, Great Lakes Commission

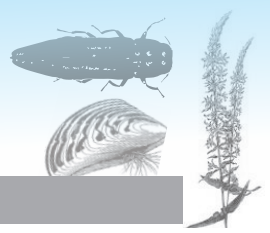
- 8:00 am **Attempted Eradication of Ambitious Architects: *Procambarus clarkii*, The Red Swamp Crayfish in three SE Wisconsin Ponds – Successes and Failures**
Heidi Bunk, Scott Van Egeren; Wisconsin Department of Natural Resources*
- 8:20 am ***Nymphoides peltata* Management in Six Wisconsin Ponds**
Heidi Bunk¹, Audrey Greene², Susan Graham¹, Brenda Nordin¹, Michelle Nault¹; ¹Wisconsin Department of Natural Resources, ²Walworth County (retired)
- 8:40 am **Demonstration Project to Eradicate *Hydrilla* in Tonawanda Creek Section of the Erie Canal, NY**
Michael Greer¹, Richard Ruby¹, Michael Netherland²; ¹U.S. Army Corps of Engineers, ²U.S. Army Engineer Research and Development Center
- 9:20 am **Michigan European Frog Bit Response**
Sue Tangora, Michigan Department of Natural Resources
- 9:40 am **Discussion**

SOUTH HALL B1

Ecology and Biology of Invasives -1

Moderator: Niels Jorgensen, University of Wisconsin-Madison Nelson Institute for Environmental Studies

- 8:00 am **Using Habitat Suitability Models in Wisconsin: An Engaged, Iterative, and Collaborative Approach**
Niels Jorgensen, Mark Renz; University of Wisconsin-Madison*
- 8:20 am **Climate Change and Terrestrial Invasive Species**
Laura Van Riper, Ecological and Water Resources Division of the Minnesota Department of Natural Resources
- 8:40 am **Facilitating Natural Succession in Heavily Invaded Ecosystems**
Amber Miller-Adamany, Meredith Thomsen; University of Wisconsin-La Crosse*
- 9:00 am **Invasive Species or Invasible Landscapes: An Alternative Perspective on Invasion**
Steve Thomforde, Great River Greening
- 9:20 am **How the Phenology of Curly-Leaf Pondweed (*Potamogeton crispus* L.) Affects Biomass Estimation, Dissolved Oxygen, and Nutrient Cycling in the Upper Mississippi**
Deanne Drake¹, Shawn Giblin, John Kalas; ¹Wisconsin Department of Natural Resources



TUESDAY MORNING I: 8:00 – 9:40 AM

SOUTH HALL B2

Prioritizing and Controlling New Terrestrial Invasive Plants

Moderator: Emilie Justen, Minnesota Department of Agriculture

- 8:00 am **Early Detection, Delayed Reaction Repercussions of Amur Cork Tree and Wild Chervil**
Christopher Gaetzke, Katherine Stahl; Lower Chippewa Invasives Partnership, Inc.*
- 8:20 am **Successful Japanese Hops (*Humulus japonicus*) Early Detection and Management in Southeastern Minnesota**
Emilie Justen, Minnesota Department of Agriculture
- 8:40 am **Lesser Celandine (*Ficaria verna* or *Ranunculus ficaria*) in Wisconsin: An Account of its Recent History and Control Efforts**
Michael Putnam¹, Mark Verhagen², Jill Hapner³, Kelly Kearns¹; ¹Wisconsin Department of Natural Resources, ²Wehr Nature Center, ³Southeastern Wisconsin Invasive Species Consortium, Inc.
- 9:00 am **Callery Pear: An Emerging Invasive Threat**
Jason Belcher, Bayer CropScience
- 9:20 am **Grecian Foxglove (*Digitalis lanata*) Management Success: A Collaborative Effort**
Emilie Justen, Lynette Anderson; Belwin Conservancy*

SOUTH HALL B3

Minnesota Invasive Terrestrial Plants and Pests Center: Research Updates and Management

Moderator: Rob Venette, Minnesota DNR

- 8:00 am **The Minnesota Invasive Terrestrial Plants and Pests Center: Research for Results**
Robert Venette, The Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC) at the University of Minnesota
- 8:20 am **Rapid Detection of Oak Wilt**
Renu Singh, Jennifer Juzwik, Brett Arenz, Abdennour Abbas; University of Minnesota Twin Cities*
- 8:40 am **The Invasive Continues: Getting a Leg up on a Growing Six-Legged Problem**
Bill Hutchison¹, Byju Govindan¹, Bob Koch¹, Chris Philips^{2,3}, Tracy Twine⁴, Pete Snyder⁴, Mark Abrahamson⁵; ¹Department of Entomology at the University of Minnesota, St. Paul, ²NC-Research & Outreach Center, ³Department of Entomology at the University of Minnesota, Grand Rapids, ⁴Department of Soil, Water & Climate at the University of Minnesota, St. Paul, ⁵Minnesota Department of Agriculture
- 9:00 am **Cover it Up! Using Plants to Control Buckthorn**
Peter Wragg¹, Peter Reich¹, Lee Frelich¹, Alex Roth², Paul Bockenstedt³, Shawn Schottler⁴; ¹University of Minnesota, ²Friends of the Mississippi, ³Stantec, Inc., ⁴St. Croix Watershed Research Station
- 9:20 am **Love it or List it: Agency Perspectives on the MITPPC – MN: Agency Panel and Discussion**
Laura Van Riper¹, Mark Abrahamson², Dan Shaw³, Ken Graeve⁴; ¹Minnesota Department of Natural Resources, ²Minnesota Department of Agriculture, ³Minnesota Board of Water and Soil Resources, ⁴Minnesota Department of Transportation

TUESDAY MORNING II: 10:00 – 11:40 AM

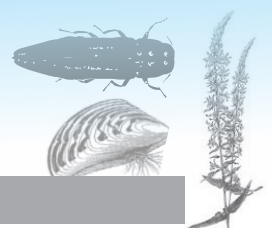
BALLROOM A

"New" Invasive Plants Threatening Our Forests*

*(Four, 10-minute presentations followed by an hour of open discussion)

Moderator: Susan Burks, Minnesota Department of Natural Resources

- 10:00 am Introduction to Goals, Biology, and Identification, Susan Burks, MNDNR Forestry
- 10:10 am Angela Isackson, Three Rivers Park District
- 10:20 am Jeffrey Flory, 1854 Treaty Authority
- 10:40 am Val Green, MNDNR Forestry
- 10:50 am General Discussion



BALLROOM B

Industry Solutions for Better Aquatic Invasive Species Management

Moderator: Steve McComas, Blue Water Science

- 10:00 am **A New Biochemical Dreissenid Control Technology**
Bridget Gruber, Danny Cook, John Fournier; Smith-Root Inc, ZM Controllers
- 10:20 am **Early-Season Whole Lake Herbicide Strategies for Control of Hybrid Eurasian Watermilfoil**
Eddie Heath¹, Michelle Nault², John Skogerboe³, Tim Hoyman¹; ¹Onterra, LLC, ²Wisconsin Department of Natural Resources, ³U.S. Army Corps of Engineers
- 10:40 am **Case Studies of AIS Detection and Response: What Have We Learned?**
Steve McComas, Jo Stuckert, Connor McComas; Blue Water Science*
- 11:00 am **Using Public, Private and Non-Profit Partnerships to Help Tackle AIS**
Ed Rudberg, Ph.D. Principal/Co-Found CD3, LLC.
- 11:20 am **Discussion Session**

BALLROOM C

Locally Led Efforts and Organisms in Trade

Moderator: Tim Campbell, University of Wisconsin Extension Environmental Resources Center, University of Wisconsin Sea Grant, and the Wisconsin Department of Natural Resources

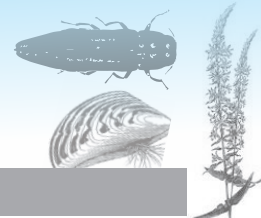
- 10:00 am **Soliciting Public Feedback for an AIS Grants Program Using a Novel Survey Approach**
Shelly Thomsen¹, Tim Campbell², Barry Radler⁴; ¹Wisconsin Department of Natural Resources, ²University of Wisconsin Extension, ³Wisconsin Sea Grant, ⁴Barrold Freeman Consulting
- 10:20 am **Managing Aquatic Invasive Species While Improving Water Quality: Riley Creek Watershed**
Claire Bleser, Josh Maxwell, Michelle Jordan; Riley-Purgatory-Bluff Creek Watershed District*
- 10:40 am **Michigan Department of Natural Resource's Organisms in Trade Inspection Initiative**
Steven Huff, Michigan Department of Natural Resources
- 11:00 am **Illinois Needs Heroes: Preventing the Introduction of Aquatic Invasive Species in Trade into Natural Areas**
Greg Hitzroth^{1,2}, Pat Charlebois^{1,2}, Sara Zack¹, Danielle Hilbrich^{1,2}; ¹Illinois-Indiana Sea Grant, ²Illinois Natural History Survey
- 11:20 am **Watercraft Inspection Data Collection in Wisconsin Using a Custom Mobile Application**
Tim Campbell^{1,2}, Erin McFarlane³, Brian Ploeckelman⁴; ¹University of Wisconsin Extension Environmental Resources Center, ²Wisconsin Sea Grant, ³University of Wisconsin Extension, ⁴University of Wisconsin – Madison

SOUTH HALL B1

Ecology and Biology of Invasives – 2

Moderator: Jake Walsh, Center for Limnology at the University of Wisconsin-Madison

- 10:00 am **Evaluating the Risk of Non-native Aquatic Species Establishment in a Changing Climate**
Sara Stahlman¹, Theo Light²; ¹Pennsylvania Sea Grant, ²Shippensburg University
- 10:20 am **Massive Ecosystem Services Impact by Invasive Spiny Waterflea in Lake Mendota, WI**
Jake Walsh, Jake Vander Zanden, Stephen Carpenter; Center for Limnology at the University of Wisconsin-Madison*
- 10:40 am **Measuring Invasive Species Impact Using Comparative Analyses**
Jake Vander Zanden, University of Wisconsin-Madison
- 11:00 am **Interaction of Zebra Mussels and Water Quality in Lake Minnetonka, Minnesota**
Eric Fieldseth¹, Steve McComas²; ¹Minnehaha Creek Watershed District, ²Blue Water Science
- 11:20 am **Illinois' Exotic Freshwater Mollusks' Distributions and Implications**
Jeremy Tiemann, Sarah Douglass, Mark Davis, Kevin Cummings; Illinois Natural History Survey*



TUESDAY MORNING II: 10:00 – 11:40 AM

SOUTH HALL B2

Phragmites (Common Reed) Research, Prevention and Control – 1

Moderators: Kurt Kowalski, USGS - Great Lakes Science Center

- 10:00 am **Great Lakes Phragmites Collaborative: A Collective Impact Approach to Non-native Phragmites**
Elaine Ferrier¹, Kurt Kowalski²; ¹Great Lakes Commission, ²USGS Geological Survey – Great Lakes Science Center
- 10:20 am **Developing the Phragmites Adaptive Management Framework (PAMF)**
Abram DaSilva¹, Kurt Kowalski¹, Danielle Haak², Clinton Moore¹, Wesley Bickford¹; ¹U.S. Geological Survey, ²University of Georgia
- 10:40 am **Non-native Phragmites in the Midwest: Status of its Invasion and Control Projects in Wisconsin, Illinois, Minnesota, and Iowa**
Brock Woods, University of Wisconsin and Department of Natural Resources
- 11:00 am **Phragmites Prevention and Control Coalition of Michigan's Upper Peninsula (U.P.)**
Darcy Rutkowski¹, Teri Grout, Jason Schnorr, Upper Peninsula RC&D Council
- 11:20 am **Developing a Private Landowner Cost-Share Program for Invasive Species Removal**
Jennifer Muladore, Huron Pines

