



UMISC

Upper Midwest Invasive Species Conference

2012

Upper Midwest Invasive Species Conference

Working Together to Control Invasive Species



October 29–31, 2012

La Crosse Center • La Crosse, WI

Concurrent Sessions

There are three concurrent sessions Monday pm and six concurrent sessions Tuesday am, Tuesday pm, and Wednesday pm. Every presentation listed is 20 minutes followed by 5 minutes of questions unless otherwise noted. Asterisk (*) indicates the presenting speaker. Aquatic Species sessions are **Blue**, Forest Health sessions are **Green**, Terrestrial sessions are **Purple**, and Interdisciplinary sessions are **Yellow**.

MONDAY, OCTOBER 29

1:00 pm–2:40 pm

<p>Herbicides: Maximizing Benefit, Minimizing Risk North Hall D</p> <p>Moderator: Robert Masters, Dow AgroSciences, LLC</p>	<p>State Invasives Regulations North Hall A</p> <p>Moderator: Mindy Wilkinson, Wisconsin Department of Natural Resources</p>
<p>1:00 pm Factors Affecting Herbicide Selection and Use in Plant Community Restoration Programs Robert Masters*, Mary Halstvedt, Louanne Brooks, and Louise Brinkworth, Dow AgroSciences, LLC</p>	<p>1:00 pm Wisconsin Department of Natural Resource's Ballast Water Program - Update and Review So Far Cordell Manz*, Susan Eichelkraut, and Laura Madsen, Wisconsin Department of Natural Resources</p>
<p>1:25 pm Make Chemical Control Easier with Basal Bark Sprayers, Herbicides and Dyes Bob Retkow, Lynden Sculpture Garden</p>	<p>1:25 pm Minnesota's Noxious and Invasive Plant Laws and Rules Anthony Cortilet, Minnesota Department of Agriculture</p>
<p>1:50 pm Drift and Nozzle Selection for Herbicide Applications Eric Spandl*, G.K. Dahl, and L.C. Magidow, Winfield Solutions</p>	<p>1:50 pm Iowa's Noxious Weed and Aquatic Invasive Species Laws Kim Bogenschutz, Iowa Department of Natural Resources, and Chris Henze*, Iowa Weed Commissioners Association</p>
<p>2:15 pm Q&A Session</p>	<p>2:15 pm Wisconsin Invasive Species Regulations and Policy Perspectives Mindy Wilkinson, Wisconsin Department of Natural Resources</p>
<p>Prevention in Aquaculture North Hall C</p> <p>Moderator: Paul Schumacher, Wisconsin Lakes and Wisconsin Invasive Species Council</p>	 <p>We have your vegetation management solutions.</p> <p>Capstone Broad spectrum of control against problem broadleaf weeds and woody plants. Great choice for side-trimming Fast knockdown Unique formulation — "caution" signal word Excellent environmental profile</p> <p>Garlon 3A Nonvolatile amine formulation, 3lbs. a.i./gal Labeled for applications to treat emerged weeds in standing water areas, such as marshes, wetlands, and the banks of ponds and lakes Selective to warm- and cool-season grasses Translocates to control entire plant — shoots and roots</p> <p>Milestone Broad-spectrum control of broadleaf weeds, including noxious and invasive species Excellent control of legumes and vines Tank-mix compatibility, low use rates and wide application window Safe on warm- and cool-season grasses</p> <p>Transline Control of mimosa, redbud, locust, thistles, kudzu and other troublesome weeds and woody plants Excellent selectivity, allowing it to be used over many conifers and hardwood species Safe on warm- and cool-season right-of-way grasses</p> <p><small>**Trademark of Dow AgroSciences LLC. State restrictions on the sale and use of Capstone, and Transline apply. Consult the label before purchase or use for full details. Always read and follow label directions. V38-000-007 (08/12) OAS 010-92918</small></p>
<p>1:00 pm Assessing the Risk of Aquatic Invasive Species in Bait, Forage, and Game Fish Shipments William Horns, Wisconsin Department of Natural Resources</p>	
<p>1:25 pm Using Outreach to Prevent Aquatic Invasive Species Introductions via the Organisms in Transit Pathway Patrice Charlebois*, Illinois-Indiana Sea Grant/Illinois Natural History Survey, Prairie Research Institute, University of Illinois; Erin Seekamp, Southern Illinois University, Carbondale; Danielle Hilbrich, Illinois-Indiana Sea Grant/Illinois Natural History Survey, Prairie Research Institute, University of Illinois; Kristin TePas, Illinois-Indiana Sea Grant, University of Illinois; and Nicole Furlan, Illinois-Indiana Sea Grant/Illinois Natural History Survey, Prairie Research Institute, University of Illinois</p>	
<p>1:50 pm Aquaculture Biosecurity Workshops Ron Johnson, Aquaculture Outreach Specialist, University of Wisconsin-Extension, University of Wisconsin, Stevens Point, Northern Aquaculture Demonstration Facility</p>	
<p>2:15 pm Aquatic Invasive Species Impacts on Regional Aquaculture - the Need for Effective but Fair Regulations and a Proactive Industry Chris Weeks*, North Central Regional Aquaculture Center, Michigan State University; Nicholas Phelps, University of Minnesota; Ron Kinnunen, Michigan Sea Grant; and Greg Oswald, Oswald Fisheries</p>	
<p>2:40 pm - 3:00 pm Break • Visit with Exhibitors</p>	

MONDAY, OCTOBER 29

3:00 pm – 4:40 pm

Minnesota's Aquatic Invasive Species Management Strategies North Hall A Moderator: Chip Welling, Minnesota Department of Natural Resources	Aquatic Invasive Plants: Research, Early Detection and Rapid Response North Hall C Moderator: Paul Schumacher, Wisconsin Lakes and Wisconsin Invasive Species Council
3:00 pm Stakeholder Engagement in Aquatic Invasive Species - MN DNR experience Brian Stenquist, Minnesota Department of Natural Resources	3:00 pm Effects of Winter Drawdown on the Aquatic Ecology of a Wisconsin Flowage Eddie Heath*, and Tim Hoyman, Onterra, LLC
3:25 pm Potential to Increase Water Quality and Native Submersed Plants by Control of Curlyleaf Pondweed Chip Welling, Minnesota Department of Natural Resources	3:25 pm Aquatic Invasive Species Suitability Assessments for Individual Lakes Guide Management Responses Steve McComas*, Jo Stuckert, and Connor McComas, Blue Water Science
3:50 pm Expansion of the Minnesota DNR Watercraft Inspection Program Heidi Wolf, Minnesota Department of Natural Resources	3:50 pm Summary of the Monoecious Hydrilla Workshop: Identifying Research, Management, and Regulatory Priorities Michael Netherland, U.S. Army Engineer Research and Development Center Environmental Laboratory
4:15 pm Aquatic Invasive Species Laws and Rules – New Legislation in Minnesota Jay Rendall, Minnesota Department of Natural Resources	4:15 pm Identification of Likely “Up-and-Coming” Aquatic Invasive Plants Paul Skawinski, Golden Sands RC&D Council

Land Managers Panel on Invasive Species Management
North Hall D

 Moderator:
 Thomas Boos II, Wisconsin Department of Natural Resources and Invasive Plants Association of Wisconsin

