



# *The Stewardship Network* **2020 Conference**

**JANUARY 17 & 18, 2020**

**KELLOGG CONFERENCE CENTER | EAST LANSING, MI**



**[www.Stewardshipnetwork.org/conference](http://www.Stewardshipnetwork.org/conference)**

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## SUPPORT TEAM & VOLUNTEERS

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## PHOTOGRAPHY

Patricia Pennell, Riverhouse Photography



*Thank you*





**WELCOME** to the 13th Annual Stewardship Network Conference! You are surrounded by an array of amazing people who also dedicate their time to caring for our land, air, and water across North America. Each of you, with your own unique set of experiences, knowledge and skills, brings an irreplaceable perspective to the table. You are what makes this conference such a dynamic and exciting place for new ideas, collaborations, and partnerships.

The Collaborative Conservation movement has been gaining momentum around the world and The Stewardship Network is proud to be a pioneering champion of this paradigm shift that is nothing short of revolutionary. But just like this conference, the network has been able to grow and evolve as a change-maker because of your involvement. We're deeply grateful to those of you who have been involved with The Stewardship Network for decades, and we're incredibly excited by the new faces we see each year at this important gathering for thought leaders in the conservation community.

We come together under this simple truth: By sharing knowledge, experiences, and resources, we accomplish more, together. While we are not all like-minded, we are like-purposed. We believe in the importance of ecological stewardship; we dedicate our time to working towards a cause that is bigger than ourselves; we honor each other's strengths and contributions; and we have hope for a bright future.

This is the space to connect, grow, and inspire; so over the next couple days, we invite you to learn about something completely new; ask difficult questions; step out of your comfort zone; talk to someone with a widely differing viewpoint; and share your setbacks, challenges, successes, and dreams.

At The Stewardship Network, we work to provide a framework for collaborative conservation projects that engage diverse sets of partners. Our mission is to provide the tools, connections, and support necessary to maximize the efficiency and effectiveness of your meaningful work. We offer the chance to build community and capacity around shared goals and values so that we may all move forward, and farther together. Recognizing the need for individualization of support for different projects and partnerships is an important part of what we do. We encourage you to check out our website, join us for our monthly webcasts, or attend a Stewardship Network event. Of course, you should always feel free to reach out to us at [staff@stewardshipnetwork.org](mailto:staff@stewardshipnetwork.org).

When we part ways after these two days, we hope that you will take back a new set of ideas and insights from the people working alongside you in governments, universities and colleges, communities, tribes, businesses and various non-profits with the same goal of restoring, preserving, or managing natural systems. The dedication and commitment of people like you promises a lasting legacy for future generations. This event would not be possible without the many volunteers, presenters, sponsors, and attendees, for whom we are deeply grateful.

Thank you for joining us and once again, Welcome to the 2020 Stewardship Network Conference!

Enjoy,

*Brett Celia Dave Aprin Jacqueline Rachel*

**2019 Stewardship Network Conference Planning Committee**

Brett Bloom, Oak Farm Montessori School

Celia Larsen, Rudolf Steiner School

Dave Borneman, David Borneman LLC

Lisa Brush, The Stewardship Network

Jacqueline Courteau, NatureWrite LLC

Rachel Muelle, The Stewardship Network





For nearly two decades The Stewardship Network (TSN) has been defining, refining, and advancing the methods which successful community-based conservation collaboratives are built upon.

- We build the capacity of partner organizations and individuals through the development off collaborative conservation communities (3Cs)
- We connect 3C partners with the logistical support, funding, tools, and training they need to care for their land, air, and water
- We harness the idea of Collective Impact to empower 3Cs to create lasting, beneficial change at a landscape scale
- We believe that everyone should have a voice in the conversation and that diversity and inclusion makes us stronger

*Are you connected?*

## 20% OFF WINTER DESIGN & INVASIVE SPECIES CONTROL

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**DESIGN YOUR SHORELINE THIS WINTER!**

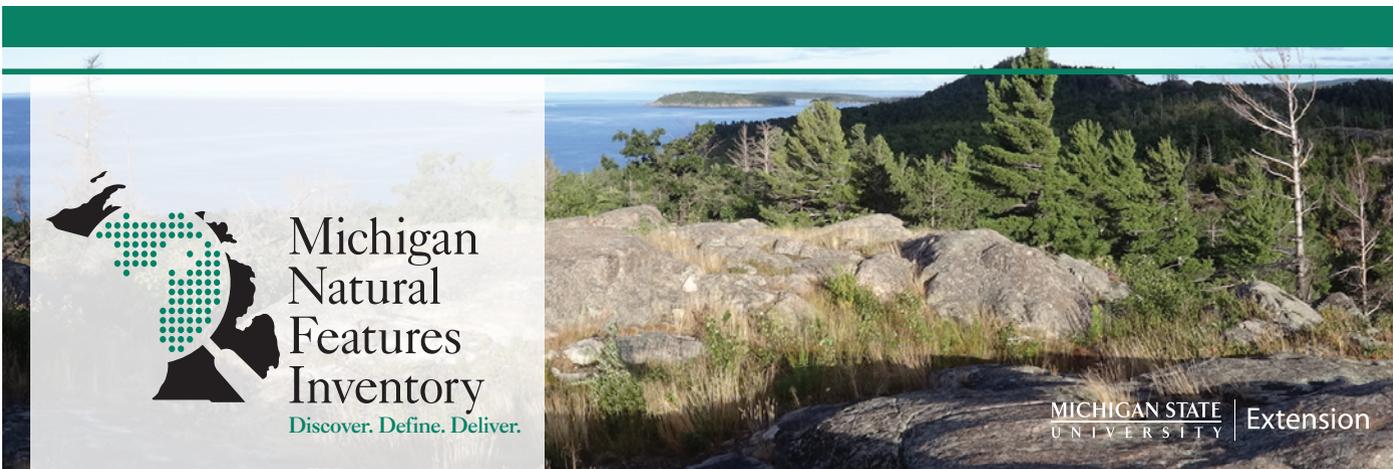


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**248-513-1909**



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# GET TO KNOW



## The Stewardship Network

Connect to Conserve

### WHAT ARE COLLABORATIVE CONSERVATION COMMUNITIES?

Collaborative Conservation Communities (3Cs) or “Clusters” are groups of organizations and individuals working together on common conservation and stewardship goals. 3Cs form and grow in response to the needs of local communities and their partners. They facilitate communication and resource-sharing among participants that either are, or aspire to be stewards of local lands and waters in their targeted geographical area. 3Cs serve as subnetworks on a scale that allows for more frequent and personalized interaction about local issues that matter.

They tend to have two main areas of focus:

1. On-the-ground conservation planning and action
2. Education & outreach (training, management techniques and information, and other related topics)



### WHY IS THIS MODEL SO EFFECTIVE?

3Cs can tap into the knowledge, support, and resources from those who have already blazed the trail doing similar work. Instead of duplicating efforts or learning in isolation, The Network can save you from “reinventing the wheel” and you can get back to doing what you love. We believe that collaborative learning and playing to everyone’s strengths and interests makes us all more efficient and effective.

3Cs determine their own projects based on the interest of local partners. Meanwhile, The Stewardship Network is able to provide individualized backbone support that is necessary for effective collaboration including:

- Administrative support
- Database management
- Communications and Website management
- Facilitative help in developing a vision, developing goals, and tracking progress
- Convening and connecting people across the broader network



*Pictured top to bottom:  
The West Michigan Conservation Network, The Central Southwest Cluster*



# CONFERENCE AGENDA - 2020 Stewardship Network Conference

8:00-8:45	<b>Registration</b> , Centennial Room, <b>Continental Breakfast</b> , Big Ten Room
8:45-9:00	<b>Welcome</b> , Lisa Brush, The Stewardship Network, Big Ten Room
9:00-10:00	<b>Keynote Presentation: A Great Lakes 2020 Platform: Advancing a Shared Agenda</b> Laura Rubin, Healing Our Waters – Great Lakes Coalition, Big Ten Room
10:00- 10:20	<b>Recovering America's Wildlife Act</b> Dan Kennedy, Michigan Dept. of Natural Resources, Big Ten Room
10:20-10:50	Break

## Concurrent Sessions

Room	103	104	105
10:50-11:50	<b>Invasive Species Treatment Prioritization Model*</b> Joshua Cohen & Clay Wilton, Michigan Natural Features Inventory	<b>A Green Revival: Cultivating Gardens for People, Place, and Plants</b> Susan Betz, Fresh Start Herbs	<b>Environmental Entrepreneurship: Challenges and Rewards of Operating Your Own Conservation Business</b> Jacqueline Courteau, NatureWrite LLC; David Mindell, PlantWise LLC; Esther Durnwald, Michigan Wildflower Farm; Bill Schneider; Wildtype- Native Plants, Ecological Services; Michael Bald, Got Weeds?; Karen Glennemeier, Habitat Research LLC
11:50-1:20	<b>Lunch</b> , Big Ten Room, <b>Introduction to The Stewardship Story Slam</b> Patricia Wheeler, Storyteller & Coach		

