



PLACE-BASED EDUCATION CONFERENCE

November 7 - 9, 2019
Flint, Michigan



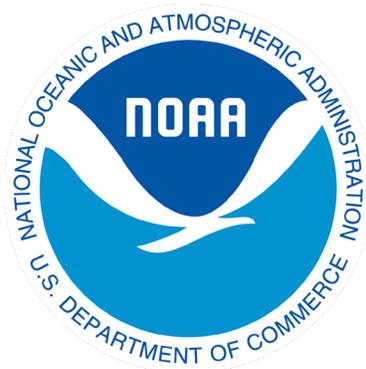
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AGENDA

THURSDAY

November 7, 2019

9:00 AM – 6:00 PM

Registration Open
Lobby – Riverfront Banquet Center

10:00 AM – 4:00 PM

Immersion Experience:
Flint and the Flint River
— by Bike!

10:00 AM – 4:30 PM

Immersion Experience:
Place-Based Education in
Practice in Flint

12:00 – 5:00 PM

Immersion Experience:
Learning in Nature

1:00 – 5:00 PM

Immersion Experience:
Flint and the Environment

6:30 – 8:00 PM

Informal Welcome Reception
Tenacity Brewing
119 N Grand Traverse St

FRIDAY

November 8, 2019

On-Your-Own Breakfast

7:00 AM – 6:00 PM

Registration Open
Lobby – Riverfront Banquet Center

8:30 – 8:45 AM

Welcome Session
Expo Center – Riverfront Banquet Center

9:00 AM – 12:30 PM

Concurrent Sessions and
Workshops

9:00 AM – 12:30 PM

Immersion Experience:
Explore Flint's History at
Applewood Estate

12:30 – 2:00 PM

Lunch Plenary with Keynote
Laurie Lane-Zucker (1 – 2 PM)
Expo Center

2:30 – 4:45 PM

Concurrent Sessions and
Workshops

6:00 – 9:00 PM

Dragonfly Award Banquet
Dinner (6:00 PM)
Cash Bar (6:00 – 8:00 PM)
Keynote Address by Dr. Mona
Hanna-Attisha (6:30 – 7:30 PM)
Book Signing (7:30 – 8:30 PM)
Suites C-F – Riverfront Banquet Center

SATURDAY

November 9, 2019

On-Your-Own Breakfast

7:30 AM – 12:30 PM

Registration Open
Lobby – Riverfront Banquet Center

8:30 – 8:45 AM

Welcome Session
Expo Center – Riverfront Banquet Center

9:00 AM – 12:30 PM

Concurrent Sessions and
Workshops

12:30 – 1:45 PM

Lunch Plenary – “Youth and
Art” with Natasha Thomas-
Jackson and Kayla Shannon
(1:00 – 1:45 PM)
Expo Center

2:30 – 4:15 PM

Concurrent Sessions and
Workshops

4:25 – 5:00 PM

Conference Wrap-Up
“Using New Knowledge
and Skills to Transform
Our Communities”
Expo Center

SESSION

1

Friday

9:00 AM - 10:00 AM

Designing a Place-Based Education Immersion Experience for Pre-Service Teachers

Leslie Cook, Teton Science Schools | Elizabeth P. Cunningham, University of Michigan-Flint

PBE in Higher Education | Classroom 2301

Pre-service teachers from the University of Michigan-Flint came to Jackson, Wyoming, for a place-based education program with Teton Science Schools. These teachers kept journals to document their learning, experiences, and reflections. After the program, leaders from both institutions reviewed the journals to learn more about the program's impact. In this session, we share our key learnings and ideas for how to design a place-based education program for pre-service teachers.

You Need a Hub: Sustain and Elevate Place-Based Teaching through Persistent, Regional Support and Networking

Lisa Marckini-Polk, Civic Research Services | Mary Whitmore, Great Lakes Stewardship Initiative

Foundational PBE | Classroom 2307

The Great Lakes Stewardship Initiative (GLSI) provides leadership and support for place-based stewardship education in K–12 schools and communities across Michigan. The GLSI's structure features a network of regional hubs. This presentation focuses on these hubs: how they were formed; what they do; and why they are essential to supporting, sustaining, spreading, and advancing the practice of place-based education.