3:00 pm Land Managers Perspective on Control: Prioritization Focus
 Rich Henderson, The Prairie Enthusiasts and Wisconsin Department of Natural Resources (non-profit land trust);
 Matt Zine, Wisconsin Department of Natural Resources- State Natural Areas;
 Craig Annen, Integrated Restorations, LLC;
 Mike Anderson, Restoration Consultant



Wisconsin DNR Invasive Species Program

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STOP AQUATIC HITCHHIKERS!
 Prevent the spread of invasive species, it's the law



TUESDAY, OCTOBER 30

8:00 am – 9:40 am

<p>Invasive Fish and Crayfish Control North Hall D</p> <p>Moderator: Joe Eisterhold, Minnesota Department of Natural Resources</p>	<p>Mapping and Monitoring North Hall C</p> <p>Moderator: Courtney Ripp, Wisconsin Department of Natural Resources</p>
<p>8:00 am Eradication of Ambitious Architects: <i>Procambarus clarkii</i>, The Red Swamp Crayfish Heidi Bunk*, Scott Van Egeren, and Jesse Jensen, Wisconsin Department of Natural Resources</p>	<p>8:00 am Detecting and Mapping Invasive <i>Phragmites australis</i> in the Coastal Great Lakes with ALOS PALSAR Imagery Brian Huberty*, U.S. Fish & Wildlife Service; Laura Bourgeau-Chavez, Michigan Tech Research Institute; Kurt Kowalski, U.S. Geological Survey; Kirk Scarborough; Liza Jenkins; Kevin Riordan; Richard Powell; Colin Brooks; Zach Laubach and Elizabeth Banda, Michigan Tech Research Institute; and Martha Carlson Mazur, U.S. Geological Survey</p>
<p>8:25 am Asian Carp in the Upper Mississippi - Jump Starting a Response Plan Byron Karns*, National Park Service - St. Croix National Scenic Riverway; John Anfinson, National Park Service - Mississippi National River and Recreation Area; and Tim Schlagenhalf, Minnesota Department of Natural Resources</p>	<p>8:25 am Prioritization of Invasive Plant Species for Management Based on Systematic Sampling Eric Lonsdorf, Chicago Botanic Garden; Daniel Wood, Muscatatuck National Wildlife Refuge; and Sean Blomquist*, Midwest Region, National Wildlife Refuge System</p>
<p>8:50 am Induced Nest Failure as a Method for Controlling Invasive Bass Grace Loppnow*, University of Minnesota, Twin Cities Department of Fisheries, Wildlife, and Conservation Biology; Brian Shuter, University of Toronto, Department of Ecology and Evolutionary Biology; and Paul Venturelli, University of Minnesota, Twin Cities, Department of Fisheries, Wildlife, and Conservation Biology</p>	<p>8:50 am Terrestrial Invasive Plants Road and River Survey Molly Martin, Minnesota Department of Natural Resources - Resource Assessment; Susan Burks, Minnesota Department of Natural Resources - Exotic Species Program Coordinator; and Dennis Kepler*, Minnesota Department of Natural Resources - Exotic Species Program Coordinator</p>
<p>9:15 am Silver Carp Detect Steroids and Prostaglandins that May Function as Sex Pheromones Peter Sorenson*, University of Minnesota, Department of Fisheries, Wildlife and Conservation Biology; Hangkyo Lim, University of St. Thomas, Department of Biology; and Elizabeth Fox, University of Minnesota, Department of Fisheries, Wildlife and Conservation Biology</p>	<p>9:15 am Prioritizing Invasive Species Monitoring using Habitat Suitability Models Alycia Crall, University of Wisconsin, Madison; Catherine Jarnevich, U.S. Geological Survey; Brendon Panke*, University of Wisconsin, Madison; Mark Renz, University of Wisconsin, Madison; Jeffrey Morissette, U.S. Geological Survey; and Nick Young, Colorado State University</p>
<p>Volunteer and Prevention Programs North Hall E</p> <p>Moderator: Nick Brown, Minnesota Department of Natural Resources</p>	<p>Emerald Ash Borer Control Tactics North Hall A</p> <p>Moderator: Robert Venette, U.S. Department of Agriculture Forest Service</p>
<p>8:00 am Becoming an "Invader Crusader" - Introducing Youth to Aquatic Invasive Species! Karen Hollingsworth, Wildlife Forever State - Fish Art Program</p>	<p>8:00 am Are Control Activities Making a Difference? Quantifying the Numbers of Emerald Ash Borers Removed through Sanitation Mark Abrahamson, Minnesota Department of Agriculture; Robert Venette, U.S. Department of Agriculture Forest Service; and Brian Aukema*, Department of Entomology, University of Minnesota</p>
<p>8:25 am Join Minnesota's Citizen Zebra Mussel Monitoring Program Douglas Jensen, University of Minnesota Sea Grant Program</p>	<p>8:25 am Biological Control of Emerald Ash Borer (<i>Agrilus planipennis</i>) in Minnesota Jonathan Osthus*, Monika Chandler, and Mark Abrahamson, Minnesota Department of Agriculture</p>
<p>8:50 am Fourteen Years Working with Eurasian Watermilfoil and Homeowners: Successful Strategies for Managing People and Plants Cortney Marquette, EnviroScience Inc</p>	<p>8:50 am Integrated Management Approach to Emerald Ash Borer Jeff Palmer, Upper Midwest Regional Technical Manager at Arborjet, Inc.</p>
<p>9:15 am Monitoring for Aquatic Invasive Species Detection and Spread Scott Van Egeren, Wisconsin Department of Natural Resources</p>	<p>9:15 am Wisconsin Emerald Ash Borer Program Update Rebecca Gray, Wisconsin Department of Agriculture, Trade & Consumer Protection</p>

TUESDAY, OCTOBER 30

8:00 am – 9:40 am

<p>Fire Techniques for Control North Hall B</p> <p>Moderator: Carmen Chapin, National Park Service</p>	<p>Invasion Biology North Hall F</p> <p>Moderator: Courtney Ripp, Wisconsin Department of Natural Resources</p>
<p>8:00 am Fire, Smoke, and High Speed Traffic Ken Graeve, Minnesota Department of Transportation</p>	<p>8:00 am The Role of Propagule Pressure in Species Invasion: Evidence from Minnesota Forests Alexandra Lodge*, Timothy Whitfeld, Alexander Roth, and Peter Reich, University of Minnesota, Twin Cities, Forest Resources</p>
<p>8:25 am Controlling Invasive Cool-Season Grasses with Fire and Its Effects on Insects Rich Henderson, Research Ecologist, Wisconsin Department of Natural Resources, Bureau of Science Services</p>	<p>8:25 am Diversity in Drought Tolerance Traits of Midwest Genotypes of Reed Canary Grass Michael Nelson*, and Neil Anderson, University of Minnesota</p>
<p>8:50 am Fire Effects on the Highly Invasive Liana, Oriental Bittersweet (<i>Celastrus orbiculatus</i>) Noel Pavlovic*, U.S. Geological Survey, Great Lakes Science Center; Stacey Leicht-Young, University of Rhode Island; and Ralph Grundel, U.S. Geological Survey</p>	<p>8:50 am Biotic and Abiotic Controls on the Germination of Four Common Forest Invaders Alexander Roth*, Timothy Whitfeld, Alexandra Lodge, Alexander Roth, and Peter Reich, University of Minnesota, Twin Cities, Forest Resources</p>
<p>9:15 am Managing Oak Woodland Invasives with Fire Matt Zine, Wisconsin Department of Natural Resources - State Natural Areas</p>	<p>9:15 am Effects of Phylogenetic Diversity and Site Characteristics on <i>Rhamnus cathartica</i> Invasion Timothy Whitfeld*, Alexandra Lodge, Alexander Roth, and Peter Reich, University of Minnesota, Twin Cities, Forest Resources</p>