SOUTH HALL B3

Cooperative Weed Management Areas: Updates and Future Direction

Moderator: Kari Hagenow, Door County Invasive Species Team, The Nature Conservancy

- 10:00 am **Cooperative Management in Northwest Lower Michigan**
Katie Grzesiak, Northwest Michigan Invasive Species Network
- 10:20 am **Keeping Momentum a Decade Later - The Door County Invasive Species Team**
Kari Hagenow, Door County Invasive Species Team
- 10:40 am **Slowing the Spread and Educating Citizens in West Central Wisconsin**
Christopher Gaetzke, Dunn County Land and Water Conservation Division
- 11:00 am **Cooperative Weed Management Area Program Utilizing Cost-Share for Landowners**
Jennifer Wahls, Wabasha County
- 11:20 am **Greater Blue Earth Cooperative Weed Management Area (CWMA)**
Rich Perrine, Martin Soil and Water Conservation District

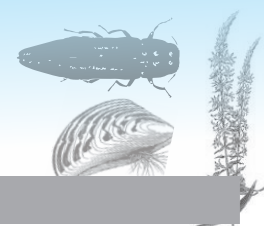
TUESDAY AFTERNOON I: 1:30 – 3:10 PM

BALLROOM A

Forest Ecosystem Connections and Invasive Plant Species

Moderator: Ryan McEwan, University of Dayton

- 1:30 pm **Garlic Mustard: Regional Decline of a Major Forest Invader**
Bernd Blossey¹, Andrea DiAvalos¹, Victoria Nuzzo²; ¹Cornell University, ²Natural Area Consultants
- 1:50 pm **Do Extreme Stochastic Climate Events Affect the Density of the Invasive Garlic Mustard (*Alliaria petiolata*) and Disrupt the Years of Alternating Abundance of First and Second Year Plants?**
Roger Anderson¹, M. Rebecca Anderson¹, Jonathan Bauer², Christopher Loebach¹; ¹Illinois State University, ²Indiana University
- 2:10 pm **Perspectives on Garlic Mustard Biocontrol in the Midwest**
Laura Van Riper¹, Roger Becker², Jeanie Katovich², Mary Marek-Spartz², Edita Siltefanici³, Josip Jura³; ¹Minnesota Department of Natural Resources, ²University of Minnesota, ³Strossmayer University
- 2:30 pm **Effects of the Invasion, and Removal, of the Terrestrial Shrub *Lonicera maackii* on the Biology of Headwater Streams**
Ryan McEwan¹, Eric Benbow, Kevin Custer, Rachel McNeish; ¹University of Dayton
- 2:50 pm **Advances in Control of Invasive Plants by Conservation Goat Grazing**
Jacob Langeslag¹, Amanda Langeslag; Goat Dispatch



SOUTH HALL B1

Minnesota Counties' Prevention Aid Outcomes and Impacts*

*(Seven, 10 minute presentations followed by a 30 minute discussion)

Moderator: Tina Wolbers, Minnesota DNR

1:30 pm **Minnesota's Aquatic Invasive Species Prevention Aid Outcomes and Impacts**

Tina Wolbers, Phil Hunsicker; Minnesota Department of Natural Resources*

1:40 pm **Beltrami County MN AIS Prevention**

Bruce Anspach, Beltrami County

1:50 pm **Successes and Challenges of AIS Prevention Aid in Cook County, Minnesota**

Amanda Weberg, Cook County, MN

2:00 pm **Chisago County AIS Prevention Program**

Jerry Spetzman, Chisago County and Chisago Lakes Lake Improvement District

2:10 pm **Making a Difference at the Local Level - AIS Prevention Aid Implementation in Washington County, Minnesota**

Colin Kelly, Washington County Office of Administration

2:20 pm **Winona County, MN AIS Aid in Trout Streams**

Amanda Gentry, Winona County SWCD

2:30 pm **4-H Youth/Adult Partnerships and Aquatic Invasive Species Education**

*Suzanne Souza^{*12}, Cara Greger³⁴, Zakari Angelo⁴, Ethan Carbajal⁴, Mary Larson⁴; ¹University of Minnesota Extension, ²Big Stone County, ³Big Stone National Park, ⁴4-H Youth*

2:40 pm **Discussion Session** (30 minutes)

SOUTH HALL B2

Responsive Management of Aquatic Plants – 1

Moderator: Scott Provost, Wisconsin Department of Natural Resources

1:30 pm **Linking the Efficacy and Side Effects of Long-Term Best Management Practices for Eurasian Watermilfoil Control in Wisconsin Lakes**

*Ellen Kujawa^{*1}, Paul Frater¹, Alison Mikulyuk¹, Martha Barton¹, Michelle Nault¹, Scott Van Egeren¹, Jennifer Hauxwell²; ¹Wisconsin Department of Natural Resources, ²University of Wisconsin Aquatic Sciences Center*

1:50 pm **Incorporating Holistic Management into Successful Integrated Pest Management Implementation**

Scott Provost, Wisconsin Department of Natural Resources

2:10 pm **The Cost of the Cure and the Disease: Understanding the Ecological Effects of an Invader Relative to Large-Scale Herbicide Treatments Used in its Control**

*Alison Mikulyuk^{*1}, Jake DeVries², Jan Malysza²; ¹Wisconsin Department of Natural Resources*

2:30 pm **Rapid Response Management of Eurasian Watermilfoil (*Myriophyllum spicatum*) in Staring Lake**

Joshua Maxwell^{}, Claire Bleser, Michelle Jordan; Riley-Purgatory-Bluff Creek Watershed District*

2:50 pm **Reed Canarygrass Risk Assessment by the Minnesota Noxious Weed Advisory Committee**

Michael Merriman^{}, Anthony Cortilet, Clifford Watrin; Minnesota Department of Agriculture*

BALLROOM B

Policy, Law, and Legislation

Moderator: Ryan Wheeler, Michigan Department of Natural Resources, Forest and Wildlife Divisions

1:30 pm **Implementation of a Multi-agency Invasive Species Decontamination Policy in Michigan**

Ryan Wheeler, Michigan Department of Natural Resources, Forest and Wildlife Divisions

1:50 pm **Using Risk Analysis to Inform Asian Carp Management in Minnesota**

Adam Kokotovich^{}, David Andow; University of Minnesota*

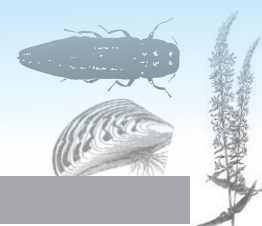
2:10 pm **Enforcing AIS Laws and Educating Boaters Through the Wisconsin DNR Water Guard Program**

Samantha Olsen, Wisconsin Department of Natural Resources

2:30 pm **Wisconsin Ballast Water Program Update**

Susan Eichelkraut^{}, Mike Goettel; Department of Natural Resources*

2:50 pm Discussion



TUESDAY AFTERNOON I: 1:30 – 3:10 PM

SOUTH HALL B3

Phragmites (Common Reed) Research, Prevention and Control -2

Moderator: Brock Woods, UW Extension

- 1:30 pm **Lower Grand River Phragmites Control--A Public/Private Partnership Success Story**
*Melanie Manion^{*1}, Brian Majka²; ¹Ottawa County Parks, ²GEL Consultants, Inc.*
- 1:50 pm **Can't See the Wetland for the Reeds: Phragmites Control in Coastal Wetlands**
*Christopher May^{*1}, Greg Norwood², Jake Bonelo²; ¹The Nature Conservancy, ²U.S. Fish and Wildlife Service*
- 2:10 pm **Bridging the Gap Between Innovation/Technology and Restoration in the Fight Against Invasive Phragmites**
Jason Carlson, Applied Ecological Services (AES)
- 2:30 pm **A Science Agenda for Managing Non-native *Phragmites australis* Through Microbial Intervention**
Kurt Kowalski, U.S. Geological Survey Great Lakes Science Center
- 2:50 pm **Root Fungi Associated with Native and Non-native Phragmites in the Great Lakes**
*Wesley Bickford^{*1}, Kurt Kowalski¹, Deborah Goldberg², Donald Zak²; ¹U.S. Geological Survey Great Lakes Science Center, ²University of Michigan*

BALLROOM C

Tools for Invasive Plant Removal

Moderator: Steven Manning, Invasive Plant Control, Inc.

- 1:30 pm **Invasive Plant Management with Herbicides**
Jamie Baumgardner, Dow AgroSciences
- 1:50 pm **Using Adjuvants to Increase Coverage and Reduce Off-Target Movement with Aerial Applications**
Ryan Edwards^{}, Greg Dahl, Tony Goede, Joe Gednalske, Lillian Magidow, Eric Spandl; Winfield US*
- 2:10 pm **New Ultra-Low Pressure Herbicide Dispenser Reduces Drift and Increases Target Adhesion**
John Lampe, Green Shoots, LLC
- 2:30 pm **Equipment for Invasive Plant Management; The Good, The Bad and the Ugly (Part 1)**
Steven Manning, Invasive Plant Control, Inc.
- 2:50 pm **Equipment for Invasive Plant Management; The Good, The Bad and the Ugly (Part 2)**
Steven Manning, Invasive Plant Control, Inc.

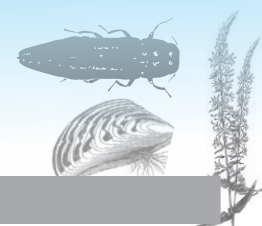
TUESDAY AFTERNOON II: 3:30 – 5:00 PM

BALLROOM A

Threats on the Horizon

Moderator: Angie Ambourn, Minnesota Department of Agriculture

- 3:30 pm **Minnesota's Most Wanted: Invasive Insect Species on the Horizon**
Angie Ambourn, Minnesota Department of Agriculture's Plant Protection Division
- 3:50 pm **Addressing the Current and Potential Impact of the Invasive Jumping Worm (*Amyntas sp.*) in Wisconsin**
*Brad Herrick^{*1}, Bernadette Williams²; ¹UW-Madison Arboretum, ²Wisconsin Department of Natural Resources*
- 4:10 pm **Potential Effects of the Invasive *Amyntas* Earthworm on Vegetation in Hardwood Forests**
*Katie Laushman^{*1}, Sara Hotchkiss²; ¹University of Wisconsin-Madison Nelson Institute for Environmental Studies, ²University of Wisconsin-Madison Botany Department*
- 4:30 pm **Feral Swine in the Upper Midwest**
John McComas, U.S. Department of Agriculture, APHIS Wildlife Services
- 4:50 pm **Identification, Biology and Management of Burning Bush (*Euonymus alatus*) in Forest Ecosystems**
Anthony Summers^{}, Mark Renz; University of Wisconsin*