How to Use Great Lakes Literacy Principles in Your Educational Programming

Terri Hallesy and Kristin TePas, Illinois-Indiana Sea Grant | Ryan Feldbrugge, Lake Superior National Estuarine Research Reserve

Great Lakes Literacy | Classroom 2315

The Great Lakes Literacy Principles provide a framework for Great Lakes learning. This presentation focuses on the creation and content of the principles. We share examples of how the framework is used in practice. Attendees participate in an activity that demonstrates how the principles can be incorporated into educational programming. We also share where to find more resources through the Center for Great Lakes Literacy and Rivers2Lake.

Watershed Curriculum Implemented in Partnership with Philadelphia School District

Ellen Schultz, Fairmount Water Works

Institutionalizing PBE | Classroom 2317

How did the Fairmount Water Works Interpretive Center form a successful partnership with the eighth largest school district in the country to implement a watershed curriculum for 6th–8th graders? Learn how a leading public utility, teachers, administrators, students, and a major funder catalyzed change to create authentic and experiential learning opportunities. This exemplar of place-based education and education for sustainability is described through the sharing of student work, teacher testimonials, and case studies of community engagement.

Transformation of a Pine Plantation as a Case Study for Community Collaboration

Mary Ellen Newport, Interlochen Center for the Arts

STEM-Rich PBE | Classroom 2319

Northern Michigan was planted in pine, creating monoculture where diverse forest communities used to be. Learn how the presenter assembled a team of funders, foresters, filmmakers, artists, and—most importantly—students to document the transformation of a 10-acre pine plantation back to native forest. Students study and evaluate biodiversity, soil health, and carbon capture in a native forest and a pine plantation, and they make art about it. Student work, both creative and scientific is shown.

Citizen Investors: How Local Investors Are Redefining Their Own Towns

Chris Miller, City of Adrian

Place-Based Impact Investing & Entrepreneurship | Classroom 2321

When citizens invest in their own backyard, they shape their community's future in ways that reflect their interests and needs. But to be empowered as investors, stakeholders in the community first must know what local impact investing is and what it looks like in towns where it has been done. We provide data, examples, and resources that will give participants enough information to go back to their communities and educate their fellow community leaders.

Placing Authentic Learning in the Hands of Students and Communities (2-Hour Workshop)

*Matthew McCullough, Schoolcraft Community Schools/
Kalamazoo Public Schools | John Kern, The Mill at
Vicksburg | Noreen Heikes, Kalamazoo Regional
Educational Service Agency*

Foundational PBE | Classroom 2325

Place-based learning sounds great, but where do you start? Then what? In this session, we examine working examples of place-based education; identify barriers to its implementation; ask questions, and search for answers—all with a goal of equipping you to initiate a place-based project in your community, whatever your role. A team comprising a K-12 administrator, educator, and business partner helps you learn about successful examples of place-based education at several grade levels. Prepare to leave this session inspired and equipped to elevate student learning!

The Critical Role of Nature Experiences in Health, and Why Place-Based Education Is Key

Jennifer Wisdom, Family Medicine Physician

Ecological and Social Justice | Classroom 2331

Do you worry about your health, your family's health, or the health of your community? Are you a passionate advocate for place-based education? In this session, we explore evidence-based, scientific data that links nature experience to health outcomes; examine place-based education's role as the lynchpin for increasing nature-based health experiences for individuals and in communities; and provide educational strategies that promote daily nature experience to promote individual and community health.

Field Trips for All: Creating Inclusive Educational Experiences

Abigail Diaz, Wisconsin Maritime Museum

Ecological and Social Justice | Classroom 2337

When we design field trips and programs, accessibility is sometimes an afterthought. The result is that too often, students with disabilities are left out of educational experiences. While creating inclusive, place-based education programs may seem daunting, it can be accomplished if accessibility is considered from the start. This session, led by an informal educator, caregiver, and coordinator of work related to the Americans with Disabilities Act, gives you training and tools to create informal education programs for students of all abilities.

