2018 JOINT CONFERENCE

October 15-18, 2018
Mayo Civic Center
Rochester, MN

CELEBRATING MILESTONES
Building a Legacy for the Future
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Welcome to the 2018 Upper Midwest Invasive Species – North American Invasive Species Management Association Joint Conference! UMISC is excited to join forces with NAISMA for the first time. We expect this joint conference to be the largest invasive species conference in North America!

Celebrating Milestones: Building a Legacy for the Future is an appropriate theme for this year’s conference as we come together to celebrate the 10th anniversary of UMISC and 25th anniversary of NAISMA. Congratulations to both organizations!

So, why has this conference grown? Our answer is because invasive species impacts everyone. And, we’ve planned something for everyone. Upon review of the conference program, the Executive Committee was immediately struck by the unparalleled breadth and compelling content. International and national experts bring fresh perspectives on invasive species challenges. Their insights and expertise include collaboration, citizen science, risk assessment, landscape-level protection, working across jurisdictional boundaries and biocontrol.

Over 300 speakers and poster presenters from coast to coast bring their knowledge and experiences – seeking to improve invasive species management. Six workshops and training sessions offer practical and informal learning opportunities for all skill levels and backgrounds. Topics range from recruiting volunteers and identifying invasive species to manually removing invasive species and conducting prescribed fire burns. For the first time, a special event, Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC) Symposium II, is being held in conjunction with the conference to help understand and interrupt pathways for Organisms in Trade. Another new event for this conference is the addition of the PlayCleanGo Summit to share information about the program and its reach, how to utilize the campaign’s brand assets via traditional and social media, and a partner outreach showcase. Also, eight field trips are scheduled during the conference to showcase local management and the latest field work being conducted on invasive species in southeast Minnesota and the Mississippi River Valley.

Thank you to our sponsors and exhibitors! Nearly 50 will showcase the latest products, services and opportunities for preventing and managing invasive species.

Rochester is a thriving city rated as one of the best to live in the U.S. It is renowned as a welcoming destination based on a culture of care, innovation, scenic beauty, hospitality and more.

On behalf of the conference sponsors, executive committee, planning committees, volunteers and everyone who has contributed to this event, we hope that you are inspired by the conference and enjoy beautiful Rochester.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>Monday AM</td>
<td>Registration and Breakfast with Exhibitors 7:00 am-9:00 am</td>
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<tr>
<td></td>
<td>WELCOME PLENARY 9:00 am-11:30 am</td>
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<td>LUNCH 11:30 am-1:00 pm</td>
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<tr>
<td>Monday PM</td>
<td>FIELD TRIPS 12:00 pm-5:00 pm</td>
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<tr>
<td></td>
<td>GL BIOTIC WORKSHOP: Using Local Events as Alternatives to Pet Plant Release Room 102 &amp; 103</td>
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<td>WORKSHOP: Identification of Native and Exotic Aquatic Plants of the Upper Midwest Room 104 &amp; 105</td>
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<td>WORKSHOP: Identification of Grasses, Sedges and Rushes Room 106</td>
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<td>Aquatic Invasive Species Outreach Room 107</td>
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<td>Youth Outreach Room 108</td>
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<td></td>
<td>BREAK with Exhibitors 2:40 pm-3:10 pm</td>
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<td></td>
<td>GL BIOTIC–Outreach 3:10 pm-5:00 pm</td>
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<td></td>
<td>WORKSHOP: Strategies for Manual Removal of Invasive Species Room 102 &amp; 103</td>
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<td>Emerging Forest Invasives Across Regions Room 104 &amp; 105</td>
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<td>New Technology: eDNA Room 106</td>
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<td>Empowering Stakeholders and Students Room 108</td>
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<td>WELCOME RECEPTION Featuring Poster Presentations 5:00 pm-7:00 pm</td>
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<tr>
<td>Tuesday AM</td>
<td>Breakfast with Exhibitors; NAISMA PlayCleanGo Committee Meeting 7:00 am-8:00 am</td>
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<td></td>
<td>Prioritization of Efforts Room 101</td>
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<td>Grazing for Invasive Plant Management Room 102</td>
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<td>Citizen Science in Action Room 103</td>
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<td>Building Capacity Locally, Statewide, and Nationally Room 105</td>
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<td></td>
<td>Zebra Mussel Genetics, Ecology, and Control Room 106</td>
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<td>New Techniques in Monitoring Forest Invasives Room 106</td>
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<td></td>
<td>GL BIOTIC (OIT)– Risk Assessment Room 104</td>
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<tr>
<td></td>
<td>BREAK with Exhibitors 9:40 am-10:10 am</td>
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<td>Ecological Research on Invasive Plants Room 101</td>
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<td>ID and Management of Perennial Knotweeds Room 102</td>
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<td>Successful CWMA and CISMA Efforts Room 103</td>
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<td>Improving Trainings and Providing New Resources Room 105</td>
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<td>The Cumulative Power of Cooperation Room 107</td>
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<td>Human Impacts of Forest Invasives Room 106</td>
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<td>GL BIOTIC (OIT)– Response Room 104</td>
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<tr>
<td>Tuesday PM</td>
<td>LUNCHEON and PLENARY • NAISMA Silent Auction Opens 12:00 pm-1:15 pm</td>
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<td>WORKSHOP: Invasive Aquatic Animal Identification Room 102 &amp; 103</td>
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<td>Non-native Phragmites and Typha Part 1 Room 108</td>
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<td></td>
<td>WORKSHOP: Introduction to Prescribed Fire Room 105</td>
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<td></td>
<td>Emerging Topics of Concern: Distribution, Lifecycle, and Impacts Room 107</td>
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<td>New Directions with Emerald Ash Borer Room 106</td>
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<td>GL BIOTIC (OIT)– Industry Room 104</td>
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<td></td>
<td>BREAK with Exhibitors 3:10 pm-3:30 pm</td>
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<td>Improving Interactions Between Scientists and Land Managers Room 101</td>
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<td>Improving Herbicide Effectiveness and Minimizing Impacts Room 105</td>
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<td>Non-native Phragmites and Typha Part 2 Room 108</td>
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<td>Prescribed Fire Field Demonstration: It's a Match Room 107</td>
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<td>Emerging Species of Concern: Responding to New Infestations Room 107</td>
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<td>WORKSHOP: Know the Problem: Tips to Identifying Invasive Forest and Range Pests Rooms 102 &amp; 103</td>
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<td>GL BIOTIC (OIT)– Bait Room 104</td>
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<td>RECESSION AND SPECIAL PLENARY: Cooperation Across Boundaries: U.S. Federal Government to Local Organizations. Discussion among organizations working at different scales. 5:10 pm-7:00 pm</td>
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<td>NAISMA Silent Auction Closes at 7:00 PM 7:00 pm</td>
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# Conference Schedule At-a-Glance—continued

## Wednesday, October 17, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 am-8:00 am</td>
<td>BREAKFAST with Exhibitors</td>
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<tr>
<td><strong>Wednesday AM</strong></td>
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<tr>
<td>8:00 am-9:40 am</td>
<td>Invasive Carp: Detection, Management, and Collaboration</td>
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<td></td>
<td>Current and Future Resources for Mapping Invasive Species Part I</td>
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<td></td>
<td>Early Detection and Response</td>
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<td>Fire and Invasive Plant Management Part I</td>
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<td></td>
<td>Community-Based Social Marketing for Invasive Species Prevention</td>
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<td>Status and Trends in Japanese Barberry</td>
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<td>Volunteers</td>
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<td>Room 101</td>
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<td>Room 104</td>
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<td>Room 105</td>
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<td>Room 106</td>
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<td>Room 107</td>
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<tr>
<td>9:40 am-10:00 am</td>
<td>BREAK with Exhibitors</td>
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<tr>
<td>10:00 am-11:40 am</td>
<td>Invasive Carp: Dispersal Barriers</td>
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<td></td>
<td>Current and Future Resources for Mapping Invasive Species Part II</td>
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<td>Prevention by Boat, Ballast, and Gear</td>
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<td>Fire and Invasive Plant Management Part II</td>
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<td>PlayCleanGo Summit Part I</td>
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<td>Gypsy Moth and Hemlock Wooly Adelgid</td>
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<td>Prevention: Pathways</td>
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<td>Room 101</td>
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<td>Room 104</td>
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<td>Room 105</td>
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<td>Room 107</td>
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<tr>
<td>11:40 am-1:30 pm</td>
<td>Wednesday Lunch: Plenary Speaker: Harriet Hinz, CABI, 12:15-12:40;</td>
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<td>NAISMA General Meeting 12:45 pm-1:30 pm</td>
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<td><strong>Wednesday PM</strong></td>
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<td>1:30 pm-3:10 pm</td>
<td>Starry Stonewort and Curly-leaf Pondweed Management</td>
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<td>Dealing With Invasives During Restoration, Part I</td>
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<td>Palmer Amaranth and Native Seed Production, Part I</td>
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<td>Invasive Plants in the Carrot Family</td>
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<td>PlayCleanGo Summit Part II</td>
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<td>Invasive Earthworms</td>
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<td>Biological Control I</td>
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<td>Room 105</td>
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<td>3:10 pm-3:30 pm</td>
<td>BREAK with Exhibitors</td>
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<tr>
<td>3:30 pm-5:10 pm</td>
<td>Eurasian Watermilfoil</td>
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<td></td>
<td>Dealing With Invasives During Restoration, Part II</td>
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<td>Palmer Amaranth and Native Seed Production, Part II</td>
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<td>Invasive Insects</td>
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<td>PlayCleanGo Summit Part II–Partner Outreach and Vendor Showcase</td>
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<td>Monitoring and Managing Forest Invasive Plants</td>
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<td>Biological Control II</td>
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<td>Room 105</td>
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<tr>
<td>5:30 pm-7:00 pm</td>
<td><strong>NAISMA BANQUET AND AWARDS RECEPTION</strong> Ticketed Event ($25)</td>
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## Thursday, October 18, 2018

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td><strong>Thursday AM</strong></td>
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<tr>
<td>8:00 am-9:40 am</td>
<td>NAISMA Committee Meeting: Weed-Free Forage and Gravel</td>
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<td>Center for Agriculture and Biosciences Institute (CABI) Updates</td>
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<tr>
<td></td>
<td>Room 101</td>
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<td>Room 108</td>
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<tr>
<td>9:40 am-10:10 am</td>
<td>BREAK</td>
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<td>10:10 am-11:40 am</td>
<td>NAISMA Committee Meetings: Legislative; Aquatic Invasive Species</td>
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<td>NAISMA Weed-Free Forage and Gravel Certification Training, Part I</td>
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<td>Center for Agriculture and Biosciences Institute (CABI) Updates</td>
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<td>Room 101</td>
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<td>Room 104</td>
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<td>Room 108</td>
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<tr>
<td>11:40 am-1:00 pm</td>
<td>LUNCH</td>
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<tr>
<td><strong>Thursday PM</strong></td>
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<tr>
<td>1:00 pm-2:40 pm</td>
<td>NAISMA Committee Meetings: Professional Development</td>
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<td></td>
<td>NAISMA Weed Free Forage and Gravel Certification Training, Part II</td>
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<td>Room 101</td>
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<td>Room 104</td>
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<td><strong>CONFERENCE ENDS</strong></td>
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</table>
Host Organizations

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, horticulturists, professors, state agencies and businesses.

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.

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.

NORTH AMERICAN INVASIVE SPECIES MANAGEMENT ASSOCIATION

The North American Invasive Species Management Association (NAISMA) is a network of professionals challenged by invasive species: land managers, water resource managers, state, regional, and federal agency directors and staff, and nonprofit organizations. NAISMA’s members are a diverse group of individuals and organizations who are involved in implementing invasive species management programs at all scales. Our mission is to support, promote and empower invasive species prevention and management in North America. Our vision is to have North America’s lands and waters protected from invasive species. NAISMA’s programs aim to provide the support, training and standards needed by the professional invasive species management community.

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 makes recommendations to the department regarding a system for classifying invasive species and a procedure for awarding cost sharing grants to control invasive species. The Council also conducts studies of issues related to controlling invasive species. Wisconsin law requires the Council to address the effect of the state’s bait industry on the introduction and spread of invasive species; the effect of the state’s pet industry on the introduction and spread of invasive species; the acquisition of invasive species through mail order and Internet sales; and other issues as determined by the council.
www.naisma.org

Committees and Acknowledgments

CONFERENCE HOST ORGANIZATIONS
Invasive Plants Association of Wisconsin
Board of Directors
Mic Armstrong, Armstrong Landscaping
Greg Bunker, Mohican Tribes
Jeremy Chiamulera, Compass Land Consultants, Inc.
Heidi Kennedy, SEH, Inc.
John Lenz, (Secretary)
Anne Pearce, University of Wisconsin Madison - Extension, Wisconsin First Detectors Network
Mark Renz, University of Wisconsin - Extension (Treasurer)
Christa Schaefer, Wisconsin Dept. of Transportation (President)
Diane Schauer, Calumet County, Wisconsin (Vice President)
Patria Trochell, Wisconsin Dept. of Natural Resources

Midwest Invasive Plant Network
Board of Directors
Kim Bogenschutz, Iowa Dept. of Natural Resources
Theresa Culley, Cincinnati University
Michael Daab, Champaign County (IL) Forest Preserve District
Kurt Dreisilker, The Morton Arboretum (Treasurer)
Dave Gorden, Mark M. Holeman, Inc.
Bob Hartzler, Iowa State University
Chris Henze, Johnson County Secondary Road Dept., IA
David Listerman, Listerman & Associates
Chris May, The Nature Conservancy
Tim Power, Minnesota Nursery and Landscape Association
Mark Renz, University of Wisconsin-Extension (President)
Darcy Rutkowski, Upper Peninsula (UP) Resource Conservation and Development Council Kalifie Sherman, Ontario Invasive Plant Council
Reid Smeda, University of Missouri
Jason Stevens, USDA Forest Service
Laura Van Riper, Minnesota Dept. of Natural Resources (Vice President)
Ryan Wheeler, Michigan Dept. of Natural Resources

Minnesota Invasive Species Advisory Council
Mark Abrahamson, Minnesota Dept. of Agriculture
Angie Ambourn, Minnesota Dept. of Agriculture
Heidi Anderson, Minnesota Dept. of Agriculture
Missy Anderson, Three Rivers Park District
Roger Becker, University of Minnesota Agronomy & Plant Genetics
Tony Brough, Hennepin County
Susan Burks, Minnesota Dept. of Natural Resources
James Calkins, Minnesota Nursery & Landscape Association
Val Cervenka, Minnesota Dept. of Natural Resources
Monika Chandler, Minnesota Dept. of Agriculture
Jean Ciborowski, Minnesota Dept. of Agriculture
Nicolette Clapp, Minnesota Board of Water and Soil Resources
Pat Conzemius, Wildlife Forever
Angelique Dahlberg, St. Croix National Scenic Riverway (Chair)
Ryan Galbreath, USDA NRCS
Allison Gamble, Minnesota Dept. of Natural Resources
Jack Greenlee, USDA-Superior National Forest
Christa Schaefer, Wisconsin Dept. of Transportation (Co-Chair)
Diane Schauer, Calumet County, Wisconsin Affiliation (retired)
Christa Schaefer, Wisconsin Dept. of Transportation

PROGRAM COMMITTEE

AQUATIC
Tim Campbell, University of Wisconsin Extension
Angelique Dahlberg, St. Croix River Association
Erick Elgin, Michigan State University Extension
Leah Ewell, Invasive Species Action Network
Allison Gamble, Minnesota Dept. of Natural Resources
Chris Hamerla, Golden Sands RC&D Council
Drew Feldkirchner, Wisconsin Dept. of Natural Resources
Paul Skawinski, University of Wisconsin Extension Lakes Center
Bob Wakeman, Wisconsin Dept. of Natural Resources
Tina Wolbers, Minnesota Dept. of Natural Resources (Co-Chair)

FOREST
Angie Ambourn, Minnesota Dept. of Natural Resources
Susan Burks, Minnesota Dept. of Natural Resources
Val Cervenka, Minnesota Dept. of Natural Resources
Paul Cigan, Wisconsin Dept. of Natural Resources
Dave Coley, Clemson University
Linda Haugen, USDA Forest Service
Renea Pinksi, Wisconsin Dept. of Natural Resources
Matt Russell, University of Minnesota (Chair)

TERRITORIAL
Monika Chandler, Minnesota Dept. of Agriculture
Kelly Cooley, Northern American Invasive Species Management Association
Chris Henze, HawkEye Cooperative Weed Management Areas, IA
Phyllis Higman, Michigan Natural Features Inventory
Kelly Kears, Wisconsin Dept. of Natural Resources
Dave Moorehead, University of Georgia
John Lenz, (Secretary)

Conference Administration
Bergner Associates
Graphic Design
Andy Haas Design, Inc.

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CONFERENCE LOCATION
All conference events except field trips will be held at the Mayo Civic Center, 30 Civic Center Dr SE, Rochester, MN 55904

GETTING TO THE CONFERENCE AND PARKING
Look for the Parking Logo which will direct you to available lots and ramps.
• The Civic Center Ramp is located on the west side of Civic Center Drive across the street from the center and is attached by a climate-controlled skyway.
• The Civic Center South Lot is located across the river from the Mayo Civic Center and offers an additional 240 parking spaces.
• Civic Center flat lot is North of the building. All-day parking is $3.00.

CONFERENCE REGISTRATION
Registration is in the upper-level Ballroom Lobby West just past the Skyway entrance. Registration will be open according to the schedule below. Limited on-site registration is available.
  Sunday, October 14: 3:00 PM – 7:00 PM
  Monday - Wednesday, October 15-17:  7:00 AM – 4:00 PM
  Thursday, October 18: 7:00 AM – 10:00 AM

PRESENTATION UPLOADING
The presentation uploading area will be next to registration on the 2nd floor Grand Lobby West beginning Sunday at 3pm evening and during all registration hours.

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

MOTHER’S ROOM
A nursing mother’s room is available in the Business Center Office located between the Main Box Office and Suite 101 on the lower level.

