



Wetland Science Conference



2021

Wisconsin Wetlands
ASSOCIATION

It's All About the Water

February 16-19, 2021 | Online

TUESDAY, February 16

9:00-10:45 **Plenary Session: Hydrologic Restoration Symposium**
Part I: Hydrology Fundamentals

Sponsored by the Forest County Potawatomi Foundation

9:00 **Welcome & Opening comments**

9:15 **Conference Keynote: Why watersheds matter: How tribes are leading the way in the Columbia River basin**
Aja DeCoteau, Watershed Department Manager, Columbia River Inter-Tribal Fish Commission

9:45 **Conference Keynote: How rivers and wetlands work—and work better together**
Colin Thorne, Professor of Physical Geography, University of Nottingham, UK

10:15 **Live Q&A with Aja DeCoteau and Colin Thorne**

10:45-11:00 **Break**

11:00-12:30 **Plenary Session: Hydrologic Restoration Symposium**
Part II: Restoration Considerations

Sponsored by the Brookby Foundation

11:00 **Conference Keynote: Let the river do the work: How low-tech solutions and partnerships can help us get to scale**
Joe Wheaton, Fluvial scientist & restoration practitioner, Utah State University and Anabran Solutions

11:30 **Conference Keynote: How history and processes influence watershed restoration**
Dorothy J. Merritts, Professor of Geosciences and Chair of Environmental Studies, Franklin & Marshall College

12:00 **Live Q&A with Joe Wheaton and Dorothy Merritts**

12:30 **Break**

Afternoon **Roundtable Conversations & Workshop**

1:30 **Roundtable Conversation**
with Aja DeCoteau and Mike Kline
Moderator: **Erin O'Brien**

2:30 **Roundtable Conversation**
with Colin Thorne and Dorothy Merritts
Moderator: **Tracy Hames**

3:30 **Roundtable Conversation**
with Joe Wheaton and Katie Jagt
Moderator: **Erin O'Brien**

2:30 - 4:00

Workshop

**Why diversity, equity, and inclusion
are vital to conservation goals**

Instructor: **Parker McMullen Bushman**

Roundtable conversations are open to all.
No registration required.

Workshops required pre-registration.

If you pre-registered for a workshop, it will be listed in the main event menu.

If you did not pre-register for a workshop but would like to attend one, click on "Workshops" in the main event menu for information on how to add a workshop to your registration.

WEDNESDAY, February 17

9:00-10:45 **Plenary Session: Hydrologic Restoration Symposium**
Part III: State Programs and Public/Private Solutions

Sponsored by Fund for Lake Michigan

9:00 **Welcome and opening comments**

9:15 **Conference Keynote: How state programs can protect and restore rivers, wetlands, and watersheds**
Mike Kline, River ecologist/geomorphologist, Fluvial Matters, LLC

9:45 **Conference Keynote: How creative partnerships and locally-driven planning can build resilient watersheds**
Katie Jagt, Senior water resources engineer, Watershed Science + Design

10:15 **Live Q&A with Mike Kline and Katie Jagt**

10:45-11:00 **Break**

11:00-12:30 **Plenary Session: Hydrologic Restoration Symposium**
Part IV: Fixing Wisconsin's Water

Sponsored by Wisconsin Coastal Management Program

11:00 **What we've learned from Wisconsin natural resource agencies**
Erin O'Brien, Policy Programs Director, Wisconsin Wetlands Association

11:15 **Wisconsin Agency Leaders Panel including live Q&A with panelists**

12:30-1:00 **Poster Session & Exhibits**

Afternoon **Roundtable Conversations & Workshops**

1:00-3:00

Workshop

Wetland Soils

Instructors: **Drew Fowler** & **Pat Trochlell**

1:00 - 2:30

Roundtable Conversation

Wetland mitigation listening session:

Recap and continuation

Facilitators: **Tom Nedland**, **Leslie Day**, and **Kerryann Weaver**

1:30 - 3:00

Roundtable Conversation

Starting or growing an ecological restoration business

Facilitator: **Dan Collins**

3:00-5:00

Workshop

How to leverage multiple new technologies for more efficient wetland assessments, monitoring, and delineations

Instructors: **Jeremy Schewe**, **Gale Shea**, **Eric Parker**, and **Daniel Martin**

2:30 - 4:00

Roundtable Conversation

Natural flood management: Solutions for mitigating flood risk in the Lake Superior basin

Facilitators: **Kyle Magyera**, **Tom Hollenhorst**, **Faith Fitzpatrick**, and **Chris Collier**

3:00 - 4:30

Roundtable Conversation

Diversity, equity, and inclusion in conservation

Facilitator: **Caitlin Williamson**

6:30-8:00 **Evening Programming**

WWA Annual Meeting & Wetland Trivia Contest

Roundtable conversations are open to all.