9:40 am - 10:00 am Break • Visit with Exhibitors

10:00 am – 11:40 am

<p>Common Carp and Zebra Mussel Biology and Control North Hall D</p> <p>Moderator: Laura Herman, Wisconsin Citizen Lakes Monitoring Network</p>	<p>Aquatic Detection and Response Planning North Hall E</p> <p>Moderator: Paul Schumacher, Wisconsin Lakes and Wisconsin Invasive Species Council</p>
<p>10:00 am Micro-Predator Abundance Explains the Recruitment of Common Carp in Minnesota Lakes Przemyslaw Bajer*, Christopher Chizinski, Justin Silbernagel, and Peter W. Sorensen, University of Minnesota</p>	<p>10:00 am Tackling a New Wisconsin Aquatic Invasive Plant - <i>Oenanthe javonica</i>: a Case Study Susan Lehnhardt*, and Aaron Kubichka*, Applied Ecological Services, Inc. and Lower Sugar River Watershed Association</p>
<p>10:25 am Zebra Mussel (<i>Dreissena polymorpha</i>) Habitat Preference and Population Dynamics within and among Lakes in Northeast Wisconsin and Upper Michigan Maureen Ferry*, Wisconsin Cooperative Fishery Research Unit; Kyle Herman, University of Wisconsin, Stevens Point; Gregory Sass, Wisconsin Department of Natural Resources; and Tim Ginnett, University of Wisconsin, Stevens Point</p>	<p>10:25 am Hydrilla Early Detection/Rapid Response Plan for Illinois Cathy McGlynn, Northeast Illinois Invasive Plant Partnership</p>
<p>10:50 am Effects of Common Carp on Wild Rice Survival and Growth James Johnson*, Freshwater Scientific Services, LLC; and Anthony Havranek, St. Croix Tribal Environmental Services</p>	<p>10:50 am Bioacoustic Control of the Round Goby Allen Mensinger*, Jared Leino, and Elise Cordo, University of Minnesota, Duluth</p>
<p>11:15 am Integrated Pest Management of the Common Carp, <i>Cyprinus carpio</i>, in the American Midwest Peter Sorensen*, and Przemyslaw Bajer, University of Minnesota</p>	<p>11:15 am Small-scale Research and Large-scale Monitoring: Feedback Loops Improve Research and Management Strategies Michael Netherland, U.S. Army Engineer Research and Development Center Environmental Laboratory</p>

TUESDAY, OCTOBER 30

10:00 am – 11:40 am

<p>Emerald Ash Borer Landscape Level Management North Hall A</p> <p>Moderator: Brian Schwingle, Wisconsin Department of Natural Resources</p>	<p>Online Resources for Mapping and Early Detection and Rapid Response North Hall C</p> <p>Moderator: Rochelle Sturtevant, Great Lakes Sea Grant Network</p>
<p>10:00 am A Bioeconomic Analysis of an Emerald Ash Borer Invasion of an Urban Forest with Multiple Jurisdictions Kent Kovacs*, University of Minnesota; Robert Haight, U.S. Forest Service; Rodrigo Mercader, Washburn University; and Deborah McCullough, Michigan State University</p>	<p>10:00 am Introduction to the Midwest Invasive Plant Network (MIPN) Invasive Plant Control Database Katherine Howe*, and Kari Maxwell, Midwest Invasive Plant Network, Purdue University; Brendon Panke and Mark Renz, University of Wisconsin, Madison</p>
<p>10:25 am Integrated Strategies to Slow Ash Mortality in Emerald Ash Borer Outlier Sites Steven Katovich, U.S. Forest Service, Forest Health Protection</p>	<p>10:25 am Great Lakes Early Detection Network (GLEDN): Collaboration for Regional Invasive Species Control Mark Renz*, Alycia Crall, and Brendon Panke, University of Wisconsin, Madison; Greg Newman, Colorado State University; and Carmen Chapin, National Park Service</p>
<p>10:50 am Managing Forests with Emerald Ash Borer in Southwest Wisconsin Greg Edge*, Wisconsin Department of Natural Resources - Division of Forestry; and Patrick Dayton, Southwest Badger Resource Conservation & Development</p>	<p>10:50 am GLANSIS: New Tools Supporting Early Detection, Rapid Response, and Aquatic Invasive Species Management Rochelle Sturtevant, Great Lakes Sea Grant Network; Abigail Fusaro, and Ed Rutherford, National Oceanic and Atmospheric Administration (NOAA), Great Lakes Environmental Research Laboratory (GLERL)</p>
<p>11:15 am Q&A</p>	<p>11:15 am Mapping on the Go: Using Smartphones to Map Invasive Species Rebekah Wallace*, and Charles Bergeron, University of Georgia, Center for Invasive Species and Ecosystem Health</p>
<p>Highway and Right of Way: Early Detection and Rapid Response and Management North Hall B</p> <p>Moderator: Ken Graeve, Minnesota Department of Transportation</p>	<p>Post Invasion Restoration North Hall F</p> <p>Moderator: Mindy Wilkinson, Wisconsin Department of Natural Resources</p>
<p>10:00 am Adopt-a-Township Program: Invasive Mapping, Monitoring and Control in Southeastern Wisconsin Jill Hapner, Southeastern Wisconsin Invasive Species Consortium, Inc.</p>	<p>10:00 am Population-Source Characteristics Affect Trade-Offs between Establishment and Invasiveness in Switchgrass (<i>Panicum virgatum</i>) Shelby Flint*, University of Minnesota, Twin Cities, Conservation Biology Graduate Program; Nicholas Jordan, University of Minnesota, Twin Cities, Department of Agronomy; and Ruth Shaw, University of Minnesota, Twin Cities, Department of Ecology, Evolution & Behavior</p>
<p>10:25 am Wisconsin Department of Transportation (WISDOT) Invasive Control Program: Large Scale Invasive Plant Control Across Transportation Corridors Jens Jensen, Cardno JFNew; and Gary Birch, Wisconsin Department of Transportation</p>	<p>10:25 am Plant Community Response when Controlling Invasive Weeds with Aminopyralid in Prairie Restorations Mary Halstvedt*, Dow AgroSciences; Roger Becker, University of Minnesota; Rod Lym, North Dakota State University; and Paul Bockenstedt, Stantec</p>
<p>10:50 am A Comprehensive Three-Year Effort to Manage Roadside Invasive Plants Darienne McNamara, Sascha Yates, Sarah Champine, and Matt Bushman*, Northwoods Cooperative Weed Management Area (CWMA)</p>	<p>10:50 am Deer Browse, Pennsylvania Sedge and Silviculture Strategies to Enhance Tree Regeneration Colleen Matula, Wisconsin Department of Natural Resources</p>
<p>11:15 am Early Detection and Rapid Response on Roadsides John Sander, Tom Jackson, Jim Sommer, and Ken Graeve, Minnesota Department of Transportation</p>	<p>11:15 am Do Native Plant Mixtures Reduce Invasions Along Roadsides in Wisconsin? Joslyn Mink*, University of Wisconsin, Madison, Nelson Institute for Environmental Studies; Mark Renz, University of Wisconsin, Madison, Department of Agronomy; and John Stier, University of Tennessee, Institute of Agriculture & University of Wisconsin, Madison, Department of Horticulture</p>