SOUTH HALL B1

Responsive Management of Aquatic Plants – 2

Moderator: Aimee Crittendon, Wisconsin Department of Natural Resources

- 3:30 pm **Early Detection and Response to Prevent New Aquatic Invasive Plants from Establishing in Michigan**
Kile Kucher, Michigan Department of Natural Resources
- 3:50 pm **The Great Winneconne Water Hyacinth Expedition**
Valerie Stabenow, Citizen Lake Monitoring Network
- 4:10 pm **Potential Spread of Hydrilla (*Hydrilla verticillata*) to the Great Lakes Basin**
Kristen Hebebrand, Jonathan Bossenbroek; The University of Toledo*
- 4:30 pm **Occurrence and Distribution of Eurasian, Northern and Hybrid Watermilfoil in Lake Minnetonka and Christmas Lake: Genetic Analysis**
Eric Fieldseth¹, Ray Newman², Ryan Thum³; ¹Minnehaha Creek Watershed District, ²University of Minnesota, ³Montana State University
- 4:50 pm ***Glyceria maxima* in Wisconsin: Status and Control Strategy**
Brock Woods, University of Wisconsin and Department of Natural Resources

SOUTH HALL B2

Biology and Impacts of Starry Stonewort*

Moderator: Paul Skawinski, Citizen Lake Monitoring Network, University of Wisconsin Extension Lakes Program

*(Six 10-minute presentations followed by a 30-minute discussion)

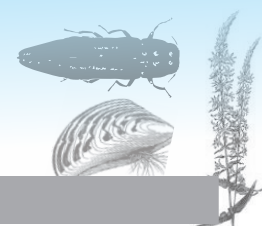
- 3:30 pm **Identification and Biology of Starry Stonewort (*Nitellopsis obtusa*)**
Paul Skawinski, Citizen Lake Monitoring Network, University of Wisconsin Extension Lakes Program
- 3:40 pm **Starry Stonewort: Addressing Identification Challenges Faced by Monitoring Volunteers and Professionals**
Angela De Palma-Dow, Maggie Williams, Jo Latimore; Michigan State University*
- 3:50 pm **Starry Stonewort (*Nitellopsis obtusa*): Research Efforts Towards an Integrated Management Plan**
Anna Monfils¹, Blake Cahill¹, Heather Dame¹, Lindsay Chadderton², Andrew Tucker², Pam Tynning³, Paul Hausler³, Ryan Thum⁴, James McNair⁵; ¹Central Michigan University, ²The Nature Conservancy, ³Progressive AE, ⁴Montana State University, ⁵Grand Valley State University
- 4:00 pm **Tracing the Movement of the Invasive Alga *Nitellopsis obtusa* Using Genetic Analyses**
Robin Sleith¹, Amy Havens¹, Robert Stewart¹, John Wehr², Kenneth Karol¹; ¹New York Botanical Garden, ²Fordham University
- 4:10 pm **Response to Starry Stonewort (*Nitellopsis obtusa*) in Silver Lake, Washington County, Wisconsin**
Bradley Steckart, Washington and Waukesha Counties
- 4:20 pm **Starry Stonewort: A New Species of Concern in Minnesota**
Christine Jurek, Nicole Kovar, Courtney Millaway, and Tim Plude, Minnesota Department of Natural Resources*
- 4:30 pm **Discussion Session (30 minutes)**

BALLROOM C

Organisms in Trade

Moderator: Stephanie Otts, National Sea Grant Law Center and the Mississippi-Alabama Sea Grant Legal Program at the University of Mississippi School of Law

- 3:30 pm **Organisms in Trade Invasion Pathways: Lessons from the GL BIOTIC Symposium**
Tim Campbell, University of Wisconsin Extension
- 3:50 pm **Harmonizing Great Lakes Regulated Species Lists: Progress Towards Reconciling a Regional Patchwork**
Lindsay Chadderton, Andrew Tucker; The Nature Conservancy*
- 4:10 pm **Fish and Wildlife Service's Lacey Act Authorities and Cooperative Risk Management Activities**
Michael Hoff, Craig Martin; U.S. Fish and Wildlife Service*
- 4:30 pm **GLDIATR: Protecting the Great Lakes from the Internet Trade of AIS**
Erika Jensen, Great Lakes Commission
- 4:50 pm **Multi-State Efforts to Address the Threat of Invasive Species**
Stephanie Otts, National Sea Grant Law Center



SOUTH HALL B3

Emerging Threats, Assessment and Management of Aquatic Invasive Species

Moderator: Angeline Dahlberg, St. Croix River Association

- 3:30 pm **Early Detection and Rapid Response at a Watershed Scale: A Role for Local Government**
Eric Fieldseth¹, ¹Minnehaha Creek Watershed District
- 3:50 pm **New and Emerging Aquatic Invasive Species in Michigan: Invertebrates**
William Keiper¹, Seth Herbst²; ¹Michigan Department of Environmental Quality, ²Michigan Department of Natural Resources
- 4:10 pm **Do Silver Carp and Shad Species Share Resources in a Mesotrophic Reservoir?**
Dalton Lebeda^{}, Michael Flinn; Murray State University*
- 4:30 pm **Evaluation of Aquatic Plant Communities Following a Whole Lake Fluridone Treatment to Control for *Myriophyllum spicatum* (Eurasian watermilfoil) — Michigan Case Studies**
Barb Gajewski, Many Waters, LLC
- 4:50 pm **Population Demographics of Silver Carp in a Large Mesotrophic Reservoir**
Allison DeRose¹, Timothy Spier¹, Neal Jackson²; ¹Murray State University, ²Kentucky Department of Fish and Wildlife

BALLROOM B

Wood Utilization: Impacts of Invasives on Timber and Value

Moderator: Mark Abrahamson, Minnesota Department of Agriculture

- 3:30 pm **Wood Utilization Options for Urban Trees Infested by Invasive Species**
Don Peterson¹, Brian Brashaw², Robert Ross¹; ¹Renewable Resource Solutions, LLC, ²USDA Forest Products Laboratory,
- 3:50 pm **Wood Utilization and the Uncertainty of Emerald Ash Borer in Minnesota's Forests**
Andrew Arends, Minnesota Department of Natural Resources
- 4:10 pm **A Burning Topic: Firewood and What Minnesota is Doing to Minimize the Spread**
Katy Longen, Minnesota Department of Agriculture
- 4:30 pm **Discussion Session** (40 minutes)

WEDNESDAY, OCTOBER 19, 2016

BALLROOM C

Mississippi River Basin Panel on Aquatic Nuisance Species Workshop—Preventing the Spread of Aquatic Invasive Species by Baitfish: A Regional Workshop to Facilitate Interstate Dialogue and Cooperation

Note: 8:30 am start

- 8:30 am **Welcome, Introductions, Overview of the Day**
Stephanie Otts, Director, National Sea Grant Law Center; Luci Cook-Hildreth, Mississippi River Basin Panel, Outreach Committee Chair
- 9:00 am **Addressing Invasive Species Spread through Commercial Bait Sales in Kansas: A Case History**
Jason Goeckler, Project Leader, U.S. Fish and Wildlife Service
- 9:45 am **State Case Study: Arkansas Certified Baitfish Program**
Mark Stoll, Arkansas State Plant Board
- 10:30 am **Break**
- 10:45 am **Assessing the Risk of Introduction through the Baitfish Pathway: Insights from the Great Lakes Fishery Commission's Law Enforcement Committee**
Jill Wingfield, Communications Program Manager, Great Lakes Fishery Commission
- 11:30 am **Summary of Legal Review of Mississippi River Basin Panel States**
Stephanie Otts, Director, National Sea Grant Law Center



SOUTH HALL B3

Emerging Forest Insect Pests

Moderator: Brian Aukema, University of Minnesota

8:00 am **Are Minnesota's Pines Too Good for Mountain Pine Beetles?**

Brian Aukema^{*1}, Robert Venette², Mark Abrahamson³, Angie Ambourn³, Derek Rosenberger⁴; ¹University of Minnesota, ²U.S. Forest Service, ³Minnesota Department of Agriculture, ⁴Olivet Nazarene University

8:20 am **Barriers the Mountain Pine Beetle Must Overcome to Spread to the Midwest**

Kevin Chase^{*1}, Eckehard Brockerhoff², Sandy Liebhold³, Derek Rosenberger⁴, Brian Aukema⁴; ¹University of Minnesota, ²Scion (New Zealand Forest Research Institute), ³U.S. Forest Service, ⁴University of Minnesota

8:40 am **The Role of Climate Change in the Synchrony of Larch Casebearer and Eastern Larch**

Samuel Fahrner^{*}, Brian Aukema; University of Minnesota Twin Cities

9:00 am **Etiology of Thousand Cankers Disease in the Eastern USA**

Melanie Moore^{*1}, Jennifer Juzwik¹, Tyler Stewart², Matthew Ginzel², ¹USDA Forest Service, ²Purdue University

9:20 am **Using a Pest Risk Analysis Approach to Prepare for Mountain Pine Beetle**

David Nisbet^{*1}, Taylor Scarr², Victoria Fewster¹; ¹Invasive Species Centre, ²Ontario Ministry of Natural Resources and Forestry

SOUTH HALL B1

Advances in Aquatic Plant Control

Moderator: Michelle Nault, Wisconsin Department of Natural Resources

8:00 am **Carolina Fanwort (*Cabomba caroliniana*): Research Efforts Towards an Integrated Management Plan**

Blake Cahill^{*1}, Anna Monfils¹, Heather Dame¹, Lindsay Chadderton², Andrew Tucker², Pam Tynning³, Paul Hausler³, Ryan Thum⁴, James McNair⁵; ¹Central Michigan University, ²The Nature Conservancy, ³Progressive AE, ⁴Montana State University, ⁵Grand Valley State University

8:20 am **Invasive Watermilfoil Response to Control Efforts in a Lake Superior Coastal Waterway**

Kevyn Juneau^{*1}, Casey Huckins², Amy Marcarelli²; ¹University of Wisconsin-River Falls, ²Michigan Technological University

8:40 am **Evaluation of Herbicide Treatments for Eurasian Watermilfoil Control Across Wisconsin Lakes**

Michelle Nault^{*1}, John Skogerboe², Eddie Heath³, Scott Van Egeren¹, Scott Provost¹; ¹Wisconsin Department of Natural Resources, ²U.S. Army Corps of Engineers, ³Onterra, LLC

9:00 am **Efficacy and Selectivity Studies for a New Aquatic Herbicide - PROCELLACOR™**

Mark Heilman^{*1}, Michael Netherland²; ¹SePRO, ²U.S. Army Engineer Research and Development Center

9:20 am **Going to the Mat: Biodegradable Benthic Mats for Invasive Aquatic Plant Control**

Andrew Tucker^{*1}, Lindsay Chadderton¹, Anna Monfils², Blake Cahill², Heather Dame², Pam Tynning³, Paul Hausler³, Ryan Thum⁴, James McNair⁵; ¹The Nature Conservancy, ²Central Michigan University, ³Progressive AE, ⁴Montana State University, ⁵Grand Valley State University

SOUTH HALL B2

Early Detection of New Invasive Fish and Invertebrates

Moderator: Kylie Cattoor, Minnesota Department of Natural Resources

8:00 am **Sampling Design for Aquatic Invasive Species Early Detection in Great Lakes Ports**

Joel Hoffman^{*1}, Joshua Schloesser², Annett Trebitz¹, Greg Peterson¹, Michelle Gutsch¹; ¹U.S. Environmental Protection Agency Office of Research and Development, ²U.S. Fish and Wildlife Service