FOOD AND BEVERAGES
Many complimentary meals and break service are provided throughout the conference. Special dietary needs must be requested in advance and are not guaranteed for on-site registrations.

BREAKFASTS
Breakfast will be provided on Monday, Tuesday, Wednesday, and Thursday October 15-18.

LUNCHES
• A box lunch will be provided on Monday, October 15. Field trip participants will be able to take their box lunch and refreshments on the tour bus.
• A plated lunch will be provided during the Tuesday, October 16 Lunch Plenary.
• A box lunch will be provided on Wednesday, October 17 preceding the Wednesday Plenary and NAISMA Annual General Meeting.

BREAKS
• Morning and Afternoon breaks every day of the conference will provide refreshments including coffee and tea.

RECEPTIONS
• A Monday Welcome Reception at 5 pm will feature Poster Presentations. A Tuesday evening reception will feature a special plenary on “Cooperation Across Boundaries.”
• A cash bar and complimentary refreshments will be provided at both receptions.

DINNER
• Dinner will be on your own each night. An optional NAISMA Awards Banquet Dinner will be offered Wednesday night ($25). Pre-registration is required.

POSTERS
Posters will be on display in Ballroom Lobby West on Monday, October 15 through Wednesday, October 17.

EXHIBITS
Exhibits will be on display in Ballroom 2 and 3 through the Wednesday, October 17 Lunch Plenary. Please see the list of exhibitors with organization descriptions on pages 41-43 for more information. Most sponsors also have exhibit booths. 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.

GET SOCIAL
Follow and tag us on Facebook & Twitter @UMISC and @NAISMAorg and don’t forget the hashtag when posting #InvasiveSpeciesConference
INVASIVE SPECIES COLLABORATION - THE U.S. DEPARTMENT OF AGRICULTURE'S ROLE
Samantha Simon, Invasive Species Coordinator, United States Department of Agriculture

More than 4,500 invasive pests damage crops, costing U.S. agricultural producers an estimated $30 billion in crop losses and control treatments annually. Greater global travel and trade means that an increasing number of new invasive pests are entering the United States. The U.S. Department of Agriculture (USDA) – in close cooperation with its partners – is committed to combating destructive invasive species as an essential part of its mission to protect U.S. agricultural health. This presentation will provide an overview of recent improvements in the invasive species coordination within USDA; describe some of USDA's many federal-state-local partnerships through highlighting success stories; and discuss USDA’s collaboration efforts within the U.S. government to prevent, manage, and eradicate invasive species. It is USDA's vision to provide economic opportunity through innovation, helping rural America to thrive; to promote agriculture production that better nourishes Americans while also helping feed others throughout the world; and to preserve our Nation’s natural resources through conservation, restored forests, improved watersheds, and healthy private working lands.

Samantha Simon is the U.S. Department of Agriculture’s Senior Invasive Species Coordinator. In this role, Ms. Simon coordinates Department-wide activities affecting the development and implementation of effective agency responses to invasive species. She works collaboratively with USDA Agency invasive species coordinators and serves as a resource to the internal and external partners and stakeholders to accomplish key initiatives designed to eliminate the risks that invasive species pose to American agriculture, forests, and grasslands. Ms. Simon has worked for USDA since 1995 serving in a variety of positions within the USDA Marketing and Regulatory Programs (MRP). She is a native of Iowa and a graduate from Iowa State University.

CITIZEN SCIENCE: THE BENEFITS AND CHALLENGES OF USING VOLUNTEERS FOR INVASIVE SPECIES MONITORING AND MANAGEMENT
Alicia Crall, Educator and Program Evaluator, National Ecological Observatory Network

Citizen science, engagement of the public in the scientific process, has been widely adopted as a tool for invasive species monitoring and management. Its adoption provides two primary benefits. Citizen science projects typically include an education component that includes invasive species content and skills training. Participation in these projects can result in impacts on these participants that include increases in knowledge of invasive species, changes in attitudes, and changes in behavior. In addition, citizen science projects generate datasets not attainable using traditional data collection approaches. With more eyes and boots on the ground, we can increase our knowledge of existing species distributions and better predict future spread. In this presentation, we will explore growth in the citizen science field over the past decade and resources available to stay engaged in it. Findings from research studies will be used to demonstrate the benefits of using volunteers but also the challenges that still remain, including issues associated with data quality.

Alicia Crall received her PhD in Environmental Studies at the University of Wisconsin-Madison in 2010. For her dissertation research, she developed and evaluated a national invasive species citizen science program. During this time, she worked with colleagues to develop an online data sharing platform (CitSci.org) and protocols that were tested in the field for comparisons between volunteers and professionals. From 2012-2015, Alycia served as the Director of the Virginia Master Naturalist program and as an Extension faculty member within the Department of Forest Resources and Environmental Conservation at Virginia Tech. In this role, she trained and engaged volunteers in citizen science, environmental education, and stewardship projects throughout Virginia. She now serves as an educator and program evaluator for the National Ecological Observatory Network’s education and public engagement program and as a contractor for various citizen science research initiatives.
WELCOME PLENARY — MONDAY

USING THE GRASS CARP ECOLOGICAL RISK ASSESSMENT TO INFORM MANAGEMENT ACTIONS IN CANADA
Becky Cudmore, Regional Manager, Aquatic Invasive Species Program Fisheries and Oceans Canada/Pêches et Océans Canada

The Binational Ecological Risk Assessment for Grass Carp in the Great Lakes was released in 2017. The risk assessment looked at the likelihood of arrival, survival, establishment and spread of Grass Carp in the Great Lakes, and the predicted ecological consequences of any populations. The results of this risk assessment provide key science advice for management agencies to take action with respect to this species. Fisheries and Oceans Canada’s Asian Carp Program used the Binational Ecological Risk Assessment to guide outreach and education activities in the Canadian waters of the Great Lakes. The risk assessment also identified key research gaps for studies that are now underway. The early warning surveillance, response and management activities are also informed by the science-based advice provided in the risk assessment. Examples of these actions will be provided as well and a look at where the program is going in terms of further risk assessment and other AIS work.

Becky Cudmore is the Regional Manager for Fisheries and Oceans Canada’s Aquatic Invasive Species Program for the department’s Central and Arctic Region (Ontario, Prairies and the Arctic). This program includes the Asian Carp Program for the Great Lakes. Becky has a post-graduate degree in Zoology from the University of Toronto and a joint undergraduate degree in Biology and Environmental Science from Trent University, Peterborough, Ontario. Becky has worked on aquatic invasive species in the international Great Lakes for almost 20 years and was the recipient of the Queen’s Diamond Jubilee award for her contributions and efforts to protect the Great Lakes from aquatic invasive species.

LUNCH PLENARY: TUESDAY, OCTOBER 16
12:00 pm – 1:30 pm

Protecting Hawaii’s Watersheds, One Incipient Miconia Plant at a Time with Extreme Prejudice
Dr. James Leary, Associate Research and Extension Specialist, University of Hawaii

Hawaii is a volcanic archipelago in the Pacific Ocean, located over 3,000 kilometers from the nearest continental land mass. It took 5 million years to evolve 1,400 endemic plant species, found nowhere else in the world. However, in less than 2,000 years since first human contact, ~10,000 exotic plants have inundated Hawaii with over 200 of these species considered to be highly invasive. Today, a majority of Hawaii’s landscapes are impacted by these invasive plant species. Managing invasive weeds in Hawaii is daunted not only by the aggressive biology of the non-native species, but also by the extreme topography impeding accessibility and protection of our most important natural areas. Invasive species management requires significant investments in surveillance and treatment with a trade-off dilemma of how to balance these actions against a limited resource budget. Herbicide Ballistic Technology (HBT) was developed at the University of Hawaii with the capability to surgically deliver lethal aliquots to individual, incipient plant targets with long-range precision and accuracy. In collaboration with the Maui Invasive Species Committee (MISC) and the National Park Service Exotic Plant Management Team (EPMT), a breakthrough utility was realized with HBT complementing helicopter surveillance operations adding the capability to eliminate incipient miconia (Miconia calvescens) targets in the most extreme topography in the East Maui Watershed (EMW), thus, removing the trade-off dilemma and further encouraging a greater investment in surveillance of critical remote areas. Herein, we’ll describe concepts in landscape-level protection resulting from the elimination of incipient plant targets based on empirical data from over 600 hours of helicopter HBT operations, eliminating over 25K incipient miconia targets.

Dr. James Leary is Associate Research and Extension Specialist with the University of Hawaii, stationed on the beautiful island of Maui. He was born and raised in Michigan, earning a BS degree in Horticulture and Chemistry at Michigan State University. He relocated to Hawaii, earning his MS and PhD degrees in Horticulture and Molecular Ecology, respectively, at the University of Hawaii at Manoa. His original fascination with Hawaii was how food could be grown year-round in a tropical island environment. Within his first weeks after arrival, he soon realized…WEEDS DO TOO! He has 20 years of weed science experience in Hawaii and his mission is to extend knowledge and technology contributing to efficient and effective invasive plant species management in natural and managed landscapes. His current claim to infamy, is the development of Herbicide Ballistic Technology (HBT) for surgically eliminating invasive species targets from helicopter platforms. To that end, he enjoys collaborations with a wide range of disciplines in biology, engineering, economics, and GIS supporting tactical and strategic management decision making...
**EVENING PLENARY: TUESDAY, OCTOBER 16**

5:30 pm – 6:30 pm

**Invasive Species Management and Policy Cooperation Across Borders**

A reception starting at 5pm will invite all attendees to relax and rewind, followed by an exciting evening plenary session, new for UMISC and NAISMA, showcasing invasive species management and policy leaders at the federal, regional, state, and local level. Presenters will discuss how their organization or agency fosters cooperation on invasive species management and policy across their borders, what is working well, and will identify opportunities for future improvements in cooperation and collaboration. Audience Q&A at the end of this session will allow for conference attendees to share questions and ideas for better cooperation across borders.

**Hilary Smith** is the Senior Advisor for Invasive Species for the U.S. Department of the Interior (DOI). She provides leadership and coordination on invasive species policies, planning, and programs, working closely with DOI bureaus and offices. Examples of recent focus areas include early detection and rapid response capacities, state-tribal-federal collaborations, and regulatory streamlining. Hilary has more than 16 years experience addressing invasive species issues at multiple scales, with an emphasis on inter-jurisdictional and partnership approaches. She has a M.S. in Biodiversity, Conservation and Policy from the State University of New York at Albany, and a B.A. in Biology from Hamilton College.

**Slade Franklin** has been employed by the Wyoming Department of Agriculture since 1999. Since 2004 he has worked for the department as the State Weed and Pest Coordinator. His primary role is to help county weed and pest control districts in implementing effective management programs for invasive weeds and pests. He also manages several state and federal grant programs including the Emergency Insect Management grant, Special Management Program grant, and the USFS State and Private Forestry - Noxious weed grant and the state pesticide registration grants. He has also served as Chairman for the Western Weed Coordinating Committee, the State Weed Coordinators Alliance and is currently a member of the Invasive Species Advisory Committee (ISAC) which provides information and advice to the National Invasive Species Council.

**Elizabeth Brown** has been working on Invasive Species for almost twenty years, and has served as the Colorado Invasive Species Program Manager with Parks and Wildlife since 2008. Previously, she served as the Stewardship Coordinator for State Parks and the Early Detection Rapid Response Specialist with the Colorado Noxious Weed Program. Elizabeth’s current duties are centered around aquatic nuisance species management, including operating a multi-jurisdictional mandatory watercraft inspection and decontamination network, along with other responsibilities centered around invasive mammals, pests and noxious weed management. Elizabeth has served as the Chair of the Western Regional Panel on Aquatic Nuisance Species since 2012, and is the Co-Chair of the ANS Task Force’s Education Committee.

**Tyler Kaspar** is an Environmental Biologist for the 1854 Treaty Authority The 1854 Treaty Authority is an inter-tribal natural resource management organization that manages the off-reservation hunting, fishing and gathering rights of the Grand Portage Band of Lake Superior Chippewa and Bois Forte Band of Chippewa in the 1854 Ceded Territory (present day northeast Minnesota). One of Tyler’s current tasks is to help implement the 1854 Treaty Authority Invasive Species Management Plan to protect treaty resources from invasive species. Since the 1854 Treaty Authority is a co-manager of resources within the 1854 Ceded Territory, they coordinate and collaborate with multiple management entities (tribal, federal, state, county, city) while implementing their management plan.

**Anne Morse** is the Sustainability Coordinator for Winona County and runs the Winona CISMA (Cooperative Invasive Species Management Area). She is also a county agricultural inspector, which puts invasive species - and invasive plants in particular - high on her agenda. A veteran organizer of campaigns of all types, Anne works with the Minnesota Departments of Agriculture, Natural Resources, and Transportation, US Fish & Wildlife Service, and Master Gardener volunteers on invasive species management in Winona County alongside the Mississippi River on the border of Wisconsin and Minnesota.
Classical Weed Biocontrol: a Lost Case or the Only Way Forward?
Hariet L. Hinz, Centre for Agriculture and Biosciences International (CABI) Switzerland

Two recent reviews showed that across all countries and regions, two thirds of the weeds targeted for classical biological control (CBC) experienced some level of control and that almost a quarter of all biocontrol agent releases that established caused heavy impact. In addition, cost : benefit ratios of up to 1 : 1675 have been reported. On the other hand, of all 457 agents intentionally released, one out of eight caused some kind of non-target attack in the field. However, there are only two intentionally released agents (< 1%), and one agent which spread unintentionally, which have been documented to cause negative non-target attack at a population level. Overall, it therefore appears that CBC of weeds is a quite successful, environmentally safe and cost-effective method to control alien invasive plants, especially in extensively managed, natural or remote areas. Nevertheless, CBC of weeds has become under increasing scrutiny since the late 1990s due to potential direct and indirect non-target impacts, leading to a significant decline in agents being released in the U.S. and other countries. I will give an outlook of the future of weed biocontrol in the U.S. and globally, highlighting the main challenges and opportunities that lie ahead.

Hariet Hinz's training is in horticulture, pest management, applied entomology and ecology, which provides an ideal background for her main research interest, classical biological weed control. Hariet has 25 years of experience in this area, including studies on the biology, host specificity and impact of herbivorous insects, the population biology of plants, and mechanisms underlying the host-finding and host-choice behaviour of insects. She is also interested in potential invasion mechanisms of invasive plants and has supervised several graduate projects on this subject. Since 2002, Hariet has been an Affiliated Professor at the University of Idaho. For the last 12 years, Hariet has been the Leader of the Biological Weed Control Programme at CABI in Switzerland. This role involves managing 15 ongoing weed biological control projects for the USA and Canada, developing new projects to ensure the financial sustainability of the Programme as well as coordinating a team of five project scientists and several support staff. In 2015, Hariet was appointed Country Director Switzerland, which allows her to be involved in CABI's overall operations and cross-Centre collaborations.

FIELD TRIPS
All field trips will be held on Monday, October 15, 2018 except the Prescribed Fire Demonstration on Tuesday, October 16, 2018.

MARSHALLING VOLUNTEERS TO MANAGE INVASIVE SPECIES
Tour Leader: Angela Gupta, University of Minnesota - Extension
Tour length: 5 hours
Activity Level: Moderate
Accessibility: Handicap tracked wheelchair available upon request.
Cost: $30

Do you need volunteers to help you manage invasive species? Learn tips and tricks about recruiting, retaining and engaging volunteers from volunteers themselves. On this field trip, you’ll spend time with volunteers at three different Rochester parks — Quarry Hill Nature Center, Indian Heights Park and Gamehaven Sports and Recreation Park — discussing approaches to invasive species management. You’ll witness challenges and opportunities and brainstorm about ways to foster public engagement in active management.

WHEELS AND WEEDS
Tour leader: Mike Merriman, Minnesota Department of Agriculture
Tour length: 5 hours
Activity Level: Moderate
Cost: $35

Saddle up for a relaxing bike tour through invasive species and cooperative invasive species management areas in Rochester. Along the way, you’ll stop to learn about emerald ash borers, zebra mussels in Zumbro Lake, and shoreland and buckthorn management. Peddle by (not through!) rare poison hemlock eradication efforts. Peddlers will also get tips on minor bike repair and maintenance “geared” toward everyday bike-to-work commuters. Bikes will be provided unless participants indicate when registering that they will bring their own bike.

CERTIFIED FORAGE PRODUCERS, PITS AND POLLINATOR SITES
Tour leader: Marsha Watland, Becker County Soil and Water Conservation District, NAISMA WFF&G Coordinator and Board Member
Tour length: 5 hours
Activity Level: Low
Cost $30

Travel northeast to the beautiful Mississippi River Bluffs of Kellogg, MN. From bluffs to pits, learn how the North American Invasive Species Management Association’s Weed Free Forage and Gravel Certification Processes prevent the spread of invasive species. You will tour a NAISMA-certified forage producer. Once outside Kellogg, you will stop at an active gravel pit set for up for an initial inspection walkthrough for Weed Free Gravel Certification. Take a short hike to an area of poison hemlock infestation and a roadside management demonstration. At pollinator planting areas that are new and established Conservation Reserve Programs., local prohibited weed management issues like wild parsnip and thistle will be featured.

ZEBRAS IN THE ZUMBRO AND BEYOND
Tour leader: Tina Wolbers, Minnesota Department of Natural Resources
Tour length: 4 hours
Activity Level: Low
Cost: $30

Lake Zumbro was Minnesota’s first inland water infested with zebra mussels (2000). Eighteen years later, it’s not the only one. This field trip will cover the history of zebra mussels in Minnesota, past management...
FIELD TRIPS continued

[ZEBRAS IN THE ZUMBO AND BEYOND, CONTINUED]
actions; and current zebra mussel control techniques. You’ll learn how Minnesota regulates transportation and disposal of dredged materials from infested waters. Join in to see how Rochester Public Utilities protects critical infrastructure from zebra mussels to provide electricity at the Lake Zumbro Hydroelectric Dam. Bring your boots (clean and dried for at least 5 days of course). You’ll have a chance to practice search (not rescue!) techniques for zebra mussels and other AIS. There’s much to learn while visiting Olmstead and Wabasha Counties!