Youth-Adult Partnerships as a Framework for Youth Voice and Engagement (2-Hour Workshop)

John Weiss, Neutral Zone

Foundational PBE | Boardrooms B & C

Through the youth-adult partnership (Y-AP) model, young people have authentic voice and share power with adult collaborators. Y-AP helps to develop autonomy among adolescents and also serves as a powerful approach to positive community change. Through this active session, you can deepen your understanding of the components and elements of the Y-AP model, and also learn about an observational tool that outlines Y-AP standards that enhance programs and professional development.

Centering Urban Place, Circumstance, and Culture as Assets Towards Climate Science Accessibility in the 'Hood

Keem King and Logan Applebee, EcoWorks Detroit – Youth Energy Squad | Communication and Media Arts High School Students

Ecological and Social Justice | Suites C-F

This presentation explores the often-unconsidered assets that urban residents have at their disposal to bolster local climate action plans. Our team shifts the popular narrative that climate science and climate action are inaccessible to students and communities of color by attaching relatability and deliberate considerations of place and culture to climate education. This presentation incorporates as a case study a 2018-19 resilience-mapping project led by students at Communication and Media Arts High School.

We Need to Do This Differently: Challenges in Implementing Place-Based Teacher Education

Suzanne Knight and Laura McLeman, University of Michigan-Flint

PBE in Higher Education | Classroom 2301

Faculty in secondary teacher preparation at the University of Michigan-Flint have implemented a program that is rooted in place-based education. All curricular change occurs within larger contexts: institutional, local, and policy. The presenters discuss barriers and challenges, as well as unexpected insights and delights. They also explain how they have

institutionalized place-based education in a university setting, and how this approach has impacted their work with colleagues, students, and the larger community.

Show and Tell: Using Photos to Develop Place-Consciousness in Children

Annie McMahon Whitlock and Christine Kenney, University of Michigan-Flint

Foundational PBE | Classroom 2307

This presentation tells the story of a classroom of four-year-olds and their trips into the Flint community. The children were given cameras to take photos as they explored the UM-Flint campus, the Flint Farmer's Market, and other places in the city. Through a poster and our presentation, we show the children's images and share their interview responses about their photos. We discuss the value of children exploring their place and the potential of community forays to develop children's place-consciousness.

Ecojustice and Urban Watersheds: Great Lakes Literacy in Action

Ethan Lowenstein, Eastern Michigan University | Rebecca Nielsen and Laura Florence, Southeast Michigan Stewardship Coalition

Great Lakes Literacy | Classroom 2315

Which watershed do you call home? What environmental issues exist in your watershed? Who is affected? Find out how the Southeast Michigan Stewardship Coalition, in partnership with the National Oceanic and Atmospheric Administration's Bay Watershed Education and Training program, empowers teachers and students to ask these questions and more. We share our place-based education process, along with examples of stewardship activities and student projects.

Garden Education Rocks! Educator Perceptions and the Power of Bridging School and Community Collaborations

Veronica Konglim, Eastern Michigan University

Institutionalizing PBE | Classroom 2317

What are some of the challenges you face as an educator trying to incorporate the outdoors in your curriculum? Many eco-conscious educators are

exploring the potential of gardens through the lens of place-based education, eco-pedagogy, and eco-justice education. In this session, we explore the historical timeline of gardening in the United States since the 1890s, and hear from educators who use gardens as a teaching tool to help shape how students perceive themselves and their community.

The Persistence of Playing School: Examining the Potential for a Place-Based Semester Program to Disrupt the Typical Rules of Mathematical Problem-Solving

Amanda Milewski, University of Michigan

STEM-Rich PBE | Classroom 2319

In this presentation, we share findings of a research practice partnership project that examined the outcomes of participation in a semester school program for high school students in the Bahamas. In this program, students engage in a semester-long, STEM-rich experience focused specifically on place-based learning. We share outcomes related to (1) students' mathematical practices of reasoning and sense-making during the experience, and (2) students' attitudes towards mathematics following the experience.