## Concurrent Sessions

Room	103	104	105
1:20- 2:20	<b>Incorporating Participatory Science into an Adaptive Management Approach to Invasive Species Management*</b> Samantha Tank, Great Lakes Commission	<b>Telling your Stewardship Story</b> Patricia Wheeler, Storyteller & Coach	<b>Environmental Entrepreneurship: Challenges and Rewards of Operating Your Own Conservation Business (Continued) Roundtable</b>
2:20-2:40	Break		

## Concurrent Sessions

Room	103	104	105
2:40-3:40	<b>Collaborative Management of a New Invasive Species: Managing Stiltgrass in Southeast Michigan*</b> Alice Elliott, Stiltgrass Working Group	<b>Mesophication of Eastern Forests: A Problem as Big as the Word, with a HOT Solution</b> Andy Vander Yacht, Michigan State University	<b>Forests for Fish</b> Mike Smalligan, Michigan Dept. of Natural Resources Forest Resources
3:40-4:00	Break		

## Concurrent Sessions

Room	103	104	105
4:00-5:00	<b>Continuing the Glyphosate Conversation: Invasive Species and Integrated Pest Management*</b> Michael Hahn, City of Ann Arbor Natural Areas Preservation	<b>Plan Your Way Out of Unplanned Events: Managing Landscapes with Safety in Mind</b> Michael Bald, Got Weeds?	<b>American Kestrel Partnership</b> Francie Krawcke, Michigan Avian Experience
5:15-5:45	<b>Water Ceremony</b> , East Patio		
5:30-7:00	<b>Strolling Dinner, Poster Reception</b> , Big Ten Room		
7:00-9:00	<b>Stewardship Story Slam!</b> , Red Cedar Room		





106	Red Cedar	Michigamme
<p><b>Recovering America's Wildlife Act</b> Dan Kennedy, Michigan Dept. of Natural Resources</p>	<p><b>Optimizing Your Land's Relationship To Water, Session 1: Water Management System Function</b> Mark Shepard, Restoration Agriculture Development</p>	<p><b>Rouge Park Log Jam Biologic and Microplastic Survey Fall 2019</b> William Albrecht and Students Academy of the Americas High School</p>

106	Red Cedar	Michigamme
<p><b>Making Environmental Land Stewardship Relevant &amp; Inclusive</b> Yakuta Poonawalla, Golden Gate Parks Conservancy</p>	<p><b>Optimizing Your Land's Relationship To Water, Session 2: Water Management System Principles</b> Mark Shepard, Restoration Agriculture Development</p>	<p><b>Strategies to Support and Grow Michigan's Outdoor Recreation Lifestyle Economy</b> Brad Garmon, Michigan Dept. of Outdoor Recreation Industry</p>

106	Red Cedar	Michigamme
<p><b>The Restoration of the Clinton River Watershed</b> Patrick Duffy &amp; Robin Burke, Cardno and Eric Dising, Clinton River Watershed Council</p>	<p><b>Optimizing Your Land's Relationship To Water, Session 3: Water Management System Implementation</b> Mark Shepard, Restoration Agriculture Development</p>	<p><b>Native Landscapes Over Septic Fields</b> Beth Clawson, Michigan State University Extension</p>

106	Red Cedar	Michigamme
<p><b>Great Lakes Islands Conservation</b> Matt Preisser, Michigan Dept. of Environment, Great Lakes, and Energy; Phyllis Higman, Michigan Natural Features Inventory &amp; Eric Ellis, Great Lakes Commission</p>	<p><b>Restoration Agriculture Tree &amp; Shrub Nursery: Models For Future Success</b> Shannon Brines, Brines Farm LLC</p>	<p><b>Learning to Live in Dynamic Dunes</b> Tom Zimnicki, Michigan Environmental Council and Alan Arbogast &amp; Robert Richardson, Michigan State University</p>

**Presentations marked with an asterisk\* qualify for Pesticide Applicator Recertification Credits under the Michigan Department of Agriculture and Rural Development.** Residents of other states in the Great Lakes Region may qualify for these credits under reciprocity agreements with the State of Michigan. For more information, see the conference website, or email [rob@stewardshipnetwork.org](mailto:rob@stewardshipnetwork.org).



# CONFERENCE AGENDA - 2020 Stewardship Network Conference

7:30-8:15	<b>(Re)Connect to Nature: Nature Journaling as Observation and Meditation</b> Jacqueline Courteau, NatureWrite LLC, Centennial Room
7:45-8:30	<b>Registration</b> , Centennial Room, <b>Continental Breakfast</b> , Big Ten Room
8:30-8:40	<b>Welcome</b> , Lisa Brush, The Stewardship Network, Big Ten Room
8:40-9:40	<b>Stewardship Networking with Passion, Inspiration, and Excellence (PIE)!</b> Mamie Parker, First African American Chairman of Virginia Department of Game and Inland Fisheries Commission, & Northeast Regional Director, U. S. Fish and Wildlife Service, Big Ten Room
9:40-10:00	<b>Break</b>

## Concurrent Sessions

Room	103	104	105
10:00-10:50	<b>From Theory to Practice: How can the Principles of Ecological Resilience Inform Invasive Species Management?*</b> Sheila Schueller, University of Michigan	<b>Oasis under the Dome: Restoration of the Red Cedar River at Michigan State University</b> Brian Majka, GEI Consultants & John Lefevre, Michigan State University	<b>Creating a Biological Inventory App with Survey123</b> Becky Gajewski, City of Ann Arbor Natural Area Preservation
10:50-11:10	<b>Break</b>		

## Concurrent Sessions

Room	103	104	105
11:10-12:00	<b>Assessment of Effective Management Strategies for Japanese Knotweed*</b> Tyler Jollimore, Dalhousie University	<b>Creating Place when you are out of Place</b> Courtney Prout & Nicole Ferguson, Genesee County Parks	<b>Talking Time</b> Bob Kellum, Grand Raisin Conservation Community
12:00-1:30	<b>Lunch</b> , Big Ten Room		

## Concurrent Sessions

Room	103	104	105
1:30-2:20	<b>Protecting a Resource at Risk: Control Techniques for Hemlock Woolly Adelgid in Michigan*</b> Heidi Frei, Emily Leslie, Alaina O'Neill, Elyse Hossink, and Travis Wilcox, Michigan Dept. of Natural Resources	<b>Muddy Creek Bay: Challenges Associated with Large Scale Great Lakes Coastal Wetland Restoration</b> Brian Majka, GEI Consultants & Matt Kovach, The Nature Conservancy	<b>Integrating Sustainability and Conservation in Illinois Rural Electrical Grids Through Pollinator Habitat</b> Grant Luckhart, University of Illinois Springfield
2:20-2:40	<b>Break</b>		

## Concurrent Sessions

Room	103	104	105
2:40-3:30	<b>Drill and Fill, Hack and Squirt, Basal Spray, Tree Girdling, and Brush Hogging: What Works and What Doesn't in Woody Invasive Plant Control*</b> Steven Parrish, University of Michigan Botanical Gardens and Arboretum	<b>Wetland Mitigation Banking: Successes and Challenges</b> Tyler Smith & Elizabeth Berghoff, Niswander Environmental	<b>Pollinator-friendly Solar Arrays: Design, Policy, and Performance</b> Adam Thada, The Center at Donaldson
3:30-4:00	<b>Farewell</b> , South Lobby		





**JOIN THE CONVERSATION ONLINE!**

Find us on Facebook! [facebook.com/stewardshipnetwork/](https://facebook.com/stewardshipnetwork/)  
Share your thoughts, ideas, and photos from this year's conference!



106	Red Cedar	Michigamme
<p><b>Great Lakes Restoration Initiative: Getting More Equitable Outcomes</b> Laura Rubin, Healing Our Waters, Great Lakes Coalition</p>	<p><b>Stewardship, Gardening, and Restoration: Metaphors and Ethics in the Anthropocene</b> Amy B. McEuen &amp; Megan Styles, University of Illinois Springfield</p>	<p><b>Can the Climate Crisis exist in a Public Elementary School?</b> Nichole Biber, East Lansing Public Schools</p>

106	Red Cedar	Michigamme
<p><b>Helping a Forest Adapt to Climate Change Through Assisted Migration</b> Noah Jansen, Little Traverse Bay Bands of Odawa Indians</p>	<p><b>Environmental Threats: Rashes, Poisonings, and Envenomations</b> Robert Ayotte, Michigan Garden Club</p>	<p><b>Collective Impact: The Power of Collaborating with The Stewardship Network</b> Lisa Brush, The Stewardship Network</p>

106	Red Cedar	Michigamme
<p><b>Climate Savvy Plant Communities: What is Our Role in Assisting Natural Areas for Future Change</b> Mitch Lettow, Southwest Michigan Land Conservancy, Bill Schneider, Wildtype native plants - ecological services, and David Karowe, Western Michigan University</p>	<p><b>Why it matters to know where your medicine comes from: 25 years of Medicinal Plant Conservation</b> Susan Leopold, United Plant Savers</p>	<p><b>Growing-season vs Dormant-season Prescribed Fire: Implications for Prairie Management</b> John Taylor &amp; Eli Nelson, Ball State University Field Station and Environmental Education Center</p>

106	Red Cedar	Michigamme
<p><b>Defining Stewardship and a Look at Our Role in Nature</b> Derek Shiels, Little Traverse Conservancy</p>	<p><b>Resident Engaged Open Space and a Climate Resilient Future in Detroit</b> Richard Ackerman, Eastside Community Network &amp; Katrina Watkins, Bailey Park Project</p>	<p><b>Why Water Matters: Water Walkers—Guardians of Earth and Water</b> Carol Trembath, Lakeside Publishing</p>

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# FRIDAY KEYNOTE

## Laura Rubin

Director, Healing Our Waters –  
Great Lakes Coalition



Laura Rubin has spent more than 30 years working on environmental protection, policy, and conservation issues. She is currently the Director of the Healing Our Waters—Great Lakes Coalition, which has been harnessing the collective power of more than 160 groups representing millions of people, whose common goal is to restore and protect the

Great Lakes. The Coalition has earned a well-deserved reputation as a national leader in securing federal investment in regional ecosystem restoration efforts.

