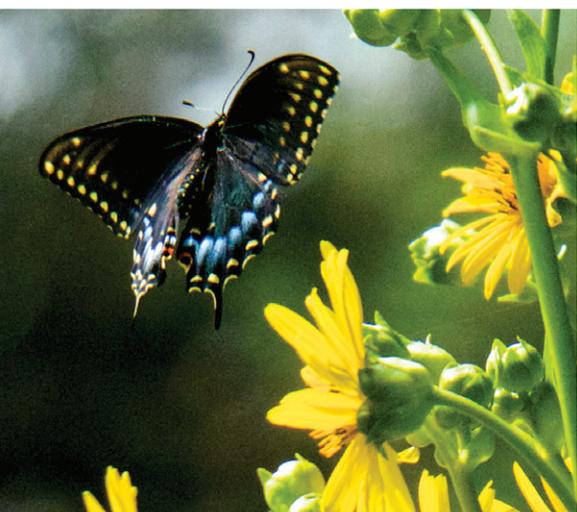




The Stewardship Network **2019 Conference**

JANUARY 11-12, 2019

KELLOGG CONFERENCE CENTER | EAST LANSING, MI



www.Stewardshipnetwork.org/conference

TABLE OF CONTENTS

- 6 Conference Agenda
- 10 Keynote Speaker
- 11 Presentation Abstracts
- 16 Sponsors
- 28 Poster Presentations
- 29 Featured Artist
- 29 Friday Evening Activities
- 30 Meeting Room Floor Plan



THANK YOU for joining us and welcome to The Stewardship Network's 12th Annual Science, Practice & Art of Restoring Native Ecosystems Conference. You are surrounded by an amazing array of people who 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 event so rich and dynamic. Over the next few 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; share your setbacks, challenges, successes, and dreams. This is the space to connect, grow, and inspire.

The Stewardship Network works year-round 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 around shared goals and values so that we may all move forward, and farther together. You will find most of our resources, such as the event calendar, support materials, job board, and past conference presentations on our website. Remember to join us every second Wednesday of the month for a free, interactive webcast exploring a diverse array of different environmental issues, research topics, and experiences. Recognizing the need for individualization of support for different projects and partnerships is an important part of what we do. If you don't find exactly what you're looking for on our website, reach out to us at staff@stewardshipnetwork.org.

SUPPORT TEAM

Rob Luzynski
Caylen Cole-Hazel
Ricky Ackerman
Mike Burbidge
Anna Snoeyink

PHOTOGRAPHY

Patricia Pennell, Riverhouse Photography

ADDITIONAL PHOTOGRAPHY

Vic Bogosian	Charles Dawley
Nash Turley	William Graham
Linda Prieskorn	Laura Mueller
Jack Zinnen	Britney Hayes
Logan Rowe	Beth Wallace
Lucas Vanderbilt	Anna Weesies
David Tisch	Elizabeth Seagull
Becky Bradford	Cathy Dyer



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.

Welcome to the 2019 Stewardship Network Conference!

Enjoy,

2019 Stewardship Network Conference Planning Committee

Barb Barton, *Endangered Species Consulting*
Dave Borneman, *David Borneman LLC*
Lisa Brush, *The Stewardship Network*
Jaqueline Courteau, *NatureWrite LLC*
Rachel Muelle, *The Stewardship Network*
Celia Larsen





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

NCS - experts in shoreline erosion & winter invasives control—innovators of the habitat landscape. We're landscape architects & ecologists dedicated to restoring integrity, beauty, and life to clients' land and water resources, & fostering native plant habitats. NCS surveys designs, installs & manages ecologically sustainable native plant communities.

DESIGN YOUR SHORELINE THIS WINTER!

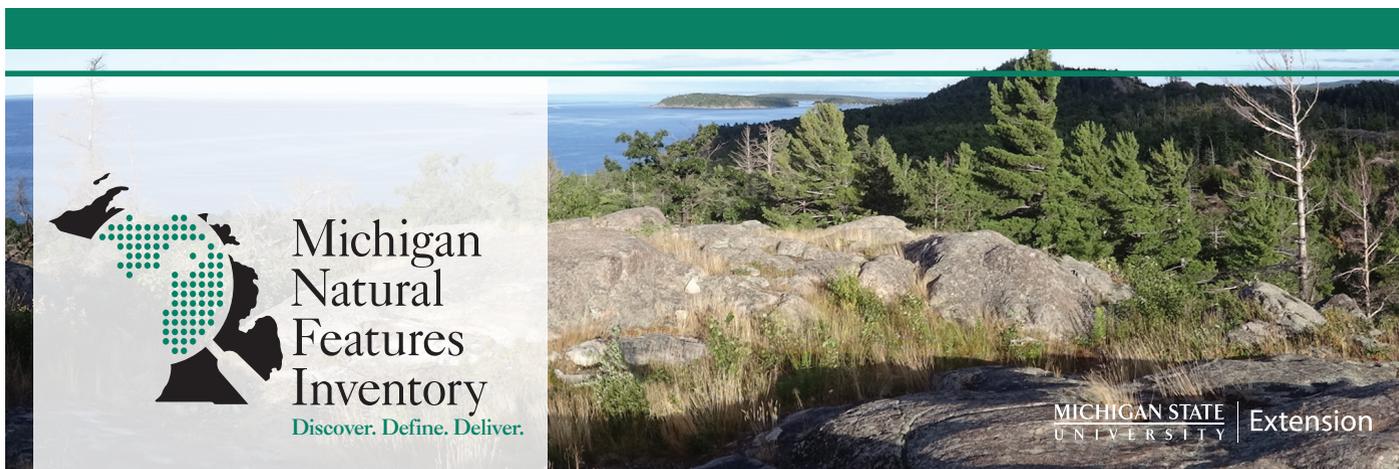


→ **Contact: Liz DeLisle**
info@naturalcommunityservices.com
248-513-1909



FOLLOW US!

@stewardshipnet



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 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*





8:15-9:00	Registration, Centennial Room, Continental Breakfast, Big Ten Room
9:00-9:15	Welcome, Lisa Brush, <i>The Stewardship Network</i> , Big Ten Room
9:15-10:15	Keynote Presentation: Listening to the Forest: A Journey Between Two Worlds, Jeff Grignon, Menominee Tribal Enterprises, Big Ten Room
10:15-10:40	Break

Concurrent Sessions

Room	103	104	105
10:40-11:40	<p>How to Save One Billion Birds for \$1.98 Gail Walter, <i>Audubon Society of Kalamazoo</i></p>	<p>Thinking about Glyphosate - A Roundtable Discussion Mike Appel, <i>Appel Environmental Design</i>; Michael Hahn, <i>City of Ann Arbor Natural Areas Preservation</i>; Jeff Gearhart, <i>The Ecology Center</i>; David Borneman, <i>City of Ann Arbor Natural Area Preservation</i></p>	<p>Through the Camouflage: Discovering Your Natural Area Visitors Tina Stephens, <i>Ann Arbor Natural Areas Preservation</i>; Allison Krueger, <i>Washtenaw County Natural Areas Preservation</i></p>
11:40-1:15	Lunch, Big Ten Room		

Concurrent Sessions

Room	103	104	105
1:15-2:15	<p>Assessing the health of Michigan pollinators Kelsey K. Graham, <i>Michigan State University</i></p>	<p>Invasive Species Monitoring of Rare Coastal Ecosystems Using Drones Joshua Cohen, <i>Michigan Natural Features Inventory</i>; Matthew Lewis, <i>Michigan Aerospace Corporation</i></p>	<p>Earth, Water, and Fire: Restoring Hidden Pond Preserve from top to bottom Mitch Lettow & Nate Fuller, <i>Southwest Michigan Land Conservancy</i>; Brian Majka, <i>GEI Consultants</i></p>
2:15-2:35	Break		

Concurrent Sessions

Room	103	104	105
2:35-3:35	<p>A Model of Restoration & Community Engagement: A Natural History Museum and Beaubien Woods Forest Preserve Lorena Lopez, <i>Field Museum</i></p>	<p>Adaptive management of invasive baby's breath (<i>Gypsophila paniculata</i>) in coastal dune habitats of northwest Michigan: Removal, assessment, and control Kaldis Grants, <i>The Nature Conservancy</i>; Charlyn Partridge, <i>Annis Water Resources Institute</i></p>	<p>Developing Volunteer Leadership Jason Frenzel, <i>Huron River Watershed Council</i></p>
3:35-3:55	Break		

Concurrent Sessions

Room	103	104	105
3:55-4:55	<p>The Science Behind Forest Therapy and Nature Connection Cayla Samano, <i>A2 Shinrin yoku</i></p>	<p>Managing for Biodiversity on Michigan's State Forest Lands Keith Kintigh, <i>Michigan Department of Natural Resources</i></p>	<p>Great Lakes Phragmites Collaborative: Working towards a common goal Samantha Stanton, <i>Great Lakes Commission</i> -- Phragmites Adaptive Management Framework: Early Successes and Management Support Daniel D. Engel, <i>USGS Great Lakes Science Center</i></p>