WATOTO TOGYA UNYUŠDOKAPI: DAKOTA SIOUX FOR STRIPPING THE LAND OF STRANGE PLANTS
Tour leaders: Gabe Miller, Environmental Program Manager, Prairie Island Indian Community; and Dawn Littleton, Invasive Plants Program Coordinator, University of MN Extension
Tour length: 5 hours
Activity Level: Medium
Cost: $30

Experience the Mdewakanton Dakota Sioux community to see hands-on native ways for effective management of invasive species. Against the backdrop of the scenic Mississippi River, the Prairie Island Indian Community is a historical center of medicinal and cultural native plant trade for Dakota peoples. At Tribal Marina, discuss cultural and natural resource management challenges brought by living on a river that provides both vital resources and invasive species to the backwater lakes. Tour a floodplain forest of silver maple and restored mesic prairie. Continue past restored prairie lands for a one-mile round-trip hike to view an oak-savanna restoration project. End your tour with a drive past the Edwin Buck Jr. Memorial Buffalo Project of invasive species management. If your management passion is buckthorn, Reed Canary Grass, purple loosestrife, garlic mustard, Siberian elm, wild parsnip, leafy spurge, Amur maple or Japanese hedge parsley – this one is for you.

GO BATTY AT THE CAVE & TERRESTRIAL INVASIVE SPECIES MANAGEMENT
Tour leader: Shane Blair, Minnesota Department of Agriculture
Tour length: 5 hours
Activity Level: Medium
Cost: $25

October pro-baseball season might be coming to a close, but batting (or batty) season isn’t over. Enjoy the wonder of Mystery Cave and its captivating history. Bats live here, but not Batman. Learn about white nose bat syndrome, its potential impacts on Minnesota bat populations and how stewards at Mystery Cave are combating the disease. Then, during a one-hour hike, you’ll be introduced to efforts to control and eradicate invasive woody vegetation in Forestville State Park and participate in a discussion about long-term plans. Is garlic mustard edible? What about other invasive plants? Join this field trip to find out!

WHITEWATER VALLEY INVADERS
Tour leaders: Jaime Edwards, MN Dept of Natural Resources Nongame Program; and Amanda Gentry, Winona County Soil and Water Conservation District
Tour length: 4.5 hours
Activity Level: Medium
Cost: $30

Take a trip to Whitewater State Park to visit southeastern Minnesota’s premiere trout streams and learn about the aquatic invaders that threaten them. Bring waders (clean and dried for at least 5 days or treated with 5% salt then tap water rinsed!) You will be in the stream monitoring for AIS using a dip net and sieve bucket. Data collected on an app will be tailored to flow monitoring. Then, at the Whitewater Wildlife Management Area, hike up a bluff prairie undergoing restoration and contrast it with adjacent land infested with buckthorn, honeysuckle, barberry and other undesirables. See for yourself what a difference one season of restoration can make!

PRESCRIBED FIRE FIELD DEMONSTRATION: IT’S A MATCH
Tour leader: Adam Gundlach, Wisconsin Prescribed Fire Council, Chair, Board of Directors
Tour length: 2 hours
Activity Level: Medium
Cost: $30 (note this is combined with the Prescribed Fire Workshop below)

This hot field trip is the second part of an introduction to prescribed fire workshop. You’ll learn basic understandings of considerations and challenges involved in planning and implementing prescribed burns to help achieve land management goals. Do biological communities benefit from fire? You’ll visit fire management field demonstrations sites in or near Rochester to find out. Groups will rotate between stations on different components of prescribed burn implementation including radios and weather monitoring, ignition techniques, hand tools and equipment, water delivery (engines, UTVs, pumps) and live fire demonstration by workshop partners (weather permitting). Don’t get burned by missing this!

WORKSHOPS

All Workshops are $15 and require pre-registration to attend., except where indicated. All Workshops will be held during one concurrent session time period (1 hour and 40 minutes).

USING LOCAL EVENTS AS ALTERNATIVES TO PET AND PLANT RELEASE
Tim Campbell, University of Wisconsin Sea Grant; Doug Jensen - University of Minnesota Sea Grant; Greg Hitzroth – Illinois - Indiana Sea Grant; Scott Hardin - Pet Industry Joint Advisory Council
No Cost and Pre-registration not required

The release of unwanted pets and plants into the environment is a known pathway for invasive species. There are two common reasons for releasing unwanted pets and plants. One is that owners believe that release is humane and doing the pet or plant a favor. The other that release is often the most convenient way to dispose of
an unwanted pet or plant; few convenient alternatives exist for rehoming unwanted exotic pets and plants. In order to provide convenient alternatives to pet release, the Great Lakes Sea Grant Network has been hosting exotic pet rehoming events for the past two years. Each participating Sea Grant program has used a different model to successfully host events to take in and rehome unwanted exotic pets. This workshop will outline the different types of events Sea Grant has promoted, the partners that have helped make the events a success, and lessons learned to help other local groups promote pet rehoming events in their areas.

**KNOW THE PROBLEM: TIPS TO IDENTIFYING INVASIVE FOREST AND RANGE PESTS**

David Coyle, Clemson University; Angela Gupta, University of Minnesota; Angela Ambourn, Minnesota Department of Agriculture  
**Cost: $15**

Accurate identification of invasive forest pests is imperative to enable proper management. Early identification often allows for more management options; but identifying unfamiliar species can be tricky. This hands-on workshop will help participants learn how to identify invasive species in North America, including identification using the causal organism, symptoms, and/or damage. Participants will also be able to compare and contrast invasive species with common look-alikes. Identification materials include samples, Riker mounts, 3D printed models and life-size displays. Currently, the list of invasive species includes insects, fungi, and plants.

**IDENTIFICATION OF GRASSES, SEDGES AND RUSHES**

Instructors: Steve Eggers and Patricia Trochlell, U.S. Army Corps of Engineers  
**Cost: $15**

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.

**INVASIVE AQUATIC ANIMAL IDENTIFICATION**

Megan Weber, University of MN Extension; Maureen Ferry, Wisconsin Department of Natural Resources  
**Cost: $15**

Counting whorls, determining eye position, finding the ventral surface of a mussel can all sometimes be tricky parts to identifying aquatic animals. Attend this workshop to help solve the mystery of the mystery snail and more. Participants will hear a brief lecture preceding each species or animal group followed by some hands-on practice. We will focus on invasive threats to the Upper Midwest that are also found in other parts of the U.S. and Canada including crayfish, molluscs, and fish and how to distinguish them from some common native look alikes.

**STRATEGIES FOR MANUAL REMOVAL OF INVASIVE SPECIES**

Chris Hamerla, Golden Sands Resource Conservation & Development Council, Inc. and Paul Skawinski, University of Wisconsin - Extension Lakes  
**Cost: $15**

Manual removal can be a successful tool to reduce or eliminate invasive species from an area. This technique can work in waterbodies, wetlands and terrestrial sites. Traditionally, expensive chemical herbicides are used to manage invasive species populations. However early, scattered populations can often be controlled by manual removal for a lower cost, with minimal or no non-target impacts to the ecosystem and in areas where herbicides aren’t an option. Additionally, this technique can also be used along with herbicide control. Manual removal can be effective on a variety of invasive species. This workshop will focus on Eurasian watermilfoil, flowering rush, non-native phragmites, yellow floating heart and buckthorn. A brochure and YouTube instructional video will be shared at this workshop to further encourage lake and wetland managers to explore manual removal, a viable control technique.

**INTRODUCTION TO PRESCRIBED FIRE WORKSHOP**

Wisconsin Prescribed Fire Council, Minnesota Prescribed Fire Council, Dustin Looman, Conservation Corps Minnesota & Iowa, Nancy Braker, Cowling Arboretum, Carleton College  
**Cost: This is combined with the Fire Demonstration above.**

This workshop will provide individuals who have minimal experience or training in wildland fire with an introductory training in the use of prescribed fire to achieve land management goals. Participants can expect to take away a basic understanding of the considerations and challenges involved in the planning and implementation of prescribed burns, as well as the benefits to biological communities when fire is applied under appropriate conditions.

**IDENTIFICATION OF NATIVE AND EXOTIC AQUATIC PLANTS OF THE UPPER MIDWEST**

Paul Skawinski, UW-Extension Lakes Program, Author of Aquatic Plants of the Upper Midwest; Eddie Heath, Onterra, LLC; Michelle Nault, Wisconsin Department of Natural Resources;  
**Cost: $15**

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.
### ROOM 102–103
**Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC) WORKSHOP: Using Local Events as Alternatives to Pet and Plant Release**

Tim Campbell, University of Wisconsin Sea Grant; Doug Jensen, University of Minnesota Sea Grant; Greg Hitzroth, Illinois - Indiana Sea Grant; Scott Hardin, Pet Industry Joint Advisory Council

### ROOM 104–105
**WORKSHOP: Identification of Native and Invasive Aquatic Plants of the Upper Midwest**

Paul Skawinski, UW-Extension Lakes Program; Eddie Heath, Onterra, LLC; Michelle Nault, Wisconsin Department of Natural Resources

### ROOM 106
**WORKSHOP: Identification of Grasses, Sedges and Rushes**

Steve Eggers, US Army Corps of Engineers; Patricia Trochlell, Wisconsin Department of Natural Resources

### ROOM 107
**Aquatic Invasive Species Outreach**

Moderator: Jeanne Scherer; University of Wisconsin Extension and WI Department of Natural Resources

- **1:00 PM** Boating Safety for AIS Professionals
  David Sullivan-Nightengale, U.S. Coast Guard Auxiliary

- **1:20 PM** A Wisconsin Aquatic Invasive Species Pathways Priority: Outreach to Waterfowl Hunters
  Jeanne Scherer, UW Extension and Wisconsin Department of Natural Resources; Samantha Olsen, WI Department of Natural Resources; Chris Hamerla, Golden Sands RC&D

- **1:40 PM** Angler Awareness and Action: Preventing the Spread of New Zealand Mudsnails
  Samantha Stanton, Michigan State University; Daniel Hayes, Michigan State University; Seth Herbst, Michigan Department of Natural Resources

- **2:00 PM** Furbearer Trapper: Invasive Species Outreach & Detection Opportunities
  Chris Hamerla, Golden Sands Resource Conservation & Development Council, Inc.

- **2:20 PM** Engaging a Diverse Audience in AIS: Non-Motorized Boater Outreach
  Leah Elwell, Invasive Species Action Network; Robert Wiltshire, Invasive Species Action Network

### ROOM 108
**Youth Outreach**

Moderator: Anna Cisar; Golden Sands Resource Conservation and Development

- **1:00 PM** AIS Curriculum in the Classroom

- **1:20 PM** Prevention Through Education: Aquatic Invasive Species Education for Middle School Students
  Jessica Hendrix, Prairie Ecology Bus Center

- **1:40 PM** Learning From Lake County: Engaging Youth in Authentic Invasive Species Science
  Rebecca Meyer, University of Minnesota Extension; Tracey Anderson, University of Minnesota Extension; Sonja Smerud, Lake County Soil & Water Conservation District

- **2:00 PM** Minnesota 4-H Aquatic Robotics - Youth Making a Difference in AIS Education
  Brian McNeill, University of Minnesota Extension; Suzanne Souza, University of Minnesota Extension; Patrick Jirik, University of Minnesota Extension; Cara Gregar, Minnesota Department of Natural Resources

- **2:20 PM** Equipping the Decision-Makers of Tomorrow for Conservation-Sake
  Sophie Monfette, Ontario Federation of Anglers and Hunters
### MONDAY, OCTOBER 15, 2018

#### ROOM 104–105

**Strategies for Manual Removal of Invasive Species**

Chris Hamerla, Golden Sands Resource Conservation & Development Council, Inc.; Paul Skawinski, University of Wisconsin Extension-Lakes

#### ROOM 102–103

**Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC)–Outreach**

Moderator: Tim Campbell; University of Wisconsin Sea Grant

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<th>Time</th>
<th>Session Title</th>
<th>Speakers</th>
<th>Location</th>
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<tr>
<td>3:10 PM</td>
<td>Engaging Pet and Water Garden Retailers to Reduce Aquatic Invasive Species Introductions</td>
<td>Paige Filice, Michigan State University;Jo Latimore, Michigan State University</td>
<td>ROOM 102–103</td>
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<td>3:30 PM</td>
<td>Habitatattitude in the Classroom</td>
<td>Douglas Jensen, University of Minnesota Sea Grant Program; Terri Hallesy, Illinois-Indiana Sea Grant Program; Helen Domske, New York Sea Grant Program</td>
<td>ROOM 102–103</td>
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<td>3:50 PM</td>
<td>Don’t Let It Loose Program: Addressing the Threat of Released Pets</td>
<td>Leah Elwell, Invasive Species Action Network</td>
<td>ROOM 102–103</td>
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<td>4:10 PM</td>
<td>Aquarium Retailer Engagement Program for AIS Prevention in Illinois</td>
<td>Greg Hitzroth, Illinois-Indiana Sea Grant, Illinois Natural History Survey; Pat Charlebois, Illinois-Indiana Sea Grant, Illinois Natural History Survey</td>
<td>ROOM 102–103</td>
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<td>4:30 PM</td>
<td>Outreach Panel Discussion</td>
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#### ROOM 106

**Emerging Forest Invasives Across Regions**

Moderator: Matt Russell; University of Minnesota

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<th>Time</th>
<th>Session Title</th>
<th>Speakers</th>
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<tr>
<td>3:10 PM</td>
<td>We’ve Got Issues: Invasive Forest Pests in the Southeastern U.S.</td>
<td>David Coyle, Clemson University</td>
<td>ROOM 106</td>
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<td>3:30 PM</td>
<td>Invasive Species Moving In, Out, and Around the Forests of the Western United States</td>
<td>Andrew Graves, Tom Coleman, Allen White, Robbie Flowers, USDA Forest Service, Forest Health Protection; Steve Seybold, USDA Forest Service, Pacific Southwest Research Station</td>
<td>ROOM 106</td>
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<td>3:50 PM</td>
<td>Priority Invasive Pests for Minnesota’s Forests and Strategic Research Investments</td>
<td>Robert Venette, USDA Forest Service &amp; University of Minnesota; Heather Koop, Minnesota Invasive Terrestrial Plants and Pests Center, University of Minnesota</td>
<td>ROOM 106</td>
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<td>4:10 PM</td>
<td>Current and Emerging Threats to Canada’s Forests</td>
<td>Tracey Cooke, Invasive Species Centre; David Nisbet, Invasive Species Centre</td>
<td>ROOM 106</td>
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<td>4:30 PM</td>
<td>Discussion</td>
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#### ROOM 107

**New Technology: eDNA**

Moderator: Maureen Ferry; Wisconsin Department of Natural Resources

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speakers</th>
<th>Location</th>
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<tbody>
<tr>
<td>3:10 PM</td>
<td>DNA Concentration and Extraction Method Affect the Molecular Detection of Rare Targets</td>
<td>Craig Jackson, Jon Amberg, US Geological Survey-Upper Midwest Environmental Sciences Center</td>
<td>ROOM 107</td>
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<tr>
<td>4:10 PM</td>
<td>Laboratory Comparison of Biomeme and Benchtop qPCR for Larval Sea Lamprey eDNA</td>
<td>Rebecca Philips, US Fish &amp; Wildlife Service; Shawn Nowicki, US Fish &amp; Wildlife Service; Todd Steeves, Fisheries and Oceans Canada; Jon Amberg, US Geological Survey; Matt Symbal, US Fish &amp; Wildlife Service; Robert Frank, US Fish &amp; Wildlife Service</td>
<td>ROOM 107</td>
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</tbody>
</table>
MONDAY, OCTOBER 15, 2018

MONDAY AFTERNOON I: 3:10 PM – 5:00 PM

4:30 PM Invasive Carp eDNA on the Wabash River in Indiana: Looking at Seasonal Trends and Habitat use Relating to Land Use Patterns

ROOM 108
Empowering Stakeholders and Students
Moderator: Marte Kitson; University of Minnesota Sea Grant

3:10 PM Demographics, Activities, and Concerns of Minnesota Lake Associations
Michelle Marko, Concordia College; Mona Ibrahim, Concordia College; Jeff Forester, Minnesota Lakes and Rivers Advocates; Matt Zabel, Concordia College; Benjamin Bjertness, Concordia College

3:30 PM Landowner Conservation Associations: Habitat Game Changer
Mark Horn, Conservation Digest / Conservation Media LLC

3:50 PM Minnesota Department of Agriculture Noxious Weed and Invasive Plant Grant Update
Emilie Justen, Minnesota Department of Agriculture

4:10 PM Getting Good Work Done Helps Undergraduates Build a Professional Portfolio
Marte Kitson, University of Minnesota Sea Grant Program

4:30 PM How You Can Empower Youth as a Voice of Change
Rebecca Meyer, University of Minnesota Extension, Center for Youth Development Valley Technology Park; Margo Bowerman, University of Minnesota, Center for Youth Development

TUESDAY, OCTOBER 16, 2018

TUESDAY MORNING: 8:00 AM – 9:40 AM

ROOM 101
Prioritization of Efforts
Moderator: Jason Granberg, Wisconsin Department of Natural Resources

8:00 AM Invasive Species and Biodiversity: Combining Information to Prioritize Management Projects
Jennifer Dean, New York Natural Heritage Program; Lori Scott, NatureServe

8:20 AM Spatial Optimization of Invasive Species Management Based on Species, Areas, and Projects
Jennifer Price Tack, Cornell University; Carrie Brown-Lima, New York Invasive Species Research Institute; Angela Filler, U.S. Geological Survey, New York Cooperative Fish and Wildlife Research Unit; Jennifer Dean, New York Natural Heritage Program

8:40 AM Assessing the Risk of AIS Establishment in Pennsylvania Using the USFWS RAMP Tool
Sara Stahlman, Pennsylvania Sea Grant

9:00 AM Wisconsin’s Changing Climate and Invasive Species
Jason Granberg, Wisconsin Department of Natural Resources