Before that Rubin worked as executive director of the Michigan-based Huron River Watershed Council since 1998, where she transformed the nonprofit from a low-profile organization to a high-impact, high-visibility national leader in the field of watershed management. HRWC leads in the development and dissemination of cutting-edge conservation and public-education projects and serves as a model for watershed organizations around the country and world.

She has served as a board member or advisor to local, state, and national organizations including the Michigan Environmental Council, the Alliance for the Great Lakes, the Great Lakes Integrated Science and Assessment Center, the University of Michigan School of Natural Resources and Environment External Advisory Board, the City of Ann Arbor's Greenbelt Commission, and others. For her national leadership in river protection, she received the River Network's 2013 River Hero Award.

Prior to leading HRWC, Laura worked with small and medium sized manufacturers on pollution prevention efforts, consulted on economic development strategy with the Navajo Nation, and served as a Program Director at Greenpeace, where she cut her teeth on policy development, community organizing, and environmental advocacy.

Originally from the Chicago area, Laura grew up a block from Lake Michigan and learned to love and appreciate the beautiful waters, recreational opportunities, and rich ecology of the Great Lakes. She earned Master's degrees in Business Administration and Natural Resource Policy at the University of Michigan's Erb Institute, and a Bachelor of Arts in business economics from Colorado College.

# PRESENTATION ABSTRACTS

Organized alphabetically.

## A Green Revival: Cultivating Gardens for People, Place & Plants

A positive shift and a new way of thinking about our gardens, neighborhoods, and community green spaces has taken shape and is now a reality. Shrinking property boundaries, life in the digital age, and tightly packed schedules is provoking a yearning for a deeper relationship with the natural world. People are taking charge of their home environments by consciously choosing to create gardens and outdoor spaces inspired with a focus on place-making, homemaking, and regional ecology. The best outdoor spaces and gardens are planned in harmony with nature, demonstrate respect for the web of life and honor three essential relationships: plants to place, plants to people and plants to other plants.

Susan Betz, Fresh Start Herbs

## American Kestrel Partnership

The smallest North American falcon, the American Kestrel has had a population decline of nearly 50 % in the last 45 years, with the biggest impact in the northeast where numbers can reach upwards of 88%. No one really knows why. Many hypotheses exist as to what could be the cause or causes. Learn about the current research determining the risk factors and what is currently being by land managers to preserve this colorful little predator.

Francie Krawcke, Michigan Avian Experience

## Assessment of Effective Management Strategies for Japanese Knotweed

Japanese knotweed (*Fallopia japonica*) is an invasive species in Europe and North America; associated with increased soil erosion, loss of native plant diversity, and accelerated destruction of riverbanks. In Nova Scotia, there is growing interest in the management of Japanese knotweed, due to its negative impacts, and the ability of



# SATURDAY KEYNOTE

## Mamie Parker

First African American Chairman of Virginia Department of Game and Inland Fisheries Commission, & Northeast Regional Director, U. S. Fish and Wildlife Service

the species to occupy large areas. Between 2016 and 2018, experimentation evaluated: (i) integration of cutting and herbicide application, (ii) injections compared to spot applications of herbicides, and (iii) impact seasonal timing of herbicide application on knotweed stem regeneration. (i) Knotweed stem density was reduced to a similar degree regardless of if cutting was performed prior to herbicide application. (ii) Injections were not significantly different from spot sprays, both reduced knotweed stem density, but required two applications. (iii) Peak height and fall applications were both effective, group 4 herbicides performed best in the fall.

Tyler Jollimore, Dalhousie University

### Can the Climate Crisis exist in a Public Elementary School?

Our children will inherit the ongoing and projected problems associated with the ecological degradation caused by unchecked consumerism. Yet, there is a clear lack of initiative to provide the kind of education that would inform children of the science, causes, and stakes of Climate Change, and even inspire them toward possible solutions.

This presentation and discussion will consider the curricular, political, and sociological factors that may be holding back concerted efforts to include Climate Crisis issues in our public schools, and whether such barriers might be overcome. We will also explore some of the regional grassroots and national non-profit efforts to incorporate Climate Education into school curriculums, including my own efforts as an East Lansing Elementary School librarian.

Nichole Biber, East Lansing Public Schools



Mamie A. Parker worked almost 30 years as a fish and wildlife biologist for the U. S. Fish and Wildlife Service (FWS) in Genoa; La Crosse; Green Bay, Madison, and Lake Mills, Wisconsin; Columbia, Missouri; New London and Minneapolis, Minnesota; Atlanta, Georgia; Amherst, MA; and Washington, D.C. During the Clinton Administration,

Parker rose to the rank of Chief of Staff in the Service Headquarters, the first African American to hold this title.

She has outstanding experience in NEPA, Clean Water Act, wetland protection and restoration. This extensive experience led her to receive the Annual Ira Gabrielson Award, an award to be given by FWS leaders to the most outstanding leader in the agency. She played a major role in protecting our nation's waters from pollutants and invasive species such as listing the Snakehead fish and Asian Carp as an injurious wildlife species. Parker led the FWS staff, along with partners in developing the National Fish Habitat Action Plan. The President of the United States presented Parker with the Presidential Rank award, the highest award given to government employees.

Parker also led the effort in working with the American Pharmaceutical Association and Wal-Mart to promote a national campaign of smart disposal of medicine and unwanted aquarium fish and plants. She was featured on the NPR's Morning Edition. Parker is a leader in various organizations and serves on the Board of Directors of The Nature Conservancy, Duke University Nicholas School of the Environment, Northland College, Student Conservation Association, the National Wildlife Refuge Association, Brown Advisory Sustainable Investment, Marstel-Day Consulting Company, and the Chesapeake Conservancy.

Former Secretary Madeleine Albright and the Council of World Women Leaders awarded her with an Aspen Institute Fellowship for her work in the Kingdom of Lesotho and in Cape Town and Johannesburg, South Africa. She recently returned from China where she spoke at the World Fisheries Congress on the impacts of climate change and development in coastal cities and communities of color.



## **Climate Savvy Plant Communities: What is Our Role in Assisting Natural Areas for Future Change**

Climate change is a difficult topic to consider when making decisions about natural areas management. What role do land stewards have in helping native species adapt to climate change? Preserving, creating and maintaining resilient ecosystems for an uncertain future requires careful consideration. In this session, with your help, we will discuss plant communities and the role of genotype, distribution (historical, current, and future), climate models, and assisted migration may play in an era of climate change. Join us for this exciting and important round table discussion.

Mitch Lettow, Southwest Michigan Land Conservancy  
Bill Schneider, Wildtype Native Plants • Ecological services LTD  
David Karowe, Western Michigan University

## **Collaborative Management of a New Invasive Species: Managing Stiltgrass in Southeast Michigan**

In 2017, stiltgrass (*Microstegium vimineum*) was documented for the first time in Michigan. The dedicated efforts of local and state stewardship agencies, along with private landowners, brought this infestation under control, containing it within a small neighborhood. But in June 2018, a much larger infestation of stiltgrass was discovered just a few miles away, covering over 35 acres across 60 private and public properties. The stewardship community organized into the Stiltgrass Working Group to pool their resources and treat it— but despite their best efforts, that acreage increased again this year. What do you do in the face of such an overwhelming escalation? Learn how the Stiltgrass Working Group is continuing their multipartner collaboration, the challenges they faced managing an annual invasive on both public and private property, and some of the lessons they learned from this year's effort.

Alice Elliott, Stiltgrass Working Group

## **Collective Impact: The Power of Collaborating with The Stewardship Network**

Distributed stewardship is the future of conservation. We cannot sustainably manage individual natural areas or properties as isolated units, no matter their size. In order to



preserve biodiversity, provide wildlife habitat, and protect our land, air, and waters, communication and coordination across boundaries is imperative. The Stewardship Network (TSN) provides a model for us to do just that. TSN develops and supports highly individualized collaborative conservation communities and knits them together to create landscape scale impact. We connect, develop, and support local leadership to sustain these efforts over time and link them with tools and funding streams for this important work. Come learn how The Stewardship Network is growing across North America and how you can join the movement.