TUESDAY, OCTOBER 30

1:30 pm – 3:10 pm

<p>Management and Control of Eurasian Watermilfoil and Curlyleaf Pondweed North Hall E</p> <p>Moderator: Paul Schumacher, Wisconsin Lakes and Wisconsin Invasive Species Council</p>	<p>Aquatic Partnership Tools North Hall D</p> <p>Moderator: Nick Brown, Minnesota Department of Natural Resources</p>
<p>1:30 pm Chemical and Mechanical Treatments on Eurasian Watermilfoil Abundance: Implications for Management Martha Barton*, Alison Mikulyuk, and Michelle Nault, Wisconsin Department of Natural Resources; John Skogerboe, U.S. Army Corps of Engineers; Kelly Wagner, Jennifer Hauxwell, and Scott van Egeren, Wisconsin Department of Natural Resources</p>	<p>1:30 pm Stop Aquatic Hitchhikers!™ - A Campaign Making a Difference in Community Engagement Douglas Jensen, University of Minnesota Sea Grant Program</p>
<p>1:55 pm Evaluation of Indigenous Population of the Milfoil Weevil, <i>Euhrychiopsis lecontei</i>, Biological Control Agent of Eurasian Watermilfoil, <i>Myriophyllum spicatum</i>, Within the Menominee River Watershed Sarah Lomske, EnviroScience Inc.</p>	<p>1:55 pm Nab the Aquatic Invader Offers a New Approach to Youth Environmental Stewardship Marte Kitson*, University of Minnesota Sea Grant Program; Robin Goettel, Illinois-Indiana Sea Grant; and Helen Domkse, New York Sea Grant</p>
<p>2:20 pm Evaluation of Herbicide Applications for Control of Eurasian Watermilfoil (<i>Myriophyllum spicatum</i>) Michelle Nault*, Wisconsin Department of Natural Resources; John Skogerboe, U.S. Army Corps of Engineers; Tim Asplund, Jennifer Hauxwell, and Martha Barton, Wisconsin Department of Natural Resources</p>	<p>2:20 pm Beyond Surveys: Using Focus Groups to Evaluate Aquatic Invasive Species Messaging and Marketing Materials Jordan Petchenik, Wisconsin Department of Natural Resources</p>
<p>2:45 pm Resistance of Invasive <i>Myriophyllum spicatum</i> and <i>Potamogeton crispus</i> to Dessication Susan Knight*, University of Wisconsin, Trout Lake Station; John Havel, and Lindsey Bruckerhoff, Missouri State University, Springfield</p>	<p>2:45 pm Building an Effective Prevention Campaign: Wisconsin's 2012 Aquatic Invasive Species Audience Research Deborah Seiler, University of Wisconsin-Extension, Wisconsin Department of Natural Resources</p>
<p>Battling Established Forest Critters and Pathogens North Hall A</p> <p>Moderator: Brian Schwingle, Wisconsin Department of Natural Resources</p>	<p>Communication and Partnership Tools: Wisconsin Case Studies North Hall C</p> <p>Moderator: Robert Wakeman, Wisconsin Department of Natural Resources</p>
<p>1:30 pm Minnesota Department of Agriculture (MDA) Gypsy Moth (<i>Lymantria dispar</i>) Program Update: Monitoring & Treatments in Minnesota Natasha Northrop, Minnesota Department of Agriculture</p>	<p>1:30 pm Wisconsin's Aquatic Invasive Species Partnership Robert Wakeman, Wisconsin Department of Natural Resources</p>
<p>1:55 pm Characterization of Propiconazole Movement and Survival of <i>Ceratocystis fagacearum</i> in Oak Roots Ryan Blaedow*, Minnesota Department of Natural Resources; and Jennifer Juzwik, U.S. Department of Agriculture Forest Service, Northern Research Station</p>	<p>1:55 pm Slow the Spread - Implementing Wisconsin's Invasives Rule with Outreach and Education Chrystal Schreck, Wisconsin Department of Natural Resources</p>
<p>2:20 pm Biology and Management of Annosum Root Rot in Wisconsin Kyoko Scanlon, Wisconsin Department of Natural Resources</p>	<p>2:20 pm Including Local Knowledge in Risk Analysis: Wisconsin's Species Assessment Groups Mindy Wilkinson, Wisconsin Department of Natural Resources</p>
<p>2:45 pm Q&A</p>	<p>2:45 pm Open for Business - Closed to Invasive Species Chrystal Schreck, Wisconsin Department of Natural Resources</p>

TUESDAY, OCTOBER 30

1:30 pm – 3:10 pm

Herbicide Techniques and Tools North Hall B	Plant Identification, Biology and Control North Hall F
Moderator: Bob Hartzler, Iowa State University, Department of Agronomy	Moderator: Katherine Howe, Midwest Invasive Plant Network
1:30 pm Ecology and Eradication of Brambles (<i>Rubus</i> spp.) Thomas Brock, University of Wisconsin, Madison	1:30 pm Biology and Control of Japanese Hedge Parsley (<i>Torilis japonica</i>) Mark Renz, University of Wisconsin, Madison
1:55 pm Individual Plant Treatment: Methods and Herbicides for Controlling Invasive Woody Plants Louanne Brooks*, and Mary Hastevedt, Dow AgroSciences	1:55 pm Porcelainberry Identification, Ecology, and Control Efforts in the University of Wisconsin, Madison Lakeshore Nature Preserve Bryn Scriver, University of Wisconsin, Madison Lakeshore Nature Preserve
2:20 pm Injection of Herbicides into Rhizomes of Knotweeds and Other Invasive Species John Lampe, Green Shoots, LLC	2:20 pm Winged Pigweed (<i>Cycloloma atriplicifolium</i>) Invades Piping Plover (<i>Charadrius melodus</i>) Habitat Peggy Burkman, Apostle Islands National Lakeshore
2:45 pm Noxious and Invasive Weed Management with Perspective® Herbicide from DuPont Susan Rick*, Jeff Meredith, Mick Holm, and Craig Alford, DuPont Crop Protection	2:45 pm Rapid Response and Control of Policeman's Helmet (<i>Impatiens glandulifera</i>) Jon Motquin*, Shawano County Land Conservation Division, Aquatic Invasive Species Coordinator; Zachary Hylinski, Wisconsin Department of Natural Resources, Forester; Tom Eggert, Town of Richmond, Weed Commissioner; and Douglas Cox, Menominee Nation Trust Resources Department, Forest Monitoring Specialist



Invasive Species Research within the USGS

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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.