9:20 AM Employing Distribution Modeling and Multi-Species Prioritization to Inform Regional Invasive Plant Management
Jason Reinhardt, University of Minnesota; Matthew Russell, University of Minnesota; Monika Chandler, Minnesota Department of Agriculture; William Lazarus, University of Minnesota; Senait Senay, University of Minnesota

ROOM 102
Grazing for Invasive Plant Management
Moderator: Laura Judge, University of Wisconsin-Madison

8:00 AM Bovine Biocontrol: Studying Managed Grazing’s Potential for Suppression of Woody Plants
Laura Judge, University of Wisconsin-Madison; Jacob Grace, University of Wisconsin-Madison; Mark Renz, University of Wisconsin-Madison

8:20 AM Goat Grazing During Winter in Minnesota: Ways to Control Vegetation on a Larger Scale While Saving on Supplemental Feed Costs
Jacob Langeslag, Goat Dispatch, LLC; John Beckwith, Hiawatha Valley Resource Conservation and Development Council
TUESDAY, OCTOBER 16, 2018

TUESDAY MORNING: 8:00 AM – 9:40 AM

8:40 AM  Goats in an Integrated, Multi-Year Invasive Vegetation Strategy
          Aaron Steele, Goats On The Go, LLC

9:00 AM  Writing Effective Bid Specs for Procuring Targeted Grazing Providers for Invasive Vegetation Management
          Aaron Steele, Goats On The Go, LLC

9:20 AM  Discussion

ROOM 103
Citizen Science in Action
Moderator: Anne Pearce, University of Wisconsin-Madison

8:00 AM  Volunteers and Citizen Science to Expand Aquatic Invasive Species Capacity in Minnesota
          Megan Weber, University of Minnesota; Daniel Larkin, University of Minnesota; Patrick Mulcahy, University of Minnesota

8:20 AM  Improving Invasive Species Management Through Wisconsin First Detector Network Partnerships
          Anne Pearce, University of Wisconsin-Madison; Mark Renz, University of Wisconsin-Madison

8:40 AM  Mobilizing Citizen Scientists; An Ontario Perspective
          Lauren Bell, Invasive Species Centre

9:00 AM  Empowering Citizens to Engage Resource Managers and Decision Makers
          Beth Kallesstad, University of Minnesota Extension; Angela Gupta, University of Minnesota Extension

9:20 AM  Wild Spotter: Mapping Invasives in America’s Wild Places
          Chuck Bargeron, University of Georgia; Pat Conzemius, Wildlife Forever

ROOM 105
Building Capacity Locally, Statewide, and Nationally
Moderator: Tina Wolbers; Minnesota Department of Natural Resources

8:00 AM  Developing a Strategy for Managing Dreissenid Mussels in the Great Lakes
          Erika Jensen, Great Lakes Commission; Sandra Morrison, U.S. Geological Survey; Cecilia Weibert, Great Lakes Commission; Eric Ellis, Great Lakes Commission

8:20 AM  Invasives, IPM and the Regional Integrated Pest Management Centers
          Laura Iles, North Central IPM Center, USDA; Daren Mueller, North Central IPM Center, USDA; Lynnae Jess, North Central IPM Center, USDA

8:40 AM  New York State’s Invasive Species Program: Casting a Statewide Net
          Catherine McGlynn, New York State Department of Environmental Conservation

9:00 AM  Minnesota AIS Prevention Aid: Empowering Local Innovation
          Tina Wolbers, Phil Hunsicker, Minnesota Department of Natural Resources

9:20 AM  Challenges and Successes Associated With A Long-Term Intertribal Invasive Species Program
          Travis Bartnick, Great Lakes Indian Fish & Wildlife Commission

ROOM 107
Zebra Mussel Genetics, Ecology, and Control
Moderator: Michael McCartney, University of Minnesota

8:00 AM  Estimating Densities of Zebra Mussels in Early Invasions Using Double-Observer Distance Sampling
          Jake Ferguson, University of Minnesota; John Fieberg, University of Minnesota; Michael McCartney, University of Minnesota

8:20 AM  Predicting Lake Changes After Zebra Mussel Introductions Based on Initial Chlorophyll Conditions
          Steve McComas, Blue Water Science; Eric Fieldseth, Minnehaha Creek Watershed District

8:40 AM  Zebra Mussel (Dreissena polymorpha) Pilot Projects: A Discussion of Recent Eradication Efforts in Minnesota and What Next?
          Kylie Cattoor, Minnesota Department of Natural Resources; Keegan Lund, Minnesota Department of Natural Resources; Kelly Pennington, Minnesota Department of Natural Resources; Tim Plude, Minnesota Department of Natural Resources

9:00 AM  The Zebra Genome: A Developing Tool for Research on Prevention and Control
          Michael McCartney, University of Minnesota

9:20 AM  Discussion
### ROOM 106
**New Techniques in Monitoring Forest Invasives**
Moderator: Jonathan Osthus; Minnesota Department of Agriculture

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Robbing the Smokey Winged Beetle Bandit Wasp in Minnesota: Understanding Buprestid Diversity and Distribution</td>
<td>Marie Hallinen, University of Minnesota Department of Entomology; Jennifer Schultz; Brian Aukema</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>Accurate Detection of Oak Wilt at Multiple Scales Using Hyperspectral Sensors</td>
<td>Beth Fallon, University of Minnesota Department of Ecology, Evolution &amp; Behavior; Jenny Juzwik, US Forest Service/University of Minnesota; Rebecca Montgomery, University of Minnesota; Beth Fallon, University of Minnesota; Cathleen Nguyen, University of Minnesota; Anna Yang, University of Minnesota; Anna Schweiger, University of Minnesota; Isabella Armour, University of Minnesota; John Gamon, University of Nebraska-Lincoln; Phil Townsend, University of Wisconsin-Madison</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>Invasive Plant Inventories of Refuge Forests in the Central Hardwoods Region</td>
<td>Joshua Booker, Amanda McColpin (contractor), Dan Wood, Karen Mangan, Brad Pendley, Ben Walker, U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Monitoring <em>Heterobasidion Irregulare</em> in Minnesota and New Research on Managing the Pathogen</td>
<td>Eric Otto, University of Minnesota; Robert Blanchette, University of Minnesota; Benjamin Held, University of Minnesota</td>
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### ROOM 104
**Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC) Risk Assessment**
Moderator: Tim Campbell; University of Wisconsin Sea Grant

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<thead>
<tr>
<th>Time</th>
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<tr>
<td>8:00 AM</td>
<td>Risk Analysis for Regulated Species Illegal Trade and Transport in Great Lakes Jurisdictions</td>
<td>Michael Hof, Retired; Andrew Tucker, The Nature Conservancy; William Chadderton, The Nature Conservancy</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>Harmonizing Great Lakes Regulated Species Lists - Progress Towards Reconciling a Regional Patchwork</td>
<td>Andrew Tucker, The Nature Conservancy; Lindsay Chadderton, The Nature Conservancy; David Hamilton, The Nature Conservancy; Erika Jensen, Great Lakes Commission; Ceci Weibert, Great Lakes Commission; Alisha Davidson, Wayne State University</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>Analysis of Risk Assessment Results and Regulatory Outcomes for Woody Plants in the Great Lakes States</td>
<td>Clair Ryan, Midwest Invasive Plant Network</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>GLDIATR: Protecting the Great Lakes from the Internet Trade of AIS</td>
<td>Erika Jensen, Great Lakes Commission; Cecilia Weibert, Great Lakes Commission</td>
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<td>9:20 AM</td>
<td>Risk Assessment Panel Discussion</td>
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### ROOM 101
**Ecological Research on Invasive Plants**
Moderator: Daniel Tekiela; University of Wyoming

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<tr>
<th>Time</th>
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<tr>
<td>10:10 AM</td>
<td>Explaining Inter-annual Variability of Invasive Annual Grasses in the Sagebrush Ecosystem</td>
<td>Stephen P. Boyte, SGT, Inc. at the U.S. Geological Survey EROS Center; Bruce K. Wylie, U.S. Geological Survey EROS Center; Donald J. Major, Bureau of Land Management, Idaho</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Comparative DNA Extraction of Historic vs. Extant Reed Canarygrass to Determine Native/Exotic Status</td>
<td>Andrzey Nowszewski, University of Minnesota; Neil Anderson, Department of Horticultural Science, University of Minnesota; Alan Smith, Department of Horticultural Science, University of Minnesota; Diana Dalbotten, St. Anthony Falls Laboratory, University of Minnesota; Emi Ito, Department of Earth Sciences, University of Minnesota; Mike Dockry, USDA Forest Service, The Strategic Foresight Group; Anne Timm, USDA Forest Center, Urban Forests, Human Health, and Environmental Quality; Holly Pellerin, University of Minnesota, St Anthony Falls Laboratory</td>
</tr>
<tr>
<td>10:50 AM</td>
<td>Genetic and Ecological Comparisons Between Native and Invasive Populations of Common Buckthorn</td>
<td>Daniel Miller, University of Minnesota Landscape Arboretum; Nastassia Vlasava, Central Botanical Gardens of the Belarus National Academy of Science; Alena Spiridovich, Central Botanical Gardens of the Belarus National Academy of Science; Arkadzi Skuratovich, Institute of Experimental Botany of the Belarus National Academy of Science; Jan Malyza, University of Minnesota Landscape Arboretum</td>
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TUESDAY, OCTOBER 16, 2018

TUESDAY MORNING: 10:10 AM – 11:50 AM

11:10 AM Plant Community and Soil Associations with Garlic Mustard Presence in Northeastern Forests
   Dustin Haines, University of Minnesota Duluth; Jason Ayllward, Harvard Forest; Serita Frey, University of New Hampshire; Kristina Stinson, University of Massachusetts Amherst

11:30 AM Japanese Stiltgrass: An Example of an Impactful Invader
   Daniel Tekiela, University of Wyoming

ROOM 102

Identification and Management of Perennial Knotweeds
Moderator: Darcy Rutkowski, Upper Peninsula RC&D Council

10:10 AM Genetics of Knotweeds
   John Gaskin, USDA Agricultural Research Service; Mark Schwarzaender, University of Idaho; Fritzi Grevstad, Oregon State University; Marijka Haverhals, University of Idaho; Robert Bourchier, Agriculture and AgriFood Canada; Timothy Miller, Washington State University

10:30 AM Destruction From Below: Japanese Knotweed Eats Cities (and Your Money)
   Hannah Hudson, KnowKnotweed.org

10:50 AM Invasive Knotweed Control: On-The-Ground Experiences
   Katie Grzesiak, Northwest Michigan Invasive Species Network, Grand Traverse Conservation District

11:10 AM Low-cost, Non-chemical Control of Japanese Knotweed – Proof it Works
   Johan Rud, Heatweed Technologies

11:30 AM Optimizing Japanese Knotweed Control and Estimating Costs to Eradicate Populations
   Mark Renz, Chris Bloomingdale, and Tony Summers, University of Wisconsin Madison

ROOM 103

Successful Cooperative and Cooperative Weed Management Area (CWMA) / Cooperative Invasive Species Management Areas (CISMA) Efforts
Moderator: Krista Lutzke; Door County Soil & Water Conservation Department

10:10 AM Statewide Collaboration on Invasive Species Issues: “A CISMA for CISMAs”
   Christina Baugher, Michigan Department of Natural Resources; Ryan Wheeler, Michigan Department of Natural Resources

10:30 AM Engaging Local, County and State Officials in Managing Roadside Invasive Plants
   Christopher Gaetzke, Lower Chippewa Invasives Partnership, Inc.

10:50 AM Becker County CWMA, Establishing a Gravel Pit Certification Program
   Marsha Watland, Becker Soil & Water Conservation District

11:10 AM Noxious Weed Seed Free Forage & Mulch Program at Minnesota Crop Improvement Association
   Shah Fawad, Minnesota Crop Improvement Association

11:30 AM The Value of Including Municipalities in Your Invasive Species Discussion
   Krista Lutzke, Door County Soil & Water Conservation Department; Kari Hagenow, Door County Invasive Species Team Coordinator

ROOM 105

Improving Trainings and Providing New Resources
Moderator: Chris Hamerla; Golden Sands Resource Conservation & Development Council, Inc

10:10 AM Story Maps: How to Combine Engaging Visuals and GIS Principles to Tell Your Story
   Santiago Pelaez Mosquera, University of Minnesota Extension

10:30 AM Incorporating Noxious Weeds and Invasive Species Lessons into Pesticide Trainings
   Gary Wyatt, University of MN Extension; Angela Gupta, University of Minnesota Extension; Dean Herzfeld, University of Minnesota Extension

10:50 AM A Practical Evaluation of Michigan DNR Wildland Firefighters’ Perception of Invasive Species Decontamination Importance and Strategies to Increase Participation
   Ryan Wheeler, Michigan Department of Natural Resources
TUESDAY, OCTOBER 16, 2018

TUESDAY MORNING: 10:10 AM – 11:50 AM

11:10 AM Novel Outreach: Library Distributed Training Kits for Prohibited Plant Identification  
   Dawn Littleton, University of Minnesota Extension; Angela Gupta, University of Minnesota Extension; Monika Chandler,  
   Minnesota Department of Agriculture; Emilie Justen, Minnesota Department of Agriculture; Christina Basch, Minnesota  
   Department of Agriculture; Andrea Lorek Strauss, University of Minnesota Extension

11:30 AM Flipped classroom: What are they and how can I use them?  
   Angela Gupta, Megan Weber, Dan Larkin, UMN; Amy Rager, University of Minnesota Extension

ROOM 107

The Cumulative Power of Cooperation  
   Moderator: Bob Wakeman; Wisconsin Department of Natural Resources

10:10 AM Great Lakes and Saint Lawrence Governors and Premiers Council  
   Mike Piskur, Great Lakes St. Lawrence Governors and Premiers

10:30 AM Western Panel of the Aquatic Nuisance Species Task Force  
   Leah Elwell, Western Regional Panel of the ANS Task Force

10:50 AM Great Lakes Panel of the Aquatic Nuisance Species Task Force  
   Sarah LeSage, Michigan Department of Environmental Quality

11:10 AM St. Croix River Association  
   Angelique Dahlberg, St. Croix River Association

11:30 AM Panel on Panels Discussion  
   Bob Wakeman, Wisconsin Department of Natural Resources

ROOM 106

Human Impacts of Forest Invasives  
   Moderator: Renee Pinski; Wisconsin Department of Agriculture, Trade and Consumer Protection

10:10 AM Working with Private Woodland Owners to Reduce the Impact of Invasive Plants  
   Anne Pearce, University of Wisconsin-Madison; Mark Renz, University of Wisconsin-Madison; Brandon Bleuer, Southwest  
   Badger RC&D; Niels Jorgensen, University of Wisconsin-Madison

10:30 AM Logging Businesses and Invasive Forest Plants: An Assessment of their Awareness, Actions and Needs  
   Stephanie Snyder, USDA Forest Service, Northern Research Station; Charles Blinn, University of Minnesota, Department of  
   Forest Resources

10:50 AM Bark-Beetle Impacted Forests: Do They ‘Bug’ Visitors?  
   Ingrid Schneider, University of Minnesota; Arne Arnberger, Institute of Landscape Development, Recreation and Conservation  
   Planning, University of Natural Resources and Life Sciences; Stuart Cottrell, Colorado State University; Paul Goebster, USDA  
   Forest Service; Stephanie Snyder, USDA Forest Service; Robert Venette, USDA Forest Service

11:10 AM Addressing Invasive Species Regionally Using Partnerships and Shared Technology  
   Christopher Evans, University of Illinois; Kevin Rohling, University of Illinois

11:30 AM Certified Firewood and What It Means  
   Katy Mutschler, Minnesota Department of Agriculture

ROOM 104

Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC) – Response  
   Moderator: Tim Campbell; University of Wisconsin Sea Grant

10:10 AM Keeping it Wild at Horicon National Wildlife Refuge: Efforts to Control of Invasive Goldfish  
   Sadie O’Dell, U.S. Fish and Wildlife Service

10:30 AM Parrot Feather in Michigan: Eradication and Lessons Learned  
   William Keiper, Sarah LeSage, Tom Alwin, Michigan Department of Environmental Quality

10:50 AM Yellow Floating Heart in Michigan: An Update on Status and Response Efforts  
   William Keiper, Michigan Department of Environmental Quality; Drew Rayner, West Michigan CISMA; Sarah LeSage,  
   Michigan Department of Environmental Quality; Tom Alwin, Michigan Department of Environmental Quality

11:10 AM Coordinated Response Effort to the Red Swamp Crayfish (Procambarus clarkii) Invasion in Michigan  
   Brian Roth, Michigan State University; Seth Herbst, Michigan Department of Natural Resources; Kim Scribner, Michigan  
   State University; Kelley Smith, Michigan State University; Nick Popoff, Michigan Department of Natural Resources

11:30 AM Wisconsin’s Responses to Water Garden Invasions  
   Tim Campbell, University of Wisconsin Sea Grant & University of Wisconsin-Extension; Jeanne Scherer, University of  
   Wisconsin-Extension; Chelsey Blanke, Wisconsin Department of Natural Resources
# TUESDAY, OCTOBER 16, 2018

**TUESDAY AFTERNOON: 1:30 PM – 3:10 PM**

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<tr>
<th>ROOM 102–103</th>
<th>WORKSHOP: Invasive Aquatic Animal Identification</th>
<th>Preregistration required</th>
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<tbody>
<tr>
<td></td>
<td><strong>Megan Weber, University of Minnesota; Maureen Ferry, Wisconsin Department of Natural Resources</strong></td>
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<tr>
<th>ROOM 105</th>
<th>WORKSHOP Introduction to Prescribed Fire</th>
<th>Preregistration required</th>
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<td><strong>Adam Gundlach, Wisconsin Prescribed Fire Council, Minnesota Prescribed Fire Council, Dustin Looman, Conservation Corps Minnesota &amp; Iowa, Nancy Braker, Cowling Arboretum, Carleton College</strong></td>
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<th>ROOM 101</th>
<th>Novel Methods for Invasive Plant Control</th>
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<td>Moderator: Mark Daluge; Teton County, Wyoming and North American Invasive Species Management Association</td>
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### ROOM 101