No registration required.

Workshops required pre-registration.

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THURSDAY, February 18

9:00-9:45 Plenary Session

Sponsored by the We Energies Foundation

9:00 **Welcome**
 9:10 **Plenary Address: Attempting to understand the disconnect between African Americans and the outdoors**
Dudley Edmondson, Photographer, filmmaker, and author

9:45-10:00 Break

10:00-11:00 Concurrent Sessions

	Wetland flora & plant communities <i>Sponsored by Wisconsin Public Service Foundation</i> Moderator: Chris Loebach	Effective Wetland Conservation Partnerships <i>Sponsored by J.F. Brennan</i> Moderator: Travis Schroeder	Sponsored Product Demo Session <i>Available On-Demand</i>
10:00	Implementing the concept of alternative stable states to guide successful wetland restoration practices Loebach	The people, priorities, and practices behind the Little Plover River Watershed Enhancement Project O'Brien	An introduction to Extension Lakes and Wisconsin Water Week 2021 Olson, Extension Lakes
10:15	Coarse-level metrics for prioritizing and monitoring restoration of sedge meadows and wet-mesic prairies O'Connor	Partnering for wetlands: How a variety of mitigation project partners benefit both wetlands and communities Brown	How to complete wetland delineations and monitoring in half the time Schewe, Ecobot
10:30	Combined effects of invasive cattail and European frogbit on invertebrates in a Lake Huron coastal marsh St. John *	Funding water quality improvements at Nahant Marsh: Thinking outside the box Joyce	Protecting endangered reptiles and habitats while creating site access for a transmission line rebuild Keener, Sterling Access Solutions
10:45	Live Q&A with presenters	Live Q&A with presenters	Caring for wetlands: A partnership with NRCS, WWA, and private landowners Kidd, USDA-NRCS

11:00-11:30 Poster Session & Exhibits

11:30-12:30 Concurrent Sessions

	Wetlands and People <i>Sponsored by Extension Lakes</i> Moderator: Nicole Staskowski	Wetland conservation in agricultural landscapes <i>Sponsored by Heartland Ecological Group</i> Moderator: Nick Miller
11:30	New videos promote tribal wetland conservation leadership in Wisconsin Beilfuss	It's what you know: Using tools to advance the use of ag tile-treatment wetlands for nutrient loss reduction Kostel
11:45	Establishing a Green Bay National Estuarine Research Reserve Tyner	It's who you know: Convincing farmers to use ag drainage tile-treatment wetlands to stop nutrient loss McGuire
12:00	"If you build it, they will come!" The Field of Dreams Watershed and the Iowa River Restoration Toolbox Stamer	A watershed approach to restoration at the Soik wetland mitigation site in Wisconsin's Central Sands Gaffield
12:15	Live Q&A with presenters	Live Q&A with presenters

12:30 Break

12:45 WWA Policy and Legislative Update

Afternoon Workshop, Working Group, and Roundtable Conversations

1:30 - 3:30
Workshop
Identification of Wisconsin's aquatic plants
 Instructor: **Paul Skawinski, Susan Knight, and Michelle Nault**

1:30 - 4:30
Practitioners Working Group
 Facilitators: **Eric Parker and Dan Salas**

2:00 - 3:30
Roundtable Conversation
Conservation mapping tools: Wetland restoration potential and groundwater assessment
 Facilitators: **Nick Miller, Joanne Kline, Tom Bernthal, Chris Smith, Sarah Gatzke, and Dave Hart**

3:30 - 4:30
Roundtable Conversation
Wetland invasive species: Identification, prevention, and control
 Facilitators: **Jason Granberg, Maureen Ferry, Jeanne Scherer, Jared Urban, Joanne Kline, and Kelly Kearns**

3:30 - 4:30
Roundtable Conversation
Climate change & wetlands
 Facilitator: **Alice Thompson**

* denotes presenter is participating in the student presentation competition

FRIDAY, February 19

9:00-9:35 Plenary session: Lightning round presentations

9:00	Welcome
9:05	Implementing climate adaptation in Lake Michigan basin wetlands: Challenges and opportunities Sulman
9:10	Incentivizing the private sector for 21st century conservation in Wisconsin Salas
9:15	Natural flood management: Planning and priorities for Lake Superior's south shore wetlands Hollenhorst
9:20	Red hailstone continues to invade Wisconsin: Identification, distribution update, and herbicide trial results Wallrath
9:25	Q&A with Lightning Round presenters