5:15-5:45	Water Ceremony, East Patio		
5:30-7:00	Strolling Dinner, Poster Reception & Best Student Poster Award Presentation with Cash Bar, Big Ten Room		
5:00-7:30	Live painting by featured artist, Gary Horton, Big Ten Room		
7:00-9:00	Evening Activities	Red Cedar	Centennial Room
		Trivia	Networking Space Nature Weaving

106	Riverside	Michigamme
<p>Collective Impact: The Power of Collaborating with The Stewardship Network Lisa Brush, <i>The Stewardship Network</i></p>	<p>Restoring Headwater Streams Rob Myllyoja, <i>Stantec</i></p>	<p>Wild Rice in Michigan Barb Barton, <i>Endangered Species Consulting</i>; Roger LaBine, <i>Lac Vieux Desert Band of Lake Superior Chippewa</i></p>

106	Riverside	Michigamme
<p>Ecology of Forest Soils: Notes from the Underground Robert Ayotte, <i>The Michigan Botanical Club</i></p>	<p>Fostering effective manager-researcher partnerships: lessons from oak savanna research and restoration Justin Heslinga, <i>Land Conservancy of West Michigan</i>; Priscilla Nyamai, <i>Grand Valley State University</i></p>	<p>Fire and fuels in northern Michigan: past, present, and future Madelyn Tucker & Julia Sosin, <i>Wayne State University</i></p>

106	Riverside	Michigamme
<p>Examining the role of hydroperiod, season, and nitrogen loading on denitrification and N-removal rates in Great Lakes coastal wetlands Sean Sharp, <i>University of Michigan</i></p>	<p>Chronic Wasting Disease in Deer Chad Stewart, <i>Michigan Department of Natural Resources</i></p>	<p>Southwest Michigan Wild Rice Resources; Activities and Challenges Relating to Zizania by Nottawaseppi Huron Band of the Potawatomi Nat Spurr, <i>Nottawaseppi Huron Band of the Potawatomi</i></p>

106	Riverside	Michigamme
<p>PlayCleanGo: Stop Invasive Species in Your Tracks Belle Bergner, <i>North American Invasive Species Management Association</i></p>	<p>Mentoring 101: (Em)powering Your Network Jodee Hunt, <i>Grand Valley State University</i></p>	<p>Mapping Your Site: Free & Low-Cost Data and Free GIS Desktop Software Shannon J. Brines, <i>Brines Farm LLC</i></p>





7:45-8:30	Registration , Centennial Room, Continental Breakfast , Big Ten Room
8:30-8:40	Welcome , Lisa Brush, <i>The Stewardship Network</i> , Big Ten Room
8:40-9:40	Networking and Opening Doors , Lisa Brush, <i>The Stewardship Network & Allison Catalano, Imperial College London</i> , Big Ten Room
9:40-10:00	Break

Concurrent Sessions

Room	103	104	105
10:00-10:50	Early detection survey protocol and habitat suitability modeling for slender false brome, an invasive bunch grass Brittany Hernon, <i>Western New York Partnership for Regional Invasive Species Management</i>	Winter Tree ID Jacqueline Courteau, <i>NatureWrite LLC</i>	The Art of the Brush Burn Jeremy Siegrist, <i>Iron Creek Land Community</i>
10:50-11:10	Break		

Concurrent Sessions

Room	103	104	105
1:15-2:15	Learning from Failure in Conservation Allison Catalano, <i>Imperial College London</i>	Early Detection and Rapid Response to Stiltgrass in Washtenaw County Becky Gajewski, <i>City of Ann Arbor Natural Area Preservation</i> ; Katie Carlisle, <i>Washtenaw County Parks & Recreation Commission</i>	Understanding the Language of the Plants: Where the Teachings Begin Jeff Grignon, <i>Menominee Tribal Enterprises</i>
12:00-1:30	Lunch , Big Ten Room		

Concurrent Sessions

Room	103	104	105
1:30-2:20	Can wetland Phragmites and Typha invasions be reversed by reducing annual nutrient loading? A test case using a wetland community-ecosystem model William S. Currie, <i>University of Michigan</i>	Cultivating Land Awareness & Stewardship with Students at a K-12 Montessori School Brett Bloom, <i>Oak Farm Montessori School</i> ; John Brittenham, <i>Blue Heron Ministries</i> ; Mariah Clark, Abby Murphy, Claire Weiss, <i>Oak Farm Montessori School Students</i>	Plum Creek Stream Restoration: Lessons Learned from Six Years of Planning, Engineering, and Permitting that Lead to Thirty Days of Construction Zach Taylor, <i>Friends of the Forest Preserves</i> ; Josh Arrigoni, <i>Stantec Consulting Services, Inc</i> ; Laura Barghusen, <i>Openlands</i>
2:20-2:40	Break		

Concurrent Sessions

Room	103	104	105
2:40-3:30	Search and Destroy: Department of Natural Resources Hemlock Woolly Adelgid AmeriCorps SWAT team Heidi Frei, <i>Michigan Department of Natural Resources</i> ; Nick Zoller, Emily Leslie, Lauren Freckelton, Meg Reesor, Ryan Hartman, Jon Gorter, <i>Americorps</i>	A Longitudinal Study on the Floristic Quality of the Emiquon Preserve's Tallgrass Prairie Reconstruction in Illinois Sarah A. Lindholm, <i>University of Illinois Springfield</i>	Recreation and Re-Creation: Integrated Design on Belle Isle Andrew McDowell, <i>SmithGroup</i> ; Glenn Palmgren, <i>Michigan Department of Natural Resources</i>
3:30-4:00	Farewell , South Lobby		

106	Riverside	Michigamme
Extinction, invasion, and climate change: forces of change in our natural communities Meredith Zettlemyer, <i>Kellogg Biological Station</i>	Branching Out: New Insights on the Linkages between Trees and Water in Urban Ecosystems Asia Dowtin, <i>Michigan State University</i>	School Forests: Supporting Students and Teachers in the Stewardship of an Underutilized Resource Emily Vogelgesang, <i>Huron Pines</i>

106	Riverside	Michigamme
Three Mile Creek Restoration - Hiawatha Sportsman's Club Mackinac County Samuel Prentice & Stuart Kogge, <i>GEI Consultants</i>	Using Mobile GIS to Aid Hemlock Woolly Adelgid Control Efforts Alicia Ihnken, <i>Michigan Department of Natural Resources</i>	Story Telling on the Trail Courtney Prout & Nicole Ferguson, <i>Genesee County Parks and Recreation</i>

106	Riverside	Michigamme
Considerations when applying for permits for Diver-Assisted Suction Harvesting Eric Calabro, <i>Michigan Department of Environmental Quality</i>	Utilizing the Community Organizing and Family Issues methodology to Ensure Safe and Clean Drinking Water for your Stakeholders Paco Ollervides, <i>River Network</i>	Vacant Land Stewardship Lisa Marie Rodriguez, <i>Urban Neighborhood Initiatives</i>

106	Riverside	Michigamme
Environmental Implications of Michigan's Lame Duck Session James Clift, <i>Michigan Environmental Council</i>	Grants, Grants, Grants - A Roundtable Discussion	Results from a Large-Scale Multi-Year Riparian Habitat Enhancement Project Kelly Rice, <i>GEI Consultants</i>

JOIN THE CONVERSATION ONLINE!
Find us on Facebook! facebook.com/stewardshipnetwork/
Share your thoughts, ideas, and photos from this year's conference!



KEYNOTE SPEAKER

Jeff Grignon

PRESENTATION ABSTRACTS

Organized alphabetically.



Jeff Grignon
Forest Regeneration Forester, Cultural Resource Identification and Protection at Menominee Tribal Enterprises

“Listening to the Forest: A Journey Between Two Worlds”

Jeff Grignon is a father, grandfather, husband and enrolled member of the Menominee Tribe of Wisconsin. A life-long student of the environment; and having eighteen years of western and southern fire experience, he has now accepted the honor and responsibility to aid in the regeneration or the giving back of what the Menominee forest has offered. His responsibilities as a tribal member also include the preservation and protection of cultural habitational areas and the stories they continue to tell.

A Longitudinal Study on the Floristic Quality of the Emiquon Preserve's Tallgrass Prairie Reconstruction in Illinois

Floristic Quality Analysis (FQA) is applied to prairies to monitor long-term quality and compare sites, but there is incongruence in research of floristic quality trends between longitudinal studies of single restorations over time and chronosequence studies of disparate restorations. Our study examined changes in floristic quality metrics of the Emiquon Preserve's reconstructed prairie since the reconstruction's seeding in 2007. By 2016, community level (n=5 sites) metrics showed no significant change in average quality over time but did show a significant increase in variance, suggesting divergent restoration trajectories among the sites. At the smaller plot level, significant differences were found for all metrics among sites, again indicating diverging trajectories. Two sites showed increasing floristic quality while the other three sites which had experienced flooding showed a range of decreases. This study agrees with longitudinal research that suggests that without significant disturbance, floristic quality increases throughout the early maturation of the reconstruction.