1:30 PM **A National Concern, Management of Invasive Annual Grasses Coast to Coast**  
*Daniel Tekiela, University of Wyoming*

1:50 PM **Invasive Plant Species Management - Leading the Non-Chemical Way**  
*Johan Rud, Heatweed Technologies*

2:10 PM **Precision Electronic Dispenser for Application of Herbicide Sprays and Foam**  
*John Lampe, Green Shoots, LLC*

2:30 PM **Developing Invasive Species Management Applications with Unmanned Aerial Systems**  
*James Leary, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa; Roberto Rodriguez, Department Molecular Biology and Bioengineering, University of Hawaii at Manoa; Ken Giles, Department Biological and Agricultural Engineering, University California at Davis; Bill Reynolds, Leading Edge Associates, Inc.; Shannon Kern, Leading Edge Associates, Inc.; Dan Jenkins, Department Molecular Biology and Bioengineering, University of Hawaii at Manoa*

2:50 PM **Aligning Herbicide, Technique, and Timing for Successful Dormant Season Woody Plant Control**  
*Scott Flynn, Corteva Agriscience; Elyssa Trajo, Corteva; Jerome Otto, Corteva*

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<tr>
<th>ROOM 108</th>
<th>Non-native Phragmites and Typha Part 1</th>
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<td>Moderator: Chris Acy; Fox-Wolf Watershed Alliance</td>
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### ROOM 108

1:30 PM **Results of Landscape-Scale, Exotic Phragmites Treatments in Wisconsin**  
*Brock Woods, University of Wisconsin Extension / WDNR, Jason Granberg, Wisconsin Department of Natural Resources*

1:50 PM **Graceful Cattail (*Typha laxmannii*) Discovered in Southeast Wisconsin**  
*Amy Kretlow, Wisconsin Department of Natural Resources*

2:10 PM **Removal of *Phragmites australis* ssp. *australis* and Site Augmentation with Native Vegetation on the University of Wisconsin - Stevens Point Campus**  
*Paul Skawinski, UW-Extension Lakes Program*

2:30 PM **MNPhrag: Building Capacity to Respond to Invasive Phragmites in Minnesota**  
*Julia Bohnen, University of Minnesota; Daniel Larkin, University of Minnesota; Susan Galatowitsch, University of Minnesota*

*Elaine Ferrier, Great Lakes Commission; Samantha Stanton, Great Lakes Commission*

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<tr>
<th>ROOM 107</th>
<th>Emerging Topics of Concern: Distribution, Lifecycle, and Impacts</th>
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<td>Moderator: Lisie Kitchel; Division of Fish, Wildlife and Parks</td>
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### ROOM 107

1:30 PM **Emerging Macrofouling Threats for Industrial Cooling Water Systems**  
*Renata Claudii, RNT Consulting Inc.*

1:50 PM **Assessing the Impacts of Aquatic Invasive Species in the Great Lakes Basin**  
*Rochelle Sturtevant, MI Sea Grant; Felix Martinez, NOAA National Centers for Coastal Ocean Science; El Lower, Cooperative Institute for Great Lakes Research; Ed Rutherford, NOAA Great Lakes Environmental Research Laboratory; Doran Mason, NOAA Great Lakes Environmental Research Laboratory; Ashley Elgin, NOAA Great Lakes Environmental Research Laboratory*

2:10 PM **Evaluating Lake Thermal Suitability for Invasive Spiny Water Flea with Projected Warming in the Upper Midwest**  
*Jake Walsh, UW-Madison Center for Limnology; M. Jake Vander Zanden, UW-Madison Center for Limnology*
### Tuesday, October 16, 2018

#### Tuesday Afternoon: 1:30 PM – 3:10 PM

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<tr>
<th>Time</th>
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<tr>
<td>2:30 PM</td>
<td>Effects of Zebra Mussels and Spiny Water flea on Sport Fish in Minnesota’s Nine Largest Walleye Lakes</td>
<td>Gretchen Hansen, Minnesota Department of Natural Resources; Tyler Ahrenstorff, Minnesota Department of Natural Resources; Bethany Bethke, Minnesota Department of Natural Resources; Valerie Brady, Natural Resources Research Institute, University of Minnesota Duluth; Josh Dumke, Natural Resources Research Institute, University of Minnesota Duluth; Will French, Minnesota Department of Natural Resources; Jodie Hirsch, Minnesota Department of Natural Resources; Katya Kovalenko, Natural Resources Research Institute, University of Minnesota Duluth; Ryan Maki, Voyageurs National Park, National Park Service; Heidi Ranta, Minnesota Department of Natural Resources</td>
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#### Room 106

### New Directions with Emerald Ash Borer

**Moderator:** Paul Cigan; Wisconsin Department of Natural Resources

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<tr>
<td>1:30 PM</td>
<td>Re-examining the Spread of Emerald Ash Borer</td>
<td>Brian Aukema, University of Minnesota</td>
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<tr>
<td>1:50 PM</td>
<td>EAB Biological Control and Parasitoid Recovery in Minnesota</td>
<td>Christopher Mallet, Minnesota Department of Agriculture; Angie Ambourn, Minnesota Department of Agriculture; Jonathan Osthus, Minnesota Department of Agriculture; Monika Chandler, Minnesota Department of Agriculture; Brian Aukema, University of Minnesota; Rob Venette, University of Minnesota</td>
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<tr>
<td>2:10 PM</td>
<td>Suppression of Emerald Ash Borer in Urban Areas</td>
<td>Jennifer Burington, Minnesota Department of Agriculture; Angie Ambourn, Minnesota Department of Agriculture; Mark Abrahamson, Minnesota Department of Agriculture</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Systemic Insecticide Treatment Against Emerald Ash Borer: Associative Protection and Potential Non-Target Effects</td>
<td>Dora Mwangola, University of Minnesota; Brian Aukema, University of Minnesota</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>Fungi Associated with the Emerald Ash Borer: The Role of Fungi During Ash Mortality and Finding Effective Biocontrol Agents</td>
<td>Benjamin Held, Department of Plant Pathology, University of Minnesota; Alissa J. Cotton, Department of Plant Pathology, University of Minnesota; Kathryn E. Bushley, Department of Plant Biology, University of Minnesota; Robert A. Blanchette, Department of Plant Pathology, University of Minnesota</td>
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#### Room 104

### Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC) Industry

**Moderator:** Doug Jensen, University of Minnesota Sea Grant

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<tr>
<td>1:50 PM</td>
<td>Landscape Alternatives: Helping Consumers make Ecologically Wise Choices When Buying Plants</td>
<td>Susan Franklin, Midwest Invasive Plant Network; Clair Ryan, Midwest Invasive Plant Network; Mark Renz, University of Wisconsin; Anne Pearce, Wisconsin First Detectors Network</td>
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<tr>
<td>2:10 PM</td>
<td>New tactical approaches that the Green Industry is using to win the battle against Invasive Species</td>
<td>Thomas Buechel, Buechel Horticulture Solutions, LLC and Nature Hills Nursery</td>
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<tr>
<td>2:30 PM</td>
<td>PIJAC Efforts to Prevent the Introduction of Invasive Species</td>
<td>Scott Hardin, Pet Industry Joint Advisory Council</td>
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<tr>
<td>2:50 PM</td>
<td>Industry Panel Discussion</td>
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#### Tuesday Afternoon: 3:30 PM – 5:10 PM

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<tr>
<td>2:00 PM</td>
<td>Know the Problem: Tips to Identifying Invasive Forest and Range Pests</td>
<td>Yes (online)</td>
</tr>
</tbody>
</table>

**Speakers:**

- David Coyle, Southern Regional Extension Forestry; Angela Gupta, University of Minnesota; Angela Ambourn, Minnesota Department of Agriculture

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**ROOM 106**

**ROOM 104**

**ROOM 102–103**

**WORKSHOP**

**INTERDISCIPLINARY FIELD TRIP**

**AQUATIC FOREST SPECIAL SESSION**

**WORKSHOP**
### ROOM 101

**Improving Interactions Between Scientists and Land Managers**
Moderator: Carrie Brown-Lima; New York Invasive Species Research Institute – Cornell University

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>3:30</td>
<td>Promoting Science and Innovation to Reduce the Impact of Invasive Species in New York State</td>
<td>Carrie Brown-Lima, New York Invasive Species Research Institute - Cornell University</td>
</tr>
<tr>
<td>3:50</td>
<td>Using Citizen Science Observations to Validate 20 Habitat Suitability Models in Wisconsin</td>
<td>Mark Renz, University of Wisconsin Madison; Niels Jorgensen, University of Wisconsin Madison</td>
</tr>
<tr>
<td>4:10</td>
<td>On the Wood Again – A Model for Weed Eradication Programs</td>
<td>Jane Mangold, Montana State University; Amber Burch, Beaverhead County Weed District; Monica Pokorny, USDA-NRCS</td>
</tr>
<tr>
<td>4:30</td>
<td>EDDMapS Plant Damage: Using Citizen Science to Understand Drivers of Invasive Plant Diseases and Herbivory</td>
<td>Amy Kendig, University of Florida; Charles Bargeron, University of Georgia; S. Luke Flory, University of Florida</td>
</tr>
<tr>
<td>4:50</td>
<td>Discussion</td>
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### ROOM 105

**Improving Herbicide Effectiveness and Minimizing Impacts**
Moderator: Chris Henze; Johnson County Integrated Roadside Vegetation Management

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>3:30</td>
<td>Working to Maximize Herbicide Effectiveness While Minimizing Off-Target Issues</td>
<td>Gregory Dahl, Winfield United; Eric Spandl, Winfield United; Ryan Edwards, Winfield United; Daniel Bissell, Winfield United</td>
</tr>
<tr>
<td>3:50</td>
<td>Control of Invasive Brush and Tree Species with Method 240SL</td>
<td>Jason Belcher, Bayer</td>
</tr>
<tr>
<td>4:10</td>
<td>Large Scale Evaluation of Reed Canarygrass Suppression Across Four SE Minnesota Floodplain Sites</td>
<td>William Kiser, US Fish and Wildlife Service/University of Wisconsin - La Crosse; Maria DeLaundreau, University of Minnesota; Rebecca Montgomery, University of Minnesota; Andy Beebe, Audubon Minnesota; Meredith Thomsen, University of Wisconsin - La Crosse</td>
</tr>
<tr>
<td>4:30</td>
<td>Tree Sapling Responses to Reed Canarygrass Treatments in SE Minnesota</td>
<td>Maria DeLaundreau, University of Minnesota; William Kiser, University of Wisconsin-La Crosse; Rebecca Montgomery, University of Minnesota; Andrew Beebe, Audubon Minnesota; Meredith Thomsen, University of Wisconsin-La Crosse</td>
</tr>
<tr>
<td>4:50</td>
<td>Improving Herbicide Effectiveness with New Product Technology</td>
<td>Clair Volk, Corteva</td>
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### ROOM 108

**Non-native Phragmites and Typha Part 2**
Moderator: Allison Gamble; Minnesota Department of Natural Resources

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>3:30</td>
<td>Effects of Invasive Phragmites australis and Wetland Restoration on Biotic Communities in a World Biosphere Reserve</td>
<td>Courtney Robichaud, University of Waterloo; Rebecca Rooney, University of Waterloo</td>
</tr>
<tr>
<td>3:50</td>
<td>Identifying Cattail Species and Their Hybrids Using Molecular Markers: Lessons Learned</td>
<td>Pamela Geddes, Northeastern Illinois University</td>
</tr>
<tr>
<td>4:10</td>
<td>Can We Control Southern Cattail (Typha domingensis) in a Midwest Wetland System?</td>
<td>Alice Thompson, Thompson &amp; Associates Wetland Services; Aaron Menke, Thompson &amp; Associates Wetland Services</td>
</tr>
<tr>
<td>4:30</td>
<td>Exploring the Shifting Distribution of Suitable Habitat for Phragmites Australis Under Future Climate Scenarios in Wisconsin</td>
<td>Niels Jorgensen, University of Wisconsin-Madison; Mark Renz, University of Wisconsin-Extension/University of Wisconsin-Madison</td>
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<tr>
<td>4:50</td>
<td>Discussion</td>
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### BUS TRIP

**Field Trip: Prescribed Fire Field Demonstration: It's a Match**
Adam Gundlach, Wisconsin Prescribed Fire Council; Nancy Braker, Carleton College; Dustin Looman, Conservation Corps Minnesota & Iowa; Jack McGowan-Stinski, Minnesota Prescribed Fire Council
TUESDAY, OCTOBER 16, 2018

ROOM 107
Emerging Species of Concern: Responding to New Infestations
Moderator: Susan Graham; Wisconsin Department of Natural Resources

3:30 PM Hydrilla vs. New York
Catherine McGlynn, New York State Department of Environmental and Conservation

3:50 PM Managing European Frogbit in Michigan
Tom Alwin, Michigan Department of Environmental Quality; Bill Keiper, Michigan Department of Environmental Quality; Sarah LeSage, Michigan Department of Environmental Quality

4:10 PM Sinking Water Soldier Permanently
Sophie Monfette, Ontario Federation of Anglers and Hunters; Francine MacDonald, Ontario Ministry of Natural Resources and Forestry; Holly Simpson, Ontario Ministry of Natural Resources and Forestry

4:30 PM Range Expansion and Diet of Round Gobies in Streams of Northwestern Pennsylvania
Casey Bradshaw-Wilson, Allegheny College; Jay Stauffer, Jr., Penn State University

4:50 PM Response Following the Discovery of Round Gobies in Little Lake Butte des Morts
Michelle Nault, Bob Wakeham, Wisconsin Department of Natural Resources

ROOM 104
Great Lakes Briefs on Invasive Organisms Traded in Commerce (GL BIOTIC - Bait)
Moderator: Doug Jensen, University of Minnesota Sea Grant

3:30 PM Baitfish: Small Fish, Big Problem?
Nicholas Phelps, University of Minnesota/Minnesota Aquatic Invasive Species Research Center

3:50 PM Reducing the Risk of Aquatic Invasive Species in the Bait Harvest Pathway
Kelly Pennington, Minnesota Department of Natural Resources

4:10 PM What’s in YOUR Bucket? Quantifying AIS Introduction Risk
Meg McEachran and Nick Phelps, University of Minnesota

4:30 PM Risk-Mitigation Strategies for the Bait Industry: AIS-HACCP and the Verification Program
Ronald Kinnunen, Michigan Sea Grant; Chris Weeks, Global Aquaculture Alliance; Nick Phelps, University of Minnesota

4:50 PM Bait Pathway Discussion

WEDNESDAY, OCTOBER 17, 2018

WEDNESDAY MORNING: 8:00 AM – 9:40 AM

ROOM 101
Invasive Carp: Detection, Management, and Collaboration
Moderator: Rob Simmonds; U.S. Fish & Wildlife Service

8:00 AM Toward a New Common Carp Management Tool: Testing Species-Specific Corn-Based Toxic Bait
Peter Hundt, University of Minnesota; Przemyslaw Bajer, University of Minnesota

8:20 AM Development of Novel Tools to Control Invasive Fishes
Jon Amberg, Blake Sauey, Joel Putman, U.S. Geological Survey – Upper Midwest Environmental Sciences Center

8:40 AM Understanding Invasive Carp in the Non-Established Front
Nick Frohnauer, John Waters, Ben Larson, Minnesota Department of Natural Resources

9:00 AM Upper Mississippi River Invasive Carp Collaborative Efforts
Nick Frohnauer, Minnesota Department of Natural Resources; Kim Bogenschutz, Iowa Department of Natural Resources; Kevin Irons, Illinois Department of Natural Resources; Sarah Tripp, Missouri Department of Conservation; Jordan Weeks, Wisconsin Department of Natural Resources; US Fish and Wildlife Service, US Geological Survey, National Park Service, US Army Corps of Engineers

9:20 AM The Great Lakes Invasive Carp Challenge – Crowdsourcing Solutions for Invasive Species Management
Joanne Foreman, Michigan Department of Natural Resources
### ROOM 104

**Current and Future Resources for Mapping Invasive Species Part I**

**Moderator:** Tracey Cooke; Invasive Species Centre

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>A National Alert Risk Mapper (ARM) for Nonindigenous Aquatic Species</td>
<td>Wesley Daniel, Cherokee Nation Technology; Pam Fuller, U.S. Geological Survey; Ian Pfingsten, Cherokee Nation Technology; Matthew Neilson, U.S. Geological Survey</td>
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<tr>
<td>8:20 AM</td>
<td>How to Map Your Data Fields to Existing Data Standards</td>
<td>Annie Simpson, U.S. Geological Survey</td>
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<tr>
<td>8:40 AM</td>
<td>Feds, States, and Non-Profits, Oh My! How EDDMapS Works with Diverse Partners</td>
<td>Rebekah Wallace, University of Georgia; Charles Barger, University of Georgia</td>
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<tr>
<td>9:00 AM</td>
<td>Invasive Species Data Sharing: What’s New and What’s Next</td>
<td>Chuck Barger, University of Georgia</td>
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<tr>
<td>9:20 AM</td>
<td>Invasive Species Mapping in Minnesota</td>
<td>Laura Van Riper, Minnesota Department of Natural Resources; Monika Chandler, Minnesota Department of Agriculture; Angela Gupta, University of Minnesota Extension; Kelly Pennington, Minnesota Department of Natural Resources</td>
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### ROOM 108

**Early Detection and Response**

**Moderator:** Angelique Dahlberg; St. Croix River Association

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>A Novel County AIS Management Program</td>
<td>Chris Evans, Itasca Soil &amp; Water Conservation District; Bill Grantges, Itasca Soil &amp; Water Conservation District</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>Partner Engagement in a Watershed-Wide Zebra Mussel Early Detection and Monitoring Program</td>
<td>Angelique Dahlberg, St. Croix River Association; Byron Karns, National Park Service - St. Croix National Scenic Riverway</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>A Comprehensive Great Lakes AIS Early Detection and Monitoring Program</td>
<td>Mark Brouder, U.S. Fish and Wildlife Service</td>
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<tr>
<td>9:00 AM</td>
<td>Paper to Progress: Creating a Local New Infestation Response Plan</td>
<td>Justin Townsend, Ramsey Conservation District</td>
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<tr>
<td>9:20 AM</td>
<td>New Terrestrial and Wetland Invasive Plants You Should Know About</td>
<td>Kelly Kearns, Wisconsin Department of Natural Resources</td>
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### ROOM 107

