



Wetland Science  
Conference

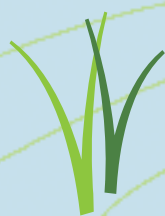
2018

Wisconsin Wetlands  
ASSOCIATION

# Wetland Resilience in a Changing World

February 20-22, 2018

Lake Geneva, WI



## Wisconsin Wetlands ASSOCIATION

214 N. Hamilton St., Suite 201  
Madison, WI 53703

Phone: 608-250-9971

[wisconsinwetlands.org](http://wisconsinwetlands.org)

Email: [info@wisconsinwetlands.org](mailto:info@wisconsinwetlands.org)

## About Wisconsin Wetlands Association

Wisconsin Wetlands Association is dedicated to the protection, restoration, and enjoyment of wetlands and associated ecosystems through science-based programs, education, and advocacy. We envision a state where wetlands are healthy and plentiful and support ecological and societal needs, and where citizens care for, appreciate, and interact with these natural resources. We are a non-profit, non-partisan, member-supported conservation organization.

If you are not yet a member of Wisconsin Wetlands Association, we encourage you to show your support for wetlands and for our wetland conservation programs by becoming a member today!

Learn more and join online at [wisconsinwetlands.org](http://wisconsinwetlands.org)

## World Wetlands Day

February 2nd is World Wetlands Day, the annual worldwide celebration of wetlands that commemorates the signing of the Ramsar Convention on Wetlands on February 2, 1971, in the Iranian city of Ramsar. On World Wetlands Day, government agencies, non-governmental organizations, and groups of citizens around the world take action to raise public awareness of wetland values. WWA's Wetland Science Conference is held in celebration of World Wetlands Day 2018. Learn more about World Wetlands Day at [ramsar.org](http://ramsar.org).



## Make it Social



Like us on Facebook or follow us  
on Twitter [@WIWetlandsAssoc](https://twitter.com/WIWetlandsAssoc).

Share your conference experience  
using [#WWAconference](https://twitter.com/WWAconference)!

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In 2012, Wisconsin Wetlands Association became the first U.S.-based entity to win the Wetlands Conservation Award for Education from the Ramsar Convention. We were honored for our work to promote and increase the number of designated Ramsar Wetlands of International Importance in Wisconsin and the United States as well as for our outreach and education programs that promote the ideals of the Ramsar Convention. We continue to work with Wisconsin wetland professionals and enthusiasts to nominate worthy Wisconsin wetlands for Ramsar designation, including the Kakagon and Bad River Sloughs (designated in 2012), the Door Peninsula Coastal Wetlands (designated in 2014), the Chiwaukee Illinois Beach Lake Plain (designated in 2015), and the Lower Wisconsin River.

## Conference Advisory Panel

**Tom Bernthal**

WDNR

**Aaron Feggestad**

Stantec

**Rebecca Graser**

USACE

**Tracy Hames**

Wisconsin Wetlands Association

**Tod Highsmith**

WWA Board of Directors

**Kelly Kearns**

WDNR

**Lauren Leckwee**

WCMP

**Ron Londré**

TRC Environmental Corporation

**Nick Miller**

The Nature Conservancy

**Bill Mueller**

Western Great Lakes Bird  
and Bat Observatory

**Travis Olson**

UW-Extension

**Randy Poelma**

Ho-Chunk Nation

**Jim Reinartz**

UW-Milwaukee Field Station

**Dan Salas**

Cardno

**Sue Schumacher**

We Energies

**Amy Staffen**

WDNR

**Alice Thompson**

Thompson & Associates Wetland  
Services

**Pat Trochlell**

WDNR (retired)

**Dreux Watermolen**

WDNR

### WWA staff supporting these advisors:

Katie Beilfuss and Emily Buck. Logistical support provided by Fiorella Neira of IMPACT Virtual Services.

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*Note: You can view abstracts and biographies at the registration desk or download them in pdf format at [conference.wisconsinwetlands.org/abstracts](http://conference.wisconsinwetlands.org/abstracts)*

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# Welcome to Wetland Resilience for a Changing World

## Wisconsin Wetlands Association's

### 23rd Annual Wetland Science Conference



MARIO QUINTANA

Wetlands are resilient. They have to be. Occurring in the middle ground between “always wet” and “always dry,” wetlands are places in flux and require the capacity to manage change, whether the change be in water level, water temperature, chemistry, or other factors. Consider the ephemeral pond: full of shallow water in early spring (water that warms up quickly in spring sun), and dry again in most years by late summer, hardly recognizable as a wetland by the average passer-by.

Wetlands can also convey resilience to our communities, providing many critical ecosystem services. In fact, wetlands provide disproportionately more ecosystem services than other natural communities, acre-for-acre. Wetlands clean water by filtering out sediments, nutrients, and other pollutants. Wetlands help control water and water energy, capturing, storing, and slowly

releasing precipitation and snow melt, slowing the flow of water, reducing flood peaks, increasing infiltration, and providing a steady source of base flow to lakes and streams. Wetlands provide essential habitat for economically important fish and wildlife and support other plants and wildlife that make wetlands great places for recreation and renewal. And that’s not to mention other services like carbon sequestration and biogeochemical provisioning.

Despite their natural resilience and the many natural benefits they provide, wetlands are vulnerable to many of the changes in our landscapes and weather patterns. Because wetlands exist within a relatively narrow “bandwidth” hydrologically, too much water or too little water for too long can have dramatic consequences for wetlands. Sediments, nutrients, invasive species, and other inputs from our changing landscapes also challenge our wetlands’ ability to be resilient and to provide resiliency.