9:35-9:45 Break

9:45-10:45 Concurrent Sessions

	Effective wetland restoration & management techniques <i>Sponsored by TRC Environmental Corporation</i> Moderator: Gretchen Benjamin	Wetland Wildlife I <i>Sponsored by Stantec</i> Moderator: Sarah Kraszewski
9:45	Ecosystem restoration along the Little Menomonee River Struck	Status of Wisconsin's rare amphibians and reptiles Paloski
10:00	Stream de-channelization: Restoring hydrology and reducing runoff in an agricultural landscape Gall	A new field guide to amphibian eggs and larvae of the Western Great Lakes Casper
10:15	Stabilizing banks and preventing erosion following construction using pre-vegetated blankets Livingston	Water drawdowns and survival of marsh bird nests at Emiquon Preserve, IL Schmidt *
10:30	Live Q&A with presenters	Live Q&A with presenters

10:45-11:00 Break

11:00-12:00 Concurrent Sessions

	Wetland soils, hydrology, and geomorphology <i>Sponsored by Ecobot</i> Moderator: Aaron Volkening	Wetland Wildlife II <i>Sponsored by Sterling Access Solutions</i> Moderator: Paul Skawinski
11:00	Testing parasites as bioindicators at the Glacial Habitat Restoration Area Orlofske	Observations of avian use of wetland mitigation site in the Lake Superior clay plain La Valley
11:15	Isotopic tracers: A different perspective of surface and groundwater remediation Ahearn	Minnesota's small wetland program: year one in bringing wetland management to the prairie region of Minnesota Maile
11:30	More than blue lines: Improving the national hydrography dataset Park	Live Q&A with presenters
11:45	Live Q&A with presenters	

12:15 Plenary Session & Closing Comments

Announcement of Wetland Challenge winners, student presentation competition winners, and closing comments.

Afternoon Roundtable Conversations

1:30 - 3:00
Roundtable Conversation
Wisconsin's Women and Wetlands
Facilitators: **Sally Jarosz** and **Nicole Staskowski**

3:00 - 4:00
Roundtable Conversation
The Mary Linton Wetland Poetry Session
Facilitators: **Alice Thompson**, **Tod Highsmith**, and **Mike Mossman**

1:00 - 2:30
Tribal Wetland Programs Working Group
Facilitated by **Randy Poelma**
By invitation only

* denotes presenter is participating in the student presentation competition

SYMPOSIUM: It's All About the Water

Promoting Hydrologic Restoration to Help Solve Wisconsin's Water Challenges

Tuesday, February 16, and Wednesday, February 17, 2021

WWA hosted a special symposium as part of the February 2021 Wetland Science Conference, *It's All About the Water*, to promote watershed-based hydrologic restoration as a key approach to solving Wisconsin's water challenges. If we are to solve these many challenges, we need local, community-driven hydrologic restoration—especially upper watershed wetland and floodplain restoration. To achieve the necessary landscape-level impacts, these local restoration actions must be replicated at larger scales. In order to realize both local action and landscape-level impacts, we need:

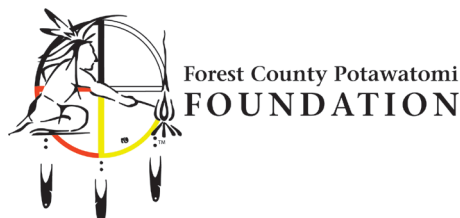
1. a common understanding of basic hydrologic principles among the community of professionals who influence land-use practices in Wisconsin.
2. policies and programs that support, encourage, and fund a watershed approach to hydrologic restoration.
3. a community of agencies and individuals who work together to expand and improve how we implement hydrologic restoration on the ground.

The symposium sought to advance all three of these conditions. It also sought to advance conversations around how we can achieve integrate hydrologic restoration across the many existing natural resources programs in Wisconsin to better protect and restore our watersheds, waters, and landscape.

The symposium brought in nationally-recognized experts from around the country to share their expertise and experience on how hydrologic restoration can be used to achieve ecological goals and solve water management problems. The roster includes research hydrologists whose work has changed the field of restoration ecology as well as hydrologic restoration program managers from the public, private, and tribal sectors.

These invited presentations set the stage for a Wisconsin-focused discussion to explore how we can better integrate hydrologic restoration into state and local conservation planning and restoration. Attendees also heard from a panel of Wisconsin agency leaders on their vision for better integrating hydrologic assessment and restoration into state programs. Attendees will have opportunities to engage in dialogues with fellow public- and private-sector professionals about building and meeting demand for a hydrologic approach to addressing Wisconsin's water management challenges. In addition, WWA presented on a series of focus groups exploring these issues.