Lisa Brush, The Stewardship Network

### Continuing the Glyphosate Conversation: Invasive Species and Integrated Pest Management

There is continued concern from the public about the use of glyphosate on the land, to the point that some folks stop listening when one even mentions the “G” word. We don’t know of another control method that is as effective as glyphosate, but one day, glyphosate may very well no longer be an option as a management technique. As ecological stewards, it’s imperative that we keep looking for alternatives and talking about what we are finding. To set the framework for this discussion, we will dive into the meaning of Integrated Pest Management and look at a case study of how the City of Ann Arbor Natural Preservation and the Washtenaw Stiltgrass Working Group are using IPM to control a new invader, stiltgrass, in the greater Ann Arbor area. Please bring your expertise, anecdotes, and questions to the conversation.

Michael Hahn, City of Ann Arbor Natural Areas Preservation

### Creating a Biological Inventory App with Survey123

Survey123, part of the ArcGIS package of geospatial software, is a powerful tool for creating smart surveys and web forms that can be used to collect information in the field. Natural Area Preservation staff at the City of Ann Arbor used this software to create a reptile and amphibian survey app, which can be used by staff members and volunteers alike to record observations of snakes, turtles,



**Making a difference.**  
**Restoring Natural Areas**

Clinton River Spillway Habitat Restoration, Macomb County, MI

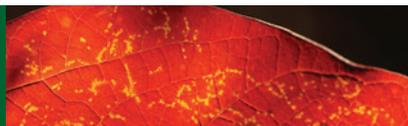
Our team provides comprehensive ecological restoration and consulting services to meet your project site’s unique challenges including:

- > Ecological project planning and design
- > Flora/fauna surveying
- > Invasive species control
- > Local genotype nursery material
- > Native planting and seeding
- > Permitting and compliance
- > Prescribed burns
- > Shoreline restoration
- > Wetland inventories and delineations

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salamanders, and frogs in city parks. Gone are the days of fumbling with paper data sheets, as surveyors can quickly and easily submit sightings on the web or via mobile devices, even when they aren’t connected to the internet! Location information, pictures, audio, and a variety of customized information can be submitted with the observations, which are then stored in ArcGIS Online. Learn how NAP designed their survey app and how you can use Survey123 to design your own!

Becky Gajewski, City of Ann Arbor Natural Areas Preservation



# PRESENTATION ABSTRACTS



## ECOLOGICAL SERVICES

ECOLOGICAL ASSESSMENT,  
LAND MANAGEMENT  
PLANNING, & LANDSCAPE  
DESIGN

HABITAT MANAGEMENT

NATIVE PLANT  
INSTALLATION &  
LAKESHORE RESTORATION

PRESCRIBED FIRE  
CONSULTATION



[NATURECENTER.ORG/ECOSERVICES](http://NATURECENTER.ORG/ECOSERVICES)  
[ecoservices@naturecenter.org](mailto:ecoservices@naturecenter.org)

### Creating Place when you are out of Place

Genesee County Parks For-Mar Nature Preserve and Arboretum aims to connect every neighbor, visitor and community member to nature and after all is our duty as a County Park. Join For-Mar Educators to explore nature-based programs and activities designed to connect the active older generations to the environment as a sense of “Place” both at the Preserve and as they take their programs on the road. There will be a chance to get some hands-on experience as we reimagine a common activity and help create an inclusive sense of belonging that sometimes is lost, especially when separated from familiar faces or possessions or places.

Courtney Prout, For-Mar Nature Preserve and Arboretum,  
Genesee County Parks

Nicole Ferguson, For-Mar Nature Preserve and Arboretum,  
Genesee County Parks

### Defining Stewardship and a Look at Our Role in Nature

Debate within the conservation community is to be expected. Students in conservation programs are introduced to the foundations of conservation through the lens of an early debate, Muir’s preservation vs. Pinchot’s wise-use. Today, our National Parks surrounded by National Forests attest to these two contrasting value systems working together; right? The current debate framed as ecocentric motivations vs. anthropocentric motivations is still animating a divide. Our values and motivations underpin what we do and don’t do in our conservation spaces; should we unite behind a single philosophy? As a stewardship professional, how would you respond to the suggestion that the word “stewardship” signals that the conservation movement is off track? Maybe you would point to Aldo Leopold’s seeming capacity to balance contradictions. This talk, told from a “how I see it” view of a local land conservancy manager, will examine definitions, philosophical underpinnings, and practical implications.

Derek Shiels, Little Traverse Conservancy

### Drill and Fill, Hack and Squirt, Basal Spray, Tree Girdling, and Brush Hogging: What Works and What Doesn’t in Woody Invasive Plant Control

Did you know you don’t need herbicide to effectively treat Norway Maple? Are you looking to refine your cut-stump herbicide wand? I’d like to share what I’ve learned in 12 years controlling invasive plants and hear from my fellow invasive-plant practitioners about their best practices. We’ll explore the tools that have worked and the effective techniques to control Oriental bittersweet, Norway maple, buckthorn, black locust, and more. Check out a new design for a cut-stump herbicide wand.

Steven Parrish, University of Michigan Botanical Gardens and Arboretum

### Environmental Entrepreneurship: Challenges and Rewards of Operating Your Own Conservation Business

A panel of speakers will discuss their paths in starting and running their own conservation companies, followed by a roundtable discussion about issues involved in operating an environmental business, and what role the Stewardship



Network could play in supporting cooperation and collaboration. Panelists will discuss what motivated them to start their own businesses, what the biggest challenges and rewards have been, and what opportunities they see for emerging businesses and for mentoring.

Jacqueline Courteau, NatureWrite LLC

David Mindell, PlantWise LLC

Esther Durnwald, Michigan Wildflower Farm

Bill Schneider, Wildtype Native Plants • Ecological services LTD

Michael Bald, Got Weeds?

Karen Glennemeier, Habitat Research LLC.

### **Environmental Threats: Rashes, Poisonings, and Envenomations**

The avid land steward should be aware of possible health threats posed by various plant and animal exposures. This presentation reviews the natural history, manifestations, and treatment of common environmental health concerns in the Great Lakes Region.

Robert Ayotte, Michigan Botanical Club

### **Forests for Fish**

Forests for Fish is a project to help landowners and natural resource professionals explore the connections between land management and water quality. Forests, more than any other land use, provide abundant clean water and quality fish habitat. But we all need to do more to protect the Great Lakes and Michigan's 11,000 inland lakes and 76,000 miles of streams. Forests for Fish helps landowners, loggers, foresters and fisheries biologists improve their forest management to protect water quality and fish habitat. Come learn what you can do with public and private forests in your neighborhood.

Mike Smalligan, Michigan Department of Natural Resources



### **ENVIRONMENTAL CONSULTING EXPERTISE**

Davey Resource Group is rooted in decades of experience in the natural world. From the restoration of degraded wetlands to installation of native grasslands, our highly qualified team of biologists, restoration ecologists, foresters, environmental planners and regulatory specialists is trained to respond to your project needs by providing resourceful services and innovative solutions.

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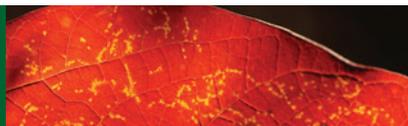
Michigan Registered Forester #46043



### **From Theory to Practice: How can the Principles of Ecological Resilience Inform Invasive Species Management?**

By presenting case studies and frameworks, we will come to a basic common understanding of some of the principles of resiliency, including thresholds, alternate stable states, and adaptive cycles, and related concepts of biotic resistance and novel ecosystems. We'll then have a guided panel discussion about how these concepts can or are being used to guide management decisions, especially related to invasive species. We'll include some preliminary findings of meta-analyses of the characteristics of terrestrial communities that make them vulnerable or resistant to invasive plants. Complete results of these meta-analyses will be the focus of a workshop on resilience-based management of invasives held at the University of Michigan, February 28-29, 2020.

Sheila Schueller, University of Michigan



# PRESENTATION ABSTRACTS

The opportunity to earn Pesticide Applicator Recertification Credits are available for attending sessions in Room 103. Residents of Indiana, Minnesota, Ohio, and Wisconsin may qualify for these credits under reciprocity agreements with the State of Michigan's Department of Agriculture and Rural Development. Categories include: 2 (Forest), 3B (Ornamental), 5 (Aquatic), 6 (Right-of-way), Commercial CORE, and Private CORE. Be sure to bring your applicator number with you!