The 2018 Wetland Science Conference, *Wetland Resilience for a Changing World*, will examine the many sides of wetland resilience, including how managers can help promote wetland resilience now and in the future and how communities can include wetlands and watersheds in their planning for resilience. It will also build the resilience of our wetland community, creating and growing networks of professionals and enthusiasts who can collaborate and innovate for the good of our wetlands, our watersheds, and our communities.

We thank you for your contributions to wetland and community resilience and for your work to protect and care for wetlands. Wisconsin’s wetlands and communities benefit from your efforts.

## Keynote Address

**Wednesday, February 21, 9:20–10:10 am**

**Location: Grand Ballroom**

*Thank you to We Energies for their generous sponsorship of this session.*



### **Resiliency for Wetlands and Communities: Notes from the Field**

#### **Gillian Davies**

*Senior Ecological Scientist, BSC Group, Inc.,  
and Past President, Society of Wetland  
Scientists*

Wetlands provide ecosystem services that are disproportionate to their presence on the landscape, and play a significant role in the global carbon cycle. Wetlands also face specific vulnerabilities as our climate changes. Davies will share cutting-edge approaches to identifying ecological climate resiliency on the landscape and will discuss how wetlands provide communities with greater resiliency to respond to our changing climate. Her talk will draw on recent research findings as well as her own experiences in working with land trusts, a watershed association, and in wetland restoration/creation design to implement climate resilient and carbon-smart practices. Davies will discuss climate-smart wetland management, policy, strategy, and practices as we improve our resilience to our changing climate.

**ABOUT THE SPEAKER** Gillian Davies is a Senior Ecological Scientist at BSC Group, Inc., and is the Immediate Past President of the Society of Wetland Scientists. Gillian was a contributing author to the Massachusetts Climate Change Adaptation Report and has given presentations on wetlands and climate change at many conferences in the U.S. and globally.

Gillian has a master's in environmental studies from the Yale School of Environmental Studies and a bachelor's from Williams College. She is a Professional Wetland Scientist, a Registered Soil Scientist, and a New Hampshire Certified Wetland Scientist, and has 25 years of experience working in the wetlands field.

## Plenary Presentation

**Thursday, February 22, 8:40–9:30 am**

**Location: Grand Ballroom**

*Thank you to Cardno for their generous sponsorship of this session.*



### **Climate Change and Waters of Wisconsin: An Update**

#### **John Magnuson**

*Emeritus Professor and Emeritus  
Director, Center for Limnology,  
UW-Madison*

Ten years ago at this conference, John Magnuson presented a plenary talk entitled "Climate Change and Waters of Wisconsin." In this presentation, he will provide an update on climate change and the waters of Wisconsin, addressing several key tenets. First, science remains a valued source of reliable information about the world around us and is recognized for that truth by a large proportion of the human population. Second, doing science and applying science to the problems we encounter is a noble activity for the good of humankind and the world in which we live.

Magnuson will discuss the fact that our fundamental knowledge about climate change, its causes, and impacts has been remarkably consistent over the last 10 years. Magnuson will provide examples from research on Wisconsin waters to show the continuing importance of climate change in research, analysis, management, and policy.

**ABOUT THE SPEAKER** John J. Magnuson is an aquatic ecologist and limnologist with a special interest in fish and fisheries ecology. His training is in fish and wildlife management, zoology, and oceanography. John is an emeritus professor at the UW – Madison Center for Limnology, which he helped form in 1982. He was also the Center's first director. He has had a strong interest in seeing science used in solving real world issues related to conservation of species, climate change, and fisheries.

## Banquet Presentation

**Wednesday, February 21, 6:30–9:30 pm**

**Location: Grand Ballroom**

*Thank you to Wisconsin Coastal Management Program for their generous sponsorship of this event.*



### It's Kind of Fun to Do the Impossible!

#### Ken Leinbach

*Executive Director, Urban Ecology Center*

With climate change in the news, an urban core that has reached boiling point, and many children growing up without role models or dreams ... where is hope? There is a quiet experiment in Milwaukee that is turning heads and works as a catalyst for social change! The story of the Urban Ecology Center is the story of how a group of ordinary people in an ordinary neighborhood created something quite extraordinary.

Using the wetland as a metaphor—an often forgotten critical link in an ecosystem and a needed system of diversity and abundance—Leinbach will weave a tale of real time possibility that is sure to inspire. It's a story about the restoration of urban land into a natural state and of the restoration of the urban soul. It's also a story of transformation—of kids, of parks, of neighborhoods, of a city—and the story of a vision for the transformation of the world.

**ABOUT THE SPEAKER** Ken Leinbach is a nationally recognized science educator and leader in community-based environmental education. Known for its creative approach to education and social innovation, the Center provides consistent contact to nature for tens of thousands of central city students and residents across Milwaukee each year. Check out Ken's recent book: *Urban Ecology: A Natural way to Transform Kids, Parks, Cities and the World*.

*Note: The Banquet is a ticketed event open to conference participants and the general public who purchased tickets in advance. If you did not purchase a ticket, please see the conference registration desk for information about ticket availability.*

## Program Highlights: Symposium

### Preparing Wisconsin's Wetlands for a Changing World: Integrated Approaches to Adaptation

**Wednesday, February 21, 2018**

**10:40 am–5:00 pm**

**and Thursday, February 22, 2018**

**9:30 am – 12:00 pm**

**Location: Loramoor C**

*This symposium was organized by Amy Staffen (WDNR), Sue Schumacher (We Energies), and Alice Thompson (Thompson & Associates Wetland Services).*

Ten years ago, the 2008 Wetland Science Conference featured a special session to explore how changes in temperature, precipitation, and other climatic factors might affect wetland ecosystems. The scientific community has made significant advances in this field of study since then. This symposium will provide attendees with the most up-to-date and regionally pertinent projections for Wisconsin's climate in the coming years and how those changes may influence wetlands, water quality, flooding, and the health of wetlands and waters in the state. It will also highlight the important ecosystem services offered by wetlands in the landscape to moderate flooding and related threats.