**Fire and Invasive Plant Management Part I**

**Moderator:** Craig Meier; Tallgrass Prairie and Oak Savanna Fire Science Consortium

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Exploring the Seasonality of Fire Effects in the Midwest</td>
<td>Jack McGowan-Stinski, Lake States Fire Science Consortium</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>Impacts of Prescribed Fire Intensity and Seasonality on Woody Vegetation</td>
<td>Nathan Holoubek, Wisconsin Department of Natural Resources; Jed Meunier, Wisconsin Department of Natural Resources</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>Effects of Prescribed-Fire Timing on Vigor of Sericica Lespedeza in Tallgrass Prairie: Target Organism Responses</td>
<td>KC Olson, Kansas State University; J. A. Alexander, Kansas State University; W. H. Fick, Kansas State University; S. B. Ogden, Kansas State University; D. A. Haukos, Kansas State University; J. Lemmon, Kansas State University; G. A. Gatson, Kansas State University</td>
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<tr>
<td>9:00 AM</td>
<td>Effects of Prescribed-Fire Timing on Vigor of Sericica Lespedeza in Tallgrass Prairie: Non-Target Organism Responses</td>
<td>KC Olson, Kansas State University; J. A. Alexander, Kansas State University; W. H. Fick, Kansas State University; S. B. Ogden, Kansas State University; D. A. Haukos, Kansas State University; J. Lemmon, Kansas State University; G. A. Gatson, Kansas State University</td>
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<tr>
<td>9:20 AM</td>
<td>Discussion</td>
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</table>
WEDNESDAY, OCTOBER 17, 2018

ROOM 102–103
Community-Based Social Marketing for Invasive Species Prevention
Moderator: Ken Donnelly; Beyond Attitude Consulting

8:00 AM Preventing Unwanted Invasive Species – A Psychological Approach
Christie Manning, Macalester College

8:20 AM Changing Behaviour - Going Beyond Awareness
Danielle Toperczer, Invasive Species Council of British Columbia

8:40 AM Awareness, Attitudes and Behaviours - Results of a Pan-Canadian Survey
Ken Donnelly, Beyond Attitude Consulting

9:00 AM Community Based Social Marketing: Demonstrated Impacts from Motivation to Behaviors on AIS
Doug Jensen, University of Minnesota Sea Grant

9:20 AM From Impressions and Awareness to Commitments and Impact: Community-Based Social Marketing
Greg Husak, Minnesota Department of Natural Resources

ROOM 106
Status and Trends in Japanese Barberry
Moderator: Kathryn Kromroy; Minnesota Department of Agriculture

8:00 AM Japanese Barberry Regulation and Distribution in the Upper Midwest
Emilie Justen, Minnesota Department of Agriculture

8:20 AM Is Japanese Barberry the New Multiflora Rose?- Exploring Current and Future Suitable Habitat in Wisconsin
Niels Jorgensen, University of Wisconsin-Madison; Mark Renz, University of Wisconsin-Extension/University of Wisconsin-Madison

8:40 AM A Brief History of Common Barberry Eradication in Wisconsin, 1918-Present
Adrian Barta, Wisconsin Department of Agriculture, Trade and Consumer Protection

9:00 AM Combining Education and Research in an Undergraduate Invasion Ecology Class
Moni Berg-Binder, Saint Mary’s University of Minnesota; Benjamin Pauli, Saint Mary’s University of Minnesota; Invasion Ecology Students, Saint Mary’s University of Minnesota

9:20 AM Discussion

ROOM 105
Volunteers
Moderator: Megan Weber; University of Minnesota

8:00 AM Synergies: Building Systems, Volunteer and Materials for Invasive Species Detection and Management
Angela Gupta, University of Minnesota Extension

8:20 AM Master Volunteer Life Cycle: Understanding and Engaging Volunteers for Invasive Species Work
Andrea Lorek Strauss, University of Minnesota Extension; Amy Rager, University of Minnesota Extension

8:40 AM A Tale of Two Programs: Case Studies in Volunteer Management
Megan Weber, University of Minnesota

9:00 AM Giving and Getting Back: Benefits of Volunteer Engagement at the City of Genoa Habitat Restoration Project
Samantha DeDina, ENCAP, Inc.

9:20 AM Weed Wrangle®, a Garden Club of America Stewardship Program in Communities Across the Country
Cayce McAlester, Garden Club of America
**WEDNESDAY, OCTOBER 17, 2018**

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**ROOM 101**

**Invasive Carp: Dispersal Barriers**

Moderator: Rosalyn Putland; University of Minnesota Duluth

- **10:00 AM** Setting the Acoustic Scene Before Acoustic Deterrents are Used to Prevent Invasive Carp Movements  
  Rosalyn Putland, University of Minnesota Duluth; Andrew Nissen, University of Minnesota Duluth; Allen Mensinger, University of Minnesota Duluth

- **10:20 AM** Measuring Impacts of Anthropogenic Sound on Hearing Sensitivities of Bigheaded Carps  
  Andrew Nissen, University of Minnesota Duluth; Allen Mensinger, University of Minnesota Duluth; Loranzie Rogers, University of Minnesota Duluth

- **10:40 AM** Pairing Sound with Air Curtains Results in a Highly Effective Carp Deterrent  
  Clark Dennis, University of Minnesota; Peter Sorensen, University of Minnesota

- **11:00 AM** Computational Model of Fish Swimming Through Mississippi River Locks and Dams Demonstrates Ways To Stop Carp  
  Anvar Gilmanov, University of Minnesota; Peter Sorensen, University of Minnesota

- **11:20 AM** Discussion

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**ROOM 104**

**Current and Future Resources for Mapping Invasive Species Part II**

Moderator: Tracey Cooke; Invasive Species Centre

- **10:00 AM** Invasive Species Data Management at the Local Level in Northern Wisconsin  
  Miles Falck, Great Lakes Indian Fish and Wildlife Commission

- **10:20 AM** Leveraging Esri Tools to Facilitate Invasive Species Data Collecting and Sharing  
  Lori Scotti, NatureServe; John Marino, New York Natural Heritage Program; Jennifer Dean, New York Natural Heritage Program; Trang Nguyen, NatureServe

- **10:40 AM** Wisconsin’s Invasive Species Mapping Efforts  
  Maureen Ferry, Wisconsin Department of Natural Resources; Jacob Dickman, Wisconsin Department of Natural Resources; Paul Skawinski, University of Wisconsin Extension Lakes; Benjamin Kort, Wisconsin Department of Natural Resources; Jason Granberg, Wisconsin Department of Natural Resources; Jeanne Scherer, Wisconsin Department of Natural Resources; Dennis Wiese, Wisconsin Department of Natural Resources

- **11:00 AM** Utah Invasive Species Data Management Programs Overview  
  Eagar Aaron, Utah Department of Agriculture and Food

- **11:20 AM** MISIN- Bridging the Gap and Closing the Loop on Invasive Species Data  
  Amos Ziegler, Michigan State University

---

**ROOM 108**

**Prevention by Boat, Ballast, and Gear**

Moderator: Jo Latimore; Michigan State University

- **10:00 AM** Spiny Waterflea Dispersal: Quantifying Ensnarement Risk by Recreational Equipment  
  Josh Dumke, Natural Resources Research Institute, University of Minnesota Duluth; Donn Branstrator, Dept of Biology, University of Minnesota Duluth

- **10:20 AM** Transport and Survival of Zebra Mussel Veligers in Recreational Boats  
  Adam Doll, Michael McCartney, Minnesota Aquatic Invasive Species Research Center

- **10:40 AM** Contingency Ballast Water Treatment System Development and Implementation  
  Jeff Henquinet, Henquinet Consulting, LLC; Phyllis Green, National Park Service

- **11:00 AM** Employing CD3 Technology, Tools and Clean Drain Dry Prevention Strategies for Real Results  
  Pat Conzemius, Wildlife Forever; Edgar Rudberg, CD3

- **11:20 AM** Five Years of Voluntary Boat Washing Programs in Michigan: Successes and Challenges  
  Jo Latimore, Michigan State University
ROOM 107

Fire and Invasive Plant Management Part II

Moderator: Craig Meier; Tallgrass Prairie and Oak Savanna Fire Science Consortium

10:00 AM Monitoring and Assessment Approaches to Inform Prescribed Fire and Invasive Species Control
   Michelle Foss, Fontenelle Forest

10:20 AM Where We Burn - Treating Invasive Species Through a Holistic Approach To Oak Savanna and Woodland Restoration
   Matt Miller, Fontenelle Forest

10:40 AM Monitoring Fire Effects to Refine Burn Prescriptions and Plans
   Ashley Cole-Wick, Kalamazoo Nature Center; Michele Richards, Michigan Army National Guard

11:00 AM Fuel Monitoring to Form Best Management Practices When Burning in Iowa’s Loess Hills Landform
   Lindsay Barney, Iowa Department of Natural Resources

11:20 AM Discussion

ROOM 106

Gypsy Moth and Hemlock Wooly Adelgid

Moderator: David Coyle; Clemson University

10:00 AM MDA Gypsy Moth (Lymantria dispar) Program Updates- Surveys & Treatments
   Natasha Northrop, Minnesota Department of Agriculture

10:20 AM Hemlock Woolly Adelgid in Michigan: Regulatory Tools for Mitigating Human-Assisted Spread
   Michael Bryan, Michigan Department of Agriculture and Rural Development

10:40 AM Responding To Hemlock Woolly Adelgid
   Drew Rayner, Ottawa Conservation District

11:00 AM Protecting Michigan’s Hemlock
   Sue Tangora, Michigan Department of Natural Resources

11:20 AM Discussion

ROOM 105

Prevention: Pathways

Moderators: Leah Elwell, Ryan Koziatek; Invasive Species Action Network

10:00 AM Understanding Boater Values and Behaviors to Prevent the Spread of Aquatic Invasive Species
   Amit Pradhananga, University of Minnesota

10:20 AM Headed North: Novel Introduction Pathways are Presenting New Challenges in Minnesota
   Marissa Streifel, Minnesota Department of Agriculture; Angie Ambourn, Minnesota Department of Agriculture; Kimberly Thielen Cremers, Minnesota Department of Agriculture; Mark Abrahamson, Minnesota Department of Agriculture

10:40 AM Taking Action on Invasive Species Through the Horticulture
   Kellie Sherman, Canadian Council on Invasive Species

11:00 AM Research Guiding Action: Results of AIS Predictive Modeling in a MN County
   Josh Dumke, Kristi Nixon, University of Minnesota Duluth-Natural Resources Research Institute

11:20 AM Discussion
WEDNESDAY, OCTOBER 17, 2018

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

ROOM 102–103

PlayCleanGo Summit Part I

10:00 AM Summit Welcome, Accomplishments and Future Direction
Sue Burks, Minnesota Department of Natural Resources; and Belle Bergner, North American Invasive Species Management Association

10:20 AM PlayCleanGo in Canada
Kellie Sherman, Canadian Council on Invasive Species

10:40 AM Awareness, Attitudes and Behaviors – Results of a Pan-Canadian Survey
Ken Donnelly, Beyond Attitude Consulting

11:20 AM PlayCleanGo Message Customization 101
Kim Lanahan-Lahti, Minnesota Department of Natural Resources
Note: this presentation will last 40 minutes and include audience Q&A

WEDNESDAY AFTERNOON: 1:30 PM – 3:10 PM

ROOM 101

Starry Stonewort and Curly-leaf Pondweed Management
Moderator: Brad Steckart; Washington County Aquatic Invasive Species

1:30 PM Effects of Repeated Herbicidal Control and Environmental Conditions on Curlyleaf Pondweed
Michael Verhoeven, Daniel Larkin, Raymond Newman, University of Minnesota - Minnesota Aquatic Invasive Species Research Center

1:50 PM Predicting and Responding to Starry Stonewort Invasion in Minnesota Lakes
Daniel Larkin, University of Minnesota; Ranjan Muthukrishnan, University of Minnesota; Wesley Glisson, University of Minnesota; Carli Wagner, University of Minnesota; Rafael Contreras-Rangel, University of Minnesota; Michael Verhoeven, University of Minnesota

2:10 PM The Evaluation of Starry Stonewort Control Projects in Minnesota
Christine Jurek, Minnesota Department of Natural Resources

2:30 PM Hand-Pulling Starry Stonewort (*Nitellopsis obtusa*) in Grand Lake, Stearns County, Minnesota
Timothy Plude, Minnesota Department of Natural Resources

2:50 PM Discussion

ROOM 104

Dealing With Invasives During Restoration, Part I
Moderator: Gina Quiram, Minnesota Department of Natural Resources

1:30 PM Persistence of Invasive Species Over Time in Prairie Reconstructions

1:50 PM Can Revegetation Prevent Re-Establishment of Removed Invasive Plant Species?
Michael Schuster, Peter Wragg, Peter Reich, University of Minnesota

2:10 PM Submersed Aquatic Plant Restoration: A Case Study from Below the Surface
Keegan Lund, Minnesota Department of Natural Resources; James Johnson, Freshwater Scientific Services

2:30 PM Emerging Native Seeding Practices to Prevent Invasive Species
Dan Shaw, Minnesota Board of Water and Soil Resources

2:50 PM Pesticides Drift, Invasive Grasses, and the Disappearance of Threatened and Endangered Butterflies
Erik Runquist, Minnesota Zoo
**WEDNESDAY, OCTOBER 17, 2018**

<table>
<thead>
<tr>
<th>ROOM 108</th>
<th>Palmer Amaranth and Native Seed Production, Part I</th>
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<tr>
<td>Moderator: Roger Becker; University of Minnesota-Extension</td>
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</tbody>
</table>
| 1:30 PM | Seed Inspections Can Prevent the Spread of Noxious Weeds  
  Michael Merriman, Minnesota Department of Agriculture |
| 1:50 PM | Partnering to Prevent the Introduction of Invasive Species in Native Seed  
  Dan Shaw, Minnesota Board of Water and Soil Resources |
| 2:10 PM | Seed Labelling in Minnesota—Why are Labels Required and What Does a Label Convey?  
  Denise Thiede, Minnesota Department of Agriculture |
| 2:30 PM | Native Seed Quality in Production  
  Jessi Strinmoen, Shooting Star Native Seeds |
| 2:50 PM | Introduction of Palmer Amaranth into Iowa and Minnesota: Lessons Learned  
  Anthony Cortilet, Minnesota Department of Agriculture |

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<tr>
<th>ROOM 107</th>
<th>Invasive Plants in the Carrot Family</th>
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<tr>
<td>Moderator: Kelly Kearns; Wisconsin Department of Natural Resources</td>
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</table>
| 1:30 PM | Carrot Family Identification Part I  
  David Hanson, Minnesota Department of Transportation |
| 1:50 PM | Carrot Family Identification Part 2  
  David Hanson, Minnesota Department of Transportation |
| 2:10 PM | Invasion of the Giant Hogweed: Working with Landowners and the Public  
  Kelly Kearns, Wisconsin Department of Natural Resources; Josh Kraemer, Applied Ecological Services; Jill Hapner, Southeastern Wisconsin Invasive Species Consortium |
| 2:30 PM | Management of Wild Parsnip in Non-Crop Areas with Herbicides  
  Chris Bloomdale, University of Wisconsin-Madison; Jason Belcher, Bayer Crop Science; Mark Renz, University of Wisconsin-Madison |
| 2:50 PM | Developing a Cost-Effective Approach to Control Wild Chervil, Wild Parsnip, and Other Invasive Roadside Weeds  
  Lee Shambeau, 4-Control |

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<thead>
<tr>
<th>ROOM 102–103</th>
<th>PlayCleanGo Summit Part II</th>
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</table>
| 1:30 PM | Strategic Marketing 101: How To Engage Your Stakeholders Using the PlayCleanGo Campaign  
  Jacqueline Lalley, Partner, YodelPop Inc.  
  (Note: this is a 1 hour session including Q&A) |
| 2:30 PM | Final Discussion: How Can PlayCleanGo Staff Help You?  
  (Note: this is a 40 minute discussion session) |

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<thead>
<tr>
<th>ROOM 106</th>
<th>Invasive Earthworms</th>
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<tr>
<td>Moderator: Linda Haugen; US Forest Service</td>
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</table>
| 1:30 PM | ‘Jumping Worms’, *Amynthas agrestis*: Impacts on Forest Soils and Tree Seedlings  
  Tricia Bethke, The Morton Arboretum |
| 1:50 PM | Effects of Invasive Jumping Earthworms on Sugar Maple Functioning  
  Kimberly O’Keefe, Katherine McCulloh, University of Wisconsin-Madison |
| 2:10 PM | Invasion Dynamics and Community Changes in Hardwood Forests Following the Arrival of Asian Jumping Worms  
  Bradley Herrick, University of Wisconsin-Madison Arboretum; Katie Laushman, U.S. Geological Survey; Sara Hotchkiss, University of Wisconsin-Madison; Marie Johnston, University of Wisconsin-Madison Arboretum |
| 2:30 PM | Cocoon Heat Tolerance of Earthworms *Amynthas tokioensis* and *Amynthas agrestis*  
  Marie Johnston, University of Wisconsin-Madison; Bradley Herrick, University of Wisconsin-Madison Arboretum |
| 2:50 PM | Successful Education and Outreach for Jumping Worms in Wisconsin  
  Jodie Ellis, Bernadette Williams, Wisconsin Department of Natural Resources Forest Health |
## WEDNESDAY, OCTOBER 17, 2018

### WEDNESDAY AFTERNOON: 1:30 PM – 3:10 PM

#### ROOM 105

**Biological Control I**

**Moderator:** David Bingham, Summit County, Utah

1:30 PM  **Unraveling the Microorganisms Associated with Eurasian Watermilfoil: Potential Candidates for Biological Control?**  
*Prince Mathai, University of Minnesota; Hannah Dunn, University of Minnesota; Paolo Magnone, University of Minnesota; Michael Sadowsky, University of Minnesota*