For more information on certification, visit [www.Michigan.gov/mdard/](http://www.Michigan.gov/mdard/) or email [rob@stewardshipnetwork.org](mailto:rob@stewardshipnetwork.org)

## Great Lakes Islands Conservation

The Great Lakes boast over 32,000 islands, the largest collection of freshwater islands in the world. These unique places offer significant ecological value and are important components of our cultural and historic heritage. Though many are remote, sparsely developed, or under some form of government oversight, islands are not immune to degradation and all face a variety of threats. To protect these unique places into an uncertain future, they should be considered as a collective whole. Unfortunately, there is presently no coordinated, Great Lakes-wide discussion about islands conservation. Limited resources are typically focused on mainland areas; working on islands is more logistically complex and costly. Are these unique places slipping through the cracks? Are there opportunities for preventative approaches and precautionary conservation? This session will include a primer on Great Lakes islands, example case studies, and discussion of opportunities for action.

Matt Preisser, Michigan Department of Environment, Great Lakes, and Energy

Phyllis Higman, Michigan Natural Features Inventory  
Eric Ellis, Great Lakes Commission

## Great Lakes Restoration Initiative: Getting More Equitable Outcomes

### Keynote Speaker Workshop

The Healing Our Waters-Great Lakes Coalition wants to play our part in ensuring that federal Great Lakes restoration investments (GLRI) benefit all of the people and communities in the region—particularly those who have borne the brunt of racial, environmental and economic injustice. Equity means we will strive to intentionally include those who have been historically excluded—specifically people of color and people from impoverished backgrounds—and work to break down barriers to their inclusion within the Great Lakes community. So, what does this mean for GLRI—who gets the funds, who decides what priorities are, who gets the contracts to carry out the work, what kind of community engagement is happening, and what happens post-project? Come explore and discuss how to make GLRI outcomes more equitable and just.

Laura Rubin, Healing Our Waters, Great Lakes Coalition

## Growing-season vs Dormant-season prescribed fire: implications for prairie management

Fire seasonality is thought to influence plant species distribution and abundance in native and constructed prairies. A 40 acre constructed prairie with heavy stands of native warm-season grasses has been burned every-other-year, exclusively in either the growing-season or in the dormant-season, since 2013. In late July 2019 species cover was recorded for 96 2x2m plots to compare cover between growing-season and dormant-season burn areas. Statistical analysis and anecdotal observations will be presented, along with management plans for the coming years.

John Taylor, Ball State University Field Station

Eli Nelson, Ball State University Field Station

## Helping a Forest Adapt to Climate Change Through Assisted Migration

Climate change poses new challenges and opportunities for natural resource management agencies, including Native American Tribes. When climate changes occurred in precolonial times, tribes could migrate along with the





culturally significant species they depended on. Today tribes are frequently tied to particular areas of land (e.g. reservations). With many culturally significant species in Michigan threatened by climate change, the Little Traverse Bay Bands of Odawa Indians is taking a proactive approach with one of their forests in the northern lower peninsula. Since 2016 they have been planting native trees and shrubs, using species and/or genetic stock from warmer climate zones. Overall survival of planted trees and shrubs has been high (80-90%), though there is substantial variation among species. Tree establishment methods and lessons learned will be discussed.

Noah Jansen, Little Traverse Bay Bands of Odawa Indians

### Incorporating participatory science into an adaptive management approach to invasive species management

Invasive species are a widespread problem and significant resources are directed at controlling them. Frequently, control efforts are implemented independently and lack coordination on a larger scale. These disjointed efforts can lead to variable treatment outcomes and limited landscape-wide progress. To maximize management efforts targeting invasive Phragmites across the Great Lakes Basin, the Great Lakes Phragmites Collaborative launched the Phragmites Adaptive Management Framework (PAMF). This unique program combines participatory science with adaptive management, allowing managers at all levels to contribute to and benefit from Phragmites management data generated basin-wide. PAMF applies a systematic approach to learning from management actions to reduce uncertainty of management outcomes. This presentation will cover the benefits of an adaptive management approach that incorporates participatory learning and share lessons learned throughout PAMF's development and implementation.

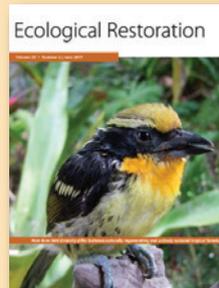
Samantha Tank, Great Lakes Commission

### Integrating Sustainability and Conservation in Illinois Rural Electrical Grids Through Pollinator Habitat

Increasingly environmental initiatives are pushed to an industry level. However, many businesses operate with the environment as a compliance after-thought, and upper level

employees can have a negative view towards environmental regulation. An example is the impending listing decision for the monarch butterfly. Under this pressure the energy sector of the lower 48 states has been petitioned to help address the issues facing this species. In a collaboration between industry leaders, U.S Fish and Wildlife Service, and the University of Illinois Chicago, a candidate conservation agreement has been extended to address key monarch stressors. I worked with a Central Illinois power cooperative, to evaluate power-line rights-of-way for pollinator habitat upgrading. A positive environment was created through conversations with managers and staff and gentle advocacy of sustainability and conservation principles. Creating such bridges can foster opportunities for large-scale conservation outside of natural areas.

Grant Luckhart, University of Illinois Springfield



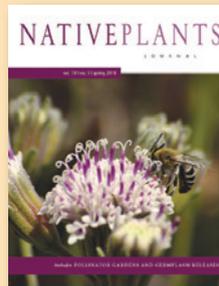
## Ecological Restoration

The Original Restoration Publication

Edited by Steven N. Handel  
<http://er.uwpress.org>

Featuring the technical and biological aspects of restoring landscapes, as well as collaborations between

restorationists and the design professions, land-use policy, the role of education, and more.



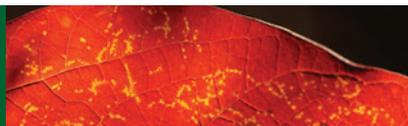
## NATIVE PLANTS JOURNAL

Edited by Stephen Love  
<http://npj.uwpress.org>

Practical information about planting and growing North American native plants for conservation, restoration,

reforestation, landscaping, highway corridors, and related uses.

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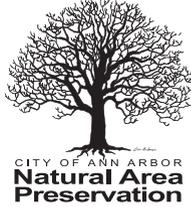
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- Legacy Land Conservancy
- Mens Garden Club of Jackson
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- Royal Oak Nature Society



# PRESENTATION ABSTRACTS

## Invasive Species Treatment Prioritization Model

Invasive plant infestations are projected to rapidly increase as the landscape continues to be fragmented and the climate changes. The rate of spread often outpaces managers' ability to effectively detect and control infestations. Land stewards need tools that can match the rapid pace and scale of invasive infestations and help prioritize control efforts in the most eco-logically important areas. Given that funding for treatment is finite, it is imperative that proposed control be informed by the best available ecological information. Michigan Natural Features Inventory is working with the Wildlife Division of the DNR to develop an invasive species treatment prioritization model for state lands. This presentation provides a summary of our progress to date developing a weighted geographic overlay model, details our methods, presents our results, and discusses model limitations and next steps to improve

the modeling process and foster application of the model by resource practitioners.

Joshua Cohen, Michigan Natural Features Inventory  
Clay Wilton, Michigan Natural Features Inventory

## Learning to Live in Dynamic Dunes

How have Michigan's Coastal dunes changed in the last 100 years? What impact do our activities have on natural dune processes? How are dunes perceived by Michigan residents and communities? Building from previous efforts, the Michigan Environmental Council teamed up with Michigan State University faculty to explore these and other important questions about Michigan's coastal landscapes. This project aimed to engage citizen scientists through historic photo collection as well as capturing repeat photographs in order to better visualize landscape changes. Our team also deployed 'mental mapping', a highly interactive social science tool in order to better understand Michiganders perceptions of dune systems. The combination of these efforts will ideally inform future state and local policy decision making for coastal sand dunes.

Tom Zimnicki, Michigan Environmental Council  
Robert Richardson, Michigan State University  
Alan Arbogast, Michigan State University

## Making Environmental Land Stewardship Relevant and Inclusive

The definition of environmental/land stewardship and conversations about taking care of our lands are being re-framed and re-envisioned. In this workshop, you will first hear about my journey of being an outsider who migrated from India, to feeling like an insider in the Golden Gate National Parks. Through facilitated dialogue and discussion, participants will then have an opportunity to share their own stories with the group. At the end of this session, I hope that participants will walk away with ideas and tools to create new ways of engaging communities in environmental/land stewardship, and inspiration to challenge the stewardship narrative.

Yakuta Poonawalla, Golden Gate National Parks Conservancy



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## Mesophication of Eastern Forests: A Problem as Big as the Word, with a HOT Solution

Fire suppression has created fire management issues across the U.S., but western wildfires often overshadow alarming trends east of the Mississippi River. Fire's absence in the east has led to widespread mesophication; a self-reinforcing process where cool, damp, and dark microenvironments promote species that maintain such conditions. Mesophication reduces fuelbed flammability and threatens the regeneration of disturbance-dependent trees, understory herbaceous diversity, and associated wildlife; however, hope lies in identifying fire's absence as a root cause. At three sites located across the Mid-South, we used canopy thinning and fire to reverse mesophication effects. Results demonstrate positive effects on fuel-beds, oak regeneration, understory herbaceous layers, and bird and bat communities. Using such active management now to reverse mesophication may maintain the productivity, sustainability, and function of eastern ecosystems during an uncertain climatic future.