Storytelling with Maps

Jenna Scheub, Interlochen Arts Academy

Ecological and Social Justice | Classroom 2331

Mapmaking has rules: for example, maps are oriented north, the cardinal direction is provided, and there is a scale and a legend. What if we choose to break the rules and make maps that are intentional about telling the story of a place and people? This session is inspired by a short video, "Counter Mapping," produced by the Global Oneness Project. I taught high school science students how to make traditional maps using ArcGIS online last year. Come prepared to learn about GIS mapping applications and brainstorm how to use this tool to produce "Counter Maps" that examine the ecological and social justice issues of a place. (If possible, bring a computer or handheld device.)

From Flint to Cochabamba: Using Place-Based Methods to Teach Environmental Justice Around the World

Timothy Lorek, University of Michigan

Ecological and Social Justice | Classroom 2337

The Flint water crisis and other local challenges in Michigan that involve environmental and social justice suggest the urgency of adopting a place-based curriculum, even (or especially) when teaching about far-flung places or international issues. Each year, the Center for Latin American and Caribbean Studies at the University of Michigan offers a training for Michigan K–12th grade teachers. The theme for our Spring 2020 training is, "Environmental Justice from Flint to Cochabamba." Join us for this interactive forum to share your stories or ideas about incorporating environmental justice and navigating both the local and global scales in the classroom.

Local Literacy Matters! Creating a District-Wide Roadmap for Place-based Education

Molly Baker, TOPOnexus

Place-Based Impact Investing & Entrepreneurship | Business Innovation Center

How can students "do community better" if they are locally illiterate? Developing engaged citizens requires more than a piecemeal approach to place-based education: creating a district-wide roadmap is essential! Local Literacy provides a way to package place-based education efforts with a shared destination and a bigger return on investment. Gain a customizable tool—a Compass for Local Literacy—to aid institutionalization so that students (both career-ready and college-bound) develop efficacy and marketability. Learn strategies for going districtwide.

Funding and Resources to Implement Meaningful Watershed Educational Experiences Through the National Oceanic and Atmospheric Administration's Bay Watershed Education Training Program

Bronwen Rice and Jaime Frungillo, National Oceanic and Atmospheric Administration

Foundational PBE | Suites C-F

Learn how NOAA's B-WET program promotes place-based education for K–12 audiences through Meaningful Watershed Educational Experiences (MWEEs): learner-centered activities that focus on investigations into local environmental issues that lead to informed action. Gain an understanding of the MWEE model, hear from past B-WET grant recipients in the Great Lakes, and learn about resources for designing and implementing MWEEs, including funding opportunities around the country.

Teachers Facing the Future: Growing Food in This Climate-Changing Place

Jane Rice, Michigan State University

PBE in Higher Education | Classroom 2301

How can teachers provide place-based experiences using the three-dimensional science learning of the science standards if they haven't experienced either? We take our pre-service teachers outside to turn them into container gardeners wrestling with crop yield while the weather swings from flood to drought. Teachers learn how to apply their integrated knowledge and concern for food at a personal and societal level to place-based action. See who grew the most food with the least water!

Finding a Place for Place-Based Education: Connecting Schools to Nature Sanctuaries

Julie Stoneman and Robb Johnston, Michigan Nature Association

Foundational PBE | Classroom 2307

The Michigan Nature Association's School to Sanctuary program connects teachers to a nearby nature sanctuary where students can engage in experiential, place-based, and service-learning projects that help sustain vital habitat for Michigan plants and animals. Benefits include assistance from Michigan Nature Association staff in the classroom and the field, as well as grants for field trips. We maintain more than 180

nature sanctuaries across Michigan. Find out how you could be our next School to Sanctuary partner!