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TUESDAY, OCTOBER 30

3:30 pm – 5:05 pm

Prevention Tools North Hall D Moderator: Phil Moy, University of Wisconsin Sea Grant Institute	Wetland and Aquatic Invasive Plant Management A North Hall E Moderator: Jo Heuschele, University of Minnesota-Twin Cities
3:30 pm Boat Decontamination Strategies for Wisconsin Tim Campbell, University of Wisconsin Sea Grant	3:30 pm Hormonal Sprouting Control in Curlyleaf Pondweed (<i>Potamogeton crispus</i> L.) Turions Jo Heuschele, and Florence Gleason, University of Minnesota-Twin Cities
3:55 pm Clean Boats, Clean Waters: Citizens and Staff Work Together to Protect Wisconsin's Lakes Erin McFarlane, University of Wisconsin-Extension Lakes	3:55 pm From Reed Canarygrass to Sedge Meadow: A Systems Approach Case Study Craig Annen, Integrated Restorations, LLC
4:20 pm Aquatic Invasive Species Prevention for Fishing Tournaments Phil Moy, University of Wisconsin Sea Grant Institute	4:20 pm Typha Control at Horicon Marsh State Wildlife Area: Show Me the Water! Brenda Kelly, Wisconsin Department of Natural Resources
4:45 pm Q&A	4:45 pm Establishment of Live Willow Cuttings in a Floodplain Site Invaded by Reed Canarygrass Michael Merriman*, Meredith Thomsen, and Daniel Timothy Gerber, University of Wisconsin, La Crosse
Forest Insect Invaders on Our Doorstep North Hall A Moderator: Brian Schwingle, Wisconsin Department of Natural Resources	Education and Message Development North Hall C Moderator: Marte Kitson, Minnesota Sea Grant
3:30 pm Within Continent Invasive Pests and Wood from Disasters: Opportunity and Risk Andrea Diss-Torrance, Wisconsin Department of Natural Resources	3:30 pm Layering Outreach Efforts for Effective Invasive Species Education Carmen Chapin, National Park Service
3:55 pm Montana to Minnesota: Transport of Raw Logs with Insects and Fungi Mike Albers, Minnesota Department of Natural Resources, Division of Forestry	3:55 pm National Park Service Combats Invasive Species with Education Marcus Key, National Park Service
4:20 pm Sirex Woodwasp (<i>Sirex noctilio</i>) - Biology, Ecology, & Management Dennis Haugen, U.S. Forest Service - Forest Health Protection	4:20 pm The Bulls-eye Approach to Aquatic Invasive Species Outreach Doug Jensen, and Marte Kitson*, Minnesota Sea Grant
4:45 pm Keep Worms out of Wisconsin's Woods! Bernadette Williams, Wisconsin Department of Natural Resources, Bureau of Forest Management	4:45 pm Play Clean Go: Stop Invasive Species in Your Tracks Susan Burks, and Laura Van Riper*, Minnesota Department of Natural Resources
Expert Panel on Herbicide Use North Hall B Moderator: Mark Renz, University of Wisconsin, Madison	Japanese Hops Summit North Hall F Moderator: Kelly Kearns, Wisconsin Department of Natural Resources, Endangered Resources
3:30 pm Expert Panel on Herbicide Use Rick Schulte, Dale Sutherland, Crop Production Services; and Lee Shambeau, 4 Control Inc. This panel presentation is a full-length session from 3:30pm – 5:05pm 	3:30 pm Biology, Spread and Impacts of Japanese Hops Don Barette*, Southwest Badger RC&D Council; and Kelly Kearns, Wisconsin Department of Natural Resources, Endangered Resources
	3:55 pm <i>Humulus japonica</i>, Japanese Hops in the Platte River Watershed Rebecca Trewartha, Friends of the Platte River – Wisconsin
	4:20 pm Japanese Hops: Coming to a Stream Near You... Take Action Now! Kelly Kearns*, Wisconsin Department of Natural Resources, Endangered Resources; and Don Barette, Southwest Badger RC&D Council

WEDNESDAY, OCTOBER 31

8:30 am – 9:45 am

<p>Ballast Water Panel North Hall E</p> <p>Moderator: Dale Bergeron, Minnesota Sea Grant Program</p>	<p>Wetland and Aquatic Invasive Plant Management B North Hall D</p> <p>Moderator: Joe Eisterhold, Minnesota Department of Natural Resources</p>
<p>8:30 am Ballast Water Collaborative - Implementing Ballast Water Rules in the Great Lakes Dale Bergeron*, Minnesota Sea Grant Program; Craig Middlebrook, Deputy Administrator, St. Lawrence Seaway Development Corporation, U.S. Department of Transportation; Mark Burrows, International Joint Commission, Physical Scientist and Secretary, Council of Great Lakes Research Managers (CGLRM); Robert Lewis-Manning, Vice President, Operations, Canadian Shipowners Association; Jeff Stollenwerk, Minnesota Pollution Control Agency; and Susan Sylvester, Wisconsin Department of Natural Resources</p>	<p>8:30 am Purple Loosestrife Control with Herbicides: Multi-year Applications Stevan Knezevic, University of Nebraska, Lincoln</p>
	<p>8:55 am Ecology and Management of Flowering Rush in Detroit Lakes, Minnesota John Madsen*, Mississippi State University; Michelle Marko, Concordia College, Moorhead, MN.; John Skogerboe, U.S. Army Engineer Research and Development Center; and Ryan Wersal, Mississippi State University</p>
	<p>9:20 am Phenology and Ecology of Flowering Rush in Detroit Lakes, Minnesota Michelle Marko*, Concordia College, Moorhead, MN.; John Madsen, Mississippi State University; Ryan Wersal, Mississippi State University; and Kale Hermanson, Nicole Lindor, Jane Tolkinen, Ryan Smith, Casey Olson, Concordia College, Moorhead, MN.</p>
<p>Emerald Ash Borer's Future Impacts North Hall A</p> <p>Moderator: Mark Abrahamson, Minnesota Department of Agriculture</p>	<p>Communication and Partnership Tools North Hall C</p> <p>Moderator: Christal Campbell, University of Wisconsin-Extension, Wisconsin Department of Natural Resources</p>
<p>8:30 am Projecting Future Effects of Emerald Ash Borer on Upper Midwest Forest Composition Ryan DeSantis*, University of Missouri Department of Forestry and U.S. Department of Agriculture Forest Service, Northern Research Station; W. Keith Moser, U.S. Department of Agriculture Forest Service, Northern Research Station; David Wear, U.S. Department of Agriculture Forest Service, Southern Research Station; Robert Huggett, Jr., and Ruhong Li, North Carolina State University, Department of Forestry and Environmental Resources; and Patrick Miles, U.S. Department of Agriculture Forest Service, Northern Research Station</p>	<p>8:30 am Aquatic Invasive Group Checks - Partnering with Wardens to Educate and Enforce Christal Campbell, University of Wisconsin-Extension, Wisconsin Department of Natural Resources</p>
<p>8:55 am Will Introduced Emerald Ash Borer Parasitoids Overwinter in the Upper Midwest? Anthony Hanson*, University of Minnesota: Department of Entomology; Robert Venette, U.S. Department of Agriculture Forest Service, Northern Research Station</p>	<p>8:55 am Conservation Success through Prevention Partnerships Pat Conzemius, Wildlife Forever</p>
<p>9:20 am Cold Tolerance of Emerald Ash Borer and Why It Matters Robert Venette*, U.S. Department of Agriculture Forest Service, Northern Research Station; and Mark Abrahamson, Minnesota Department of Agriculture</p>	<p>9:20 am Communicating among Diverse Stakeholders about Invasive Species Risk and Management: Learning from the Emerald Ash Borer in Minnesota Eriks Dunens, Humphrey School of Public Affairs; Liz Erickson*, Minnesota Department of Agriculture; and Rachel Haase, Jennifer Kuzma, Kathryn Quick, Humphrey School of Public Affairs</p>