Andy Vander Yacht, Michigan State University

## Muddy Creek Bay: Challenges Associated with Large Scale Great Lakes Coastal Wetland Restoration

Muddy Creek Bay is an approximately 4 square mile lacustrine estuary within Sandusky Bay, connecting the Sandusky River to Lake Erie. The bay has experienced extensive loss of wetlands due to historic development around the bay and upstream in the watershed. GEI Consultants worked with The Nature Conservancy to develop design concepts to rebuild wetlands throughout the bay through wave attenuation, passive sediment accretion, and active sand placement. Site analysis included sediment sampling, water quality sampling, wave analysis, 2-dimensional hydrologic modeling, and ecological sampling of existing and reference ecosystems. Existing conditions were compared to reference, historical, and proposed future conditions to determine the feasibility for restoration. This presentation will discuss the unique challenges associated with large scale restoration of Great Lakes coastal wetlands.

Brian Majka, GEI Consultants

Matt Kovach, The Nature Conservancy

## Native landscapes over septic fields

This presentation describes how to safely replace lawn grasses with native plants and grasses that will not only help to naturalize your property without interfering with the mechanics of your onsite wastewater treatment system (a.k.a. your septic system), they can also enhance its performance.

Beth Clawson, Michigan State University Extension

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Two men in business attire talking and smiling.

An older woman and a younger woman talking and smiling.

A man in a suit speaking at a podium.

A laptop displaying the NAISMA website.



### Oasis under the Dome: Restoration of the Red Cedar River at Michigan State University

The Red Cedar River runs for three miles through the Michigan State University (MSU) campus and is a living laboratory and place of relaxation to students, faculty, staff, and surrounding communities. But less obvious is how threatened this iconic river is by bank erosion and stormwater inputs. The natural process of erosion slowly impacts many of the riverbanks on campus, and has accelerated because the region's urbanization has increased in recent decades. The MSU Infrastructure Planning and Facilities group is leading the process of assessing and restoring the river where it passes through campus. This presentation will describe both completed and proposed restoration efforts along the river and impacts to the whole watershed. Participants will be invited to visit a restoration project near Spartan Stadium.

Brian Majka, GEI Consultants

John LeFevre, Michigan State University



### Optimizing Your Land's Relationship To Water

Where do you begin with transitioning degraded lands into sustainable ecological systems? It all starts with water. Learn from certified permaculture designer and author of the book, Restoration Agriculture, Mark Shepard, about his NRCS-compatible adaptations to keyline design and practical ways for you to apply them to your land. This 3-part series will expand your understanding of how water behaves within landscapes, teach you terminology to identify the contours on your land as well as to communicate these water management concepts more clearly and effectively between government agency officials and farmers.

In Session 1, Mark will go beyond simply discussing erosion control and into how these water management systems function to improve the local watershed, soil quality, biodiversity, crop health and finances, thereby speeding the healing of the entire landscape as a whole.

In Session 2, Mark will dive into the water management system principles, explain the terminology and take you through strategies for which to help you identify key features on your land.





In Session 3, Mark will discuss the implementation and ongoing care one may expect with water management systems. Mark will also equip you with strategies for communicating to other farmers, family or the local NRCS office about your plans for your own water management system.

Mark Shepard, Restoration Agriculture Development

### Plan Your Way Out of Unplanned Events: Managing Landscapes with Safety in Mind

Land stewardship is a hands-on activity, executed in all kinds of weather across widely varying terrain. Participants come and go; they bring different backgrounds and a range of experience. The task list seems endless, but safety must remain atop the pile. This presentation lays out basic safety preparations that land stewards should practice in leading groups and empowering communities. Safety reaches beyond the individual realm when volunteers and those less familiar with the outdoors seek to engage; leaders must learn to appreciate their startpoints and the nuances of project sites. This perspective, applied in planning stages and implemented on landscapes, ensures that known risks are properly mitigated and all participants are well prepared. The desired outcome is positive outdoor experiences, and the first step on that path is safety.

Michael Bald, Got Weeds?

### Pollinator-friendly Solar Arrays: Design, Policy, and Performance

Solar panels and pollinators, they just go together! But does the performance match all the buzz? In the Midwest, proposed utility-scale solar arrays would span hundreds of acres or larger, generating concern about land impacts. We will review the expanding practice of pairing native wildflower plantings with ground-mounted photovoltaic solar arrays. Standards, permitting and policy, project design, maintenance, and evaluations will be discussed in this broad overview. The early results of a 2018 wildflower-friendly solar installation in northern Indiana will be highlighted, as well as planting plans for a second array installed in late 2019 and frost-seeded in winter 2019-2020.

Adam Thada, The Center at Donaldson

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### Protecting a Resource at Risk: Control Techniques for Hemlock Woolly Adelgid in Michigan

Michigan Department of Natural Resources, Parks and Recreation Division has been successfully managing Hemlock Woolly Adelgid (HWA) since 2017 in some of Michigan's most iconic parks along the Lake Michigan shoreline. Following an update of the status of the infestation and program goals, attendees will learn about the different control techniques applied, including pros and cons of each and the challenges associated with protecting hemlock in Michigan's critical dunes.

Heidi Frei, Michigan Department of Natural Resources

Emily Leslie, Michigan Department of Natural Resources

Ryan Hartman, Michigan Department of Natural Resources

Alainna O'Neill, Michigan Department of Natural Resources

Elyse Hossink, Michigan Department of Natural Resources

Travis Wilcox, Michigan Department of Natural Resources

## *Celebrating and Saving Wildlife*

The Detroit Zoological Society works to save species and habitats in the Great Lakes, and proudly supports *The Stewardship Network 2020 Conference*.



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### **(Re)Connect to Nature: Nature Journaling as Observation and Meditation**

As stewards, it can be easy to get caught up in our never-ending battles with invasives and other restoration work, and forget to pause and truly see the natural areas we're working in. Winter is a perfect time to reflect and reconnect. Ecologist Jacqueline Courteau will share ideas and prompts for using nature journaling to connect to nature. Not just a field notebook, a nature journal can be used as a form of meditation and reflection, to heighten observation skills, and to increase feelings of gratitude and connectedness—to nature, to community, and to memory. This session will offer inspiration to deepen your connection to the land you love. We'll supply paper and colored pencils, or bring your own unlined journal and favorite pens, pencils, or markers. BRING YOUR COATS AND ENOUGH LAYERS TO STAY WARM FOR 20 MINUTES

OUTDOORS, although there will be indoor options as well. Come and cultivate your curiosity and sense of wonder!

Jacqueline Courteau, NatureWrite LLC

### **Recovering America's Wildlife Act**

One-third of the fish and wildlife species in the United States are at risk of becoming threatened or endangered. The crisis facing our nation's fish and wildlife is daunting, but this legislation provides a solution. The Recovering America's Wildlife Act will provide state fish and wildlife agencies and Indian Tribes with dedicated resources to address more than 12,000 species in need of proactive, voluntary conservation. The Recovering America's Wildlife Act will help recover and conserve species at risk by dedicating \$1.3 billion annually for state-led conservation and \$97.5 million to Indian Tribes for on-the-ground conservation projects. The Michigan Department of Natural Resources will provide a legislative update and would like to discuss with participant's high priority projects.

Dan Kennedy, Michigan Department of Natural Resources

### **Resident Engaged Open Space and a Climate Resilient Future in Detroit**

Eastside Community Network (ECN) has led planning around open space for a decade through the Lower Eastside Action Plan (LEAP) process. Residents and technical experts came together to form strategies for improving the large amount of vacant land left behind by demolitions, with green stormwater infrastructure (GSI) as one such strategy. The Hamilton Rainscape Learning Lab, which emerged from those plans, completed construction in June 2019 and now serves as an outdoor classroom to teach students and the community about stormwater, native plants, and other topics. The process for creating that space highlights the importance of community engagement in developing these projects. But there remains tremendous need for similarly impactful projects across Detroit and other urban landscapes. Moving forward, ECN looks to assemble community and technical experts to build policies that promote more equitable, healthier neighborhoods in preparation for the encroaching threats of climate change.

Richard Ackerman, Eastside Community Network  
Katrina Watkins, Bailey Park Project



### Restoration Agriculture Tree & Shrub Nursery: Models For Future Success

This presentation will provide a brief update on Brines Farm's continuing understanding and integration of restoration agriculture techniques; describe our experiences over the last few years beginning a State of Michigan licensed and inspected tree & shrub nursery; and open up for discussion among attendees regarding their experiences, the need for other local native plant nurseries across the region, and models that might lead to that outcome. Are there cooperative or other models that might work for local genotype seed saving and gathering, seed starting, plant propagation and beyond? Brines Farm expanded to 80 acres of historical farmland in 2012. Previous use of the land had abused the soil and sped water off site. We began trying keyline techniques to keep water on site longer, and we began to plant perennials. With five seasons of thousands of plantings done, we decided it was time to start our own nursery but that was easier said than done.