8:20 am **Development of an AIS Monitoring Program on Lake Superior: Using Chequamegon Bay as a Case Study for Improving Detection Probabilities**

Jared Myers^{*}, Josh Schloesser, Mike Seider, Mark Brouder; U.S. Fish and Wildlife Service

8:40 am **The Art and Science of Finding Zebra Mussels (*Dreissena polymorpha*): A Discussion of In-Lake Early Detection Search Methods in Minnesota**

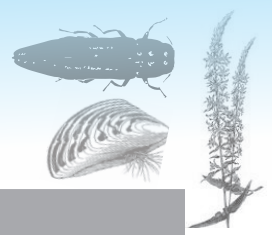
Kylie Cattoor^{*}, Keegan Lund, Allison Gamble; Minnesota Department of Natural Resources

9:00 am **Identification of Bighead Carp and Silver Carp Natal Environments and Detection of Lock and Dam 19 Passage in the Upper Mississippi River: Insights from Otolith Chemistry**

Brent Knights^{*1}, Gregory Whitley², Jon Vallazza¹, James Larson¹, Michael Weber³, James Lamer⁴, Quinton Phelps⁵, Jacob Norman²; ¹USGS Upper Midwest Environmental Sciences Center, ²Southern Illinois University, ³Iowa State University, ⁴Western Illinois University, ⁵Missouri Department of Conservation

9:20 am **Documentation of Asian Carp Reproduction in the Upper Mississippi River**

James Larson^{*1}, Brent Knights¹, S. Grace McCalla¹, Emy Monroe², Maren Tuttle-Lau², Duane Chapman¹, Amy George¹, Jon M. Vallazza¹, Jon Amberg¹; ¹U.S. Geological Survey, ²U.S. Fish and Wildlife Service



WEDNESDAY MORNING I: 8:00 – 9:40 AM

BALLROOM A

Invasive Species Observations and Assessment

Moderator: Maureen Ferry, Department of Natural Resources

- 8:00 am **Displaying Invasives with Interactive Maps**
Karl Hillstrom, Alison Slaats, Erich Borchardt, Jonathan Osthus, Emilie Justen, Monika Chandler; Minnesota Department of Agriculture*
- 8:20 am **5 Years of Science to Assess Prevention Efforts and Improve Aquatic Invasive Species Monitoring in Wisconsin**
Maureen Ferry¹, Scott VanErgeren¹, Alex Latzka², Catherine Hein¹, Michael Shupryt¹; ¹Department of Natural Resources, ²University of Wisconsin – Madison
- 8:40 am **The Great Lakes Invasives Thematic Collections Network: >500,000 Museum Specimens and Growing**
Ken Cameron, University of Wisconsin-Madison, Wisconsin State Herbarium, and UW-Madison Natural History Museums Council
- 9:00 am **EDDMapS, ISMTrack and Smartphone Apps for Invasive Species Management**
Chuck Barger¹, Joe LaForest², Rebekah Wallace², David Moorhead²; ¹Center for Invasive Species and Ecosystem Health, ²University of Georgia
- 9:20 am **Data Archive, Retrieval, and Use: Building the Rainbow Bridge**
Jason Granberg, Wisconsin Department of Natural Resources

BALLROOM B

New Developments in Biocontrol – 1

Moderator: Monika Chandler, Minnesota Department of Agriculture

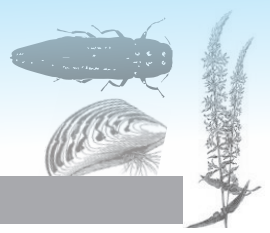
- 8:00 am **USDA, APHIS, PPQ, Biological Control - Progress, Processes, Projects**
Ronald Weeks, USDA Animal Plant Health Service, Plant Protection and Quarantine
- 8:20 am **Marram Grass Neighbors Increase Susceptibility of Pitcher's Thistle to an Invasive Weevil**
Alyssa Hakes, Lawrence University
- 8:40 am **Testing the Effectiveness of a Native Fungus to Control *Alianthus* in Ohio Forests**
Joanne Rebbeck¹, Don Davis², Joan Jolliff¹; ¹U.S. Forest Service, ²Penn State University
- 9:00 am **Factors Impacting Biocontrol Agent Choice in Use of Invasive Host Plants**
Gina Quiram¹, Alyssa Hakes²; ¹University of Minnesota, ²Lawrence University
- 9:20 am **Cold Tolerance of Biological Control Agents of the Brown Marmorated Stink Bug**
Erica Nystrom¹, Robert Venette², Christine Dieckhoff³, Kim Hoelmer³, Robert Koch¹; ¹University of Minnesota, ²USDA Forest Service, ³USDA Agricultural Research Service

SOUTH HALL B4

Practical Approaches to Education and Outreach

Moderator: Pat Conzemius, Wildlife Forever

- 8:00 am **Clean Drain Dry: Prevention Outreach Begins with Action!**
Pat Conzemius, Wildlife Forever
- 8:20 am **Digging Deeper Into What Works in AIS Outreach**
Douglas Jensen, Great Lakes Sea Grant Network
- 8:40 am **Social Marketing and PlayCleanGo: Stop Invasive Species In Your Tracks**
Susan Burks, Minnesota Department of Natural Resources
- 9:00 am **Collaboration Among Partners: Aitkin County Buckthorn Control**
Brian Leitinger, Minnesota Department of Natural Resources
- 9:20 am **Documenting the Occurrence through Space and Time of Aquatic Non-Indigenous Fish, Mollusks, Algae, and Plants Threatening North America's Great Lakes**
Andrea Miller, The Morton Arboretum



SOUTH HALL B3

Oak Wilt, Deer, and Gypsy Moths

Moderator: Matthew Russell, University of Minnesota Department of Forest Resources

10:00 am **Engaging Multiple Stakeholders to Revise the WI DNR Oak Wilt Guidelines**

Linda Williams, Wisconsin Department of Natural Resources

10:20 am **Evaluating Girdle Herbicide Method to Control Below-Ground Spread of Oak Wilt**

Jed Meunier, Becky Gray, Kyoko Scanlon, Tricia Gorby Koot, Dustin Bronson; Wisconsin Department of Natural Resources*

10:40 am **White-tailed Deer in the Upper Midwest: Interactions Between Deer Density, Invasive Plants, and Lyme Disease**

Matthew Russell¹, Christopher Woodall², Kevin Potter³, Brian Walters², Grant Domke², Christopher Oswalt²; ¹University of Minnesota, Department of Forest Resources, ²USDA Forest Service, ³North Carolina State University

11:00 am **White-tailed Deer: Indirect Effects on the Environment May Facilitate Forest Understory Invasion**

Autumn Sabo¹, Katie Frerker², Don Waller¹, Eric Kruger¹; ¹University of Wisconsin-Madison, ²U.S. Forest Service

11:20 am **MDA Gypsy Moth (*Lymantria dispar*) Program Updates – Surveys & Treatments**

Natasha Northrop, Minnesota Department of Agriculture

SOUTH HALL B1

Early Detection, Prioritization, and Response

Moderator: Kathryn Kromroy, Minnesota Department of Agriculture

10:00 am **"Pathways Survey" for New and Emerging Invasive Insects and Diseases in Minnesota**

Kathryn Kromroy, Angie Ambourn, Jean Ciborowski, Angela Stoddard, Margaret Wiatrowski; Minnesota Department of Agriculture*

10:20 am **Priority Areas for Invasive Species Management: A Geospatial Model for Wisconsin**

Jason Granberg, Wisconsin Department of Natural Resources

10:40 am **Rapid Response to AIS - From 1 to 100**

Bob Wakeman, Wisconsin Department of Natural Resources

11:00 am **Development of Electrical Control Methods For Zebra and Quagga Mussels**

Ashley Harmon, Alan Kennedy; ¹U.S. Army Corps of Engineers*

11:20 am **European Marsh Thistle: An Aggressive Wetland Invader**

Emily Anderson, Wild Rivers Invasive Species Coalition and the Dickinson Conservation District

SOUTH HALL B2

Environmental DNA as a Tool for Early Detection

Moderator: Christy Meredith, Utah State University

10:00 am **Integrating DNA-Based Data into Bioassessments Improves Our Understanding of Species' Distributions**

Christy Meredith¹, Joel Hoffman¹, Annett Trebitz¹, Greg Peterson¹, Julie Lietz¹², Chelsea Hatzenbuehl¹², Erik Pilgrim¹, Sara Okum¹², John Martinson¹; ¹U.S. Environmental Protection Agency, ²ORISE

10:20 am **Challenges and Progress in Making DNA-based AIS Early Detection Monitoring Operational**

Annett Trebitz¹, Joel Hoffman¹, Greg Peterson¹, Erik Pilgrim¹, John Martinson¹, Julie Lietz¹, Chelsea Hatzenbuehl¹², Sara Okum¹², Yuping Zhang¹², Christy Meredith¹; ¹U.S. Environmental Protection Agency, ²ORISE

10:40 am **Expanding Larval Fish DNA Metabarcoding to All the Great Lakes**

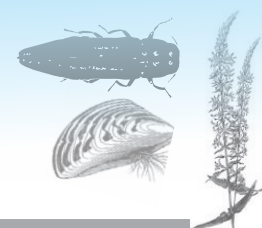
Erik Pilgrim¹, Sara Okum¹², John Martinson¹, Joel Hoffman¹, Greg Peterson¹, Julie Lietz¹², Chelsea Hatzenbuehl¹²; ¹U.S. Environmental Protection Agency, ²ORISE

11:00 am **A Comparison of Molecular Detection Methods for Bigheaded Carp DNA Copy Number Estimation In the Mississippi River**

Craig Jackson, Chris Merkes, Jon Amberg; USGS Upper Midwest Environmental Sciences Center*

11:20 am **Correlating Sea Lamprey Densities with eDNA Copy Numbers**

Nicholas Schloesser¹, Chris Rees², Chris Merkes¹, Craig Jackson¹, Jon Amberg¹, Justin Smerud¹; ¹U.S.