1:50 PM  **Is Biocontrol a Future Control Option for Flowering Rush Management?**  
*Jennifer Andreas, Washington State University Extension; Harriet Hinz, Center for Agriculture and Biosciences International Switzerland; Patrick Haefliger, Center for Agriculture and Biosciences International Switzerland; Peter Rice, University of Montana; Jenifer Parsons Washington State Department of Ecology; Greg Haubrich, Washington State Department of Agriculture*

2:10 PM  **Invasive Plant Integrated Pest Management: Where, When and Why Classical Weed Biological Control is Critical**  
*Carol Bell Randall, USDA Forest Service*

2:30 PM  **Understanding the Theoretical and Ecological Influence of the Parasitoid *Aphelinus certus* on Soybean Aphid**  
*James Miksanek, George Heimpel, University of Minnesota Department of Entomology*

2:50 PM  **Biological Control of Canada Thistle: Host Range of *Hadroplontus litura* on Native *Cirsium spp.***  
*Mary Marek-Spartz, University of Minnesota; Elizabeth Katovich, University of Minnesota; Roger Becker, University of Minnesota; Monika Chandler, Minnesota Department of Agriculture; Laura Van Riper, Minnesota Department of Natural Resources*

### WEDNESDAY AFTERNOON: 3:30 PM – 5:10 PM

#### ROOM 101

**Eurasian Watermilfoil**

**Moderator:** Keegan Lund; Minnesota Department of Natural Resources

3:30 PM  **Lakewide Control of Eurasian Watermilfoil: A New Model for Success**  
*Keegan Lund, Minnesota Department of Natural Resources; Justine Dauphinais, Coon Creek Watershed District; James Johnson Freshwater Scientific Services*

3:50 PM  **Lakewide Control of Eurasian Watermilfoil: A New Model for Success- Part 2**  
*Keegan Lund, Minnesota Department of Natural Resources; Justine Dauphinais, Coon Creek Watershed District; James Johnson Freshwater Scientific Services*

4:10 PM  **Planning and Evaluating Large-Scale Herbicide Treatments for Control of Invasive Milfoil in Challenging Scenarios**  
*Eddie Heath, Onterra, LLC; Michelle Nault, Wisconsin Department of Natural Resources; Tim Hoyman, Onterra, LLC*

4:30 PM  **Early Operational Demonstration of Selective Invasive Watermilfoil Control with ProcellaCOR (a.i. *Florpyrauxifen-Benzyl*)**  
*Mark Heilman, SePRO Corporation*

4:50 PM  **Modelling Eurasian Watermilfoil Occurrence and Abundance: Application to Prioritizing Prevention and Control**  
*Alison Mikulyuk, Wisconsin Department of Natural Resources; Ellen R. Kujawa, Lake Champlain Basin Program; Catherine M. Hein, Wisconsin Department of Natural Resources; M. Jake Vander Zanden, University of Wisconsin - Madison*

#### ROOM 104

**Dealing With Invasives During Restoration, Part II**

**Moderator:** Gina Quiram; Minnesota Department of Natural Resources

3:30 PM  **Oak Savanna Resilience-Based Site Assessment Tool to Guide Restoration Requiring Invasive Species Control**  
*Eric Chien, Susan Galatowitsch, University of Minnesota*

3:50 PM  **The Effect of Invasive Species Before, During and After Restorations**  
*Gina Quiram, Wade Johnson, Minnesota Department of Natural Resources*

4:10 PM  **Time, Excavation, and Soil Nutrient Concentration Can Influence Wetland Plant Communities**  
*Sarah Winikoff, Jacques Finlay, University of Minnesota Department of Ecology, Evolution and Behavior*

4:30 PM  **Challenges and Successes in Large-Scale Restoration**  
*Chip DeAngelo, EKeepe Jonathan, DeDina Samantha, ENCAP, Inc.*

4:50 PM  **Revegetating Invaded Sites with Natives: New Resources for CWMAs/CISMAs and Beyond**  
*Clay Ryan, Midwest Invasive Plant Network; Susan Franklin, Midwest Invasive Plant Network; Jason Stevens, USDA-Forest Service; Kurt Dreisilker, The Morton Arboretum*
| ROOM 108 | Palmer Amaranth and Native Seed Production, Part II  
| Moderator: Emilie Justen, Minnesota Department of Agriculture |
| --- | --- |
| 3:30 PM | Palmer Amaranth (*Amaranthus palmeri*) Management in Minnesota Conservation Plantings  
Shane Blair, Minnesota Department of Agriculture; Curtis Olson, University of Minnesota Extension; Monika Chandler, Minnesota Department of Agriculture; Donald Opdahl, Minnesota Department of Agriculture; Dustin Looman, Conservation Corps Minnesota and Iowa; Zachary Dieterman, Conservation Corps Minnesota and Iowa; Anthony Cortilet, Minnesota Department of Agriculture |
| 3:50 PM | Species Distribution Models of Multiple Stages of Invasion in Palmer Amaranth (*Amaranthus palmeri*)  
Ryan Briscoe Runquist, University of Minnesota, Department of Plant and Microbial Biology; Peter Tiffin, University of Minnesota, Department of Plant and Microbial Biology; David Moeller, University of Minnesota, Department of Plant and Microbial Biology |
| 4:10 PM | Genetic Markers for Reliable Detection of Palmer Amaranth in Seed Mixture  
Anthony Brusa, University of Minnesota; Eric Patterson, Colorado State University; Kevin Dorn, University of Minnesota; Todd Gaines, Colorado State University; Anita Kuepper, Colorado State University; Jim Anderson, University of Minnesota; Rob Stupar, University of Minnesota; Don Wyse, University of Minnesota |
| 4:30 PM | Simulating Potential Palmer Amaranth Distribution Under Current Climate and RCP 8.5 Scenario  
Erica Kistner-Thomas, USDA-Agricultural Research Service, Midwest Climate Hub; Jerry Hatfield, USDA-Agricultural Research Service, National Laboratory for Agriculture and the Environment |
| 4:50 PM | Discussion  
ROOM 107 | Invasive Insects  
Moderator: Robert Venette, USDA Forest Service |
| 3:30 PM | Economic Impacts of Spotted Wing Drosophila (SWD) in MN  
Gigi DiGiacomo, University of Minnesota |
| 3:50 PM | Life-Table Studies and Modeling Time-Temperature Relationships in Cold-Induced Mortality of the Brown Marmorated Stink Bug (*Halyomorpha halys*)  
Byju Nambidiyattil Govindan, University of Minnesota; William Hutchison, Department of Entomology, University of Minnesota; Robert Koch, Department of Entomology, University of Minnesota; Tracy Twine, Department of Soil, Water and Climate, University of Minnesota; Peter Snyder, Department of Soil, Water and Climate, University of Minnesota; Mark Abrahamson, Minnesota Department of Agriculture |
| 4:10 PM | Lethal and Sublethal Effects of Novel Insecticides on Invasive Spotted Wing Drosophila (*Drosophila suzukii*)  
Matthew Gullickson, University of Minnesota; Mary Rogers, University of Minnesota; William Hutchison, University of Minnesota; Eric Burkness, University of Minnesota |
| 4:30 PM | The Overwintering Biology of Aphelinus certus, an Adventive Parasitoid of Soybean aphid  
Stenoien Carl, University of Minnesota; Lindsey Christianson, University of Minnesota; Kelton Welch, University of Minnesota; Keith Hopper, USDA-Agricultural Research Service; George Heimpel, University of Minnesota |
| 4:50 PM | Morphological and Behavioral Differences in Spotted Wing Drosophila Winter and Summer Morphs  
Tran Anh, University of Minnesota; Mark Asplin, Metropolitan State University; William Hutchison, University of Minnesota |
| BALLROOM LOBBY SOUTH | PlayCleanGo Summit Part III  
Partner and Vendor Showcase: Successful Outreach Materials and Resource Sharing  
PlayCleanGo partners and vendors are invited to display their outreach materials and tools. Open to all attendees.  
ROOM 106 | Monitoring and Managing Forest Invasive Plants  
Moderator: Matt Russell; University of Minnesota |
| 3:30 PM | Cover it Up! Using Plants to Control Buckthorn  
Peter Wragg, University of Minnesota; Mike Schuster, University of Minnesota; Lee Frelich, University of Minnesota; Alex Roth, Friends of the Mississippi River; Paul Bockenstedt, Stantec; Shawn Schottler, St. Croix Watershed Research Station; Dan Miller, University of Minnesota; Peter Reich, University of Minnesota |
| 3:50 PM | The Progression of Oriental Bittersweet (*Celastrus orbiculatus*) Eradication in Minnesota  
Christina Basch, Monika Chandler, Emilie Justen, Minnesota Department of Agriculture; Angelo Gupta, Dawn Littleton, University of Minnesota - Extension; Dustin Looman, Zachary Dieterman, Conservation Corps of Minnesota and Iowa |
| 4:10 PM | Amur Cork Tree (*Phellodendron amurense*) and Lesser Celandine (*Ranunculus ficaria*) in Wisconsin: Inventory, Outreach and Control Efforts  
Michael Putnam, Wisconsin Department of Natural Resources |
WEDNESDAY, OCTOBER 17, 2018

WEDNESDAY AFTERNOON: 3:30 PM – 5:10 PM

4:30 PM Community Approach to Containing a Pioneer Stand of Amur Cork Tree
Christopher Gaetzke, Lower Chippewa Invasives Partnership, Inc.

4:50 PM Monitoring Garlic Mustard in Minnesota - Now You See Them, Now You Don’t
Roger Becker, University of Minnesota; Laura Van Riper, Minnesota Department of Natural Resources; Rebecca Montgomery, Lori Knoßalla, Mary Marek-Spartz, Jeannie Katovich, Brad Kinkaid, University of Minnesota

ROOM 105

Biological Control II

Moderator: Monika Chandler; Minnesota Department of Agriculture

3:30 PM Genetic Technology for Controlling Invasive Species
Siba Das, University of Minnesota

3:50 PM The Impact of Pioneer Choice on Biocontrol Establishment for Invasive Plants
Alyssa Hakes, Lawrence University; Gina Quiram, Minnesota Department of Natural Resources

4:10 PM Leafy Spurge Biocontrol Fails in Some Habitats. How to Proceed
John Gaskin, USDA ARS; Natalie West, USDA-Agricultural Research Service

4:30 PM Carp Killing Viruses Reach Minnesota! Could It be a Window of Opportunity?
Isaiah Tolo, University of Minnesota, Minnesota Aquatic Invasive Species Research Center; Soumesh Pahdi, University of Minnesota, Minnesota Aquatic Invasive Species Research Center. Department of Fisheries Wildlife and Conservation Biology; Margaret McEachran, University of Minnesota, Minnesota Aquatic Invasive Species Research Center, Department of Fisheries Wildlife and Conservation Biology; Sunil Mor, University of Minnesota, Molecular Diagnostic Development Laboratory, Veterinary Diagnostic Laboratory, Department of Veterinary Population Medicine; Alexander Primus, University of Minnesota, College of Veterinary Medicine, Department of Veterinary Population Medicine; Nicholas Phelps, University of Minnesota, Minnesota Aquatic Invasive Species Research Center, Department of Fisheries Wildlife and Conservation Biology

4:50 PM Biology of a Rust Fungus Infecting Rhamnus frangula and Phalaris arundinacea
Yue Jin, USDA-Agricultural Research Service Cereal Disease Laboratory

THURSDAY, OCTOBER 18, 2018

THURSDAY MORNING: 8:00 AM – 9:40 AM

ROOM 101

8:00 AM NAISMA Committee Meeting: Weed Free Forage and Gravel (NAISMA committee meetings are open to all attendees)

ROOM 102–103

8:00 AM Center for Agriculture and Biosciences Institute (CABI) Updates Part I
Moderator: Aaron Foster, Fremont County Wyoming Weed & Pest

Hariet L. Hinz, Country Director and Head, Weed Biological Control, Center for Agriculture and Biosciences International (CABI); and Massimo Cristofaro, Research Leader, Biotechnology and Biological Control Agency (BBCA)

The CABI Switzerland Centre has conducted foreign exploration in order to find biological control agents for invasive weeds in North America since the 1960s. For instance, the biological control agents currently being used to good effect against leafy spurge, knapweeds, purple loosestrife, and Dalmatian and Yellow toadflax were mostly researched and supplied by our Centre. Currently, we are working on 15 weed biological control targets of relevance to the U.S. Species covered during Part I will include: Houndstongue, Toadflax, Russian thistle, Scotch thistle, Yellow starthistle, Whitetop, Perennial pepperweed, and Russian Olive.

THURSDAY MORNING: 10:00 AM – 11:40 AM

ROOM 104

10:00 AM NAISMA Weed Free Forage and Gravel Training Part I (Open to all attendees)

ROOM 102–103

10:00 AM Center for Agriculture and Biosciences Institute (CABI) Updates Part II
Moderator: Todd Boller, Fillmore County, Nebraska

Hariet L. Hinz, Country Director and Head, Weed Biological Control, Center for Agriculture and Biosciences International (CABI); and Massimo Cristofaro, Research Leader, Biotechnology and Biological Control Agency (BBCA)

Continuation of first session of CABI Updates. Species covered will include: Russian knapweed, Field bindweed, Oxeye daisy, Medusahead, Cheatgrass, Tamarix, Common tansy, and Common reed

THURSDAY AFTERNOON: 1:00 PM – 2:40 PM

ROOM 101

1:00 PM NAISMA Committee Meetings: Legislative; Professional Development, Aquatics (Open to all attendees)

ROOM 104

1:00 PM NAISMA Weed Free Forage and Gravel Training Part II (Open to all attendees)
POSTER PRESENTATIONS

Guidelines to Slow the Growth and Spread of Emerald Ash Borer in Minnesota
Mark Abrahamson, Angie Ambourn, Jennifer Burington, Christopher Mallet, Jonathan Osthus, Minnesota Department of Agriculture

Impacts of Mulching as a Buckthorn Management Method
Carl Anfang, Michael Schuster, Peter Wragg, University of Minnesota

Aerial Survey & Classification of Invasive Bush Honeysuckle
Ryan Armbrust, Trevor Witt, Travis Balthazor, Andi Meyer, Kurt Carraway, Kansas State University, Polytechnic Campus

Characterizing Interspecific Competition Between Mountain Pine Beetle and An Engraver Beetle
Brian Aukema, Kevin Chase, University of Minnesota

Advancing Host-Plant Resistance for More Sustainable Management of Soybean Aphid
Siddhi Bhusal, Aaron Lorenz, Department of Agronomy and Plant Genetics, University of Minnesota; Robert Koch, Department of Entomology, University of Minnesota

Evaluating Components of Biotic Resistance in Minnesota Against Mountain Pine Beetle
Kevin Chase, Brian Aukema, University of Minnesota; Mark Abrahamson, Angie Ambourn, Minnesota Department of Agriculture; Robert Venette, United States Forest Service

Laboratory Measures as an Initial Assessment of Aphelinus spp. Overwintering Ability
Lindsey D. E. Christianson, Carl M. Stenoien, George E. Heimpel, University of Minnesota; Keith R. Hopper, USDA-Agricultural Research Service

Using Drones to Detect Pests: A Soybean Aphid Case Study
Theresa Cira, Zach Marston, Ian MacRae, Robert Koch, University of Minnesota

U.S. Geological Survey’s Nonindigenous Aquatic Species Program
Wesley Daniel, Ian Pingsten, Cayla Morningstar, Cherokee Nation Technology; Pam Fuller, Matthew Neilson, Amy Benson, U.S. Geological Survey

Long-term Ecosystem Impacts of the Spiny Water Flea
Nicki DeWeese, Donn Branstrator, University of Minnesota Duluth; Euan Reavie, Natural Resources Research Institute

Biological Control of Soybean Aphid: Impacts of Neonicotinoid Seed-Treatments and Aphid-Resistant Soybeans.
Jonathan S. Dregni, Kelton Welch, George E. Heimpel, University of Minnesota; Joe M. Kaser, Rutgers University; Phillip Glogoza, University of Minnesota Extension

Distribution of Eurasian and Hybrid Watermilfoil in Minnesota
Jasmine Eltawely*, Raymond Newman, University of Minnesota; Ryan Thum, Jeff Pashnick, Montana State University

Oriental Bittersweet Monitoring Along the St. Croix National Scenic Riverway
Sean Griffin, St. Croix River Association

Invasive Species After Growth
Nate Hagens, EarthTrust.org

Gearing Up for Knotweed Management in Duluth, Minnesota
Mari Hardel and Monika Chandler, Minnesota Department of Agriculture; Lori Seele, Duluth Collaborative Invasive Species Management Area; Jeffrey Flory, 1854 Treaty Authority

Early-Detection Monitoring Survey Addressing Dreissenid Incursions to Apostle Islands National Lakeshore

Detecting Invasive Carps in the Field Using Loop-Mediated Isothermal Amplification
Matthew Hoogland, Tariq Tajjioui, Stacie Kageyama, Theresa Schreier, Christopher Merkes, U.S. Geological Survey

Differentiation of Elodea canadensis and Elodea nuttallii
Samuel Holten, Katelyn Parsons, Michelle Marko, Concordia College Moorhead

Use of eDNA to Evaluate CO2 Eradication of Bighead and Silver Carp
Stacie Kageyama*, Aaron Cupp, Justin Smerud, John Tix, Jose Rivera, Christopher Merkes, Richard Erickson, Jon Amberg, Mark Gaikowski, U.S. Geological Survey

Biological Control of Garlic Mustard with Ceutorhynchus scrobicollis, an Update
Elizabeth Katovich, Roger Becker, Mary Marek-Spartz, University of Minnesota; Ghislaine Cortat, Harriet Hinz, CABI; Laura Van Riper, Minnesota Department of Natural Resources

Distribution and Invasive Traits of the Fungal Plant Pathogen Fusarium virguliforme
Dean Malvick, Kathryn Bushey, Rodrigo Olarte, Rebecca Hall, University of Minnesota
POSTER PRESENTATIONS