Shannon Brines, Brines Farm LLC

### Rouge Park Log Jam Biologic and Microplastic Survey Fall 2019

Our students sampled macro-invertebrates and floating debris from a log jam on the Rouge River in Detroit. We have developed this site over multiple years, as an anchor to our Detroit watershed investigations. Students will present their research, and the projects they have developed from that data, with the intent to raise ecological awareness and spur action-oriented solutions.

William Albrecht and Students, Academy of the Americas High School

### Stewardship, Gardening, and Restoration: Metaphors and Ethics in the Anthropocene

Wilderness and gardening are both contested metaphors in conservation and restoration. We explore the garden metaphor's use over the past 25 years by Pollan, Janzen, Jordan, Marris, and other writers. Unlike a wilderness metaphor, human inclusion is explicit in a gardening metaphor. Several questions arise when humans are part



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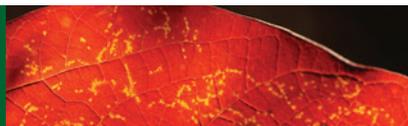
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of conservation including who has authority, expertise, and claims to territory. In addition, some writers question whether a gardening perspective puts certain groups of species at risk. We suggest a gardening metaphor works best if it is linked to the pragmatic, stewardship ethic articulated in Leopold's land ethic. We define wild gardening as approaches that preserve global biodiversity while acknowledging humanity's ever increasing role in that task. Ideally, wild gardening would help us address conservation's colonial history while encouraging approaches that blend biodiversity preservation with community-specific cultural outcomes that enhance engagement.

Amy B. McEuen, University of Illinois Springfield

Megan Styles, University of Illinois Springfield



# PRESENTATION ABSTRACTS



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## Strategies to Support and Grow Michigan's Outdoor Recreation Lifestyle Economy

Michigan has a long and proud history of conservation and outdoor recreation leadership. Recently, Michigan joined an elite collection of 13 states that have committed to partnering with the outdoor recreation industry, through the creation of a dedicated Outdoor Recreation Industry Office, with the goal of partnering more closely with the outdoor recreation and lifestyle businesses that call Michigan home — to better support outdoor businesses, attract a talented workforce, and connect communities to their natural assets. Perhaps most importantly, though is to utilize this office and the network to help get more people from all walks of life, particularly children, outside.

Brad Garmon, Michigan Department of Outdoor Recreation Industry

## Talking Time

A free ranging discussion about the variable nature of time and the accelerating time-scape we live in. We will look at how the temperamental short term competes with a stabilizing long view; how the drama of the moment obfuscates the wisdom of the ages. I hope to examine the 50 allotted minutes and consider how we experience them.

Bob Kellum, Grand Raisin Conservation Community

## Telling Your Stewardship Story

Join Patricia as she teaches the basics of personal storytelling. Attendees will learn how to craft their narrative relating to being stewards of our land and water so they may be better equipped to share what fuels their passion in professional settings, or even on stage at the Story SLAM Friday night. No experience necessary.

Patricia Wheeler, Storyteller & Coach



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## The Restoration of the Clinton River Watershed

The Clinton River Watershed Council is heavily involved in bioengineered restoration solutions and citizen-led water quality monitoring on all scales within their AOC, with the intent to improve the ecological integrity of this degraded watershed. With the same intent, Cardno leads many of these projects, including the restoration of the Clinton River mouth, and is also heavily involved in the assessment and restoration of privately owned streams and lakes. Join us to learn more about the restoration of the Clinton River Watershed, considerations on bioengineering design and implementation, and lessons learned on large and small scale restoration efforts in Michigan.

Patrick Duffy, Cardno

Robin Burke, Cardno

Eric Diesing, Clinton River Watershed Council

## Wetland Mitigation Banking: Successes and Challenges

The Wetland Mitigation Banking Program in Michigan offers an alternative to the widely unsuccessful site specific (permittee responsible) wetland mitigation program. Niswander Environmental has become the leading private wetland mitigation banking company in Michigan and has been constructing wetland mitigation banks for over 12 years and currently monitors over 900 acres of wetland mitigation bank credits. We will discuss the process of wetland mitigation bank site selection, design, construction, planting, and the successes and challenges that we have faced as the sites have progressed over the years. In addition, we will give insight to how we carefully balance establishing a native plant community with the stringent state-required hydrologic regime and many of the challenges that are faced developing forested and scrub shrub wetland types in different hydric soil types.

Tyler Smith, Niswander Environmental

Elizabeth Berghoff, Niswander Environmental



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### Why it matters to know where your medicine comes from: 25 years of Medicinal Plant Conservation

In 2019 United Plant Savers celebrated 25 years with the opening of the Center for Medicinal Plant Conservation, in Southern Ohio. This talk will share stories from the front lines of a very secretive medicinal plant trade and learn about resources for growing woodland Botanicals and how to be a wise consumer of herbs as we heal not only our bodies but also our environment.

Susan Leopold, United Plant Savers

### Why Water Matters: Water Walkers—Guardians of Earth and Water

Native People were the first environmentalists. It is time to hear their story and learn about their efforts to safeguard the waters of the Great Lakes, rivers, and waterways across the United States and Canada. Since their first walk around Lake Superior in 2003, the Ojibway have circumnavigated on foot, the Great Lakes, rivers, and waterways—walking over 19,600 miles. The water walkers' message is timely and illustrates the ongoing concern of Indigenous people to draw attention to the condition of water.

In the past, Native people have been shut out of the conversation regarding water equity and inclusion. They are now coming forward with strong leadership to promote environmental sustainability and social justice. It is time for the history of the Mother Earth Water Walkers' to be told, along with excerpts from the Water Walkers Trilogy. A Hopi proverb says, "One finger cannot lift a pebble."

Carol Trembath, Lakeside Publishing MI







# NATURE THREADS

## Weaving our stories of Stewardship

We will have a story loom set up at the 2020 conference, and we encourage you to weave a row (or a few!) throughout our time together. Choose from a selection of materials that we will supply, including grapevines, reeds, jute twine, and wool roving, or bring your own! Try to find a material that represents the stewardship work that you do. It takes a few short minutes to weave a strand or two into the loom, and we can watch the strands of our lives merge to make a whole work of art.

Some ideas for materials to bring: An item of used clothing that is cut into strips. (Cotton or wool preferred, as synthetics are usually more difficult to work with.), Yarn (If you're a crafter, bring along some leftovers from your stash!), natural materials from your yard or garden (woody vines such as grapevine and bittersweet work well, or large ornamental grasses). Feel free to get creative!

While the weaving will be the central activity, we will also provide a journal where you can share the story of the strands you weave. What material did you use, and how does it represent your stewardship efforts or connection to the natural world? Reflect in advance or be spontaneous, it's up to you!



# FRIDAY EVENING ACTIVITIES



## Water Ceremony

**5:15-5:45 PM, East Patio**

Join us as Panoka Walker leads us through this traditional practice that continues to be a deeply cherished and meaningful part of our annual gathering. You will be guided through the mental, physical, and spiritual connection to water as we collectively honor this sacred gift through song, movement, and contemplation. As we dedicate our lives to the betterment of the natural world and connections with one another, we take this time to appreciate water's role in the universe, flowing endlessly through ourselves and everything around us. "When a prayer is said and a song is sung, the water becomes sacred, and can heal body, mind, and spirit." The ceremony takes place outside on the east patio, so remember to dress warmly! Photography is prohibited during the ceremony, and we ask that you please take the time to silence your phone before entering this shared space.

## Networking Space

**7:00 PM, Centennial Room**

The Centennial room will be open as a general meeting place for those looking to connect with others or continue conversations from earlier in the day.



## Stewardship Story Slam: Oops!

**7:00 PM, Red Cedar**

Please join us for an open-mic storytelling competition. Open to anyone at the conference with a true five-minute story to share on the theme, *Oops*. Tell us about a time you goofed. Wax on about a stewardship gaffe, mistake, misstep or other oops. Recount a defining slip-up, blooper, or faux pas from your conservation life and times. Recall saying the wrong thing at the wrong time, letting the cat out of the bag or other spectacularly bad decisions. Ten tellers will be chosen at random and will be judged by three teams of audience judges. Come tell a story, or just enjoy the show!