The symposium will help wetland managers translate research findings into practical on-the-ground actions by explaining important concepts within the context of real-life examples. Presenters will highlight available tools and resources that help individuals identify adaptation strategies and evaluate management approaches through monitoring. This symposium will leave you feeling empowered to implement proactive adaptation planning in the wetlands that you care for.

This year's symposium is a joint venture of the Wisconsin Initiative on Climate Change Impacts and the Northern Institute for Applied Climate Science.



## Program Highlights: Field Trips

**Thursday, February 22, 1:30–4:30 pm**

Field trip sign up is at conference check-in and field trips will fill on a first-come, first-served basis. Please dress warmly and wear sturdy boots. Field trips will run in almost any weather (with the exception of hazardous conditions).

### Hackmatack National Wildlife Refuge

**Field trip leaders: Vince Mosca, Hey and Associates; Steve Byers and Ed Collins, INPC**

*Thank you to Hey and Associates for their generous sponsorship of this field trip.*

The Friends of the Hackmatack National Wildlife Refuge (HNWR) will discuss the progress of land acquisition and momentum for future purchases since the refuge was designated in 2012. Topics to be covered include the restoration efforts that have taken place so far, volunteer and educational programs, and the economic and environmental role that a National Wildlife Refuge will have in the bi-state area. This refuge sits on natural land full of the remnants of glacial activity containing many gravel kames and kettles and is supported by restored prairies, oak savannas, streams, and wetlands. The main habitat goal of the HNWR is grassland bird habitat through open space protection and restoration.

*This is an outdoor field trip limited to 30 participants. Transportation by school bus will be provided.*

*This field trip will depart by bus at 1:30 pm from the Grand Geneva Conference Center entrance. Please arrive 10 minutes early to board the bus.*

### Mukwonago River Wetland Restoration: An In-Lieu Fee Mitigation

**Field trip leaders: Cheryl White and Meghan Wersel, Waukesha County Land Conservancy; Peter Ziegler, WI Waterfowl Association; Sally Gallagher-Jarosz, WDNR**

*Thank you to Midwest Natural Resources for their generous sponsorship of this field trip.*

This trip will begin with an indoor discussion of how the Mukwonago River Wetland Restoration project came about for the Waukesha County Land Conservancy. Hear about team compilation, lessons learned, and the history of the site. The team will discuss what made this project attractive and what went into applying for In-Lieu Fee (ILF) funding. We will also discuss what the ILF process involves, how projects are funded, and what the ILF program looks for in a restoration project. At the field site we will discuss what the restoration will entail before construction occurs in 2018.

*This field trip will spend time both indoors and outdoors and is limited to 30 participants. This is a self-drive field trip. No buses will be provided to the site, but parking for vehicles will be available. Directions provided.*

*This field trip will meet in Loramoor B at 1:30 pm.*

### Wetlands in Winter: Scuppernong River Habitat Area

**Field Trip Leaders: Pat Trochlell, retired WDNR, and Don Reed, retired SEWRPC**

*Thank you to Montgomery Associates: Resource Solutions, LLC for their generous sponsorship of this field trip.*

Explore the wonder of wetlands in winter at the wetlands of the Scuppernong River Habitat Area. The site is home to the largest native low prairie remaining east of the Mississippi River and is a designated Wetland Gem®. At 3,500 acres, it supports large areas of several rare native plant communities, such as wet to wet mesic prairies, sedge meadows, and fens. In addition, the area supports more than 60 plants, animals, and insects that are state-threatened, state-endangered, or “of special concern.” Participants are encouraged to bring their cameras, as this site will offer excellent opportunities to capture the beauty of wetlands in winter!

*This is an outdoor field trip limited to 25 participants. This is a self-drive field trip. No buses will be provided to the site, but parking for vehicles will be available. Directions provided.*

*This field trip will meet at the Grand Geneva main entrance. Please arrive 10 minutes early to get directions.*