Sarah A. Lindholm, *University of Illinois Springfield*

A Model of Restoration & Community Engagement: A Natural History Museum and Beaubien Woods Forest Preserve

Chicago's Field Museum aims to “fuel a journey of discovery across time to enable solutions for a brighter future rich in nature and culture.” But how do we do that? Join us for a conversation about how an organization (in this case, a natural history museum) can work with communities to advance on-the-ground conservation efforts and improve quality of life. The Field Museum has worked for over 13 years at Beaubien Woods with the Forest Preserves of Cook County, the landowner of this 135-acre site surrounded by an urban matrix of landfills, neighborhoods, the Little Calumet River, and industry. Beaubien is one of only a handful of district-owned properties in the City of Chicago. We'll share lessons learned from our interdisciplinary social science and ecological science approach. And we'll identify best practices for building partnerships and cultivating stewardship of natural areas.

Lorena Lopez, *Field Museum of Natural History*

Adaptive management of invasive baby's breath (*Gypsophila paniculata*) in coastal dune habitats of northwest Michigan: Removal, assessment, and control

The Great Lakes is home to the largest freshwater dune system in the world, a vital economic and ecological resource for the region. One challenge impacting this habitat is the colonization of the highly invasive ornamental plant, Baby's-breath (*Gypsophila paniculata*). Through a collaborative relationship between Grand Valley State University and The Nature Conservancy, quantitative assessments of manual removal and herbicide application to treat infested areas within Sleeping Bear Dunes National Park were used to develop an adaptive management model. Our work assessed how the type and timing of treatment impacted baby's breath density. We found both one and two years of treatment resulted in a significant decrease in baby's breath. Also, the timing of treatment had a significant impact on baby's breath density the following year. This work can be used to prioritize timing of removal, helping to guide future management planning.

Kaldis Grants, *The Nature Conservancy*
Charlyn Partridge, *Grand Valley State University - Annis Water Resources Institute*

Assessing the health of Michigan pollinators

Documented declines in pollinators have been recorded worldwide in recent decades, with the majority of attention being focused on honey bees and bumble bees. Much less is known about wild bees. There are 465 documented bee species in Michigan, but little is known about their populations trends due to limited long-term monitoring. The goal of this project was to document the current native bee community of Michigan and to use historic records to determine the degree of change in abundance and diversity within these populations. We sampled across a broad geographic area with varying land uses and land managements. Sites included agricultural land, unmanaged natural areas, and areas specifically managed for pollinators. This research provides a baseline for future assessments of bee population health, and can be used in evaluating the success of land management programs.

Kelsey K Graham, *Michigan State University*



Talmadge Creek Restoration, Marshall, Calhoun County, Michigan

Our team provides comprehensive ecological and restoration services to 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
- > Shoreline restoration
- > Wetland inventories and delineations

www.cardno.com



Branching Out: New Insights on the Linkages between Trees and Water in Urban Ecosystems

In recent years, our understanding of the threats posed by rapid urbanization on environmental function and quality has prompted efforts to conserve and reintroduce green space within cities, with emphasis placed on increasing urban forest canopy cover. Many related initiatives have focused on expanding the urban street tree population, with little work done to deepen our knowledge of the environmental processes occurring within remnant urban woodlots. This study will explore the role these “micro-ecosystems” play in ecosystem function and service provision, specifically the capture and redistribution of water, nutrients, and pollutants within cities. Implications for urban conservation will be discussed.

Asia L. Dowtin, *Michigan State University*



PRESENTATION ABSTRACTS



Can wetland Phragmites and Typha invasions be reversed by reducing annual nutrient loading? A test case using a wetland community-ecosystem model

Plant invasions in Great Lakes wetlands are strongly influenced by nitrogen loading. The invaders *Phragmites australis* and *Typha x glauca* are often managed with varying degrees of long-term success, in part due to the persistence of N loading. However, even if N loading were decreased, the wetland ecosystem could potentially stay in an invaded state because of a regime shift to higher plant-sediment N cycling, maintaining invader dominance. We studied this using the Mondrian model, a wetland community-ecosystem model. In our simulations, even after a major reduction in N loading, in flooded conditions, these invasive species continued to dominate the community and did not return to pre-invasion levels. However, lower water levels allowed N cycling to return to nearly pre-invasion levels, partially reducing the dominance of the invaders.

William S. Currie, *University of Michigan*

Chronic Wasting Disease in Michigan

Chronic wasting disease (CWD), a fatal neurological disease of cervids, was first identified in free ranging deer in Michigan in 2015. Research from other states that have been dealing with this disease for decades has shown long-term, irreversible impacts to localized deer herds. The Michigan Department of Natural Resources has identified this disease as a management priority, and has undertaken extensive efforts over the past three years to the management and surveillance of the disease. These efforts thus far have dramatically improved the knowledge of where CWD exists in Michigan, and knowledge of where it exists is an important first step in helping combat the disease. With over 100 positive animals identified in the state since 2015, the Department will likely face management challenges for the next few decades. Funding, social support, surveillance capacity, and management actions will all play a part in the success or failure of CWD management in the future.

Chad Stewart, *Michigan Department of Natural Resources*

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, support, and develop 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 has grown and continues to expand across the country and also, how you can join the movement.

Lisa Brush, *The Stewardship Network*

Considerations when applying for permits for Diver-Assisted Suction Harvesting

Diver-Assisted Suction Harvesting (DASH) is a relatively new technique that can be used to manage aquatic invasive plants (AIPs). DASH uses SCUBA divers to identify and hand-pull intact AIPs out of the sediment of an inland lake and can be effective in certain situations. However, careful consideration of site-specific characteristics is extremely important when determining whether DASH can be successful in a particular area of a waterbody. If DASH is conducted in areas with unfavorable site characteristics, performed by inexperienced people, or undertaken without the proper equipment there is the potential to unintentionally spread invasive species, remove native vegetation, and disrupt benthic sediment and habitats. DASH, its impacts, and permit requirements will be discussed.

Eric Calabro, *Michigan Department of Environmental Quality*

Cultivating Land Awareness & Stewardship with Students at a K-12 Montessori School

Oak Farm Montessori School sits on an 100 acre campus. Over half of the campus is being restored to native habitat. Restoration work includes students from all levels: toddler through high school. Montessori education gives students opportunities to learn while doing meaningful work. Ecoliteracy and service work are important goals at Oak Farm. High School students attend a weekly class called Eco-Impact for their first two years. Part of their work is responsibility for restoring a wetland and prairie next to their building.



HEALTHY ENVIRONMENT, HEALTHY ECONOMY.

At DTE Energy, we don't believe we have to choose between a healthy environment and a healthy economy. We are committed to reducing carbon emissions by more than 80%, while offering reliable and affordable energy to our customers. Better economy, better environment. We can have both.

Learn more at www.dteenergy.com/journeyto80



Students make many of the decisions about the directions the conservation work will take over the coming years. We will present the components of our work at Oak Farm through the combined perspectives of a restoration ecologist, ecoliteracy coordinator, and high school students responsible for making decisions about the direction of the conservation work. We want to share our work and connect with others that incorporate conservation in their education work with K-12 youth.

Brett Bloom, *Oak Farm Montessori School*
John Brittenham, *Blue Heron Ministries*
Mariah Clark, Abby Murphy, and Claire Weiss,
sophomores at Oak Farm Montessori School



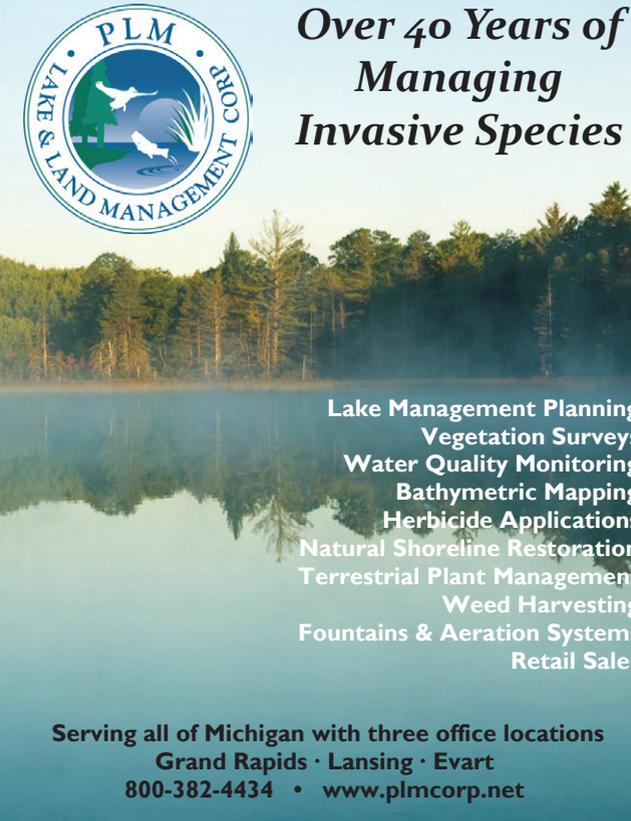



**JOIN US!
TSN Webcasts**

Join other professionals, researchers, volunteers, students and landowners for presentations and live discussions about a new ecological issue every month.