*Be sure to catch Patricia's workshop on Friday morning as she teaches the basics of personal storytelling. Fine tune that story you've been dying to tell at the story Friday night. No experience necessary.*



# POSTER PRESENTATIONS

- 1. Analysis of impact of Emerald Ash Borer on an Indiana on old-growth forest using GIS and aerial imagery**  
Kerragan Garab, Ball State University  
*Additional Contributor:*  
John Taylor, Ball State University Field Station
- 2. Augmentative releases of *Trissolcus japonicus* for the biological control of *Halyomorpha halys* in Michigan apple orchards**  
Olivia Simaz, Michigan State University  
*Additional Contributors:*  
John Pote  
Larry Gut  
Julianna Wilson  
Marianna Szűcs
- 3. Comparing the recovery potential for a green ash floodplain forest after emerald ash borer impacts**  
Rachel Kappler, Bowling Green State University  
*Additional Contributors:*  
Dr. Karen Root, Bowling Green State University  
Dr. Kathleen Knight, US Forest Service  
Rachel Bienemann, The Ohio State University
- 4. Efficacy of biochar soil amendment on mycorrhizal colonization and nutrient availability of Velvet Leaf (*Abutilon theophrasti*)**  
Camryn Brent, Michigan State University  
*Additional Contributors:*  
Jake Nash  
Chase O'Neil,  
Lisa Tiemann,  
Jessica Miesel
- 5. Hand Pulling to Control Spotted Knapweed (*Centaurea stoebe*): Time Requirements and Treatment Strategies**  
Neil MacDonald, Grand Valley State University
- 6. Herbivory by aquatic macroinvertebrates unaffected by differences in diatom taxonomy, water chemistry, and land use among streams in the Huron River Watershed**  
Rob Sulewski, University of Michigan  
Kristin Judd, Eastern Michigan University
- 7. How do road salts affect freshwater ecosystem services?**  
Caleb Willette, Eastern Michigan University  
Kristin Judd, Eastern Michigan University
- 8. Inspiring Students to be Environmental Stewards**  
Artemis Eyster, Conserve School
- 9. Mapping nitrogen removal potential of emergent wetlands in the Great Lakes watershed**  
Sean Sharp, University of Michigan  
*Additional Contributors:*  
Ye Yuan  
Kenneth Elgersma,  
Jason Martina  
William Currie
- 10. Methods for Monitoring Deer Impacts on Natural Areas**  
Jacqueline Courteau, NatureWrite LLC
- 11. Microplastic Enumeration Southeast Michigan Watersheds**  
Jennifer Troost, Eastern Michigan University  
Morgan Chaudry, Eastern Michigan University
- 12. Monarch butterfly conservation: the importance of predation and disturbance**  
Nathan Haan, Michigan State University





**13. Monitoring Habitat Restoration for Floodplain and Upland Forest Birds in Michigan**

Peter Blank, North Oakland Headwaters Land Conservancy  
Sue Julian, North Oakland Headwaters Land Conservancy

**14. Reducing invasive seed viability through composting and other heat treatments**

Sofia Kruszka, University of Michigan  
Sarika Mahimkar, University of Michigan  
Cameron Craig, University of Michigan  
Lucy White, University of Michigan  
Anna Pasek, University of Michigan

*Additional Contributors:*

*Dr. William Schultz, University of Michigan Department of Mechanical Engineering*

*Dr. Robert Grese, University of Michigan Matthaei Botanical Gardens and Nichols Arboretum*

**15. Scaling Up Novel Silvicultural Methods in Jack Pine Plantations of the Lake States Region**

Douglas Putt, Wayne State University

**16. Soil heating due to fire increases soil carbon-dioxide emissions and decreases microbial carbon storage during post-fire recovery**

Megan Orlando, Michigan State University

*Additional Contributors:*

*Jaron Adkins*

*Jessica Miesel*

**17. The effects of emergent pollutant pharmaceuticals on stream biofilms across a land-use gradient**

Elizabeth Stover, Eastern Michigan University

*Additional Contributors:*

*Dr. Kristin Judd*

*Dr. Steven Francoeur*

**18. The habitat value of plants in the winter garden**

Lauren Hoffman, Smithgroup

**19. The impact of a swallow-wort biological control agent on monarch oviposition**

Brianna Alred, Michigan State University

*Additional Contributors:*

*Doug Landis*

*Nate Haan*

*Marianna Szucs*

**20. Training the next generation of fire professionals to bridge research-management communities**

Jessica Miesel, Michigan State University

*Additional Contributors:*

*Jack McGowan-Stinski*

*Eric Toman*

*Charles Goebel*

*David Hix*

*Dan Kashian*

*Randy Kolka*

*Brian Palik*

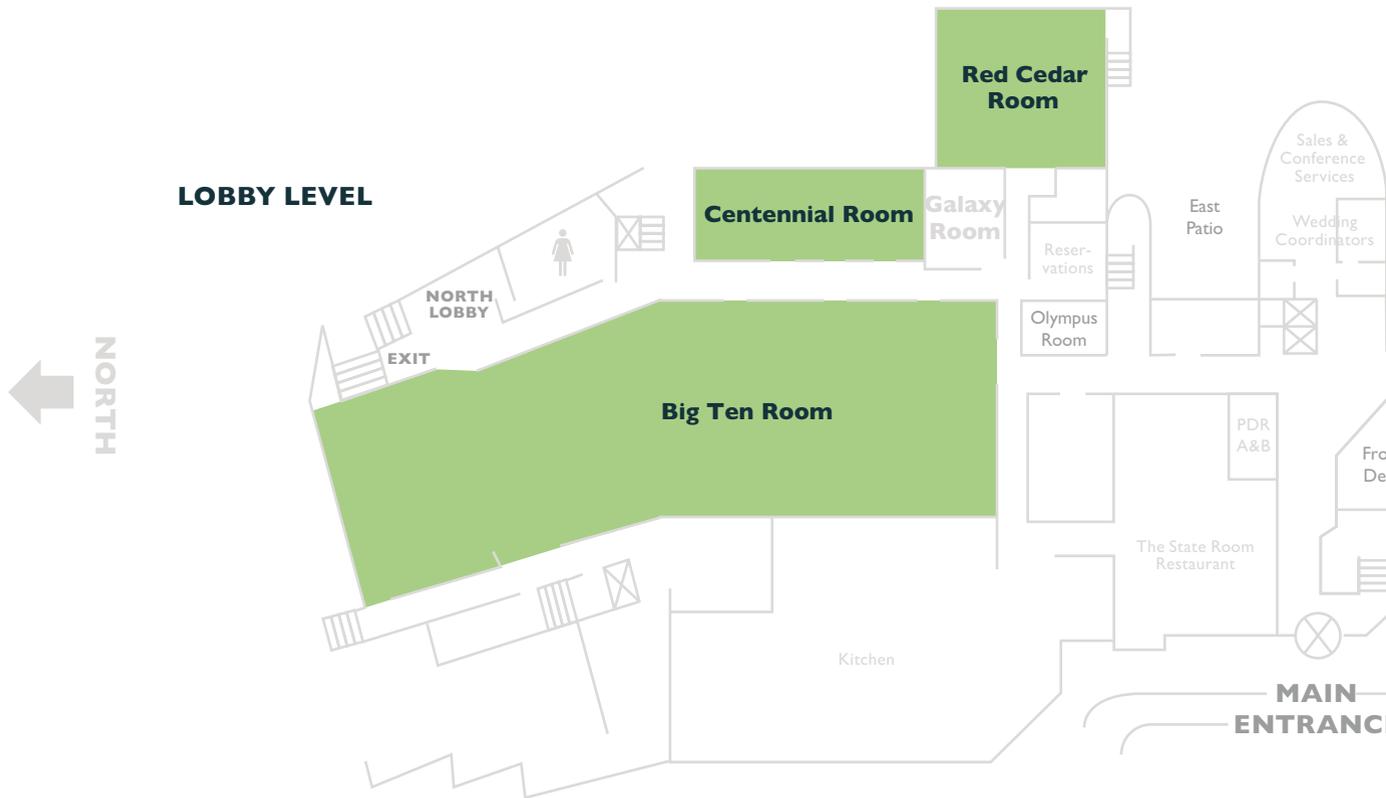
*Brian Sturtevant*



The Stewardship Network is pleased to be providing menus this year that include more local, sustainable food where possible, with plant based proteins.



# MEETING ROOM FLOOR PLAN



## BOOK SALE! In the Big Ten Room

20% of all proceeds are donated to The Stewardship Network to support our collaborative conservation projects.

SCHULER BOOKS  
& MUSIC





# SAVE THE DATE



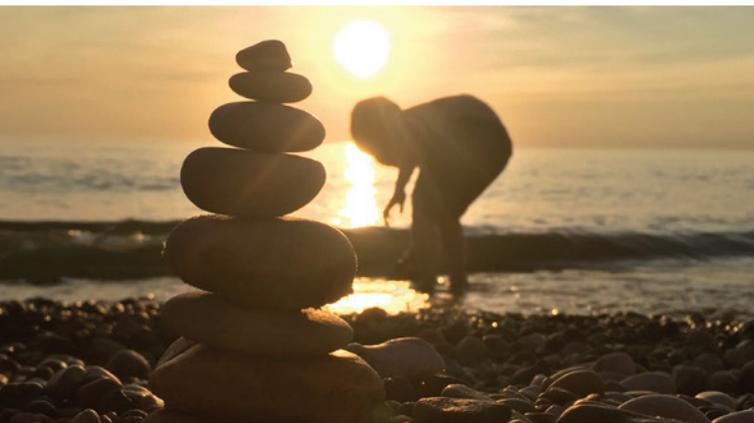
## The Stewardship Network Conference Thursday and Friday | January 21 & 22, 2021



Email suggestions for speakers or topics you would like covered at [staff@stewardshipnetwork.org](mailto:staff@stewardshipnetwork.org)



It has been wonderful to be with you these past few days. Our door is always open.



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