WEDNESDAY, February 21, 9:00 am - 9:30 pm

9:00 - 10:10 9:00	Plenary Session (Grand Ballroom) Welcome & Opening comments	Sponsored by We Energies		
9:20	Conference Keynote: Resiliency for Wetlands and Communities: Notes from the Field Gillian Davies, Senior Ecological Scientist, BSC Group, Inc. and Past President, Society of Wetland Scientists			
10:10 - 10:40 10:40 - 12:00	Break (Grand Ballroom and Foyer) Concurrent Sessions	Sponsored by Midwest Groundcovers		
	Location: Loramoor C SYMPOSIUM: Preparing Wisconsin’s wetlands for a changing world   Moderator: Amy Staffen	Location: Loramoor B Wetland Wildlife   Moderator: Bill Mueller	Location: Loramoor A Long-term Restoration & Management Moderator: Jacob Straub	
10:40	Climate change and adaptation in Wisconsin   Vimont	Recovering impaired fish and wildlife in the Milwaukee Estuary Area of Concern   Casper	Influence of hydrologic restoration techniques on plant communities in the Glacial Habitat Restoration Area   Schultz	
11:00	Changing climate, changing hydrology   Montgomery	Status of Blanchard’s cricket frog in Wisconsin   Badje	Restoration of boreal forest wetlands in Superior, Wisconsin: 10-years post construction monitoring   Staskowski	
11:20	Scratching below the surface: The uncertain future of groundwater recharge in a changing climate   Murdock	Colonization of a restored island chain by piping plover and other rare species in Lower Green Bay, Wisconsin   Prestby	Contaminated urban wetlands and streams: Five years of channel/wetland restoration at the Cobalt Project   Lennie	
11:40	Lessons from the field: Changes in water resources   Thompson	Pollinator opportunities within rights of way: Using geospatial and decision modeling to target conservation   Salas	25 years of change: Nitrogen and phosphorus removal in a freshwater coastal wetland in the past and present   Richardson*	
12:00 - 1:30 1:00 - 1:50 1:30 - 2:50	Lunch (provided - Grand Ballroom) Legislative/Policy Updates (Grand Ballroom) Concurrent Sessions	Sponsored by GEI Consultants, Inc.		
	Location: Loramoor C SYMPOSIUM: Preparing Wisconsin’s wetlands for a changing world   Moderator: Jason Fleener	Location: Loramoor B Watershed Approaches   Moderator: Kyle Magyera	Location: Loramoor A Wetlands & People   Moderator: Travis Olson	
1:30	Moving from general to site-level vulnerability of Wisconsin’s wetland plant communities   O’Connor	Understanding wetlands as solutions to flood risks   Magyera	Impacts of stormwater runoff and road salt intrusion on the soil quality of an urban wetland in Chicago   Hernandez*	
1:50	A vulnerability assessment of wetland plants: Combining scientific and traditional ecological knowledge   Panci	Lake County’s Wetland Restoration and Preservation Plan, part 1: Approach   Crane	Community and conservation: Studying urban biodiversity in Milwaukee County, Wisconsin   Robson	
2:10	If this is another 100-year storm, I must be 400 years old: The likely impacts of climate change on wild rice   David	Lake County’s Wetland Restoration and Preservation Plan, part 2: GIS & decision-support tool   Prusila	Wisconsin’s Healthy Lakes Initiative: Working with lakefront property owners to apply BMP’s   Goggin	
2:30	Through drought and high water: Vegetation dynamics in Lake Superior coastal and inland wetlands   Johnson	Wetlands by Design: Finding conservation opportunities for ecosystem services and watershed resilience   Miller	Using poetry to express our human connection to wetlands   Thompson	
2:50 - 3:20 3:20 - 5:00	Break (Grand Ballroom and Foyer) Concurrent Sessions	Sponsored by Merjent		
	Location: Loramoor C SYMPOSIUM: Preparing Wisconsin’s wetlands for a changing world   Moderator: Sarah Johnson	Location: Loramoor B Wetland Flora & Plant Communities Moderator: Ron Londré	SPECIAL SESSIONS Location: Loramoor A   Location: Galewood C	
3:20	The short and long of wetland carbon emissions, uptake, and lateral transfer   Desai	Floristic quality assessment benchmarks for wetlands of Wisconsin’s north central hardwood forests ecoregion   Marti	Career Development & Continuing Education in Wetland Science Moderated by Susan Schumacher	
3:40	Lessons from the field: Wetland restoration as a tool to maintain watershed health and ecosystem services under a changing climate   Miller	Samuel Myers Park: Incorporating coastal resilience into an urban wetland restoration   Koski		
4:00	Wisconsin’s changing climate and wetland invasive species   Granberg	Restoring native upland buffers: An integral component of wetland resiliency   Kraszewski	Tribal Wetland Programs Working Group Moderated by Randy Poelma (by invitation only) Sponsored by Forest County Potawatomi Foundation	Wisconsin Wetland Inventory Redesign Listening Session Moderated by Chris Noll, Amanda Minks, and Calvin Lawrence
4:20	Potential for an invasive hybrid involving southern cattail: A case study from Wisconsin   Geddes	Investigating seasonal variation in prescribed burn impacts to lowland brush ecosystems   Knosalla *		
4:40	Understanding the vulnerability of wetland-dependent wildlife to climate change   Zuckerberg	Comparing the plant communities in wetland mitigation banks to those in natural wetlands   Tillman *		
5:00 - 6:30	Poster Session & Cash Bar (Grand Ballroom and Foyer)	Sponsored by Stockbridge-Munsee Community		
6:30 - 9:30	Banquet & Presentation (Ticketed event—Grand Ballroom and Foyer)	Sponsored by Wisconsin Coastal Management Program		
7:30	Banquet Presentation: It’s Kind of Fun to do the Impossible!   Ken Leinbach, Urban Ecology Center in Milwaukee			