WEDNESDAY MORNING II: 10:00 – 11:40 AM

BALLROOM A

Using Novel Technology to Manage Invasives

Moderator: Chris May, The Nature Conservancy

10:00 am **Minnesota's Investment in Innovative Strategies for Preventing the Spread of AIS**
Don Hickman, Initiative Foundation

10:20 am **Drones for Land Managers**
Ben Yahr, Marek Landscaping, LLC

10:40 am **The Clean Drain Dry App: A New Reality for Outreach**
Pat Conzemius, Wildlife Forever

11:00 am **Extension Using Mobile Technology, 3D printing & UAVs to Battle Invasive Species**
Angela Gupta¹, Monika Chandler², Curtis Olson¹; ¹University of Minnesota, ²Minnesota Department of

11:20 am **Using Mobile GIS to Make Invasive Species Detection and Treatment More Efficient**
Ryan Wnuk, Lance Nelson, Jameson Loesch; Cardno, Inc.*

BALLROOM B

New Developments in Biocontrol – 2

Moderator: Monika Chandler, Minnesota Department of Agriculture

10:00 am **Biological Control of Invasive *Phragmites australis*: Right Around the Corner?**
Bernd Blossey, Department of Natural Resources

10:20 am **New Bio Control Agent Development in North America, a Wyoming Perspective**
Aaron Foster, Fremont County WY and North American Invasive Species Management Association

10:40 am **Taming a "Beautiful Killer": Wisconsin's Continuing Purple Loosestrife Biocontrol Program**
Brock Woods, University of Wisconsin and Department of Natural Resources

11:00 am **Potential Biological Control for Invasive Knotweeds in North America**
Jennifer Andreas, Washington State University Extension

11:20 am **Getting Release Permits for Weed Biocontrol Organisms: The TAG Process Revisited**
Bernd Blossey, Department of Natural Resources

SOUTH HALL B4

Minnesota Aquatic Invasive Species Research Center: Priorities and Future Direction

Moderator: Becca Nash, Minnesota Aquatic Invasive Species Research Center

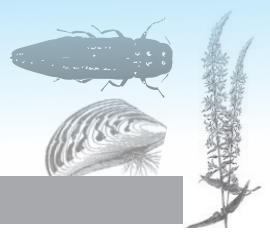
10:00 am **MAISRC's Research Approach: Emerging Issues and Critical Gaps**
Susan Galatowitsch, Becca Nash; Minnesota Aquatic Invasive Species Research Center and the University of Minnesota*

10:20 am **Control of Aquatic Invasive Animals in Minnesota**
Przemek Bajer, University of Minnesota

10:40 am **Research on Control of Aquatic Invasive Plants in Minnesota**
Daniel Larkin, Raymond Newman; Minnesota Aquatic Invasive Species Research Center*

11:00 am **Understanding Pathways of AIS Spread for Prevention and Early Detection**
Nick Phelps, University of Minnesota College of Veterinary Medicine and the Minnesota Aquatic Invasive Species Research Center

11:20 am **Discussion Session**



BALLROOM B

WORKSHOP: Invasive Species Management (ISM) Track

Presenter: Mark Renz, University of Wisconsin-Madison

Are you interested in tracking invasive species management information? If so, ISMTrack may be a solution. ISMTrack is a cloud based software system to help land managers track and summarize invasive species management across sites and over time. ISMTrack is integrated with EDDMapS, a web and app based invasive species reporting system. ISMTrack can be used to track many invasive species management activities including: staffing, treatment method, travel time, volunteer or crew hours, weather conditions, completion dates and other critical information. Data can be shared, downloaded and analyzed to increase efficiency and improve invasive species management by a team and across organizations. The mobile-friendly design also allows for access and entry of data in the field, eliminating the need for office time during the field season. If interested in learning more about this resource (currently available in WI and MN) please attend this workshop. Participants will be introduced to ISMTrack and participate in a hands-on training session that will allow them to setup their land for use of this system.

BALLROOM A

Fire As a Tool for Invasive Plant Management

Moderator: Craig Maier, Tallgrass Prairie and Oak Savanna Fire Science Consortium

- 1:00 pm **Prescribed Fire: Improving Our Understanding and Use of an Important, Imperfect Tool**
Craig Maier¹, Jack McGowan-Stinski²; ¹Tallgrass Prairie and Oak Savanna Fire Science Consortium, ²Lake States Fire Science Consortium
- 1:20 pm **Fort McCoy — 20 Years of Prescribed Fire and Its Effects on Invasive Species Management**
Dave Texley, Nathan Tucker; Center for Environmental Management of Military Lands*
- 1:40 pm **Lessons Learned Controlling Woody Species in Prairies and Savannas in Southern WI State Natural Areas**
Nate Fayram, Matt Zine; Wisconsin Department of Natural Resources*
- 2:00 pm **Frequent Fire Prevents Extinctions of Native Species, but Doesn't Exclude Invasive Species in Wisconsin Prairie Remnants**
Amy Alstad, University of Wisconsin-Madison
- 2:20 pm **Panel Discussion**
Craig Maier, Tallgrass Prairie and Oak Savanna Fire Science Consortium

SOUTH HALL B4

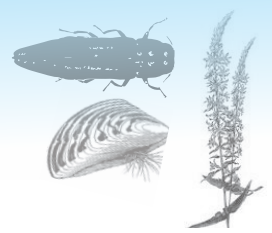
Upland and Roadside Vegetation Management

This will be a panel discussion with questions from the audience.

Dave Hanson – Minnesota DOT Integrated Roadside Vegetation Management
Jon Robaidek – Central Sands Field Ecologist – NHC/Land, Wisconsin Department of Natural Resources
Rick Schulte – Vegetation Management Sales Specialist with CPS; Herbicide Distributor
Lee Shambeau – Owner of 4 Control; Vegetation Management Company

Moderator: Lee Shambeau, 4 Control

This session will consist of a panel of experts who manage invasive plants in upland environments including roadsides. Hear about experiences on successes and failures from DOT and DNR staff as well as a consulting and herbicide distribution company. Panel members will provide detailed information on how to maximize control of common invaders while minimizing effort and cost. They will also answer specific questions on how to approach various problems the audience may have. Some of the invasive discussed will be Wild Chervil, Honeysuckle, Japanese Knotweed, Queen Anne's Lace, Wild Parsnip, Phragmites, Leafy Spurge, Thistle, Tansey, Teasel, Vetch.



Poster Presentations will be on display for the duration of the conference in South Hall A.

Can Removal of *Dreissena polymorpha* Alter Unionid Energy Stores: A Manipulative Experiment?

Lynn Bartsch*, Michelle Bartsch, Jason Veldboom, William Richardson, Byron Karns, Brenda Moraska Lafrancois; U.S. Geological Survey and National Park Service

The Lethality of Hot Water and Ozone on Aquatic Invasive Species

Riley Buley*, Terrance Hubert, Michael Boogaard; U.S. Geological Survey

'PlayCleanGo' Campaign Awareness & Impact on Recreationists' Invasive Species-Related Attitudes & Behaviors

Susan Burks*, Melissa Peck, Ingrid Schneider; Minnesota Department of Natural Resources and the University of Minnesota

The Effects of Invasive Macrophytes on Turtle Community Structure in the Kinnickinnic Watershed

Crystal Carpenter*, Kevyn Juneau; University of Wisconsin-River Falls

Looking for a Home: How the Brown Marmorated Stink Bug (*Halyomorpha halys*) Overwinters in Minnesota

Theresa Cira*, Eric Burkness, Robert Venette, William Hutchison; University of Minnesota - Twin Cities and United States Department of Agriculture, Forest Service, Northern Research Station

Can Improved Water Clarity Enhance the Macrophyte Community After Invasive Species Control?

Melaney Dunne*, Raymond Newman; University of Minnesota

RIPPLE: Michigan's Campaign to Reduce AIS Escapes from Pet and Pond Trades

Paige Filice*, Jo A. Latimore; Michigan State University

A Survey for the Parasitoids of Larch Casebearer in Minnesota

Allastacia Gebauer*, Brian Aukema; University of Minnesota

Glyceria maxima Identification & Distribution

Jason Granberg*, Brock Woods; Wisconsin Department of Natural Resources and University of Wisconsin - Extension

Brock Woods will lead an Informal Phragmites discussion during the poster session in the plenary seating area.

Modelling Potential Habitat for Invasive Plant Species in the Oak Openings Region

Sara Guiher*, Jonathan Bossenbroek, Todd Crail; University of Toledo

Aquatic Invasive Species Prevention through Clean Trapping Practices

Todd Crail; University of Toledo

Progress Towards an AIS Early Detection Monitoring Network for the Great Lakes

Chelsea Hatzenbuehler*, Christy Meredith, Anett Trebitz, Joel Hoffman, Greg Peterson, Julie Lietz; U.S. Environmental Protection Agency

Biological Control of Canada Thistle

Jeanie Katovich*, Roger Becker, Mary Marek-Spertz, Monika Chandler, Laura Van Riper; University of Minnesota and Minnesota Department of Agriculture

Modeling the Potential Distribution of Garlic Mustard Biological Control Agents Using CLIMEX

Mary Marek-Spertz*, Roger Becker, Elizabeth Katovich; University of Minnesota

Morphological and Biochemical Variation in *Elodea* spp. in their Native and Invasive Ranges

Michelle Marko*, Ruth Sexton, Rebecca Dahl; Concordia College

Potential Invasiveness of the Amur Corktree in Minnesota

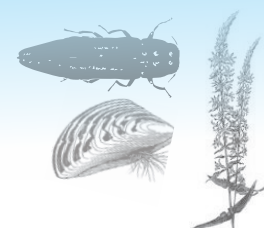
Daniel Miller*, Richard DeVries, Jan Malysza; University of Minnesota Landscape Arboretum

Host and Climate Change: Factors Affecting Forecasts of a Polyphagous Invasive Moth

Amy Morey*, Robert Venette, William Hutchison; University of Minnesota, Department of Entomology and USDA-Forest Service, Northern Research Station

Rapid Response Actions Following the Discovery of Round Gobies in Little Lake Butte des Morts

Michelle Nault*, Bob Wakeman, Tim Campbell, Kendall Kamke, Adam Nickel; Wisconsin Department of Natural Resources and University of Wisconsin - Extension



Evaluation of Large-Scale Low-Dose 2,4-D Treatments for Eurasian and Hybrid Watermilfoil Control Across Multiple Wisconsin Lakes

Michelle Nault*, Scott Van Egeren, Scott Provost, John Skogerboe, Eddie Heath, Tim Hoyman; Wisconsin Department of Natural Resources, U.S. Army Corps of Engineers Engineer Research and Development Center, and Onterra LLC

Dispersal Capacity of Late Instar Gypsy Moth Caterpillars (*Lymantria dispar*)

Rachael Nicoll*, Scott Myers, Jacob Wittman, Brian Aukema; University of Minnesota and U.S. Department of Agriculture

A Case Study of Multi-Agency and Public Partnership to "Nip an Invasion of Water Lettuce in the Bud"

Ruth Nissen*, Shawn Giblin, Deanne Drake; Wisconsin Department of Natural Resources

Comparison of Two Genes to Identify Larval Fish Communities Using High-Throughput DNA Sequencing

Sara Okum*, Joel Hoffman, Greg Peterson, Julie Lietz, John Martinson, Erik Pilgrim; U.S. Environmental Protection Agency and ORISE

Implementation of EAB Biological Control in Minnesota

Jonathan Osthus*, Monika Chandler, Angie Ambourn, Brian Aukema, Robert Venette; Minnesota Department of Agriculture and University of Minnesota

Fostering the Formation of Cooperative Weed Management Areas in Wisconsin

Michael Putnam; Wisconsin Department of Natural Resources

In Characeae: "Everything is Everywhere, but the Environment Selects"

Robin Sleith*, Amy Havens, Robert Stewart, John Wehr, Kenneth Karol; New York Botanical Garden and Fordham University

Trophic Web Effects of an Invasive Predaceous Zooplankter on Walleye Fishery Lakes

David F. Staples*, Jodie K. Hirsch; Minnesota Department of Natural Resources

Minnesota's Plant Pest Quarantines: Regulations, Compliance, and Enforcement

Marissa Streifel*, Kimberly Thielen Cremers, Katy Longen; Minnesota Department of Agriculture

Too Cold to Move? Energetic Costs of Overwintering on EAB Dispersal

Dylan Tussey*, Brian Aukema, Robert Venette; University of Minnesota and USDA-Forest Service

Master Naturalists Making a Difference: Volunteer Impact Analysis

Christian Wood*, Angela Gupta, Andrea Lorek Strauss; Conservation Corps of Minnesota and Iowa and University of Minnesota – Extension

Effects of Azadirachtin and Takomi on Some Biological Parameters of *Habrobracon hebetor*

Nooshin Zandi Sohani*, Fatemeh Rostami, Fatemeh Yarahmadi, Leila Ramezani, Karim Avalin Chaharsoghi; University of Khuzestan, Iran and Jihad Agricultural Organization of Khuzestan

A Biotic View of Lakes: Two Slow Motion AIS Wrecks

Paul Radomski

The Development, Validation, and Use of Environmental DNA as a Surveillance Tool for New Zealand Mudsnaills in Trout Streams of Wisconsin, Iowa, and Illinois

Emily Ziegler*, Christopher Merkes, Keith Turnquist, David Rowe, Maureen Ferry, Christopher Bees, Jon Amberg; U.S. Geological Survey, University of Wisconsin-Stevens Point, and Wisconsin Department of Natural Resources

Triclopyr Persistence and Mobility When Applied as a Cut Surface Application

Eric Stein*, Mark Renz; University of Wisconsin-Madison

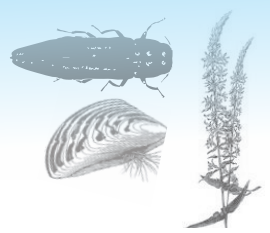
PROCELLACOR: A Novel Herbicide Technology in Development for Aquatic Plant Management

Mark Heilman*, Ben Willis, Tyler Koschnick; SePRO Corporation



Flowering rush. Photo credit: Paul Skawinski

Be sure to visit with poster presenters Tuesday October 18 from 5:00 pm – 6:30 pm during the Poster Reception in South Hall A. Exhibitor passport raffle prizes will be announced!