**2nd Wednesday of Every Month
Noon to 1:00 PM Eastern Time**

**TO LEARN MORE VISIT:
StewardshipNetwork.org/webcast**



**Over 40 Years of
Managing
Invasive Species**

- Lake Management Planning
- Vegetation Surveys
- Water Quality Monitoring
- Bathymetric Mapping
- Herbicide Applications
- Natural Shoreline Restoration
- Terrestrial Plant Management
- Weed Harvesting
- Fountains & Aeration Systems
- Retail Sales

Serving all of Michigan with three office locations
Grand Rapids • Lansing • Evart
800-382-4434 • www.plmcorp.net

Developing Volunteer Leadership

Many organizations struggle with retaining good volunteers, while also being plagued by a lack of staff time. Why not solve both at the same time? Led by Jason, and learning from your peers, we will discuss theory around developing volunteer leadership, review best practices in volunteer (and staff) management, and leave with specific actions to help increase our organizational capacity.

Jason Frenzel, *Huron River Watershed Council*

Early Detection and Rapid Response to Stiltgrass in Washtenaw County

In 2017, Japanese stiltgrass (*Microstegium vimineum*) was discovered for the first time in Washtenaw County, MI. The dedicated efforts of volunteers from local and state stewardship agencies, along with private land owners, quickly had this infestation under control, and the stewardship community breathed a sigh of relief. We had stopped the invasion in its tracks. But in 2018, a much larger infestation of stiltgrass was discovered just a few miles away, covering over 12 acres across 60 private and public properties and counting. What do you do in the face of a seemingly overwhelming infestation of a new invasive species? Learn how the local stewardship community organized into the Washtenaw County Stiltgrass Working Group, and how they are addressing this urgent issue.

Becky Gajewski, *City of Ann Arbor Natural Area Preservation*
Katie Carlisle, *Washtenaw County Parks & Recreation Commission*

Early detection survey protocol and habitat suitability modeling for slender false brome, an invasive bunch grass.

Slender false brome (*Brachypodium sylvaticum*) is a highly invasive, early detection priority species that forms dense monocultures and threatens native biodiversity. This invasive grass is relatively new to the Great Lakes Basin, found in New York and Michigan, and is an important species to be on the lookout for as it spreads rapidly and negatively impacts a wide range of habitats. Western New York Partnership for Regional Invasive Species Management is leading a collaborative, funded through the Great Lakes Restoration Initiative, to improve the understanding and management of this species. Step one in this effort is to determine the distribution of slender false brome. This program will introduce the established survey protocol and

the strategy for selecting survey locations, which includes an adaptive GIS based habitat suitability model. We will also review survey results, and how we will continue to use the habitat suitability modeling to prioritize future survey locations.

Brittany Hernon, *Western New York Partnership for Regional Invasive Species Management*

Earth, Water, and Fire: Restoring Hidden Pond Preserve from top to bottom

Restoration of an ecosystem can embody many individual processes; invasive plant management, rehabilitation of native plants, recovery of native animals, prescribed burning, and addressing dysfunctional hydrology among many others. Hidden Pond Preserve is a rare example where we have been able to start the restoration process on all of these components on a 67-acre inholding within the second largest state game area in Michigan (Barry). Since 2006, SWMLC has been working with partners to restore the ecological health of this former crop and dairy farm. We will go through the process of ecosystem restoration on this preserve, the logic in our approach, and the collaborations between agencies, practitioners, researchers and donors that made it possible. We will take a close look at a recent stream restoration on the property as a case study to demonstrate the process.

Mitch Lettow, *Southwest Michigan Land Conservancy*
Nate Fuller, *Southwest Michigan Land Conservancy*
Brian Majka, *GEI Consultants*

Ecology of Forest Soils: Notes from the Underground

Michigan's forest ecosystems, as well as vegetative cover types resulting from disturbance, are largely defined by glacial landforms, parent soils, and soil development. Species occurrence, abundance, and dominance, are largely determined by the interactions of plants with local landforms and the soil matrix. Ecologist Robert Ayotte will elucidate how a variety of landscape ecosystems have generated from spatial variations in Pleistocene derived landforms, glacial drift, and soil profile development. From wetlands to upland forest; we will consider how both organic and inorganic soils have evolved into the living and life conferring matrices that we observe today. Distinctions will be made between agricultural and forest soils; and we will consider how forest histories and land use practices have



NATIVE PLANTS JOURNAL

Edited by Stephen Love
ISSN: 1522-8339
e-ISSN: 1548-4785
Published three times per year

Native Plants Journal is a forum for dispersing practical information about planting and growing North American native plants for conservation, restoration, reforestation, landscaping, highway corridors, and related uses. It includes articles that are useful to and understandable by growers and planters of North American native plants and that contribute significantly to the scientific literature. The second issue of each year includes the Native Plant Materials Directory which provides information about producers of native plant materials in the US and Canada.

Visit us online at <http://npj.uwpress.org>

THE UNIVERSITY OF WISCONSIN PRESS
JOURNALS DIVISION

1930 Monroe Street, 3rd Fl., Madison, WI 53711-2059
(p) 608-263-0668 • (f) 608-263-1173 / (US only) 800-258-3632
journals@uwpress.wisc.edu • uwpress.wisc.edu/journals

affected soils and their productivity. A basic understanding the land forms and soil is paramount to high quality natural areas stewardship and management. As Professor Burton V. Barnes used to say: "You got to know the territory!"

Robert Ayotte, *The Michigan Botanical Club*

Environmental Implications of Michigan's Lame Duck Session

The 99th Michigan Legislature became history on December 21, 2018. But not before a marathon lame duck session that will go down as one of the state's most prolific. All told, lawmakers met over 13 days and voted on more than 300 bills, adjourning about 8 a.m. Friday, December 21st after deliberating for more than 21 hours straight. The session, which began in early December, came as Republicans' grip on power weakens after



SPONSORS

COMMUNITY SPONSORS



CHAMPION SPONSORS



FRIENDS OF THE NETWORK

- Appel Environmental Design
- Bear Track Studios, LLC
- Central Indiana Land Trust
- Charter Township of Oakland Parks and Recreation
- Chikaming Open Lands
- City of East Lansing
- Clinton River Watershed Council
- Herpetological Resource and Management, LLC
- Huron River Watershed Council

- Kalamazoo Nature Center
- Mens Garden Club of Jackson
- Michigan Wildflower Farm
- Ottawa County Parks and Recreation
- Raisin Valley Land Trust
- Royal Oak Nature Society
- Six Rivers Regional Land Conservancy
- Stantec
- Waste Management





PRESENTATION ABSTRACTS

eight years in total control of all branches of government. Lame duck was notable not only for its whirlwind pace, but for some of the environmental legislation on the table. Some of the most controversial measures – including efforts to make it harder to launch citizen petitions and remove protections from wetlands – were passed and sent to Snyder in the wee hours of Friday morning. Attend this session to see just where everything landed and learn about the path forward.

James Clift, *Michigan Environmental Council*

Examining the role of hydroperiod, season, and nitrogen loading on denitrification and N-removal rates in Great Lakes coastal wetlands

Coastal wetlands intercept significant amounts of nitrogen (N) from watersheds dominated by agricultural and residential development. We rely on these wetlands to remove excess nitrogen in efforts to reduce N-loading to aquatic ecosystems. Understanding what environmental factors most influence N-removal rates in coastal wetlands is critical for effectively managing these ecosystems. Here we investigate in silico how inorganic nitrogen transformation via plant uptake and microbial denitrification are affected by hydroperiod, plant community, season and N-loading rates using MONDRIAN, an individual-based community-ecosystem model. We predict rates of N-removal, by denitrification and sequestration in biomass and sediment, to be highest during periods of fluctuating hydroperiod throughout peak growing season. We also predict that long residence time of water will dominate the controls on N removal via denitrification. Our results will provide practitioners and managers with timely guidance to optimize N-removal in wetlands.

Sean Sharp, *University of Michigan*

Extinction, invasion, and climate change: forces of change in our natural communities

Human activities threaten thousands of species with extinction. However, it remains difficult to predict extinction risk for many vulnerable species. Species characteristics and phylogenetic relationships can help predict responses to global change and likelihood of extinction. Historical data on species losses can allow for testing phylogenetic patterns in extinctions and identifying traits that influence species vulnerability to local

extinction. We use historical botanical data from Kalamazoo County, Michigan, to examine whether species characteristics or phylogenetic relatedness explain species loss at the county level. Prairie species, species at the edge of their native range, regionally rare species, and habitat specialists were most likely to become locally extinct. Prairie species experienced the highest extinction rates of any habitat type, and among prairie species, regionally rare and specialist species were most vulnerable to loss. Our study demonstrates how using herbarium records can serve as a call for monitoring biodiversity loss and habitat restoration.

Meredith Zettlemyer, *Kellogg Biological Station*

Fire and fuels in northern Michigan: past, present, and future

Jack pine-dominated ecosystems in northern Lower Michigan consist of open, low-fuel barrens within dense, high-fuel jack pine forests. Modern forest management has prioritized jack pine plantations for Kirtland's warbler habitat, but has reduced naturally-created landscape heterogeneity. We investigated heterogeneity in fuels and stand structure in fire-created stands using field data from 41 permanent plots sampled 6, 16, and 39-years after the Mack Lake wildfire. Vegetation structure and fuel abundance have changed over time and vary across different landforms, elevations, and soil textures. To investigate effects of climate change on the broader landscape we used a forest disturbance and succession model (LANDIS-II) with historical, current, and future climates predicted from general circulation models to quantify changes in fire severity and barrens distribution attributable to climate change. Combined, these projects investigate processes that can influence long-term management decisions in the region, particularly in the context of Kirtland's warbler and wildfire management.