# THURSDAY, February 22, 8:30 am - 4:30 pm

<b>8:30-9:20 8:30</b>	<b>Plenary Session (Grand Ballroom)</b> <b>Welcome</b>	<i>Sponsored by Cardno</i>	
<b>8:40</b>	<b>Plenary Address:</b> Climate Change and Waters of Wisconsin: An Update John Magnuson, Emeritus Professor and Emeritus Director, Center for Limnology, UW – Madison		
<b>9:30-10:30</b>	<b>Concurrent Sessions</b>		
	<b>Location: Loramoor C</b> <b>SYMPOSIUM: Preparing Wisconsin's wetlands for a changing world   Moderator: Ryan O'Connor</b>	<b>Location: Loramoor B</b> <b>Invasive Species I</b> <b>Moderator: Aaron Feggestad</b>	<b>Location: Loramoor A</b> <b>Hydrology &amp; Geomorphology</b> <b>Moderator: Dreux Watermolen</b>
9:30	Climate change risk management: Introduction to adaptation in planning and decision-making   <b>Shannon</b>	Large-scale evaluation of reed canarygrass suppression treatments across four floodplain sites in SE Minnesota   <b>Kiser*</b>	2018 status of lidar elevation products in Wisconsin   <b>Gigliano</b>
9:50	Overview of adaption tools and approaches for wetland managers   <b>Ontl</b>	Tree sapling responses to reed canarygrass treatments across four floodplain sites in SE Minnesota   <b>DeLaundreau *</b>	Modeling the frequency and extent of overbank flow of a wetland stream   <b>Potter</b>
10:10	Lessons from the field: Pre-adapting restorations to ongoing climate change: Assessing tools, lessons learned, and future challenges   <b>Sullivan</b>	An adaptive management approach to treatment of <i>Phragmites</i> in northeast Wisconsin wetlands   <b>Webster</b>	Spring systems in Wisconsin   <b>Graham</b>
<b>10:30 - 11:00 11:00 - 12:00</b>	<b>Break (Grand Ballroom and Foyer)</b> <b>Concurrent Sessions</b>	<i>Sponsored by Applied Ecological Services</i>	
	<b>Location: Loramoor C</b> <b>SYMPOSIUM: Preparing Wisconsin's wetlands for a changing world   Moderator: Amy Staffen</b>	<b>Location: Loramoor B</b> <b>Invasive Species II</b> <b>Moderator: Kelly Kearns</b>	<b>Location: Loramoor A</b> <b>Identifying and Implementing In-Lieu Fee Mitigation Projects</b> <b>Moderator: Nick Miller</b>
11:00	Is your adaptation approach working? The importance of monitoring   <b>Ontl</b>	Phragmites Adaptive Management Framework: Citizen science and decision support tool for the Great Lakes basin   <b>Ferrier</b>	In-lieu fee mitigation in Wisconsin: Lessons learned and adaptations   <b>Gallagher-Jaros</b>
11:20	Preparing Wisconsin's wetlands for a changing world: Pioneers in adaption share their stories   <b>Staffen</b>	Is native cattail on the decline? A case study in Volo Bog State Natural Area, IL   <b>Murphy *</b>	Using the Wetlands Explorer to find and evaluate wetland conservation sites for compensatory mitigation   <b>Bernthal</b>
11:40		Monitoring the effectiveness of invasives control at Pheasant Branch Conservancy using timed meander surveys   <b>Trochlell</b>	Partnering to successfully secure an in-lieu fee project   <b>White</b>
<b>12:00 - 1:30</b>	<b>Lunch (provided — Grand Ballroom)</b>	<i>Sponsored by J. F. Brennan Company, Inc.</i>	
<b>1:30 - 4:30</b>	<b>Working Groups, Workshops, and Field Trips</b>		

## WORKING GROUP & WORKSHOP

### Practitioners Working Group Location: Loramoor C Moderator: Dan Salas

This session offers an opportunity for wetland practitioners—including consultants, federal, state, and local regulators, land managers, and others—to discuss current issues relevant to their daily work. The agenda will be set with the input of those who participated in similar sessions at previous WWA conferences. The last hour is reserved for a closed-door session for consultants and WWA policy staff to discuss strategies to bring more consultant input into the wetland policy development process.

### Aquatic Plant Identification Workshop Location: Loramoor A Instructor: Paul Skawinski

Wisconsin is blessed with about 150 species of plants that live completely submerged or floating in our lakes, streams, and wetlands. Even a small sedge meadow pool may have a dozen aquatic species in it, ranging from carnivorous bladderworts to pondweeds to macro-algae like *Chara*. Paul will introduce the diversity of aquatic plants in Wisconsin and highlight the major groups that occur here. Specimens will be available during the workshop for participants to study. Participation by advanced registration only. No walk-ins.

## FIELD TRIPS

Sign up for field trips at the registration desk.

### Hackmatack National Wildlife Refuge

This field trip will depart by bus from the Grand Geneva Conference Center Entrance.

**Field Trip Leaders: Vince Mosca, Steve Byers, Ed Collins**

Thank you to Hey & Associates, Inc. for their generous sponsorship of this trip.

### Mukwonago River Wetland Restoration: An In-Lieu Fee Mitigation

This trip will meet in Loramoor B. This is a self-drive field trip; directions provided.

**Field Trip Leaders: Cheryl White, Meghan Wersel, Peter Ziegler, Sally Gallagher-Jaros**

Thank you to Midwest Natural Resources for their generous sponsorship of this trip.

### Wetlands in Winter: Scuppernon River Habitat Area

This field trip will depart from the Grand Geneva Main Entrance and will be self-driven.

**Field Trip Leaders: Pat Trochlell and Don Reed**

Thank you to TRC Environmental Corporation for their generous sponsorship of this trip.



**WE WANT YOUR FEEDBACK!** Please complete the conference evaluation coming to your email inbox. Thank you!

\* Asterisks indicate the presenter is a participant in the student presentation competition.

# Program Highlights: Special Sessions

## Legislative/Policy Update

**Wednesday, February 21**  
**1:00–1:50 pm**  
**Grand Ballroom**  
**Facilitators: Erin O’Brien,**  
**Tracy Hames, and Brian Vigue,**  
**Wisconsin Wetlands Association**

Join WWA policy staff for a briefing on the status of the bill to overturn protections for isolated wetlands. We’ll also discuss how you can stay informed and engaged in WWA’s efforts to help Wisconsin adopt more pro-active and comprehensive strategies to protect, restore, and manage wetlands and watersheds.