CONTROL SPONSOR



The Wisconsin Department of Natural Resources (WDNR) coordinates work on all invasive plants, animals and disease-causing organisms of native plants and animals. The Department Invasive Species Team works together to develop and implement policy efforts, such as NR 40 - Wisconsin's comprehensive invasive species regulation. WDNR also coordinates with the governor-appointed Wisconsin Invasive Species Council. More information about WDNR's invasives program can be found at dnr.wi.gov keyword = invasive species. Questions or reports of invasive species occurrences can be sent to invasive.species@wi.gov.

PLAN OF ATTACK SPONSORS



Michigan's Invasive Species Program is cooperatively implemented by the Michigan Departments of Agriculture & Rural Development, Environmental Quality and Natural Resources. The Michigan Department of Agriculture and Natural Resources assures the food safety, agricultural, environmental, and economic interests of the people of the State of Michigan are met through service, partnership, and collaboration. The Michigan Department of Environmental Quality promotes wise management of Michigan's air, land, and water resources to support a sustainable environment, healthy communities, and vibrant economy. The Michigan Department of Natural Resources is committed to the conservation, protection, management, use and enjoyment of the state's natural and cultural resources for current and future generations.



As the Nation's largest water, earth, and biological science and civilian mapping agency, the U.S. Geological Survey (USGS) collects, monitors, analyzes, and provides impartial scientific understanding about natural resource conditions, issues, and problems. USGS Invasive species research focuses on providing methodologies and information to address the increasing threat to ecological systems and native species from the introduction and spread of invasive plants and animals in aquatic and terrestrial ecosystems.

JOIN US IN THE EFFORT

SLOW THE SPREAD OF INVASIVE SPECIES



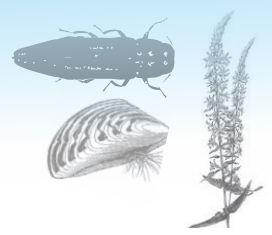
TOGETHER WE CAN PROTECT THE PLACES WE PLAY





**REPORT INVASIVE SPECIES
OCCURENCES IN WISCONSIN TO INVASIVE.SPECIES@WISCONSIN.GOV
VISIT DNR.WI.GOV, SEARCH "INVASIVES"**





IDENTIFICATION SPONSORS



The Minnesota Department of Natural Resources (DNR) Invasive Species Program is tasked with preventing the spread of invasive species and managing invasive aquatic plants and wild animals. The three primary goals of the DNR Invasive Species Program are to: 1. Prevent the introduction of new invasive species into Minnesota; 2. Prevent the spread of invasive species within Minnesota; 3. Reduce the impacts caused by invasive species to Minnesota's ecology, society, and economy. The Invasive Species Program staff coordinate invasive species activities statewide including working with local government units, other states and provinces, multi-jurisdictional or national groups, DNR staff, local partners and stakeholders. There are 24 full-time positions in the invasive species program and the program hires approximately 140 seasonal staff during the summer to inspect boats at public water accesses and help implement management activities. Visit us online at www.mndnr.gov/invasives.



The Wisconsin Department of Agriculture, Trade and Consumer has wide-ranging responsibilities to protect human, animal, environmental and plant health. Our Plant Industry Bureau has quarantine authority to prevent the spread of plant pests, and works closely with affected industries to minimize the risk of spreading pest. We license and inspect nursery businesses and Christmas tree growers. Bureau staff also conduct field surveys for forest and crop pests and issue a weekly pest bulletin during the growing season. We work closely with state and federal partners to plan for and respond to invasive terrestrial plant pests and diseases, and conduct a large-scale gypsy moth trapping and treating program. The Department also has regulatory authority for food safety, hotels and recreational facilities, fair business practices, pesticide sales and use, and animal disease. Finally, we promote sales of agricultural products at home and abroad and safeguard soil and water resources.

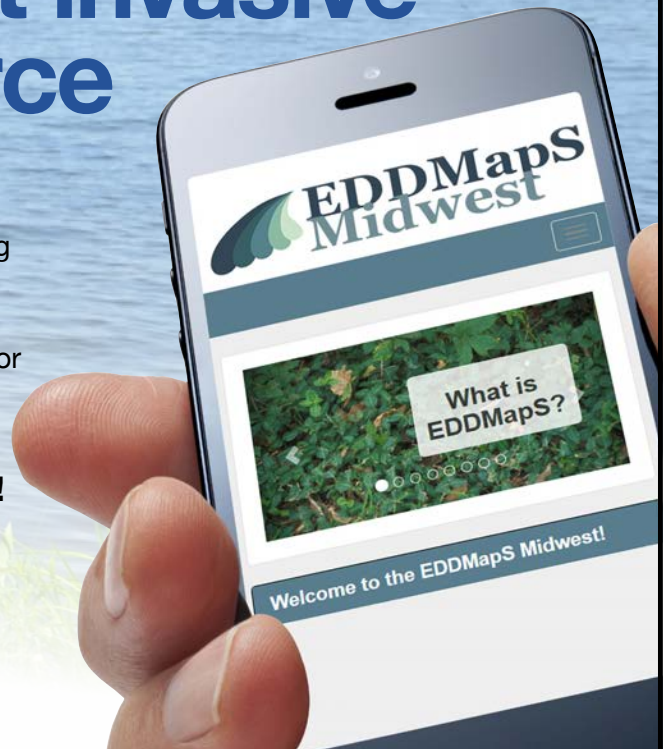
A new Midwest invasive species resource

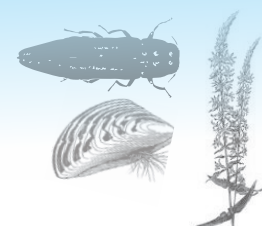
- Report aquatic and terrestrial invasive species locations.
- View maps of invasive species locations, including Minnesota's Infested Waters List.
- Get alerted when new species are reported.
- Search **GLEDN** in the App Store or Google Play for the companion app.

Visit the Minnesota Department of Natural Resources booth to find out more!



www.EDDMapS.org/midwest





PREVENTION SPONSORS



4 Control, Inc. is a small, regional professional application company specializing in vegetation control of noxious weeds, nuisance weeds, brush and other invasive plants out of place. We are knowledgeable and experienced in the effective use of selective herbicides and application techniques targeting these problems. Our company is woman owned and classified under small businesses. 4 Control, Inc has licensed applicators servicing Aquatic, Agricultural Field and Vegetable, Right-of-Way, and Turf and Ornamental sites in the following states: Wisconsin, Minnesota, Michigan Iowa, Ohio, Illinois, and Indiana.



Crop Production Services-Timberland is a national supplier of vegetation management solutions and natural resource project management, CPS Timberland markets a comprehensive

line of quality products and services including custom blending. We provide our customers with vegetation control solutions for invasive species, wildland fire fuel reduction, rangeland, forestry, and industrial areas across the country. We are committed to providing high quality products to our customers. The products are fully reinforced through our supporting partnership with manufacturers. These products have gone through a rigorous research and development process to ensure reliable performance, consistent quality and safety to people and our environment. Herbicide users have many options for selecting products, since many active ingredients are no longer protected by patents. Unfortunately, many generic products due not offer levels of quality assurance, or performance support. CPS is proud to only support those manufacturers that incorporate the highest level of standards.



Dow AgroSciences

Dow AgroSciences, based in Indianapolis, Indiana, develops

leading-edge crop protection and plant biotechnology solutions to meet the challenges of the growing world. Our company began in the 1950s as the agricultural unit of The Dow Chemical Company. From the beginning, we have set out to discover and develop innovative solutions that improve the way the world farms. In 1989, The Dow Chemical Company, which was founded in 1897, entered a joint venture with the Elanco Plant Sciences business of Eli Lilly and Company resulting in the formation of DowElanco. In 1997, The Dow Chemical Company acquired 100 percent ownership of the business and renamed it Dow AgroSciences. Today, we employ more than 9,000 people worldwide, and our 2015 global sales were \$6.4 billion (U.S.).



Clients have relied on ILM for over 25 years to care for their natural or man-made habitats throughout the year and over the years. Since our beginning in 1987, we have attracted

employees and clients who value proactive care for the water and land around them. They believe, as we do, that the functionality, safety and aesthetics of their property is enhanced by professional, holistic care and that's just what we provide. Finally, the success we are most



LGC Douglas Scientific is an international leader in the laboratory services, measurement standards, reference materials,

genomics and proficiency testing marketplaces.

We are a global leader in delivering genomic solutions for research, diagnostics, and applied markets. LGC provides best-in-class products such as BHQ® probes, Array Tape®, and the IntelliQube® system to support isothermal, quantitative, and end-point PCR. In the invasive species market, we have partnered with Lucigen® Corporation to provide in-field, rapid detection of aquatic invasive species using Lucigen LAMP isothermal amplification reagents on the LGC AmpliFire® point of use molecular detection instrument. LGC Douglas Scientific operates out of 21 countries, which encompasses our Genomics division's network of 9 manufacturing facilities and 3 service labs creating a geographic footprint to support customers in all major markets worldwide.



PLM Lake and Land Management is an American, woman-owned and operated small business whose goal for over thirty years has been to protect your property from the aesthetic and economic damage caused by invasive plant species. We provide a team of expert biologists, foresters, ecologists and managers to

evaluate your environment, prioritize existing problems and develop plans to prevent new infestations. PLM offers a variety of watershed management tools, products and services including lake and pond surveys, vegetation mapping (AVAS), invasive species management plans, herbicide and algaecide applications for aquatic and terrestrial species, bathymetric mapping, water quality testing, aquatic harvesting, aeration / fountains, fish assessments, and right of way (ROW) management. Our company also caters to the invasive plant and algae control needs of power generation companies. Our proven watershed management cycle "Evaluate, Prescribe, Implement" assures constant care and follow-up measures for each customer.