Madelyn Tucker, *Wayne State University*

Julia Sosin, *Wayne State University*

Fostering effective manager-researcher partnerships: lessons from oak savanna research and restoration

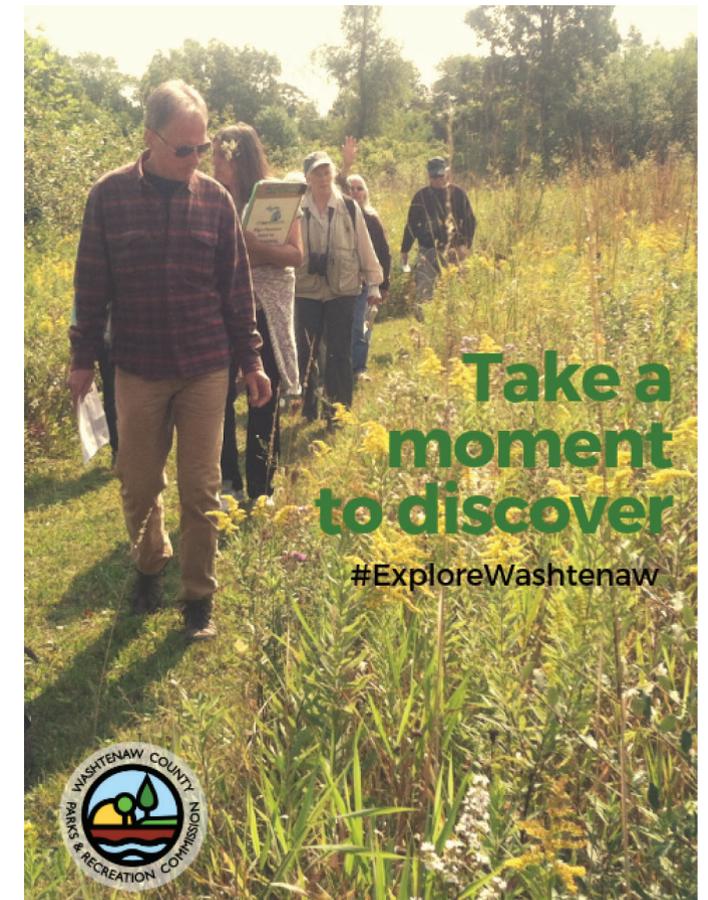
The Stewardship Network, the Society for Ecological Restoration, and other groups have long encouraged building stronger relationships between the science of restoration ecology and the practice of ecological restoration. In theory, restoration researchers and land managers would work together



seamlessly to solve shared ecological problems. In practice, however, manager-researcher relationships can be fraught with challenges. Funding can be insufficient or lopsided. Routine land management practices may not be compatible with rigorous study design. Resulting publications may not end up addressing land managers' most pressing questions. In this roundtable discussion, we draw on our experience from a successful manager-researcher partnership built around a common interest in oak savanna restoration in southern Michigan. We'll suggest strategies to work effectively across the academic-practitioner divide – and highlight potential pitfalls to avoid. We'll also share some preliminary results of the research project, which are directly applicable to on-the-ground oak savanna restoration.

Justin Heslinga, *Land Conservancy of West Michigan*

Priscilla Nyamai, *Grand Valley State University*





Grants, Grants, Grants – A Roundtable Discussion

Grants are central to a comprehensive fundraising plan, and so is grant management. You have to identify the right foundations or agencies, develop relationships with them, study their guidelines, understand the hidden elements not written in the guidelines, bring on partners, develop a budget and write a compelling proposal. And then wait and sometimes, wait and wait and wait. Then you get the grant months or a year later. Are your partners still on board? How do you ensure that you achieve the impact, manage the grant well and conclude with a thorough report? If you don't get the grant, how can you learn what you could have done differently? Join us with a team of seasoned grant writers and managers to discuss any and all aspects of grants you would like. Learn from mistakes and wrong turns they've taken as well as what they've done well and celebrated.

Roundtable Discussion Moderator: Lisa Brush,
The Stewardship Network

ARE YOU READY TO EFFECT CHANGE?

WE ARE.

RRS is composed of strategists, engineers, economists, technical analysts, and communications specialists. We look forward to helping you to reduce waste and recover valuable resources.

Great Lakes Phragmites Collaborative: Working towards a common goal

Non-native *Phragmites australis* is a highly invasive wetland grass in North America, and managers across the Great Lakes basin are working to control it. However, practitioners have reported difficulty in collaborating across the Phragmites community. Thus, the Great Lakes Phragmites Collaborative (GLPC) was formed to support managers in achieving their diverse management goals. Since its formation in 2011, the GLPC has strived to apply a collective impact approach to organize and empower Phragmites-related activity throughout the basin. Major accomplishments include a website (<http://greatlakesphragmites.net/>) that acts as the central resource hub, research- and management-focused webinar series, newsletters and blog posts, a 600-member listserv, a dynamic mapping tool, and the creation of the Phragmites Adaptive Management Framework (<http://www.greatlakesphragmites.net/pamf/>). Through a common agenda, the GLPC will continue to reflect stakeholder-identified goals, create and distribute dynamic resources to meet those goals, enhance communication and alignment of managers, and promote multi-year management and restoration planning.

Samantha Stanton, *Great Lakes Commission*

How to Save One Billion Birds for \$1.98

Collisions with glass claim the lives of a billion birds a year in the United States alone. It is second only to domestic cats as a source of mortality linked directly to humans. Birds that have successfully flown thousands of miles on migration can die in seconds on a pane of glass. Glass is as dangerous for strong, healthy breeding birds as it is for sick, weak, or young birds. It is an indiscriminate killer with a serious impact on bird populations. This presentation will discuss why glass is a problem for birds, differences in vision between birds and humans, identify the best practices and options in preventing bird collisions, inform about legislation regarding bird friendly building standards, and offer affordable resources to prevent bird collisions at home, at work and for new building design.

Gail Walter, *Audubon Society of Kalamazoo*

Invasive Species Monitoring of Rare Coastal Ecosystems Using Drones

Michigan supports a wide array of coastal natural communities



David Borneman LLC

www.RestoringNatureWithFire.com

Offering a full range of ecological restoration services throughout the Midwest specializing in controlled burns

PH: 734-994-3475
Email: DavidBorneman@yahoo.com

that are endemic to the Great Lakes region and rare globally including lakeplain prairie, Great Lakes marsh, open dunes, alvar, and coastal fen. These ecosystems face a variety of threats, including the establishment and spread of invasive species. There is a critical need to develop scientifically credible and affordable methods for detecting and monitoring the impacts of invasive species in coastal ecosystems and assessing the success of restoration efforts to control invasives. Because monitoring efforts are costly, time-consuming, and subjective, monitoring is often assigned the lowest priority in management plans and is often bypassed. Michigan Natural Features Inventory and Michigan Aerospace Corporation are partnering to develop a low-cost monitoring platform using drones equipped with high-resolution cameras and deep learning algorithms to identify invasive species in high-quality coastal ecosystems. In this presentation we will share results of our first year of research.

Joshua Cohen, *Michigan Natural Features Inventory*
Matthew Lewis, *Michigan Aerospace Corporation*

Learning from Failure in Conservation

Failure is difficult to discuss and rarely reported in the conservation peer-reviewed literature, but in reality many conservation initiatives are partial or complete failures. Reasons for this are probably varied, but we know little because failure is seldom planned for, discussed, documented, or shared in any systematic way. Overcoming the stigma inherent in failure is a challenge, but one that disciplines such as aviation and medicine have grappled with for many decades in order to develop systems to effectively learn from mistakes and errors. While conservation activities take place in unique and complex contexts, we can examine and adapt for our own use these established learning processes to increase our individual, team, and organizational ability to learn from failure. This session will introduce and expand upon some of these ideas and facilitate an open discussion about the challenges and opportunities that failure presents.

Allison Catalano, *Imperial College London*

Managing for Biodiversity on Michigan's State Forest Lands

The Michigan DNR utilizes a number of approaches to manage for biodiversity on the 4-million-acre State Forest system. This presentation will review the breadth of programs and tools used by managers to protect and improve rare natural communities and rare species on State Forest lands.

Keith Kintigh, *Michigan Department of Natural Resources*

Mapping Your Site: Free & Low-Cost Data and Free GIS Desktop Software

A useful technology for any land steward can be Geographic Information Systems (GIS). This session will explore current GIS data and software, some of which are freely available, that can be set up on a desktop or laptop computer. The presenter will show how he incorporates GIS data including fine resolution imagery from satellite or drones into his management of his restoration agriculture farm. Time will be spent on demonstrating potential workflows and QGIS and Google Earth Engine software.