WEDNESDAY, OCTOBER 31

8:30 am – 9:45 am

Invasive Vertebrates and Vertebrate Diseases North Hall B Moderator: Courtney Ripp, Wisconsin Department of Natural Resources	Cooperative Weed Management Area Strategies North Hall F Moderator: Kelly Kearns, Wisconsin Department of Natural Resources
8:30 am White-nose Syndrome: The Biology, Ecology and Spread of an Emerging Bat Disease Richard Geboy*, and Jeremy Coleman, Christina Kocer, Ann Froschauer, U.S. Fish and Wildlife Service	8:30 am Managing Invasive Plants in Minnesota's Boreal Forest and Lake Superior's North Shore Michael Lynch, Cook County Invasive Team
8:55 am Wisconsin Department of Natural Resources White Nose Syndrome (WNS) Surveillance and Response Implementation Strategy Nicole Munkwitz, Wisconsin Department of Natural Resources, Wildlife Management, Wildlife Health Program; David Redell, Erin Crain, Wisconsin Department of Natural Resources, Bureau of Endangered Resources; Tami Ryan, Lindsey Long, Wisconsin Department of Natural Resources, Wildlife Management, Wildlife Health Program; and Jennifer Schehr-Redell*, Wisconsin Department of Natural Resources, Bureau of Endangered Resources	8:55 am How Non-funded Weed Co-ops Function Ted Ritter, Wisconsin Headwaters Invasives Partnership (WHIP)
9:20 am Feral Pigs - A Growing Challenge Brad Koele, Wisconsin Department of Natural Resources	9:20 am Pulling Together in Becker County Cooperative Weed Management Area 2006-2012 Marsha Watland, Becker Soil and Water Conservation District

9:45 am - 10:15 am Break • Visit with Exhibitors

10:15 am – 11:30 am

Great Lakes Control Strategies North Hall E Moderator: Anett Trebitz, U.S. Environmental Protection Agency, Office of Research and Development, Mid-Continent Ecology Division	Biology and Ecology of Snails and Snail Parasites North Hall D Moderator: Christine Herwig, Minnesota Department of Natural Resources
10:15 am Aquatic Invader: Impact of Round Gobies in the Great Lakes Erin Burkett*, and David Jude, University of Michigan-School of Natural Resources and Environment	10:15 am Faucet Snails (<i>Bithynia tentaculata</i>) in the Upper Midwest Christine Herwig, Minnesota Department of Natural Resources
10:40 am Early Detection of Non-Indigenous Fishes in Lake Superior Joshua Schloesser*, Henry Quinlan, U.S. Fish and Wildlife Service; Joel Hoffman, U.S. Environmental Protection Agency, Office of Research and Development, Mid-Continent Ecology Division	10:40 am Combining Empirical and Theoretical Approaches to Better Understand the Persistence of Waterfowl Disease in the Upper Mississippi River Gregory Sandland*, University of Wisconsin, La Crosse, Department of Biology; James P. Peirce, University of Wisconsin, La Crosse, Department of Mathematics; and Roger J. Haro, University of Wisconsin, La Crosse, Department of Biology
11:05 am Aquatic Invasive Species Early Detection in the Great Lakes: Lessons Concerning Strategy Anett Trebitz*, Joel Hoffman, John R. Kelly, Greg Peterson, U.S. Environmental Protection Agency, Office of Research and Development, Mid-Continent Ecology Division; and Henry Quinlan, U.S. Fish and Wildlife Service, Ashland Fish and Wildlife Conservation Office	11:05 am Life-history Responses of Invasive and Native Hosts after Exposure to a Parasite Associated with Waterfowl Die-Offs in the Upper Mississippi River Gregory Sandland*, University of Wisconsin, La Crosse, Department of Biology; Stephen Houk, University of Wisconsin, La Crosse, Department of Mathematics; and Benjamin Walker, Roger J. Haro, Rick Gillis, University of Wisconsin, La Crosse, Department of Biology

WEDNESDAY, OCTOBER 31

10:15 am – 11:30 am

<p>Thousand Cankers Disease: Surveys and Research North Hall A</p> <p>Moderator: Brian Schwingle, Wisconsin Department of Natural Resources</p>	<p>Federal and State Agency Panel North Hall C</p> <p>Moderator: Matt Bushman, Northwoods Cooperative Weed Management Area</p>	
<p>10:15 am Thousand Cankers Disease: Prevention and Early Detection in the Upper Midwest Kathryn Kromroy*, Minnesota Department of Agriculture; and Jennifer Juzwik, U.S. Department of Agriculture Forest Service, Northern Research Station</p>	<p>10:15 am Federal and State Agency Updates and Panel Discussion Matt Bushman, Northwoods Cooperative Weed Management Area (CWMA); Sean Blomquist, Midwest Region, National Wildlife Refuge System; Monika Chandler, Minnesota Department of Agriculture; Kim Bogenschutz, Iowa Department of Natural Resources; Phyllis Higman, Minnesota Department of Natural Resources; Gary Birch, Wisconsin Department of Transportation; Jan Schultz, U.S. Forest Service; Carmen Chapin, National Park Service; and Mindy Wilkinson, Wisconsin Department of Natural Resources</p>	
<p>10:40 am Use of Trap Trees to Detect Invasive Pests and Pathogens of Walnut Jennifer Juzwik*, U.S. Department of Agriculture Forest Service, Northern Research Station; Sharon Reed, University of Missouri, Columbia, Division of Plant Sciences; Mark Banik, U.S. Department of Agriculture Forest Service, Northern Research Station; and William Klingeman, University of Tennessee, Knoxville, Plant Sciences Department</p>		
<p>11:05 am Thousand Cankers Disease - High Priority Research Needs Manfred Mielke, U.S. Forest Service-Forest Health Protection</p>		
<p>Invasives in Horticulture North Hall B</p> <p>Moderator: Monika Chandler, Minnesota Department of Agriculture</p>		
<p>10:15 am Japanese Barberry Risk Assessment by the Minnesota Noxious Weed Advisory Committee Anthony Cortilet*, Minnesota Department of Agriculture; Laura van Riper, Minnesota Department of Natural Resources; Tim Power, Minnesota Nursery and Landscape Association; and Jim Calkins, Minnehaha Creek Watershed District</p>	<div style="background-color: #333; color: white; padding: 20px;"> <h1 style="margin: 0;">Great Lakes National Parks</h1> <p style="margin: 10px 0 0 0;">...unimpaired for the enjoyment of future generations.</p> <p style="margin: 10px 0 0 0;">Not just a creed but a challenge. Your national parks are combating invasive species and need your help.</p> <p style="margin: 10px 0 0 0;">Visit www.nps.gov to find a national park near you and discover how you can protect these special places through volunteer opportunities.</p> <div style="text-align: center; margin-top: 10px;">  </div> </div>	
<p>10:40 am Invasive Ornamental Plant Education and Outreach for Green Industry Cathy McGlynn, Northeast Illinois Invasive Plant Partnership</p>		
<p>11:05 am Seed Production and Viability of <i>Euonymus alatus</i> Cultivars in the Upper Midwest Mark Renz, Laura Jull, and Brendon Panke*, University of Wisconsin, Madison</p>		
<p>Master Planning on State Lands North Hall F</p> <p>Moderator: Thomas Boos II, Wisconsin Department of Natural Resources, Invasive Plants Association of Wisconsin (IPAW)</p>		
<p>10:15 am Forest Certification, Master Planning, Pesticide Use, Property Management Plans - Clearly Linked! Thomas Boos II, Wisconsin Department of Natural Resources and Invasive Plants Association of Wisconsin (IPAW)</p>		
<p>10:40 am Battle Tactics from Camp Ripley, the War on Invasive Species Kayla Malone*, Saint Cloud State University, Department of Biological Sciences; Tim Notch, Camp Ripley Army Training Site, Environmental Department, Natural Resource Specialist</p>		
<p>11:05 am State Forest Invasive Program: a Model for Success Colleen Matula, Wisconsin Department of Natural Resources</p>		