Minnesota Sea Grant is a University of Minnesota system-wide program anchored at the Duluth campus. It is one of 33 Sea Grant programs funded by the National Oceanic and Atmospheric Administration supporting economic and ecological stability in coastal

regions through applied science. Minnesota Sea Grant is dedicated to environmental stewardship, long-term economic development, and responsible use of Minnesota's waterways and coastal regions. It achieves its mission by means of cutting-edge research, outreach and education. Minnesota Sea Grant is recognized as leader in AIS research, outreach and communication through its award-winning programs and products.

SPONSORS

PREVENTION SPONSORS, CONTINUED



Wisconsin Sea Grant is a statewide program of basic and applied research, education, and outreach and technology transfer dedicated to the stewardship and sustainable use of the nation's Great Lakes and ocean resources. Headquartered at the

University of Wisconsin-Madison, the institute is housed in the Office of the Vice Chancellor for Research and Graduate Education's Aquatic Sciences Center. Wisconsin Sea Grant is part of a national network of 33 university-based programs funded through the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and through matching contributions from participating states and the private sector.



We focus on delivering fire science that matters to land managers across the Upper Midwest. Key habitats include tallgrass prairie, wetlands, and oak savannas. We provide access to information online and in person. We

have a library of recorded presentations from researchers and expert land managers that allow you to learn from experts from home or the office. Research briefs summarize peer-reviewed science in two pages or less - and emphasize implications for ecosystem management. We organize and promote events from Nebraska to Ohio, including field trips, workshops, and organized sessions at conferences (see Wednesday afternoon's session on managing invasive species with fire). The consortium works through hundreds of connections across the Midwest, including fire practitioners, scientists, graduate students, outreach and extension specialists, private landowners, and volunteers. We strive to be your network for sharing research, practices, and research needs. You can sign up for e-News updates and find more information at www.tposfirescience.org.



The Nature Conservancy is the leading conservation organization working in 69 countries around the world

and all 50 states. Our mission is to conserve the lands and waters upon which all life depends. Our vision is a world where the diversity of nature thrives, and people act to conserve nature for its own sake as well as its ability to fulfill our needs and enrich our lives. We address the most pressing conservation threats at the largest scale, proposing initiatives that push toward more efficient solutions to resource management problems; are ambitious but also practical, with long term benefits; take advantage of the power and value of nature, respect human needs; use market mechanisms to accomplish resource management goals; and emphasize cooperation across agency, political and organizational boundaries. For more information, visit www.nature.org.



UNIVERSITY OF MINNESOTA
EXTENSION
Driven to DiscoverSM

University of Minnesota Extension delivers University research and education to the people of Minnesota, discovering real-world solutions to real-life problems. For over 100 years, Extension continues to partner with federal, state, county and tribal governments - providing scientific knowledge and expertise to the public. Extension faculty and staff live and work across the state, in county offices, 15 regional offices, five University campuses and nine Research and Outreach Centers creating a network organized to help Minnesotans make better decisions, take positive action and address key issues in their lives and communities.



We are the University of Wisconsin-Extension Lakes, a team of education professionals dedicated to preserving our Wisconsin legacy of lakes through education, communication and collaboration. We work with over 800 organizations in Wisconsin and coordinate a number of programs and projects to assist those concerned with the future of our lakes. Citizens and professionals work to learn more about lake science through our 30 year old Citizen Lake Monitoring Network. Helping us share information on aquatic invasive species are the watercraft inspectors who are members of the Clean Boats Clean Waters effort. Citizens discover and hone their leadership skills at the Lake Leaders Institute.

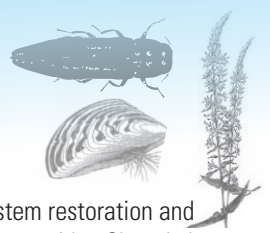


The Wisconsin Coastal Management

Program, in the Department of Administration, is a state-federal partnership with a mission to Enjoy and Protect Wisconsin's Great Lakes Coastal Resources.



Wisconsin First Detector Network is a citizen science volunteer network designed to improve the detection and reporting of invasive species throughout Wisconsin. WIFDN combines online learning through recorded videos and interactive webinars with hands-on training and volunteer opportunities.



Bayer is a diversified global company that leverages science and innovation to improve the quality of life for people everywhere. The Bayer Vegetation Management business delivers innovative solutions that minimize risks and enhance the safety, productivity, appearance and value of our country's land and infrastructure. Bayer VM provides products used for the control of brush,

noxious weeds and invasive species among a number of important segments: roadside, railroad, utility brush, industrial bareground, municipal, range & pasture and forestry. For more information, please visit BayerVM.com.



The Central Upper Peninsula CWMA (CUPCWMA) is a multi-agency and multi-community group, that aims to provide long-term protection of a variety of habitats

by reducing the threat from non-native and invasive plant species through coordination of efforts among partners to educate the public, survey and research invasions, and provide opportunities for on-the-ground invasive plant removal and other management actions. Our goal is to facilitate the creation of more Cooperative Weed Management Areas in the Upper Peninsula and to provide non-native invasive plant information. CUPCWMA covers Alger, Delta, Marquette, and Schoolcraft Counties as well as Hiawatha National Forest.



As an aquatic ecosystem restoration and maintenance services provider, Clean Lakes offers the most comprehensive lake management solutions through the use of

Best Management Practices (BMPs) and Best Available Technologies (BATs). With over 40 years of worldwide experience in aquatic plant and algae management, our team offers the most advanced answers as they relate to your aquatic plant management programs. We use US EPA approved liquid and granular aquatic herbicides and algacides using the most technologically advanced precision application techniques. We use real-time data capture to support pre and post treatment evaluations and reporting compliance, exceeding State requirements. We pore over industry updates and publications. Our team is out actively in the field working side by side with lake groups, their consultants, DNR staff, US Army Corps of Engineers, Universities, and others to find out exactly how aquatic plant management programs are succeeding and how they can be improved.

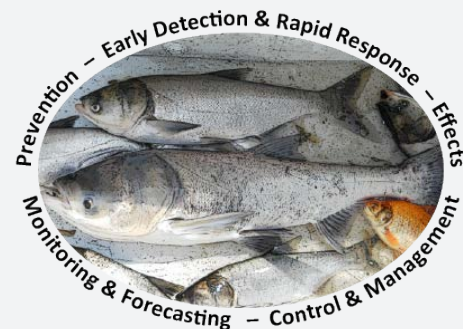


Clarke is a global environmental products and services company, focused on helping to make communities around the world more livable, safe and comfortable. Specializing in aquatic services and public health mosquito control, our mission is to pioneer, develop and deliver the most eco-responsible and advanced products, services and business practices possible. Our broad aquatic experience supports public and private customers with vegetation management, algae control, invasive species control, site remediation, wetlands restoration & management.



Invasive Species Research within the USGS

As the Nation's largest water, earth, and biological science and civilian mapping agency, the **U.S. Geological Survey (USGS)** collects, monitors, analyzes, and provides impartial scientific understanding about natural resource conditions, issues, and problems.



USGS Invasive species research focuses on providing methodologies and information to address the increasing threat to ecological systems and native species from the introduction and spread of invasive plants and animals in aquatic and terrestrial ecosystems.

www.usgs.gov



Conservation Corps Minnesota & Iowa's mission is to provide hands-on environmental stewardship and service-learning opportunities to youth and young adults while accomplishing conservation,

natural resource management and emergency response work. Our goals are to help young people become more connected to the environment, engaged in conservation, involved in the community and prepared for future employment. To enact our mission, Field Program AmeriCorps members (ages 18-25) receive on-the-job training to learn natural resources management skills and put those skills into practice completing habitat restoration projects on public lands throughout the Midwest. Conservation Corps Field Crews complete natural resource conservation projects such as exotic species management, tree planting, trail construction, stream bank stabilization, prescribed burning, wildland fire fighting and emergency response. AmeriCorps members also get the chance to work alongside conservation professionals and explore career options within the environmental field.



Products manufactured by Earth Science Laboratories, Inc. are

beneficial wherever people use and enjoy clean, clear water. EARTHTEC is a product for controlling algae and bacteria* in municipal, agricultural, industrial and recreational uses. EARTHTEC QZ is a molluscicide for prevention and control of quagga and zebra mussels. The liquid formula of both products allows for ease of use and prevents settlement.

**non-public health*



Green Shoots develops and offers products that help people control invasive plants. Our first line of products include a revolutionary foam herbicide technology that allows users to apply a concentrated herbicide with great

precision and less off-target harm. This precision protects the environment, improves herbicide performance, and saves money. Please visit our website at: <http://www.greenshootsonline.com>.



The Invasive Species Centre is a Canadian non-profit organization that builds partnerships and supports collaborative projects in natural and applied science,

policy research, outreach and education to protect Canada's forests, fields, gardens, waterways and cities from the damaging effects of invasive species. Founded in Ontario, the Invasive Species Centre has a global reach to address invasive species issues across Canada. The Invasive Species Centre's vision is a Canada where land and water are protected from invasive species. The Invasive Species Centre connects stakeholders, knowledge and technology to prevent and reduce the spread of invasive species that harm Canada's environment, economy and society.



The Iowa Weed Commissioner's Association is an organization comprised of County Weed Commissioners and their deputies from Iowa's 99 counties. Their goal is to promote better weed control in Iowa by: Annually providing pesticide certification

training and continuing education to its members; Educating the rural and urban communities of Iowa on noxious weeds and invasive species and the proper use of herbicides; Networking with other professionals in the vegetation management field; Promoting biological or alternative methods of weed control; Expanding their ability to influence and respond to legislation.



The Midwest Invasive Plant Network's mission is to reduce the impact of invasive plants in the Midwest. Our network brings together government agencies, nonprofit and for-profit corporations, scientists, and private citizens across the Midwest to

collaborate on projects and share information on invasive plants. MIPN's efforts are focused on providing education on invasive plants in the Midwest; promoting effective prevention methods and early detection of new invaders; providing information on recent research that is relevant to management of invasive species; supporting the growth and development of Cooperative Weed Management Areas; and connecting states within our region to each other and to invasive species organizations at a national level



The Minnesota Department of Natural Resources Invasive Species Program booth will include information about aquatic and terrestrial invasive species identification, prevention, and management. We will have information on the new website EDDMapS Midwest (www.eddmaps.org/midwest). Key invasive species messages will be *PlayCleanGo: Stop Invasive Species in Your Tracks and Clean Drain Dispose*. DNR invasive species staff will be present to answer questions. Visit us online at www.mndnr.gov/invasives.



Minnesota Wanner Company has been manufacturing quality, commercial spraying equipment for over 45 years, featuring dual purpose sprayers for prescribed burning and herbicide application. We have an experienced, full service team and a large inventory of parts and accessories to stand behind our equipment and our customers.



Marrone Bio Innovations Now, more than ever, our world needs effective, sustainable pest management solutions that are safe for people and protect our

natural resources. At Marrone Bio Innovations, we understand these challenges and are dedicated to delivering high-performing, bio-based solutions that address these daunting global issues. As experts at discovering, developing, and commercializing naturally derived technologies, we have created an industry-leading platform of pest



management products that are used around the globe to help control pests while reducing the environmental pesticide load, decreasing chemical residues on food, and fighting the development of pest resistance.

Zequanox® is an environmentally compatible molluscicide for the control of invasive zebra and quagga mussels (*Dreissena* species) at all stages of maturity—from veliger to adult. Zequanox® delivers efficacy comparable to chemical solutions, but does not result in harmful impacts to the environment or other aquatic organisms when used as directed.