*We will end the initial discussion by 1:30 pm so attendees can go to the afternoon concurrent sessions. WWA policy staff will be available to continue the discussion until 1:50 pm.*



## Career Development & Continuing Education in Wetland Science

**Wednesday, February 21**  
**3:20–4:00 pm**  
**Loramoor A**  
**Facilitator: Susan Schumacher,**  
**We Energies**

Wetland scientists from a variety of backgrounds will address challenges and opportunities facing students, young professionals, and people considering a change in the direction of their career in fields related to wetland science. We’ll discuss “lessons learned” and the role of networks to support discovery and learning. Moderator Susan Schumacher will allow ample time for questions and discussion of solutions and strategies to help support advancement in satisfying wetland science careers.

## Wisconsin Wetland Inventory Redesign Listening Session

**Wednesday, February 21**  
**4:00–5:00 pm**  
**Galewood C (upstairs)**  
**Facilitators: Chris Noll, Amanda Minks, and Calvin Lawrence,**  
**WDNR**

As of 2017, WDNR has finished mapping all 72 counties for the Wisconsin Wetland Inventory (WWI) under its current standard. We are looking at the next generation of technologies to design an even more comprehensive and capable wetland GIS database. In this session, we will spend 15-20 minutes outlining WDNR’s current wetland mapping pilot project and our vision for a revamped WWI. During the rest of the hour, we will listen to attendees’ feedback on what aspects of the WWI are most valuable, including ideas for what might be improved, reaction to proposed changes, and any other concerns & comments about wetland mapping in Wisconsin.

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*Please note that the above session is held concurrent with the Tribal Wetland Programs Working Group session.*

# Program Highlights: Working Groups

## Tribal Wetland Program Working Group

**Wednesday, February 21**

**4:00–5:00 pm**

**Location: Loramoor A**

**Facilitator: Randy Poelma,**

**Ho-Chunk Nation**

*By invitation only.*

*Thank you to Forest County  
Potawatomi Foundation for their  
generous sponsorship of this session.*

This session will provide tribal wetlands staff with the opportunity to more formally interact, share ideas and best practices, and identify opportunities for collaboration and growth. This working group contributes to efforts to foster long-term collaboration, dialogue, and exchange of information that supports and encourages strategic, effective efforts to restore and care for wetlands in Wisconsin. All tribal wetland programs staff are encouraged to attend.

.....  
*Please note that the above session is  
held concurrent with the Wisconsin  
Wetland Inventory Redesign Listening  
Session.*

## Practitioners Working Group

**Thursday February 22**

**1:30–4:30 pm**

**Location: Loramoor C**

**Facilitator: Dan Salas, Cardno**

This session offers an opportunity for wetland practitioners—including consultants, federal, state, and local regulators, land managers, and others—to discuss current issues relevant to their daily work. The agenda will be set with the input of those who participated in similar sessions at previous WWA conferences. The last hour is reserved for a closed-door session for consultants and WWA policy staff to discuss strategies to bring more consultant input into the wetland policy development process.

.....  
*Please note that the above session is  
held concurrent with the conference  
field trips on Thursday afternoon.*



## Aquatic Plant Identification Workshop

**Thursday February 22**

**1:30–4:30 pm**

**Location: Loramoor A**

**Instructor: Paul Skawinski,**

**UW-Extension Lakes**

Wisconsin is blessed with about 150 species of plants that live completely submerged or floating in our lakes, streams, and wetlands. Even a small sedge meadow pool may have a dozen aquatic species in it ranging from carnivorous bladderworts to pondweeds to macro-algae like *Chara*. Paul will introduce the diversity of aquatic plants in Wisconsin and highlight the major groups that occur here. Specimens will be available during the workshop for participants to study. Paul's book, *Aquatic Plants of the Upper Midwest: A Photographic Guide to our Underwater Forests* (3rd edition), will be available for purchase. Due to high demand and limited space, this workshop is by advanced registration only. No walk-ins.

.....  
*Please note that the above session is  
held concurrent with the conference  
field trips on Thursday afternoon.*





## Program Highlights: Poster Session

Posters will be available for viewing from 8:00 am on Wednesday through 12:00 pm on Thursday in the Grand Ballroom. The Poster Session (when authors will be present to discuss their posters) will be held Wednesday, 5:00–6:30 pm.

*Thank you to the Stockbridge-Munsee Community for their generous sponsorship of this session.*

**The code following the authors name is the location where the presenter's poster can be found in the Grand Ballroom. Asterisks indicate the presenter is a participant in the student presentation competition.**