Great Lakes Fisheries: Science to Stewardship

Brandon Schroeder, Michigan Sea Grant | Samantha Lichtenwald, Bay-Arenac Community High School | Mark Stephens, Michigan State University

Great Lakes Literacy | Classroom 2315

Great Lakes fisheries – people, fish, and fishing – offer a wealth of ecological, social, economic, and educational values. Explore our Great Lakes fisheries, ecosystems, and issues – and ways they inspire 'feet wet' science learning and educational opportunities focused on fishing. Learn about partners, programs, training, and resources in fishery science and fishing that are available to educators. A teacher at Bay-Arenac Community High School shares how Great Lakes literacy and fisheries science anchor the school's cross-curricular, community-connected approach to learning.

Transforming Schools by Institutionalizing Great Lakes Literacy: Integrating Place-Based Education with the School Continuous Improvement Process

Rashell Bowerman, Michigan Department of Education | Emily Finnell, Michigan Department of Environment, Great Lakes, and Energy | Megan Schrauben, MiSTEM Network

Institutionalizing PBE | Classroom 2317

Come learn about a grant opportunity for the 2020-2021 school year that supports continuous improvement strategies to address the learning needs of the whole child. This session focuses on how to strengthen K–12 student performance through a school's continuous improvement process (as delineated by the Michigan Department of Education) by using place-based education and curricula that address water literacy and the Great Lakes Literacy Principles in classrooms, teacher training, and STEM education.

Enriching "Random Acts of STEM"

Tracy D'Augustino, Michigan State University Extension

STEM-Rich PBE | Classroom 2319

As an informal science educator, I've witnessed and carried out many random acts of STEM. While great for building interest and excitement, they do little

to increase STEM literacy or connect youth to their communities and the environment. This presentation shows you how to incorporate the Next Generation Science Standards' Science and Engineering Practices into your work. By doing so, you can take your random acts of STEM to the next level, increase STEM literacy, and help youth make a positive impact on their community.

We See You! A Field Guide for Creating Place-Based Entrepreneurship Programs

Sara McDonnell and Nic Custer, University of Michigan-Flint

Place-Based Impact Investing & Entrepreneurship | Classroom 2321

How do we build social capital, economic activity, and sustainable communities? One solution is through entrepreneurial training. In this session, we share lessons from [IN] on the Road, a place-based entrepreneurship program for Flint and Genesee County neighborhoods. [IN] on the Road is housed within the Office of Outreach's Innovation Incubator at the University of Michigan-Flint. The Innovation Incubator [IN] uses the Triple Bottom Line model to help people start businesses and non-profits.

Sowing and Harvesting: Outdoor Learning on a Working Farm

Tracey Marchyok and Students, Acton Academy Ann Arbor | Marly Spieser-Schneider, Community Farm of Ann Arbor

Foundational PBE | Classroom 2325

Acton Academy Ann Arbor undertook a year-long study to explore, observe, and investigate the interconnectedness of all beings at the Community Farm of Ann Arbor. Our school uses the "hero's journey" as a framework for living and learning. We will share how an organic farm is on its own hero's journey—complete with pictures, songs, maps, gravestones, food webs, critters, and more. Join students from Acton and their adults as we share our stories.

What Is a Priority? Connecting Learning with Life at Home: Examples from a Micronesian Island and an Aging Farming Community in Japan

Takano Takako, Waseda University | Ohmae Jun-ichi, ECOPLUS

Ecological and Social Justice | Classroom 2331

The place-based education programs we introduce and discuss are conducted not in 'their own place' for most participants, in the sense that the participants are visitors. The learning takes place with the locals, and the participants gain insights and lessons that they can utilize back at home. According to research, these programs tend to influence the participants' values and lifestyle for a long time and in ways that support a sustainable society.

Finding a Common Place: Youth Dialog About Place and Place-Based Education

*Kay Fukuda, University of Hawai'i
Ethan Lowenstein, Eastern Michigan University
Students from high schools in Detroit and Hawai'i*

Institutionalizing Place-Based Education | Business Innovation Center

Youth from PALS and PLACES (two place-based education programs on the Wai'anae Coast of Hawai'i) and youth from the Detroit/Ypsilanti area who are active in the Southeast Michigan Stewardship Coalition talk about their passions, purpose, and places; seek to identify common issues, problems, and possibilities; and discuss the place-based projects they have done and how those projects were developed. The two directors of the place-based education programs facilitate the dialogue.