Generations: Understanding Weed-Herbivore Interactions Using Python
Mary Marek-Spartz, George Heimpel, Roger Becker, University of Minnesota; Kyle Marek-Spartz, Celador LLC

Clean Boats, Clean Waters: Citizens and Staff Work Together to Protect Wisconsin’s Lakes
Erin McFarlane, University of Wisconsin

Minnesota 4-H Aquatic Robotics / Youth Making a Difference in AIS Education
Brian McNeill, Suzanne Souza, Patrick Jirik, University of Minnesota Extension; Cara Greger, Minnesota Department of Natural Resources

Infiltration of Native Prairie Habitat by the Asian parasitoid Aphelinus certus (Hymenoptera: Aphelinidae)
James Miksanek, George Heimpel, University of Minnesota Department of Entomology; Joe Kaser, Beneficial Insects Introduction Research Unit USDA-ARS

Utilizing Native Elymus spp. Cover Crops to Suppress Buckthorn Regrowth
Dan Miller, University of Minnesota Landscape Arboretum

Potential Distributions of Two High-Priority Invasive Insects in Minnesota: Forecasts and Uncertainties
Amy Morey, University of Minnesota; Robert Venette, USDA Forest Service

Tracking the Brown Marmorated Stink Bug Invasion of Minnesota
Jonathan Osthus, Anglie Ambourn, Jennifer Burington, Minnesota Department of Agriculture; Eric Burkness, William Hutchinson, University of Minnesota

An Interdisciplinary Approach to Understanding Two Invasive Species: Buckthorn and Soybean Aphid
Stephanie Patton, Marcella Windmuller-Campione, Matthew Russell, University of Minnesota Department of Forest Resources, Robert Koch, University of Minnesota Department of Entomology; Angela Gupta, University of Minnesota Extension

The First Examination of Diet Items Consumed by Wild-Caught Black Carp (Mylopharyngodon piceus) in the U.S.
Barry Poulton, Patrick Kroboth, Duane Chapman, Amy George U.S. Geological Survey; Jennifer Bailey, U.S. Fish & Wildlife Service; Steve McMurray, Scott Faiman, Missouri Department of Conservation

An Assessment of Silvicultural Strategies Used in Minnesota to Manage Forest Health Threats
Matthew Russell, Marcella Windmuller-Campione, University of Minnesota, Department of Forest Resources; Eli Sagor, University of Minnesota, Sustainable Forests Education Cooperative; Madison Rodman, University of Minnesota, Sustainable Forests Education Cooperative

Using A Portable eDNA Kit to Detect Round Goby in Eastern Wisconsin
Theresa Schreier, Chris Merkes, Matthew Hoogland, USGS - Upper Midwest Environmental Sciences Center; Maureen Ferry, Wisconsin Department of Natural Resources; Michelle Nault, Wisconsin Department of Natural Resources

Monitoring, Treating, and Controlling Knotweed Sites in the Northwoods Cooperative Weed Management Area
Ramona Shackleford, Northwoods Cooperative Weed Management Area; Colleen Matula, Wisconsin Department of Natural Resources; Andrew Teal, Bayfield County AIS Project

Examining the Parasitoid Complex Associated with Larch Casebearer on Tamarack
Spencer Stout, Brian Aukema, University of Minnesota

Determining Grass Carp Egg Parentage Using Microsatellites
Tariq Tajjioui, Matthew Hoogland, Christopher Merkes, US Geological Survey; Zebadiah Woiak, US Fish & Wildlife Service

Building a Reference Inventory of Great Lakes Aquatic Fauna
Anett Trebitz, Maicie Sykes, Jonathan Barge, U.S. EPA Office of Research and Development, Mid-Continent Ecology Division; Rochelle Sturtevant, NOAA - GLERL; Joseph Smith, University of Michigan, Cooperative Institute for Great Lakes Research

Naturalization of Woody Plants in the Natural Protected Area within the Main Botanical Garden of Russian Academy of Sciences
Yulia Vinogradova, Main Botanical garden Russian Academy of Sciences; Igor Yatsenko, Main Botanical Garden Russian Academy of sciences

Running and Running But Going Nowhere: Exploring the Movement Behavior of Gypsy Moth (Lymantria dispar) Caterpillars Using A Servosphere
Jacob Wittman, Aubree Kees, Brian Aukema, University of Minnesota
Alligare, LLC

Alligare, LLC is a global leader in providing turn-key vegetation management solutions. We provide exceptional service and care for all of your Roadside/Right of Way, Bare Ground/Railroad, Range and Pasture, Forestry, and Aquatic market needs. Alligare specialists, having trained knowledge and expertise, are able to give VM advice, fast service, and cost effective solutions. With Alligare’s methods of delivering results-oriented, market-based solutions, we are able to always reach the same results with our products - unsurpassed performance and value. That is the Alligare method and promise. For more information, please contact us at alligare.com or 888-ALLIGARE (255-4427).

Applied Biochemists®

Developed with the service professional in mind, Applied Biochemists® water care products are both economical and powerful enough for the toughest jobs. Applied Biochemists® offers everything from algae and deposit control formulas to non-chlorine shock treatments, powerful surface cleaners, clarifiers, enzyme-based cleaners and more.

CD3

CD3's mission is to develop technologies that empower people to reduce the spread of invasive species and safeguard local economies and the natural environment. We manufacture waterless cleaning stations that help boaters and trail users clean their recreational equipment and help reduce the spread of invasive species.

Conservation Corps MN & IA

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.

Corteva Agriscience™ (formerly Dow AgroSciences)

Corteva Agriscience™ is the name of the new Agriculture Division of DowDuPont™. We are bringing together DuPont Crop Protection, DuPont Pioneer and Dow AgroSciences to create a market-shaping, standalone agriculture company with leading positions in seed technologies, crop protection and digital agriculture. This stands especially strong in our Land Management Business. At Corteva Agriscience™, we seek to enrich the lives of those who rejuvenate the agricultural ecosystem to support people and the planet to ensure progress for generations to come.

Earth Science Labs

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 OZ 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

Invasive Plant Control, Inc.

Invasive Plant Control, Inc. was established in 1997 and has operated as an entity exclusively focused on the control of invasive species with projects ranging from the Virgin Islands to the hardwoods forests of northern Pennsylvania. IPC’s travel teams roam the United States targeting invasive species in fragile natural areas. Utilizing an Integrated Pest Management approach, IPC focuses on selectivity through proper timing and application methods. IPC also offers technologically advanced delineation, GPS/GIS & mapping of invasive species.

Invasive Species Centre

The Invasive Species Centre is a not-for-profit organization that prevents the spread of invasive species in Canada and beyond by connecting with stakeholders to catalyze invasive species management and communicate policy and science knowledge. Visit our website at www.invasivespeciescentre.ca.
Michigan Department of Environmental Quality and Department of Natural Resources

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.

Minnesota Association of County Agricultural Inspectors

The Association works with Minnesota Department of Agriculture to develop procedures to advance and promote sound and reasonable agricultural inspection, foster cooperation and exchange of information and experience among all agricultural inspectors. To cooperate with all professional recognized agriculture organizations. MACAI supports policies for the purpose of residents of the state to be protected from the injurious effects of noxious weeds on public health, the environment, public roads, crops, livestock, and other property. By promoting programs for the controlling and managing noxious weeds on all lands within the state.

Minnesota Native Landscapes

For over 20 years, Minnesota Native Landscapes (MNL) has been restoring and protecting native plant communities across the state. Our professional staff has experience working in all aspects of native restoration including consultation, installation, and long term site management. In addition to our extensive service offerings, MNL also produces a wide variety of native seed and plants.

Nutrien Solutions

Nutrien Solutions is a national distributor dedicated to providing quality vegetation management products and innovative invasive species management programs. We specialize in the areas of aquatics, forestry, land restoration, roadside and utility management. Visit our booth to talk to one of our experts and learn what Nutrien Solutions can help you to accomplish.

PlayCleanGo

PlayCleanGo: Stop Invasive Species In Your Tracks® engages outdoor enthusiasts in active invasive species prevention measures such as cleaning outdoor gear (boots, bikes, ATVs, horses, etc.) before going to a new trail, park, or other recreation area. With a positive message and clear call to action, PlayCleanGo was developed by the Minnesota Department of Natural Resources and national campaign management is being led by NAISMA. With substantial support from USDA Forest Service and other partners, the campaign has spread across North America and now has over 530 partner organizations.

OCTOBER 15 AND 16
Don’t miss these sessions!

The Great Lakes Briefs on Invasive Organisms Traded in Commerce symposium identifies research gaps to improve management of organisms in trade and facilitate the efficient transfer of information between researchers, managers, and industry.

Check out the original 2014 event seagrant.wisc.edu/OIT.

#GLBIOTIC #UMISC

Hosted by Sea Grant Institutes of Wisconsin and Minnesota.
Prairie Restorations, Inc.

Prairie Restorations, Inc. is a full-service ecological restoration company specializing in the installation and management of native plant landscapes throughout the Upper Midwest. We also produce local ecotype seed and plant materials which are used on our projects and which are also available for retail sale. Land management activities provided include prescribed burning and removal/control of woody and herbaceous invasive species.

Tallgrass Prairie Oak Fire Science Consortium

The Tallgrass Prairie Oak Fire Science Consortium consists of fire practitioners, scientists, outreach and extension specialists, volunteers, educators and enthusiasts from the Tallgrass Prairie and Oak Savanna Region. We host webinars, events, discussions, field trips and more to foster knowledge sharing within our regional fire community about fire in tallgrass prairie and oak savanna ecosystems.

The Nature Conservancy

The Nature Conservancy is a global conservation organization dedicated to conserving the lands and waters on which all life depends. Guided by science, we create innovative, on-the-ground solutions to our world’s toughest challenges so that nature and people can thrive together. We are tackling climate change, conserving lands, water and oceans at unprecedented scale, and helping make cities more sustainable. Working in more than 70 countries, we use a collaborative approach the engages local communities, governments, the private sector, and other partners. To learn more about our work locally, visit www.nature.org/michigan.

The North American Invasive Species Network

The North American Invasive Species Network (NAISN) is a consortium that uses a coordinated network to advance science-based understanding and enhance management of non-native invasive species. NAISN was formed in 2010 and currently has eight members made up of university centers and non-profit organization in the United States, Canada and Mexico.

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

Prevention

Early Detection and Response

Management and Control

Education and Outreach
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
U.S. Geological Survey

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.

Waterfront Restoration LLC

Waterfront Restoration LLC has been the preferred full-service provider of ecologically conscious, non-chemical control and prevention of AIS and nuisance plants for over 15 years. We provide customized watercraft inspection and decontamination programs, including recruiting and hiring of DNR trained inspectors—a fully outsourced solution. Other services include SCUBA by the root removal, rapid response control, dangerous debris cleanup, and zebra mussel extraction.

Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)

The Wisconsin Department of Agriculture, Trade, and Consumer Protection 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 pests. 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.

Wisconsin Department of Natural Resources (WDNR)

The Wisconsin Department of Natural Resources coordinates work on all invasive plants, animals and disease-causing organisms of native plants and animals. The department’s Invasive Species Team works to identify common priorities, establish consistent policies, coordinate outreach on invasive species, and ensure uniform enforcement of Wisconsin’s Invasive Species Identification, Classification, and Control rule (ch. NR 40, Wis. Adm. Code). The department also coordinates with the governor-appointed Wisconsin Invasive Species Council. More information about WDNR’s invasive species 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.

Wisconsin First Detector Network

The 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.

Wisconsin Sea Grant

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.

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.

4Control

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.
Invasive annual grasses are spreading at an alarming rate across the western U.S., out-competing native vegetation, degrading wildlife habitat, reducing diversity and fostering more frequent, more intense wildfires.

With Esplanade® 200 SC, these grasses are controlled, leaving remnant desirable perennial populations to recolonize while restoring diversity and wildlife habitat.

Learn more at www.BayerVM.com.
Great Lakes Commission
The Great Lakes Commission was established by the Great Lakes states in 1955 to coordinate management of the water resources of the Great Lakes basin and to represent the states’ interests on Great Lakes matters before the federal government. Based in Ann Arbor, Michigan, the Commission promotes the concept that a healthy environment and prosperous economy should be mutually dependent, not exclusive, goals. With appointees from the eight states and two Canadian provinces, the Commission serves as a forum for the development of regional policy and as an advocate for legislation and programs to benefit the Great Lakes. The Canadian provinces of Ontario and Québec participate in all Commission deliberations and activities as associate members.

Great Lakes Commission

Green Shoots
Green Shoots develops and offers precision herbicide application systems. Our systems use foam and low pressure spray to help you precisely apply herbicide to target invasive plants while reducing harm to the operator and the broader environment. Please visit our website at: https://www.greenshootsonline.com/

Helena Agri Enterprises
Helena Agri-Enterprises, LLC, headquartered in Collierville, Tennessee, is one of the foremost agronomic solutions providers in the United States. Helena markets and sells inputs that are used to improve Vegetation Management. Helena also has its own line of products through Helena Products Group, which includes adjuvants, plant protection products, fertilizers, and pesticides. Helena’s theme of People…Products…Knowledge…reinforces the company’s commitment to helping customers succeed through knowledgeable and dedicated people, useful and unique products and the latest proven technologies.

Iowa Weed Commissioners Association
In 1913 the Iowa General Assembly passed the first law pertaining to the control and destruction of certain plant species considered “weedy” or noxious on all lands both public and privately owned. In order to administer this law and carry out its specific provisions at the county level, each of Iowa’s 99 counties are required to appoint annually an official to serve as county weed commissioner. The Iowa Weed Commissioners Association provides a network for all weed commissioners throughout the state to become proficient at carrying out responsibilities as detailed in Iowa State Code. It also serves to communicate to the public the methods of and rationale for, implementing a shared responsibility that is noxious and invasive species control within our borders.

Landbridge Ecological
Landbridge Ecological offers ecological design, installation, and land management services. For over ten years we have worked across a number of scales, from urban residential sites to large-scale, natural areas. Our mission is to restore and protect resilient native landscapes, to educate the public about ecological restoration, and to work with existing natural resources and conditions.

Maverick Drone Systems
Maverick Drone Systems is a leading distributor of innovative UAS systems, designed to bring a broad portfolio of integrated, enterprise-class drones and services. Each of our UAS solutions offers a compelling set of capabilities which enable us to operate effectively and efficiently. When platforms are fused together, those capabilities are amplified, enabling us to create configurable solutions that not only meet the requirements of our customers, but launch business and industry transformation.

Minnesota Department of Natural Resources Invasive Species Program
The Minnesota Department of Natural Resources (DNR) Invasive Species Program goals 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. Visit us online at www.mndnr.gov/invasives.

NatureServe
The NatureServe Network provides scientific knowledge and solutions to inform decisions for sustainable conservation outcomes. Visit our exhibit to learn how tools like iMapInvasives provide information to achieve your conservation success. Learn more at NatureServe.org or iMapInvasives.org and connect with us @NatureServe.
**Natural Shore Technologies**

Natural Shore Technologies is Minnesota’s most experienced shoreline restoration company. We apply the latest science to restore shorelines, ponds, wetlands, and prairies. We design, install, and maintain our projects. Our retail nursery stocks Minnesota Native Plant Brand™ plants. We provide plants for big commercial and small residential projects. For do-it-yourselfers, our friendly staff will consult with you and recommend appropriate plant species for your project. We also offer wholesale prices for larger projects.

**Norstar**

Norstar spray systems provide a simple, safe, and efficient answer to managing vegetation on our public right-of-ways. Automatic controls maintain individual herbicide and additive application rates regardless of road speed or spray width. Chemicals are applied in one pass to targeted areas with a multiple section spray head using only solid stream nozzles. The operator can change spray widths while underway, thus reducing chemical and carrier waste while protecting sensitive areas.

**River Alliance of Wisconsin**

The River Alliance of Wisconsin’s mission is to empower people to protect and restore water. Our vision is a thriving community, economy, and habitat through access to clean, abundant water. We pursue clean water for all with passion and determination. We are a credible voice on water policy and public engagement. We expect government to safeguard water, and we hold public agencies accountable. We believe in the power of grassroots action. We engage people in activities to inspire water stewardship.

**SePro**

SePRO Corporation is a research-based Life Sciences Company focused on the specialty chemical and pharmaceutical industries. SePRO is recognized as an industry leader in providing the highest level of technical service to customers who operate in specialty niche markets. SePRO’s key business segments include the U.S. Aquatics Industry, Greenhouse/Nursery Markets and Professional Turf/Landscape Management.

**Upper Peninsula Resource Conservation and Development (UP RC&D) Council**

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 6 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.

**Wildlife Forever**

The mission of Wildlife Forever is to conserve America’s wildlife heritage through conservation education, preservation of habitat and management of fish and wildlife. 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.

**Wisconsin Prescribed Fire Council**

The Wisconsin Prescribed Fire Council is a coalition of government agencies, non-profit organizations, contractors, and individuals striving to make the use of prescribed fire in Wisconsin more safe, effective, and accepted for all practitioners. The Council was organized exclusively for charitable, educational, and scientific purposes, and it seeks to provide a unified voice representing the prescribed fire community in Wisconsin.
When it comes to managing invasives, we have you covered.

**HERBICIDE**

- **Milestone®**
- **Vastlan™**
- **Opensight®**

Rely on Milestone®, Vastlan™ and Opensight® herbicides along with the rest of the Corteva Agriscience®, Agriculture Division of DowDuPont®, portfolio for your complete vegetation management needs, including keeping invasive weeds and woody species under control. Talk to your Corteva Land Management Specialist today to learn more.

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- When treating areas in and around roadside or utility rights-of-way that are or will be grazed, hayed or planted to forage, important label precautions apply regarding harvesting hay from treated sites, using manure from animals grazing on treated areas or rotating the treated area to sensitive crops. See the product label for details. State restrictions on the sale and use of Milestone and Opensight apply. Vastlan is not registered for sale or use in all states. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your state. Always read and follow label directions. ©2018 Dow AgroSciences

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