<b>Comstock, Sara*</b>	<b>(P6)</b>	Detection probabilities of waterfowl pairs using wetlands in the Glacial Habitat Restoration Area of Wisconsin
<b>Cronce, Shelby</b>	<b>(P8)</b>	Water level fluctuations and an endangered plant: Fassett's locoweed in central Wisconsin
<b>Fuller, Sarah*</b>	<b>(P5)</b>	Suspended sediment and phosphorus changes within a marsh following a decade of carp exclusion
<b>Gibson, Melissa</b>	<b>(P10)</b>	New plant lists for native Wisconsin sedge meadows from WDNR's FQA benchmark surveys
<b>Hefko, Aletha*</b>	<b>(P13)</b>	Biofilm nutrient limitation in Lake Superior coastal wetlands
<b>Jensen, Heather*</b>	<b>(P12)</b>	Native aquatic plant community response to water-level fluctuations with a focus on the <i>Potamogeton</i> genus
<b>Jones, Michael</b>	<b>(P3)</b>	Long-term monitoring of forested wetland stands in anticipation of emerald ash borer invasion
<b>Kakatsch, Alissa*</b>	<b>(P4)</b>	Effectiveness of herbicide spray treatments on cattail growth in Horicon Marsh
<b>Loken, Zack*</b>	<b>(P7)</b>	Mapping spatial heterogeneity and floristic quality of wetlands in the Glacial Habitat Restoration Area
<b>Parsons, Matt</b>	<b>(P16)</b>	Restoring remnant sedge meadow along Sucker Creek at the B. Bruce Krier Conservancy, Ozaukee County, WI
<b>Schachameyer, Shea</b>	<b>(P15)</b>	Resilience and vulnerability of Apostle Islands coastal wetlands to changing hydrology
<b>Scherer, Jeanne</b>	<b>(P2)</b>	Adapting existing methods to reach waterfowl hunters with the Stop Aquatic Hitchhikers! message
<b>Smith, Christopher</b>	<b>(P17)</b>	Potential wetland indicators mapping: A new approach
<b>Sulman, Joshua</b>	<b>(P11)</b>	Taxonomic changes to Wisconsin <i>Sparganium</i> : A new regional treatment of cattail and bur-reed
<b>Tharpgeorge, Samuel*</b>	<b>(P14)</b>	Long Island wetland response to changing Lake Superior water levels
<b>Vujanovic, Michael*</b>	<b>(P9)</b>	Diatoms epiphytic on <i>Sphagnum</i> moss in midwestern quaking bogs: Use as paleolimnological indicators
<b>Woods, Brock</b>	<b>(P1)</b>	Help protect our wetlands from tall manna grass

## Thank you!

More than 100 experts and enthusiasts have contributed to the planning and content of this conference. We would like to thank all of the presenters, field trips leaders, and working group leaders for sharing their expertise with the regional wetland and water resource professional community. While it is not feasible to acknowledge every contributor individually, we offer special thanks below to individuals who have made especially important contributions to this event.

### Moderators

Thank you to the following partners for moderating conference sessions:

**Aaron Feggestad** Stantec  
**Jason Fleener** WDNR  
**Sarah Johnson** Northland College  
**Kelly Kearns** WDNR  
**Ron Londré** TRC Environmental Corporation  
**Kyle Magyera** Wisconsin Wetlands Association  
**Nick Miller** The Nature Conservancy  
**Bill Mueller** Western Great Lakes Bird and Bat Observatory  
**Ryan O'Connor** WDNR  
**Travis Olson** UW-Extension  
**Amy Staffen** WDNR  
**Jacob Straub** UW-Stevens Point  
**Dreux Watermolen** WDNR

### Field Trip Leaders

Thank you to the following individuals for their assistance planning, coordinating, and leading our conference field trips to sites in SE Wisconsin:

**Steve Byers** INPC  
**Ed Collins** INPC  
**Sally Gallagher-Jaros** WDNR  
**Vince Mosca** Hey and Associates  
**Donald Reed** SEWRPC (retired)  
**Pat Trochlell** WDNR (retired)  
**Meghan Wersel** Waukesha County Land Conservancy  
**Cheryl White** Waukesha County Land Conservancy  
**Peter Ziegler** WI Waterfowl Association

### Student Presentation Competition

Thank you to Dreux Watermolen, WDNR, for initiating and organizing the student presentation competition, to everyone who judged the student oral and poster presentations, and to the students who participated.

### Student Scholarship Program Sponsors

Generous contributions made by The Nature Conservancy and the American Transmission Company allow us to provide financial support to many students who are attending our conference. Students receiving conference scholarships are denoted with a \* in the list of volunteers below.