Poster Sessions in North Hall-East

Posters will be displayed throughout the conference. An exhibit reception with poster presenters will be held on Tuesday from 5:15 pm - 7:00 pm. Complimentary refreshments and a cash bar will be offered. Asterisk * indicates the lead presenting author.

Invasive Species Prevention

Prescribed Burning and Preventing Invasive Species Spread

Thomas Boos II, Wisconsin Department of Natural Resources and Invasive Plants Association of Wisconsin

Play Clean Go: Stop Invasive Species in Your Tracks

Susan Burks and Laura Van Riper*, Minnesota Department of Natural Resources

The Bulls-eye Approach to Aquatic Invasive Species Outreach

Doug Jensen and Marte Kitson*, Minnesota Sea Grant

Protecting the Lower Wisconsin River Basin from Aquatic Invasive Species: A Watershed Approach

Matt Krueger*, Laura McFarland, River Alliance of Wisconsin; and Erin Vennie-Vollrath, University of Wisconsin, Madison

NR40 - Wisconsin's Invasive Species Rule

Chrystal Schreck* and Mindy Wilkinson, Wisconsin Department of Natural Resources

So What's the Trouble with Worms?

Bernadette Williams, Wisconsin Department of Natural Resources, Bureau of Forest Management

Implementing NR40 - Best Management Practices for Terrestrial Invasive Plants

Bernadette Williams, Courtney LeClair, Chrystal Schreck*; Thomas Boos II, Kelly Kearns, and Mindy Wilkinson, Wisconsin Department of Natural Resources

Great Lakes Indian Fish and Wildlife Commission Online Invasive Species Database

Miles Falck* and Dara Olson, Great Lakes Indian Fish & Wildlife Commission

Evaluation of Illinois-Indiana Sea Grant Outreach Efforts in the Lake Michigan Watershed

Lainey Pasternak and Sarah Zack*, Illinois-Indiana Sea Grant; and Erin Seekamp, Southern Illinois University

Time Costs of Volunteer Networks for Monitoring Invasive Species

Winston Oakley, David Andow, Eugene Borgida, Terrence Hurley
University of Minnesota

Invasive Species Biology, Ecology, Impacts, and Distribution

Round Goby Detection and Distribution in Tributaries of the Great Lakes

Tim Campbell*, University of Wisconsin Sea Grant; Joseph Nett, Scott Tiegs, Oakland University; and Nicholas Mandrak, Fisheries & Oceans Canada

Host influence on Cold Hardiness of Emerald Ash Borer (*Agrilus planipennis*)

Lindsey Christianson, University of Minnesota, Department of Entomology; and Robert Venette, U.S. Department of Agriculture Forest Service, Northern Research Station

Cannibalism in the Brown Marmorated Stink Bug (Pentatomidae: *Halyomorpha halys*)?

Theresa Cira*, University of Minnesota, Department of Entomology; Robert Koch, Minnesota Department of Agriculture; Eric Burkness, and William Hutchison, University of Minnesota, Department of Entomology

Zebra Mussel (*Dreissena polymorpha*) Habitat Preference and Population Dynamics within and among Lakes in Northeast Wisconsin and Upper Michigan

Maureen Ferry*, Wisconsin Cooperative Fishery Research Unit; Kyle Herrman, University of Wisconsin, Stevens Point; Gregory Sass, Wisconsin Department of Natural Resources; and Tim Ginnett, University of Wisconsin, Stevens Point

Effects of Ant Exclusion on Invasive Leafy Spurge Reproduction and Herbivore Damage

Moni Berg-Binder, Saint Mary's and University of Minnesota

Fostering Student Understanding of Species Invasions and Disease Transmission at the Interface between Mathematics and Biology

Susan Frankki*, University of Wisconsin, La Crosse, Department of Mathematics; Krista Hines, Andy Kressin, University of Wisconsin, La Crosse, Department of Biology; Robert Wolf, Barbara Bennie, University of Wisconsin, La Crosse, Department of Mathematics; Roger J. Haro, University of Wisconsin, La Crosse, Department of Biology; James P. Peirce, University of Wisconsin, La Crosse, Department of Mathematics; and Gregory J. Sandland, University of Wisconsin, La Crosse, Department of Biology

Post-Establishment, Pre-outbreak Dynamics of Gypsy Moth in Northern Wisconsin

Rebecca Gray*, Wisconsin Department of Agriculture, Trade & Consumer Protection; Patrick Tobin, U.S. Department of Agriculture Forest Service, Northern Research Station; Robert Murphy, Wisconsin Department of Natural Resources; and Kenneth Raffa, University of Wisconsin, Department of Entomology

The Influences of Photosynthetic Active Radiation on *Potamogeton crispus* Growth and Early Season Herbicide Treatments in a Shallow Lake Ecosystem

Zack Gutknecht* and Shannon Fisher, Minnesota State University, Mankato, Water Resource Center

continued on next page>>

Invasive Species Biology, Ecology, Impacts, and Distribution

Carbohydrate Allocation of Flowering Rush

Kale Hermanson*, Nicole Lindor, Elizabeth Blair, Jane Tolkinen, Ryan Smith, Kristy Williams, Michelle Marko, Concordia College, Moorhead, MN.; and John Madsen, Mississippi State University

Round Goby (*Neogobius melanostomus*) Impact on Nearshore Litter Processing and Benthos Abundance