Weathering Change in Institutional Learning (Poster)

Clare Tallon Ruen and Betsy Quail, Pipes and Precipitation/District 65

Institutionalizing PBE | Riverfront Banquet Center Lobby

This poster attempts to show that which has changed and that which has stayed the same in a program that has ridden the waves of change through five administrative shifts and the adoption of the Next Generation Science Standards.

Putting Literacy in Its Place: Integrating Disciplinary Literacy Instruction with Place-Based Education (2-Hour Workshop)

Darin Stockdill, University of Michigan

Institutionalizing PBE | Boardrooms B & C

In this session, participants explore and discuss a new statewide initiative in Michigan for secondary literacy, "Essential Practices for Disciplinary Literacy Instruction in the Secondary Classroom." They examine how disciplinary literacy instruction can be integrated with place-based education and also explore a model lesson and planning template. Participants leave with a better understanding of disciplinary literacy and concrete ideas of how to develop place-based education units that have built-in opportunities for engaging, meaningful literacy instruction.

From Place-Based Education to Place-Based Investing: Building Just, Equitable, and Sustainable Communities Together (Panel Discussion)

Laurie Lane-Zucker, Impact Entrepreneur

Matt Bach, Michigan Municipal League

Neal Hegarty, Charles Stewart Mott Foundation

Megan Schrauben, MiSTEM Network

Greg Viener, Huntington Bank

Moderator: Leyla Sanker, University of Michigan-Flint

Place-Based Impact Investing & Entrepreneurship Suites C-F

The underlying goals of place-based education and impact investing are the same: to advance positive social and environmental change. A systems-thinking perspective offers opportunity for education, government, philanthropy, economic and community development, and enterprise to identify and advance common goals. Members of this panel of local and national partners who are working to transform communities discuss ways we can work together to achieve positive impact.

Ubuntu ("I Am Because We Are"): A Partnership Between Civic Park and UM-Flint

Kazuko Hiramatsu, Todd Womack, and Jori Reigle, University of Michigan-Flint

PBE in Higher Education | Classroom 2301

Working around the concept of ubuntu that the Civic Park neighborhood has embraced, programs in Social Work, Linguistics, and Nursing at the University of Michigan-Flint are walking alongside Joy Tabernacle and the Urban Renaissance Center to support activities in the neighborhood. We offer a case study of how interdisciplinary collaboration encourages students to explore their place in a community that extends beyond the university campus.

The Meeting Place: The Interaction of Forests and Water in Support of Great Lakes Health

Emily Vogelgesang, Huron Pines | Julie Crick, Michigan State University Extension

Great Lakes Literacy | Classroom 2315

Forests of all sizes and types play an important role in the quality and quantity of our freshwater systems in the Great Lakes basin. Forests adjacent to aquatic systems provide critical habitat for both terrestrial and aquatic species. Trees in these forests cycle nutrients, and also filter water better than any Brita container. Attendees explore how the connections between water and forests can be used to fuel engagement, interaction, and support in local settings.

Connecting Public School Curriculum with a Place-Based, Experiential Learning Platform Focused on Interdisciplinary Skills in Environmental Stewardship, STEAM Education, and Direct Action

Neha Shah and Students, Ann Arbor Public Schools |

Nathan Ayers, We Are The Forest

Institutionalizing PBE | Classroom 2317

Learn how a public-school teacher and a community organization teamed up to engage students in thinking about climate change and developing solutions to related issues in our neighborhood. We discuss our use of three concepts: green infrastructure, biomimicry, and ecosystem services. Learn how to enhance the school curriculum by teaching skills that students need in order to evaluate, design, and install green infrastructure systems on campus.

Doing Community Science: An Egalitarian Community Action Partnership Model

Erin Gallay, University of Wisconsin-Madison | Paula Sizemore, Ypsilanti Community High School

STEM-Rich PBE | Classroom 2319

Explore how urban youth are using science to address local environmental issues through partnerships with local STEM professionals. Through discussion and activities, learn about the characteristics of successful community action projects with urban youth of color, and the practices that nurture commitments and connection to the environment and community in the urban ecology. We share results showcasing how this model can support environmental and STEM learning and the development of civic capacities for engendering democratic, sustainable communities.