Shannon J. Brines, *Brines Farm LLC*





Mentoring 101: (Em)powering Your Network

In the challenging world of conservation, our need for help is great, and community members respond eagerly to our calls for assistance. Conservation leaders engage the service of many volunteers, interns and coworkers, who vary in experience, age and expertise, but may not realize their role as mentors to them. What is mentoring? How can conservation leaders serve as mentors without being overwhelmed? Mentoring is dynamic, rapidly transitioning from traditional models of expert-novice dyads which “mentor at” to collaborative, mutually beneficial networks of “mentoring with” our partners. Given the diversity of our collaborators, this contemporary approach appropriately benefits everyone and utilizes our limited resources effectively. Participants in this workshop will explore how mentoring differs from supervision or training, what mentors and mentorees can offer one another, and how to develop effective mentoring networks, then discuss their own mentoring opportunities, challenges and needs. Participants will receive materials to take home.

Jodee Hunt, *Grand Valley State University*

Phragmites Adaptive Management Framework: Early Successes and Management Support

Non-native *Phragmites australis* has invaded over 60,000 acres of Great Lakes coastline and continues to expand inland. *Phragmites* management is widespread, yet treatment effectiveness varies due to infestation level, application methods, environmental conditions, and many other factors. The Phragmites Adaptive Management Framework (PAMF) is a program designed to reduce uncertainty in *Phragmites* control by using an adaptive management paradigm focused on learning from management outcomes. Through a systematic approach, PAMF works with partners across the basin to refine best management practices and provide site-specific management guidance. After year one, over 300 acres were enrolled in PAMF across four states and one province. Management combinations considered in PAMF’s data-driven model showed various signs of success in reducing *Phragmites* infestations, including herbicide and non-herbicide techniques. Site-specific guidance was provided for 85 management units for the next annual cycle. Participant involvement in data collection is critical in driving this collective learning process.

Daniel D. Engel, *USGS Great Lakes Science Center*

PlayCleanGo: Stop Invasive Species in Your Tracks

PlayCleanGo: Stop Invasive Species In Your Tracks® is a turnkey, branded education and outreach campaign that has spread throughout North America and now has 520+ partners across the continent. The PlayCleanGo campaign’s goal is to interrupt the pathway of spread for invasive species associated with public recreation including hiking, biking, boating, ATVs, etc. through a clear call to action. The PlayCleanGo campaign provides an enormous graphics library that partners are welcome to customize with their own messaging while keeping the main message clear: clean your gear before entering or leaving a recreation area so that you don’t unintentionally transport invasive species. Spread the word; not the problem.

Belle Bergner, *North American Invasive Species Management Association*

Plum Creek Stream Restoration: Lessons Learned from Six Years of Planning, Engineering, and Permitting that Lead to Thirty Days of Construction

Plum Creek in southeast Cook County, IL experiences bank erosion, widening, sedimentation, and degradation of in-stream habitat from stormwater. Partners identified a section of the creek at Plum Creek Forest Preserve for restoration. The idea was to restore a 1,150-foot section using natural channel design - pulling back eroded banks, construction of bankfull benches, use of bank toe-wood for armoring, creation of rock-wood riffles and pools for in-stream habitat. The project received grant funds in 2013 for assessment, engineering design, permitting, and construction to be completed within two years. Many challenges occurred and most notable was a long, stop-and-start process of balancing site and design constraints with permitting hurdles from numerous agencies, while attempting to maintain an economically and ecologically viable project. Extensive and costly permitting coupled with ballooning cost eventually had us considering returning the grant money prior to successful construction at the last hour in late summer 2018.

Zach Taylor, *Friends of the Forest Preserves*
 Josh Arrigoni, *Stantec Consulting Services, Inc*
 Laura Barghusen, *Openlands*

Recreation and Re-Creation: Integrated Design on Belle Isle

The Detroit River system has experienced significant impacts since European settlement, but especially since the dawn of the Industrial Revolution. Coastal wetlands have been filled in, the river bottom has been dredged, ecosystems have been fragmented, and pollutants have accumulated. Belle Isle State Park has long been considered a treasure to southeast Michigan, especially the city of Detroit, but it wasn’t until recent decades that people really understood the true significance of this open park land’s natural resources. This presentation will share a couple of the many habitat re-creation stories in the park. This includes the reconnection of 65 acres of historic coastal wetland habitat to the Detroit River; the installation of 5 acres of Detroit River reef spawning habitat (targeted for over 17 fish species), and 5-acres of nearshore fish nursery habitat.

Andrew McDowell, *SmithGroup*
 Glenn Palmgren, *Michigan Department of Natural Resources*

Restoring Headwater Streams

Headwater streams are the smallest parts of river and stream networks, but make up the majority of river miles in the United States. They are the upstream parts of a watershed where flow begins to run year-round. Many headwater streams have been lost or altered due to human activities such as urbanization and agriculture which can impact species and water quality downstream. However, these small creeks also provide great opportunities for restoration and protection. Guidance on stream assessment, restoration, and monitoring will be discussed along with some local case studies.

Rob Myllyoja, *Stantec*

Results from a Large-Scale Multi-Year Riparian Habitat Enhancement Project

After an oil release incident on the Kalamazoo River in 2010, restoration activities were conducted within impacted wetland and floodplain communities for over six years. However, in 2016, a program was established to move away from smaller isolated restoration efforts and instead enhance 216 acres of natural communities along 11 miles of the Kalamazoo River corridor. Ecological community-specific restoration techniques for each site were established based on the results of baseline field assessments; the three primary categories of enhancements included increasing vegetative quality, controlling invasive species, and enhancing wildlife habitat. The effectiveness and results



Ecological Restoration
 The Original Restoration Publication

Edited by Steven N. Handel
 ISSN: 1522-4740
 e-ISSN: 1543-4079
 Published four times per year

Ecological Restoration is a forum for people advancing the science and practice of restoration ecology. It features 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. This quarterly publication includes peer-reviewed science articles, perspectives and notes, book reviews, abstracts of restoration ecology progress published elsewhere, and announcements of scientific and professional meetings.

Visit us online at <http://er.uwpress.org>

THE UNIVERSITY OF WISCONSIN PRESS
 JOURNALS DIVISION

1930 Monroe Street, 3rd FL., Madison, WI 53711-2059
 (p) 608-263-0668 • (f) 608-263-1173 / (US only) 800-258-3632
journals@uwpress.wisc.edu • uwpress.wisc.edu/journals

of different habitat enhancement measures have now been monitored for two consecutive years. This presentation will share noteworthy restoration results and lessons learned after the completion of two years of woody and herbaceous invasive species chemical control, release of *Galerucella* beetles for purple loosestrife biological control, and the installation of native seed, trees, and shrubs.

Kelly Rice, *GEI Consultants*

School Forests: Supporting Students and Teachers in the Stewardship of an Underutilized Resource

With the passing of the Municipal Forest Act in 1931, schools across Michigan were deeded surplus forest land to be used for the benefit of students’ education and the wider community. As priorities and trends in education and society as a whole have shifted, many school forest properties have been neglected, largely






**Great Lakes
PHRAGMITES
COLLABORATIVE**

www.greatlakesphragmites.net

Learn about *Phragmites* management

Join our listserv to connect with 600+ Phrag professionals

Enroll in the *Phragmites* Adaptive Management Framework

CONTACT US FOR MORE INFO
phragmites@glc.org
@GLPhrag on Twitter and Facebook

Conservation Corps (MCCC), through a partnership with AmeriCorps, is actively surveying and treating at several state parks to protect the unique critical dune ecosystem. The MCCC AmeriCorps members are the DNR's most visible 'boots-on-the-ground' protecting hemlock on Michigan's public lands and learning a lot along the way. Corps members come from diverse backgrounds and will share what they've learned about HWA treatment methods, control strategy, data collection, helpful tips and share stories from their unique experience. Presentation by DNR Parks and Recreation Division MCCC AmeriCorps members Nick Zoller, Emily Leslie, Lauren Freckelton, Meg Reesor and Ryan Hartman. Presentation will compliment that given by Alicia Ihnken

Heidi Frei, *Michigan Department of Natural Resources*
Lauren Freckelton, *Americorps*
Emily Leslie, *Americorps*
Jon Gorton, *Americorps*
Nick Zoller, *Americorps*
Ryan Hartman, *Americorps*
Meg Reesor, *Americorps*

Southwest Michigan Wild Rice Resources; Activities and Challenges Relating to Zizania by Nottawaseppi Huron Band of the Potawatomi

Ongoing stewardship and monitoring of Wild Rice in SW Michigan has been a focus of NHBP activities for 10 years. Recent challenges have included high water events, virus infestation, and above average seasonal temperatures. These and recent successes will be reviewed and discussed. Future activities and a review of various monitoring technology with time for discussion is planned.

Nat Spurr, *Nottawaseppi Huron Band of the Potawatomi*

Story Telling on the Trail

Who doesn't feel super once and a while? Join us as we explore how the For-Mar Natures Superheroes help connect park visitors and young people in the community to nature. At For-Mar Nature Preserve and Arboretum, a Genesee County Park and Recreation, there is a seasonal Tale on the Trail featuring the For-Mar Nature's Superheroes, The Preservers! Each year Park Naturalist Nicole Ferguson, Horticulturist Brian VanPatten and Outreach Coordinator Courtney Prout work with a local artist,

Randy Zimmerman, to develop a brand new story and comic illustrations to bring the conservation messages to life in a super charged way! We will use an interactive presentation to follow the steps in the creation process from brainstorming a concept to story line development and curriculum links to taking the tale 'On the Road' to Genesee County schools. During this session you will even get the chance to hike our traveling trail and get your own comic book to take home.