Thank you to our symposium sponsors:



SYMPOSIUM SPEAKERS



Why watersheds matter: How tribes are leading the way in the Columbia River basin

Aja DeCoteau, Watershed Department Manager with the Columbia River Inter-Tribal Fish Commission

How rivers and wetlands work—and work better together

Colin Thorne, Professor and Chair of Physical Geography, University of Nottingham UK

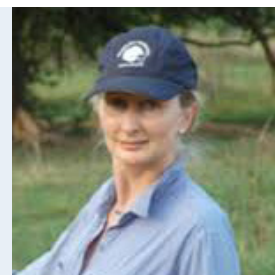


Let the river do the work: How low-tech solutions and partnerships can help us get to scale

Joe Wheaton, Ecogeomorphologist, Fluvial Scientist, & Restoration Practitioner, Utah State University & Anabran Solutions

How an understanding of landscape history, processes, and human impacts can improve stream and wetland restoration

Dorothy J. Merritts, Professor of Geosciences and Chair of Environmental Studies, Franklin & Marshall College



How state programs can protect and restore rivers, wetlands, and watersheds

Mike Kline, River Ecologist/Geomorphologist, Fluvial Matters, LLC

How creative partnerships and locally-driven planning can build resilient watersheds

Katie Jagt, Senior Water Resources Engineer, Watershed Science + Design



PLENARY ADDRESS

Attempting to understand the disconnect between African Americans and the outdoors

Dudley Edmondson, Photographer, filmmaker, and author

Why are African Americans and other people of color underrepresented in the field of conservation and in the outdoors more broadly? Author and nature photographer Dudley Edmondson explores our nation's history of slavery, the civil rights movement, and the resulting current social and economic factors that are now part of African American lives and how these events shape the relationship between people of color and the outdoors. His presentation helps us all "connect the dots" and identify ways we can be more deliberate and inclusive in our conservation work, whether through broadening our outreach and partnerships or training the next generation of wetland professionals.

Dudley Edmondson is well-known as a professional photographer and author. He is also an accomplished filmmaker and public speaker. Much of his work centers on the environment and ethnic diversity in the outdoors. He was one of the first to highlight the involvement of African Americans in the public lands system. Unsatisfied with the numbers of people who looked like him among those he encountered in his outdoor pursuits, Edmondson set out to create a set of outdoor role models for the African American community by writing his landmark book, [*Black & Brown Faces in America's Wild Places*](#) (AdventureKeen Publications 2006), featuring luminaries in the environmental and outdoor recreation fields. He has also been immersed in the effort to help the conservation sector become more inclusive.



WORKSHOPS

Why diversity, equity, and inclusion are vital to conservation goals

Instructor: Parker McMullen Bushman, Ecoinclusive

Wetland soils

Instructors: Drew Fowler, WDNR, and Pat Trochlell, The Prairie Enthusiasts

How to leverage multiple new technologies for more efficient wetland assessments, monitoring, and delineations

Instructors: Jeremy Schewe, Ecobot, Gale Shea, Seiler Instrument, Eric Parker, Heartland Ecological Group, and Daniel Martin, Esri

Identification of Wisconsin's aquatic plants

Instructors: Paul Skawinski, UW-Stevens Point Extension Lakes; Susan Knight, UW-Trout Lake Station; and Michelle Nault, Wisconsin Dept. of Natural Resources

ROUNDTABLE CONVERSATIONS

Wetland mitigation listening session: Recap and continuation

Facilitators: Tom Nedland, Leslie Day, and Kerryann Weaver

Starting or growing an ecological restoration business

Facilitator: Dan Collins

Natural flood management

Facilitators: Kyle Magyera, Tom Hollenhorst, Faith Fitzpatrick, and Chris Collier

Diversity, equity, and inclusion in conservation

Facilitator: Cait Williamson

Wetland invasive species: Identification, prevention, & control

Facilitators: Jason Granberg, Kelly Kearns, Maureen Ferry, Jeanni Scherer, Jared Urban, and Joanne Kline

Conservation mapping tools: Wetland restoration potential and groundwater assessment

Facilitators: Nick Miller, Joanne Kline, Tom Bernthal, Chris Smith, Sarah Gatzke, and Dave Hart