Field Trip Metamorphosis: Transform One-Off Trips into Vibrant Place-Based Learning Experiences

June Teisan, Belle Isle Aquarium

Foundational PBE | Classroom 2325

Amid all the prep work for learning excursions—buses, permission slips, lunches, chaperones—how can you best prepare for the heart of it all—rich, vibrant student learning? Applying what we learned from years of experience, including efforts related to a federal grant focused on place-based events, staff from the Belle Isle Aquarium in Detroit help you design experiences that deepen and extend learning and connect to students' lives.

Huli: Gaming as a Vehicle for Community Healing

Kay Fukuda, University of Hawai'i | Jeff Vierra and Students, Nanakuli High and Intermediate School

Ecological and Social Justice | Classroom 2331

This presentation describes a place-based project that taps into the revival of board games, which are once again a medium for social gatherings and interaction among youth. Through the development of a board game, Huli, Nanakuli students create and reinforce the idea that both collectively and individually, we can impact community change and healing. Huli differs from many other games in that it models the actual environment the students grew up in, and is a simulation of positive change.

Land as Our First Teacher in Schools (2-Hour Workshop)

Steve Styers, First Nations Educator

Foundational PBE | Classroom 2337

We examine the context and implementation of a land-based program in a rural Ontario school. This program emphasizes the concepts of "Land as our first teacher" and "Animals and plants have a sense of self, family, community, and standards of behavior." Examples of commonalities between Indigenous and Western worldviews that support these concepts are highlighted. Participants learn about concepts and strategies for developing a land-based program in classrooms and schools.

Health in Our Hands: Community-Inspired, Project-Based Learning for Middle School Science

Renee Bayer, Michigan State University

STEM-Rich PBE | Suites C-F

Health in Our Hands connects middle school science classrooms to the community to give youth an understanding of the importance of gene-environment interactions in their risk for diseases, and an awareness of STEM-related careers. With support from a community-health-school partnership, this NGSS-aligned curriculum has been tested with teachers and students in Flint. For their final project, students conduct action research culminating in a Health Summit, where they present results and recommendations to improve community health.

Reflections from Pre-Service Teachers: Teton Science Schools and University of Michigan-Flint Partnership

Elizabeth P. Cunningham, University of Michigan-Flint | Leslie Cook, Teton Science Schools

PBE in Higher Education | Classroom 2301

UM-Flint pre-service teachers (PSTs) who took part in a place-based program at the Teton Science Schools share their reflections and what they learned during the trip. The session begins with a facilitators' overview of the program and its purpose. Attendees have an opportunity to interact with the PSTs, view the posters they made, and discuss their reflections. The session concludes with a full-group reflection.

Developing Place-Based and Virtual Learning Opportunities to Teach Student "Citizen Scientists" About Lake Sturgeon and Coupled Great Lakes-Tributary Ecosystems

Kim Scribner, Michigan State University

Great Lakes Literacy | Classroom 2315

Educating K-12 students, STEM educators, and the public about Great Lakes ecosystems and inter-dependencies between fish communities and physical and biological processes of streams used seasonally by migratory fishes for reproduction and foraging will increase awareness of and participation in resource stewardship. In this presentation, we introduce our "citizen science" program that serves as a hub of information and resources on Great Lakes-tributary coupled ecosystems and emphasizes the lake sturgeon, a large charismatic species of public interest.

Strengthen Place-Based Learning with Vibrant Community Partnerships That Integrate Arts, Social Studies, and STEM

June Teisan, Michigan Teacher of the Year Network

STEM-Rich PBE | Classroom 2319

Session participants explore a set of cases from a nationally-recognized educator with extensive experience forging community partnerships with STEM in science classrooms, clubs, district-wide initiatives, and award-winning programs. Harness community resources and forge partnerships that link caring adults outside the classroom to young people in the classroom to situate learning in vibrant, real-life contexts.