Courtney Prout & Nicole Ferguson, *Genesee County Parks and Recreation*

The Art of the Brush Burn

After cutting a few acres of invasive shrubs it is satisfying to clear away the brush and finally be able to see the lay of the land. It also feels good to warm oneself by a fire when doing this work in the cold months of the year. It seems a simple task, but there are many practical details to consider. Such as the precise location of the fire, what to burn and what to let rot, etc. As the crew of the Iron Creek Land Community has worked to restore this land over the years, we have also found that some of the basic manual labor tasks, when approached as an art, afford great opportunities for learning to read the landscape as a whole; and to meditate upon/discuss the deeper philosophical questions as to why we are doing this work. This presentation will cover both practical and philosophical lessons learned while dragging brush.

Jeremy Siegrist, *Iron Creek Land Community*

The Science Behind Forest Therapy and Nature Connection

There is a growing body of data that supports the idea that nature is highly beneficial for our bodies and minds. Get an overview of current findings from a wide variety of research-based studies. This presentation includes hands-on nature connection activities with Cayla Samano, a certified Forest Therapy Guide and Mentor. Cayla facilitates nature connection experiences in the Metro-Detroit Area and Ann Arbor. Her unique brand of forest therapy is inspired by Shinrin-Yoku, (forest-bathing) which started in Japan in the 1980s as a response to an over-stressed urban population.

Cayla Samano, *A2 Shinrin yoku*



Celebrate!

**MICHIGAN
100
YEARS
STATE PARKS**
est. 1919

LOOK BACK, GIVE FORWARD.

Celebrate our rich history and take an energizing look forward as we mark this centennial year with special events, podcasts, historical stories, videos, geocaching and more.

michigan.gov/stateparks100

Thinking about Glyphosate - A Roundtable Discussion

There have been recent studies about the health impacts of the herbicide glyphosate, but this is seen by many in the ecological stewardship world as the least toxic alternative. How do we balance these things? What are the alternatives? How do we minimize health risks using PPE? What does the research say? What do we do when/if we can no longer use glyphosate? Join us for a roundtable discussion to talk about the pros and cons of glyphosate.

Mike Appel, *Appel Environmental Design*
Michael Hahn, *City of Ann Arbor Natural Area Preservation*
Jeff Gearhart, *The Ecology Center*
David Borneman, *City of Ann Arbor Natural Area Preservation*

Three Mile Creek Restoration - Hiawatha Sportsman's





Club Mackinac County

In the summer of 2013, an earthen dam on Three Mile Creek in the Millecoquins River Watershed failed, sending approximately 4,000 cubic yards of former impoundment and dam material downstream. GEI Staff conducted ecological impact assessments on a quarter mile of trout stream and approximately 5 miles of the Millecoquins River to its outlet into Lake Michigan. Over the course of one month, the GEI restoration crew moved 205 cubic yards of sediment by hand, and seeded, blanketed and planted newly exposed wetlands with more than 5,600 native species. Coniferous trees were harvested from uplands to build 10 unique habitat structures over 500 lineal feet. The expertise and implementation by the GEI team led to State regulatory approval two years ahead of schedule. This reduction in regulatory expenditures and design/build capacity saved the client thousands of dollars, allowing member funds to be used for additional worthwhile habitat conservation efforts.

Samuel Prentice & Stuart Kogge, *GEI Consultants*

Through the Camouflage- Discovering Your Natural Areas Visitors

With limited access, it can literally be hard to 'see' visitors to our expansive natural areas. Presenters will discuss tools we use to get a sense of how often the park is visited and how it is being used. We'll also touch on creative partnerships opportunities, volunteer strategies, and resources that can be leveraged to improve your organizations existing efforts and increase community connections. These are tools parks managers can use to creatively solve problems and improve future plans.

Tina Stephens, *City of Ann Arbor Natural Area Preservation*
Allison Krueger, *Washtenaw County Natural Areas*
Preservation Program

Understanding the Language of Plants: Where the Teachings Begin

The plants are our Relatives and the original teachers. Our teachers are still teaching but we have forgotten the language, for the language is not always in words. Relearning that language will bring us to the path of healing and the path to a more sustainable future for us all.

Jeff Grignon, *Menominee Tribal Enterprises*

Using Mobile GIS to Aid Hemlock Woolly Adelgid

Control Efforts

Thinking about incorporating mobile GIS technology into your fieldwork? This presentation will give an overview of the various ESRI applications we've used to aid hemlock woolly adelgid control efforts in West Michigan. You'll see examples of each application and learn some of the advantages/disadvantages to each.

Alicia Ihnken, *Michigan Department of Natural Resources*

Utilizing the Community Organizing and Family Issues methodology to Ensure Safe and Clean Drinking Water for your Stakeholders

The premise of the Community Organizing and Family Issues (COFI) model focuses on parents by preparing them in a unique manner to become leaders in their respective communities. These individuals are by far the most invested in making sure their children grow up in safe, healthy, and prosperous environments. In this workshop, we will build the foundation of the individual goals and find commonality in the collective and community needs to establish priorities towards their work plans. This then becomes the basis that will help us elevate the voices and decision-making power of those that are so often not involved in the major decisions impacting their communities and their lives. Through a series of interactive exercises and visual aids we will introduce River Network's Drinking Water Guide as a tool to guide engagement around this topic and demonstrate how to synergize efforts amongst various stakeholders.

Francisco Ollervides, *River Network*

Vacant Land Stewardship

One of the challenges the City of Detroit faces is being unable to provide oversight of vacant lots, blight, and illegal dumping. The city's waning tax base due to population decline prevented government officials from pursuing absentee landowners and the investigation of illegal dumping. This is significant as we consider the Springwells neighborhood to be one of many coping with the expanse of vacancy and blight. Without city resources to hold landowners accountable, the prevalence of physical disorder continued to increase. While it has become imperative for dangerous and blighted structures to be removed, it has also become vital for the community to seek ways to redevelop the lot. Generous community partnership can help us purchase commercial grade landscape equipment, maintain

existing power equipment, rent heavy duty earth moving equipment, rent dumpsters, purchase hardy perennial plants, grass seed, purchase contractor grade trash bags and safety glasses. The Land Stewardship Initiative of Urban Neighborhood Initiatives (UNI) works to address vacant lots and illegal dumping. Absentee landowners stand to be amongst one of the most prevalent variables in creating the problem. In addition to absentee landowners, the increase of vacant side lots due to the City's blighted structures demolition program contributes to the problem. Under the leadership of the Curator of Parks and Green Spaces, UNI receives nominations of vacant lots to be taken under stewardship annually. UNI also recruits neighborhood residents to serve as stewards of these lots.

Lisa Marie Rodriguez, *Urban Neighborhood Initiatives*

Wild Rice in Michigan

Prior to European colonization, vast wild rice beds were found along some of the Great Lakes shorelines and smaller beds on Michigan's inland lakes and streams. Drastic changes to the landscape resulted in the complete loss of our largest beds and a serious decline in the remaining inland beds. Wild rice is recognized as an important part of Michigan's ecological landscape and history. This presentation will introduce the audience to wild rice, historical impacts, and present-day efforts to conserve and protect it.

Barb Barton, *Endangered Species Consulting*
Roger LaBine, *Lac Vieux Desert Band of Lake Superior Chippewa*

Winter Tree ID

Love trees but mystified about how to recognize them without leaves? This workshop will describe key characters for recognizing a dozen common Michigan species by twigs, bark, and habitat. We'll review how to use keys to identify woody plants based on twigs. Twigs will be provided, but please feel free to bring any twigs that you'd like to figure out (preferably from natural areas rather than horticultural plantings, as available keys focus on native species). Weather permitting, we'll do a brief walk outdoors to look at trees in person. By the end of this workshop, you should be able to recognize a few trees by sight and should feel more comfortable using keys to identify unknowns.

Jacqueline Courteau, *NatureWrite LLC*



CONSULTATION & MANAGEMENT
PLAN DEVELOPMENT
INVASIVE PLANT CONTROL
PRESCRIBED ECOLOGICAL BURNS
MANAGEMENT PLANNING,
MAPPING, & INVENTORIES

Ph 734.665.7168 / Michigan / www.plantwiseresoration.com

The Stewardship Network's Event Calendar



Looking for hands-on, boots-on-the-ground experience working in natural areas? Search your area for educational and volunteer opportunities on the Event Calendar!

We want to help you connect!
Any organization is welcome to post their events on the calendar.