Climate change & wetlands

Facilitator: Alice Thompson

Wisconsin's women and wetlands

Facilitators: Sally Jarosz and Nicole Staskowski

The Mary Linton Wetland Poetry Session

Facilitators: Alice Thompson, Tod Highsmith, and Mike Mossman

WORKING GROUPS

Practitioners' Working Group

Facilitators: Eric Parker, Heartland Ecological Group, and Dan Salas, Cardno

Tribal Wetland Programs Working Group

Facilitator: Randy Poelma, Ho-Chunk Nation

Sponsored by Forest County Potawatomi Foundation

POSTERS

Andrew Badje: *Wisconsin Frog and Toad Survey*

Cassandra Ceballos*: *Analysis of freshwater sponge spicules to identify wetland Spongilla species.*

Brian Charles*: *Latitude, canopy cover, hydrology, and soil fertility determine plant species composition in restored wetlands*

Nicholas Connor: *Improved access and restoration of the Honey Creek Headwaters, a Lake Michigan tributary*

Maureen Ferry: *Let's collaborate to detect new invasive species*

Maureen Ferry: *Wetland Forest Habitat Type Classification System for Northern Wisconsin: A new tool for land managers*

Melissa Gibson: *Wetland mitigation sites 10 – 26 years post-construction: Floristic quality and soil organic carbon*

Jason Granberg: *Interactive ArcGIS StoryMaps highlighting State Natural Areas in Wisconsin*

Britney Hirsch*: *Anuran occurrences in high and low water within the Lower Green Bay and Fox River AOC*

Hailey Hughes*: *Soil analysis: A comparison of wetland soil throughout the years at the Mequon Nature Preserve*

Georgina Jaimes*: *Assessing the impact of micro-environment on the color of painted turtles (*Chrysemys picta*)*

Sarah Johnson: *Plants on the edge: Status of rare wetland plants in the Apostle Islands*

Marie Kopka: *Development of a stream quantification tool for Wisconsin and the St. Paul District stream mitigation procedures*

Colleen Matula: *Forested wetland restoration and management using scientific methodology to build resilience in this ecosystem*

David Palme: *Restoration of a headwater stream in Central Wisconsin: Enhancing channel morphology in the LPR*

Jeanne Scherer: *Aquatic invasive species prevention outreach to waterfowl hunters using video*

Caleb Slemmons: *Long-term wetland monitoring by the National Ecological Observatory Network (NEON) and the Great Lakes Domain*

** denotes presenter participated in the student presentation competition*

Thank you!

More than 100 experts and enthusiasts contributed to the planning and content of this conference. We would like to thank all of the presenters, workshop leaders, roundtable conversation facilitators, 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.

Conference Advisory Panel

Dan Collins, Landscapes of Place
Mike Demchik, UWSP
Drew Fowler, WDNR
Sally Jarosz, WDNR
Tod Highsmith, WWA Board
Kelly Kearns, WDNR
Sarah Kraszewski, Stantec
Lauren Leckwee, WCMP
Nick Miller, The Nature Conservancy
Travis Olson, UW Extension
Eric Park, Heartland Ecological Services
Randy Poelma, Ho-Chunk Nation
Dan Salas, Cardno
Travis Schroeder, WDNR
Susan Schumacher, We Energies
Ben Sedinger, UWSP
Paul Skawinski, Extension Lakes
Pat Trochlell, retired WDNR
Dreux Watermolen, WDNR

Moderators

Gretchen Benjamin, The Nature Conservancy
Tracy Hames, WWA
Sarah Kraszewski, Stantec
Chris Loebach, Cardno
Kyle Magyera, WWA
Nick Miller, The Nature Conservancy
Erin O'Brien, WWA
Travis Schroeder, WDNR
Paul Skawinski, Extension Lakes
Nicole Staskowski, Cardno
Aaron Volkening, Stantec

Student Presentation Competition

Thank you to Dreux Watermolen, WDNR, for initiating the student presentation competition and to Jennifer Western-Hauser, WWA, for organizing the judges and review. Thanks to everyone who judged the oral and poster presentations, and to the students who participated.

Student Scholarship Program Sponsor

The generous contribution made by The Nature Conservancy 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).

Murilo Alves Zacareli*	Kaia Hilgendorf-Roost*
Steve Antholt	Britney Hirsch*
Jacqueline Aparicio*	Zoe Horns*
Janell Balmaceda*	Georgina Jaimes*
Tom Bernthal	Reane Loiselle*
Monika Blaszczyk	Eli Mangan*
Cassandra Ceballos*	Charlie Newling
Grace Coleman*	Sarah Orlofske
Amanda Dehmlow	Paul Skawinski
Neil Dillon*	Caleb Slemmons
Kari Hagenow	Colin Thorne
Elliot Hendry*	
Lee Hengescht	

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