The Morton Arboretum, a 1,700-acre living museum, champions trees throughout the world through scientific study, conservation, and advocacy.



United States Department of Agriculture (USDA), Animal Plant Health Inspection Service (APHIS) protects the health and value of American agriculture and natural resources.



The North American Invasive Species Management Association (NAISMA) is a network of professionals challenged by invasive species. NAISMA's members are a diverse group of individuals who are involved in implementing invasive

species management programs at any scale and at any phase. NAISMA's mission is to promote & empower invasive species management in North America. By accomplishing its mission, NAISMA will be the voice for invasive species managers. NAISMA works for the profession in many ways. The association has developed standards for weed free forage and gravel certification and for invasive species mapping. NAISMA works with policymakers to address invasive species issues and has adopted Play Clean Go – Stop invasive species in your tracks as its education and outreach campaign and is focused on increasing campaign recognition throughout North America. As founders of the Certified Manager of Invasive Weeds program, members can also gain professional recognition for career advancement.



The mission of the Invasive Plants Association of Wisconsin (IPAW) is to promote better stewardship of the natural resources of Wisconsin by advancing the understanding of invasive plants and encouraging the control of their spread. IPAW's main goals in achieving this mission are geared toward being an umbrella organization for Cooperative Invasive Species Management Areas while creating an effective way in which to reach

legislators to voice the concerns about invasive species control. The membership of IPAW is made up of concerned citizens, agronomists, horticulturalists, professors, state agencies, and businesses.



The North Central Weed Science Society is comprised of professionals interested in weed science from many perspectives. Many members are affiliated with universities or the crop protection industry; others are crop consultants, state or federal agency or private research personnel, extension educators and others. Graduate students in weed science are a vibrant and important segment of our membership. We conduct an annual meeting each year in December that is attended by 400 to 500 people where over 300 papers and posters are presented related to the most up to date information relating to weed management, weed ecology, weed biology, application equipment and other topics. Our next meeting is in Des Moines, IA. Visit our website, ncwss.org/, for additional information.



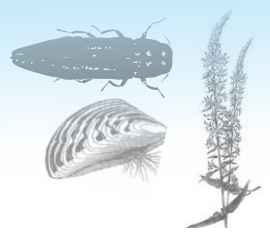
Originally founded in 2005 as a CWMA through the US Forest Service, the Northwest Michigan Invasive Species Network (ISN) reached its present form in 2012 as a collaboration of over 40 highly motivated and respected organizations. Charged with *"protecting, enhancing, and promoting northwest Michigan's natural communities*

through terrestrial invasive plant management and outreach," ISN works in 4 counties in northwest lower Michigan: Benzie, Grand Traverse, Leelanau, and Manistee. With project highlights including the ground-breaking *Go Beyond Beauty* program for garden professionals, invasive plant control workbees with invasive-themed lunches, and a seasonal Crew that can be "checked out" by partners like a library book, ISN's work is presently funded by grants from the Michigan Invasive Species Grant Program and the Great Lakes Restoration Initiative. Learn more at HabitatMatters.org.



PLM Lake & Land Management Corp. (PLM) has over 35 years of experience in treatment and preservation of watershed areas throughout the Nation. As a corporation, ownership has never changed throughout these years and we have maintained one goal; Quality Invasive Plant Management.

With our experience, the use of cutting edge technology and long-term relationships with vendors and manufacturers in the industry, it guarantees our clients the highest level of customer and technical product support. PLM has locations in four states including North Carolina, South Carolina, Minnesota and Michigan. PLM offers the highest educated team of experts in the aquatic plant management industry. We employ degreed personnel in Business Management, Natural Resource Management, Fisheries Management, Biology and Communication. Our shared resources allow PLM to offer the most advanced expertise available. We are members of the Better Business Bureau, Aquatic Ecosystem Restoration Foundation, the Midwest Aquatic Plant Management Society and the National Aquatic Plant Management Society.



RIVER ALLIANCE of WISCONSIN

Our mission is to advocate for the protection, enhancement and restoration of Wisconsin's rivers and watersheds. Our members are urban, rural and retired; anglers, paddlers and lovers of water and some depend on rivers to make a living. Together, our common interest is a shared passion for rivers and the inspiration they bring. We save rivers by advocating respectfully, but assertively, for rivers, bringing people to rivers so they experience their beauty and understand their threats, partner with, when appropriate, and challenge, when necessary, the government agencies entrusted with protecting rivers and we develop the ability of ordinary citizens and grassroots groups to organize their passion for rivers.



RMB Environmental Laboratories, Inc.

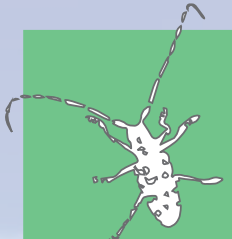
RMB Environmental Laboratories (RMBEL) provides state certified laboratory testing, field, and consulting services supported by committed customer service. Established in 1995, RMBEL has the expertise and years of experience supporting AIS monitoring, prevention, and education needs. RMBEL believes that is critical to maintain focused efforts while maximizing budgets. We have created service lines that help ensure effectiveness and success. RMBEL's staff provides volunteer training, monitoring program development, lake assessments, aquatic plant surveys, zebra

Our mission is to advocate for the protection, enhancement and restoration of Wisconsin's

mussel veliger testing, AIS Risk Assessment Lake Report Cards, macroinvertebrate identification, and grant writing services. The RMBEL Lakes Monitoring Program supports over 500 lakes annually. We look forward to working alongside you as we all strive to protect Minnesota's valuable water resources.



SePRO is a research-based life sciences company providing innovative products and services for specialty environmental and human health markets worldwide. SePRO is dedicated to discovering and developing sustainable solutions for specialty markets. We acquire, develop, manufacture, and market value-added products and services that satisfy the unique needs of our customers. In addition, SePRO has partnered with several of the top agriculture companies to develop technologies for use in our key markets. With solid relations already forged with some of the world's leading product innovators will lead toward still more varied horizons. Wherever traditional or bio-rational chemistry can meet a small but vital need, SePRO will be looking to deliver the solution in an ultimately effective and economically viable way.



Michigan Invasive Species Program

Michigan's Invasive Species Program is cooperatively implemented by the Michigan Departments of Agriculture & Rural Development, Environmental Quality and Natural Resources.

Identification: www.mi.gov/invasives

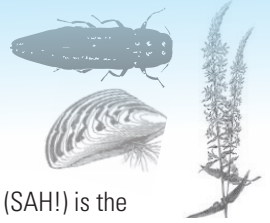
Reporting: www.misin.msu.edu

Social media: [#notMispecies](https://twitter.com/notMispecies)

Grants: www.mi.gov/dnrgrants

Prevention
Early Detection and Response
Management and Control
Education and Outreach





Three Shores Cooperative Invasive Species Management Area (CISMA) a cooperative partnership of federal, state, tribal and private entities working together throughout Chippewa, Luce, and Mackinac Counties

(Michigan) to properly manage invasive species that threaten local ecosystems, local economy, and overall quality of life. Species actively managed by Three Shores CISMA include Garlic Mustard, invasive Phragmites, Japanese/Giant Knotweed, European Frog-bit, Himalayan Balsam, and Purple Loosestrife.



The Upper Peninsula Resource Conservation and Development (UP RC&D) Council is a non-profit organization that serves all 15 counties in the Upper Peninsula of

Michigan. The UP RC&D collaborates with UP conservation districts, state and federal agency partners, regional non-profit organizations, and all five UP CISMAs to provide leadership for several UP-wide invasive species management projects. The Council has been involved in the management of non-native Phragmites and garlic mustard in the UP for the past 4 years. The Council is also actively involved in conserving and restoring coastal migratory bird habitat in the UP with funding from a North American Wetland Conservation Act (NAWCA) grant.



The University of Georgia Center for Invasive Species and Ecosystem Health (www.bugwood.org)

was formed in 2008 and is jointly housed in the College of Agricultural and Environmental Sciences and the Warnell School of Forestry and Natural Resources. The Center exists to develop and utilize partnerships and information technology to advance invasive species management, integrated pest management and forest health. Specific objectives include: Developing collaborations among university, state, regional, national and international governmental and non-governmental partners; Integrating information, conducting applied research and developing programs; Producing websites, smartphone applications, publications, videos, presentations and other information technology tools; Providing a clearinghouse for content and resources; and Conducting outreach and training to promote public awareness. By providing ready access to relevant information and tools, the Center empowers stakeholders to make cost-effective management decisions that minimize disruptions to non-target organisms in the ecosystem and effectively control pest organisms.



WePIC Partners cover over 2.6 million acres, including over 700 lakes, and 150 public boat launches. We cover all of Gogebic County, Iron County, Ontonagon County, and the Ottawa National Forest in Michigan.

We work with counties, local government and private landowners. Our goal is to control what is already here, and to prevent further spread into our area. By cooperating together, we can share resources and expertise across ownership and political boundaries to more efficiently manage invasive species.



STOP AQUATIC HITCHHIKERS!

Stop Aquatic Hitchhikers! (SAH!) is the internationally recognized public service campaign for the prevention of aquatic invasive species. As the operational lead, Wildlife Forever partners with thousands of agencies, organizations and groups in support of a collaborative partnership approach to raise awareness through consistent marketing, messaging and outreach. We welcome everyone to the Wildlife Forever SAH! booth for free outreach materials and encourage attendees to join the campaign.

West Michigan Cooperative INVASIVE SPECIES MANAGEMENT AREA

The West Michigan Cooperative Invasive Species Management Area (CISMA) is a collaboration of environmental groups,

educational institutions, governmental organizations, and private citizens working to conserve and enhance our natural communities. We will achieve this goal by maintaining and/or improving the health and resilience of natural communities by implementing and facilitating ecosystem restoration, utilizing invasive species management and other complementary approaches; increasing public environmental understanding to encourage shared value for vibrant, functional ecosystems as well as increasing partner capacity and expertise to benefit all regional conservation work; and supporting sustainable organizational structure and function through partner engagement, internal and external Cluster communication, and project management.

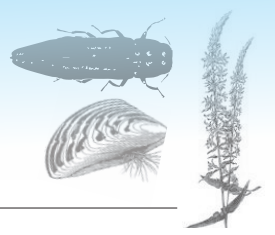


Invasive mussels cost the U.S. billions of dollars and have catastrophic impacts

to aquatic environments and industrial and municipal infrastructure. They continue to spread throughout North America and become a problem for any system exposed to an infested water source by clogging water inlets, pumps and pipes; obstructing flow; pitting pipes; straining pumps and other equipment; harming native species and negatively impacting the ecosystem. ZM Controllers aims to reduce the economic and environmental cost of invasive mussels with scientifically sound solutions. We have developed ZM-X; a simple, safe, and scalable control technology that is highly efficacious. We expect to serve irrigation districts, watercraft inspection and decontamination agencies, municipal water supplies, and power facilities. ZM-X is a real-world solution to a real-world problem.



D. Polymorpha. Photo Credit: Krista Kamke

[illegible]



© Paul Skawinski 2010

UMISC
Upper Midwest Invasive Species Conference
2016

Fifth Biennial
**UPPER MIDWEST
INVASIVE SPECIES CONFERENCE**
La Crosse Center
La Crosse, WI
October 16-19, 2016

www.umisc.net