Joey Holmes, University of South Dakota

Observations Sought for Plants Being Assessed for Wisconsin's Invasive Species Rule

Kelly Kearns*, Wisconsin Department of Natural Resources, Endangered Resources; and Thomas Boos II, Wisconsin Department of Natural Resources and Invasive Plants Association of Wisconsin (IPAW)

Citizen Scientists: Surveying Terrestrial Invasive Plants in Eau Claire County, Wisconsin

Jeanette Kelly*, Beaver Creek Reserve Citizen Science Center; David Hon, Matt Morris, and Paula Kleintjes-Neff, University of Wisconsin, Eau Claire

Lakes Prone to Winter Hypoxia in Interconnected Systems Function as Nurseries for Invasive Common Carp

Justine Koch*, Jacob Osborne, and Peter Sorenson, University of Minnesota, Fisheries, Wildlife, and Conservation Biology

Improving Invasive Insect Distribution Models for the Midwest and Beyond

Amy Morey*, University of Minnesota, Department of Entomology; Robert Venette, U.S. Department of Agriculture Forest Service, Northern Research Station; and William Hutchison, University of Minnesota, Department of Entomology

Eastern Bluebird as a Dispersal Vector for Oriental Bittersweet into Grasslands

Neal Mundahl, Winona State University

Host Competition and Juvenile Susceptibility's Effect on Persistence of A Waterfowl Disease

Matthew Rittenhouse*, University of Wisconsin, La Crosse, Department of Biology; Maria Jansen, Barbara Bennie, University of Wisconsin, La Crosse, Department of Mathematics; Roger J. Haro, University of Wisconsin, La Crosse, Department of Biology; James P. Peirce, University of Wisconsin, La Crosse, Department of Mathematics; and Gregory J. Sandland, University of Wisconsin, La Crosse, Department of Biology

Gypsy Moth Invasion Dynamics in Northern Minnesota

Patrick Tobin*, U.S. Department of Agriculture Forest Service, Northern Research Station; Natasha Northop, Lucia Hunt, Cree Bradley, Bob Kangas, and Alison Rossow, Minnesota Department of Agriculture

Quantifying The Spread of Invasive Earthworms in Minnesota's Northern Forests

Kelly P. Bray, Ryan Hueffmeier, Gerry Sjerven, George Host, David Andow, University of Minnesota

Relation Between Fishing Pressure And Earthworm Impacts Near Boat Landings

Claire Palokangas, Laura Christensen, Ryan Hueffmeier, George Host, David Andow, University of Minnesota

Identifying and Evaluating Vernal Pool Habitats Spanning a Continuum of Earthworm Invasion Status

Stephanie Driskell, Jennifer Olker, Ryan Hueffmeier, Cindy Hale, University of Minnesota

Invasive Species Control and Management

Conclusions From 11 Years of Buckthorn Biocontrol Research

Andre Gassmann, CABI-Europe Switzerland; Laura Van Riper*, and Luke Skinner, Minnesota Department of Natural Resources

Biological Control of Garlic Mustard With A Seed-Feeding Weevil

Elizabeth Katovich* and Roger Becker, University of Minnesota, Department of Agronomy and Plant Genetics; Esther Gerber, and Harriet Hinz, CABI Europe-Switzerland

Induced Nest Failure as a Method for Controlling Invasive Bass

Grace Lopnow*, University of Minnesota, Twin Cities Department of Fisheries, Wildlife, and Conservation Biology; Brian Shuter, University of Toronto, Department of Ecology and Evolutionary Biology; and Paul Venturelli, University of Minnesota, Twin Cities, Department of Fisheries, Wildlife, and Conservation Biology

Factors Affecting Herbicide Selection and Use in Plant Community Restoration Programs

Robert Masters*, Mary Halstvedt, Louanne Brooks, and Louise Brinkworth, Dow AgroSciences, LLC

Volunteers in Action: A Growing Presence on State Natural Areas

Jared Urban, Wisconsin Department of Natural Resources

Efficacy of Composting to inactivate Seeds From Garlic Mustard and Common Buckthorn

Joe Van Rossum*, University of Wisconsin-Extension; and Mark Renz, University of Wisconsin, Madison

Non-Native Phragmites Australis May Spread Via Cut Stem Fragments

Brock Woods*, University of Wisconsin-Extension & Wisconsin Department of Natural Resources; Evan Link, and Kari Spiegelhalter, Lawrence University, Appleton, WI.

Identifying Small Watersheds to Aid Management of Garlic Mustard (*Alliaria petiolata*)

Craig Maier, The Nature Conservancy, Baraboo Hills Project Office*
Mallika Jayaraman, The Nature Conservancy, Baraboo Hills Project Office
John Wagner, The Nature Conservancy, Wisconsin Chapter
Ann Calhoun, The Nature Conservancy, Baraboo Hills Project Office

Reed canary grass (*Phalaris arundinacea*) and black locust (*Robinia pseudoacacia*) control in the Mississippi River floodplain

Kurt Brownell, US Army Corps of Engineers Recreation and Natural Resource Environmental Section

continued on next page>>

Invasive Species Early Detection, Response, Containment and Preparedness

Manual Removal of Eurasian Watermilfoil (*Myriophyllum spicatum* L.)

Paul Skawinski*, Golden Sands RC&D Council; and Chris Hamerla, Lumberjack RC&D Council

Minnesota's Expanded Program to Support Management of Invasive Aquatic Plants

Joe Eisterhold, Minnesota Department of Natural Resources

Predicting Risks to Native Plants From invasives in the Lake Superior Region

Steven Garske* and Miles Falck, Great Lakes Indian Fish & Wildlife Commission

Eurasian Water Milfoil (*Myriophyllum spicatum*): Getting to the Root of the Problem

Stephanie Boismenu, Volunteer Aquatic Invasive Species Project Coordinator, Squash Lake Association

Post-Invasion Restoration

Transplanting Native Submerged Aquatic Macrophytes to Restore Littoral Communities After Carp Removal

Joshua Knopik*, and Raymond Newman, University of Minnesota, Department of Fisheries, Wildlife, and Conservation Biology

A Coordinated Monitoring Strategy for Invasive Plants on Midwest National Wildlife Refuges

Sean Blomquist*, Midwest Region, National Wildlife Refuge System; Kathy Huffman, Ottawa National Wildlife Refuge; Eric Lonsdorf, Chicago Botanic Garden; and Daniel Wood, Muscatatuck National Wildlife Refuge

Applying Succession Theory to Invasive-Dominate Prairie Area at Camp Ripley, MN.

Kayla Malone, Saint Cloud State University, Department of Biological Sciences

STOP INVASIVE SPECIES IN YOUR TRACKS.



Help Prevent The Spread Of Invasive Plants And Animals.

- Clean your gear before entering and leaving the recreation site.
- Remove mud and seeds from clothes, pets, boots, gear and vehicles.
- Burn only local or certified firewood.
- Use only local or certified weed-free hay.
- Stay on designated trails.



**STOP INVASIVE SPECIES
IN YOUR TRACKS.**

PlayCleanGo.org

MINNESOTA DEPARTMENT OF NATURAL RESOURCES