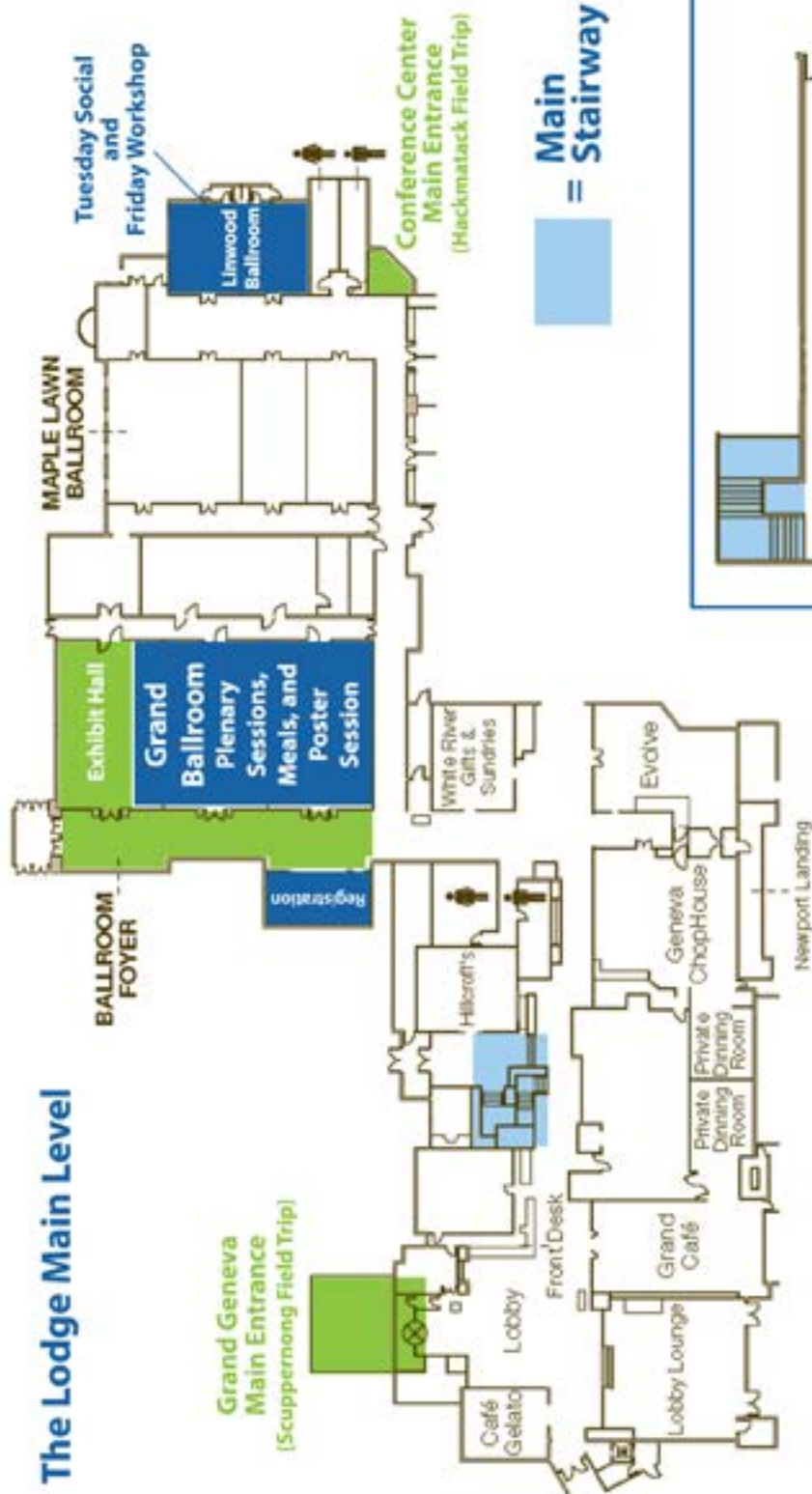
### Volunteers

We thank the following volunteers for assisting us with the many and varied aspects of conference logistics (\* denotes student scholarship recipient):

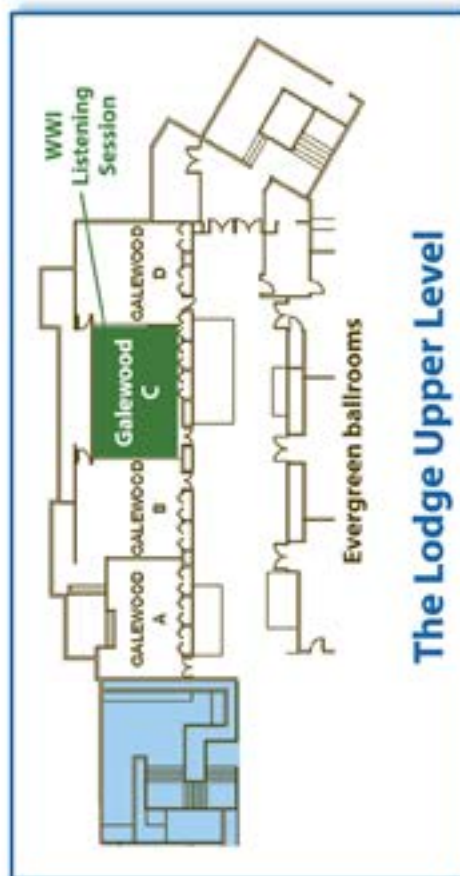
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Lee Hengescht	Samuel Tharpgeorge*
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Hannah Hoff*	



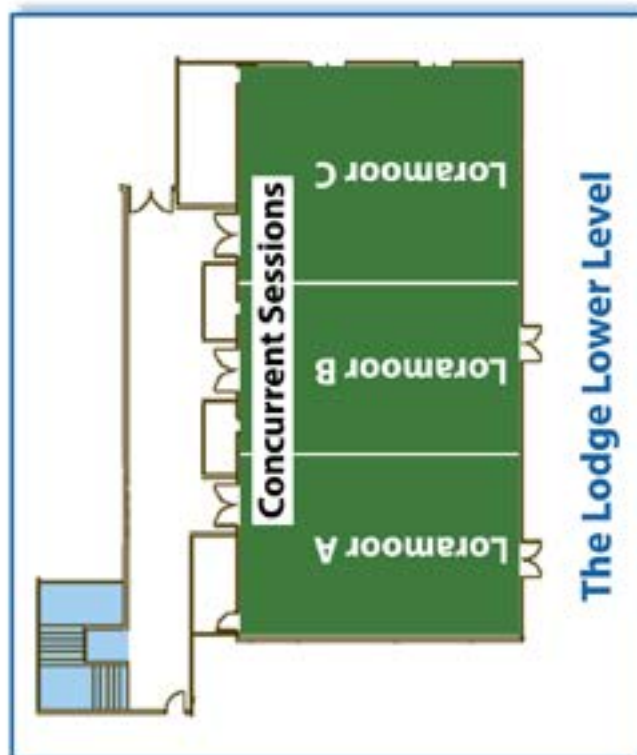
## The Lodge Main Level



Main  
= Stairway



## The Lodge Upper Level



## The Lodge Lower Level



## Sponsors and Exhibitors

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