StewardshipNetwork.org/Event-Calendar



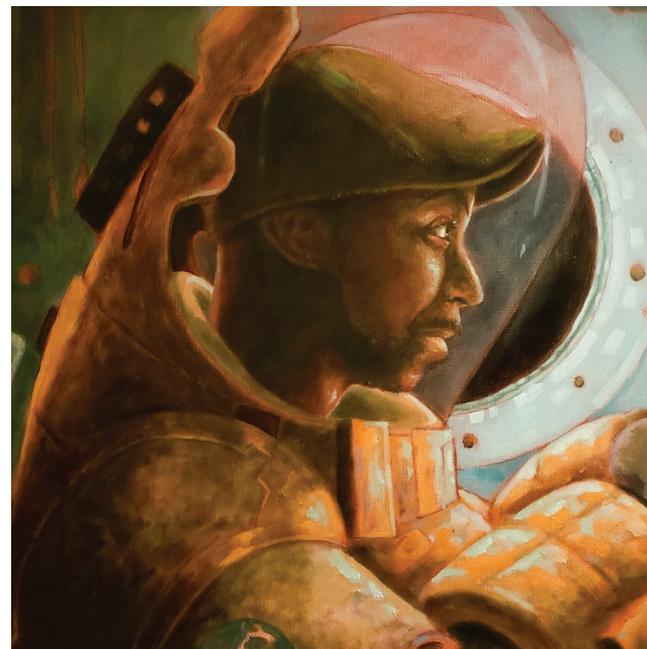
POSTER PRESENTATIONS



FEATURED ARTIST Gary Horton

FRIDAY EVENING ACTIVITIES

- 1. Altering disturbance regimes for monarch butterfly conservation**
Nathan Haan, Michigan State University & Douglas Landis, Michigan State University
- 2. An ecological trait database of North American freshwater invertebrates for the assessment of climate change effects on streams**
Ethan Hiltner, Michigan State University
- 3. Bringing Biodiversity to Restored Grasslands**
Carol Day, Cornerstone University & Dana Van Huis, Aquinas College
- 4. Community level response to deer herbivory and trampling in spring flora**
Kyle Lough, University of Michigan
- 5. Deep Map of ACRES Land Trust**
Brett Bloom, Oak Farm Montessori School
- 6. Engaging the Community In Stewardship of Urban Natural Areas**
Michael Benham, The Stewardship Network, Jonathan Parker, Ann Arbor Natural Area Preservation & Mark Charles, Ann Arbor Natural Area Preservation
- 7. Exploratory Inventory of Invasive Plant Species on the Shiawassee River**
Nathaniel Fike, North Oakland Headwaters Land Conservancy/Central Michigan University
- 8. First year wildflower establishment is influenced by pre- and post-seeding ground management strategies and seeding rate**
Logan Rowe, Michigan State University
- 9. Forest Ecological Classification of Shiawassee National Wildlife Refuge**
Douglas Putt, Wayne State University
- 10. Master Plan Development for a Five-acre Pollinator Habitat on the Emergency Secondary Spillway for the Lake Ovid Dam at Sleepy Hollow State Park**
Adelyn Geissel, Michigan State University
- 11. Understanding Water Use and Dynamics of Cropping Systems in Southwest Michigan Using Remote Sensing**
Prakash K. Jha, Michigan State University
- 12. Variable impacts of habitat context on monarch butterfly (*Danaus plexippus* L.) oviposition and egg survival**
Andrew Myers, Michigan State University
- 13. Watershed land use differences correlated with differences in diatom taxonomy in streams in the Huron River Watershed**
Rob Sulewski, University of Michigan



"My work explores the relationship between color and Urban spaces. with influences from the graffiti culture. New insights are created from both opaque and transparent dialogues. Ever since I was a student, I've been fascinated by the traditional styles of painting, but was drawn to the immediate impact of street art. All these years later I spend my summers working on colorful oversized canvas and my winters working on detailed oils. the two different styles and processes keep the art from becoming tedious."



#horton_paint_co



www.facebook.com/gary.horton.54540

Water Ceremony

5:15-5:45 PM, East Patio

This is a traditional Midewewin ceremony. Water is in all things in creation. Prayers for the water are universal. It is believed that the simple act of praying for the water changes it into medicine. When a prayer is said and a song is sung, the water becomes sacred, and can heal body, mind, spirit, and emotions. The ceremony takes place outside on the east patio. Remember to dress warmly!

Live Painting

5:00-7:30 PM, Big Ten Room

Gary Horton will be joining us after the concurrent sessions on Friday to do a live painting demonstration. From lighthearted collections featuring colorful robots, to huge outdoor murals, to arresting pieces with poignant commentary on the human relation to environmental issues like smog, Horton's bold and playful style leads the viewer to different perspectives and connections to themselves, others, and the outside world. Be sure to stop by and say hello!

Trivia Night

7:00 PM, Red Cedar Room

Join us for a friendly competition to test your knowledge. Both pre-formed teams and individuals welcome. Cash bar is also available.

Networking Space

7:00 PM, Centennial Room

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

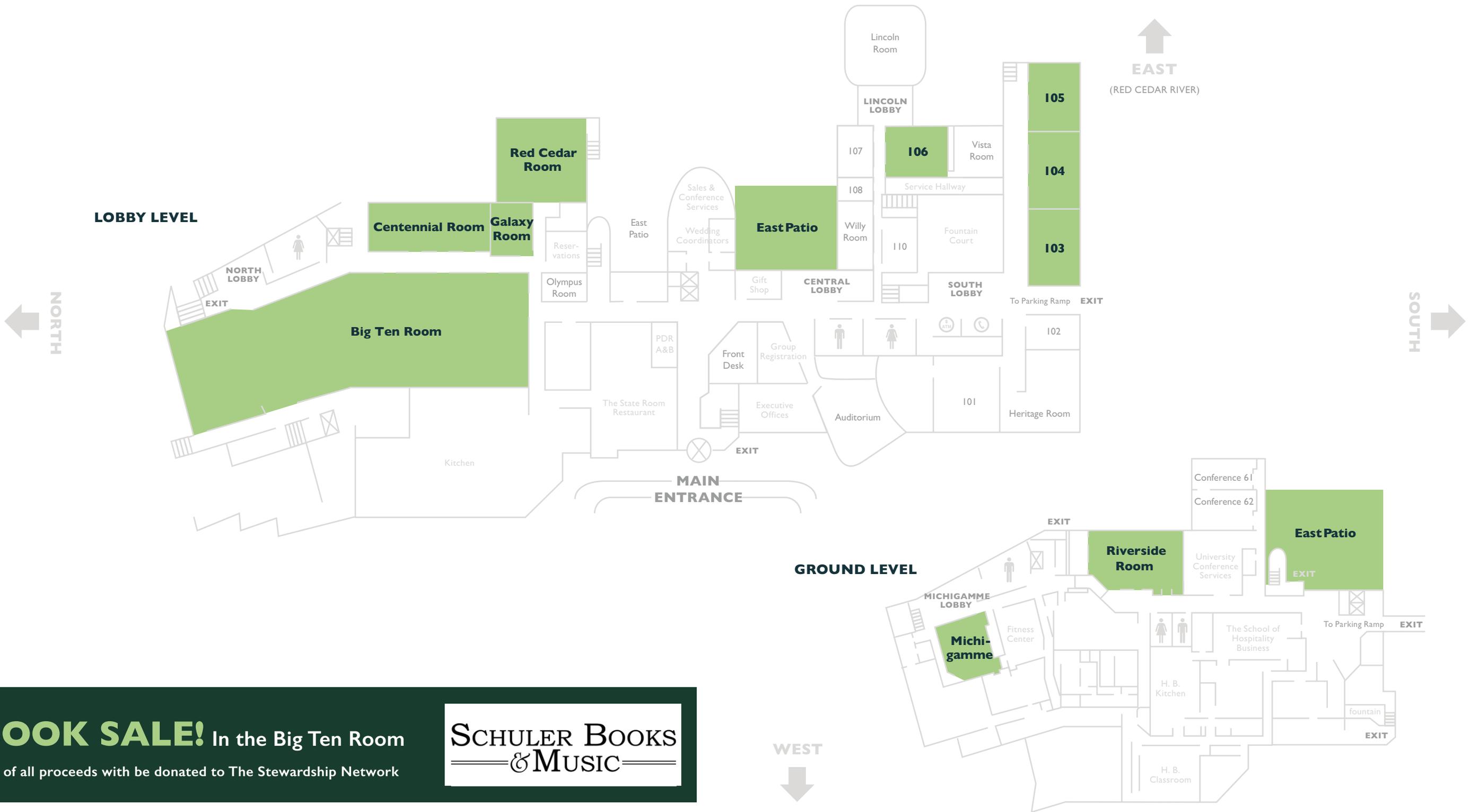
Nature Threads: Weaving Our Stories of Stewardship

7:00 PM, Centennial Room

Join us in a community craft project to create a wall hanging that represents our collective conservation efforts. We will have a story loom set up for all participants to weave a row (or a few!). Bring your own materials, or choose from a selection that we will supply. While the weaving will be the central activity, we will also provide a journal, and invite you to share the story of the strands you weave—your nature reflections. How do these materials represent your stewardship efforts, either individually or for the group you work with?



MEETING ROOM FLOOR PLAN



SAVE THE DATE



The Stewardship Network Conference January 17-18, 2020



Email suggestions for speakers or topics you would like covered at staff@stewardshipnetwork.org



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



The Stewardship Network

416 Longshore Drive, Ann Arbor, MI 48105

(734) 996-3190

StewardshipNetwork.org

Facebook.com/StewardshipNetwork