Young Sharks Curriculum for 3rd-5th Graders: How to Instill the Entrepreneurial Mindset in Tomorrow's Changemakers

Paula Nas and Terry Groves, University of Michigan-Flint

Place-Based Impact Investing & Entrepreneurship | Classroom 2321

Would you like to expose elementary students to the entrepreneurial mindset but you don't know how to fit one more subject into an already-full school day? This session walks you through the Young Sharks Economics and Entrepreneurship Curriculum for 3rd-5th graders. Lesson plans are aligned to social studies content standards and also integrate science and language arts standards. Activities for students encourage the development of skills inherent in the entrepreneurial mindset.

A Place-Based Approach to Writing Instruction: Using Place-Based Education to Marry Quality and Authenticity

Jennifer Suriano, University of Virginia

Foundational PBE | Classroom 2325

Grounded in empirical findings, this session focuses on opportunities to embed place-based education within writing instruction. Place-based education can serve as an innovative approach to support the development of students' skills and knowledge in research, multi-dimensional understandings, idea generation, and effective communication. Bolstering the professional education of writing instructors across content areas has the distinct potential to address deficient writing

skills across the nation. Place-based education provides a practical framework for teachers to enact rigorous, authentic writing instruction.

Where Is the Fresh Food in Flint? In Our Classroom!

Arleatha Bryant, ED-U-K Enterprises

Ecological and Social Justice | Classroom 2331

Many of our community members and students have been affected by the Flint Water crisis, which is causing many types of health issues. This presentation focuses on a place-based stewardship education project that raised people's awareness of high lead levels in Flint's drinking water and informed people that certain foods could minimize or prevent the absorption of lead in the human body. Through our project and partnerships, we educated others in our community, and identified and grew fruits and vegetables to help combat this serious issue.

Turn Students into Community Scientists: Learn to Detect Invasive Crayfish and Bring Hands-On, Outdoor Learning to the Classroom (3-Hour Workshop)

Bizzy Berg and Greg Hitzroth, Illinois-Indiana Sea Grant / Illinois Natural History Survey

Foundational PBE | Boardrooms B & C

You and your students can help protect your local aquatic ecosystems from invasive species! Using live specimens, this interactive workshop teaches educators how to catch, identify, and report invasive crayfish. We demonstrate how to use traps and nets, handle crayfish, and enter data into the community-scientist website, iNaturalist. Free equipment for classroom use is provided to a limited number of participants.

Resources for Great Lakes Literacy

Emily Sunblade, Sleeping Bear Dunes National Lakeshore / Joan Chadde, Michigan Technological University/Lake Superior Stewardship Initiative / Chelsea Nester, Inland Seas Education Association/Grand Traverse Stewardship Initiative

Great Lakes Literacy | Suites C-F

Great Lakes floor maps are terrific teaching tools to pique student interest and promote Great Lakes literacy. They are available for localities all across the Great Lakes basin. Two experienced users of these maps share innovative activities that engage audiences of all ages in Great Lakes watershed science and stewardship. A Sleeping Bear Dunes National Lakeshore ranger explains free distance learning programs and an online portal of education resources about the Great Lakes.

Insights into Place-Based Education in Germany

Karoline Thorbecke, University of Greifswald

PBE in Higher Education | Classroom 2301

Are you faced with the challenge of educating students to become responsible citizens while—by the way—fulfilling curricular standards? Discover how formal learning and community service is combined in German schools and universities, and how German teachers-to-be get prepared to equip their future students with the competencies needed to tackle 21st century issues. Curricular frameworks and examples from practice are presented, with a focus on implications for foreign language education.

Environmental Identity Development in the Urban Classroom

Ayesha Qazi, Chicago Public Schools

Foundational PBE | Classroom 2307

This presentation focuses on the development of environmental identity among youth through lessons on urban environmental justice. Attendees explore environmental justice lessons from Chicago, learn how to create environmental identity maps, and check out samples of students' written environmental autobiographies. Discover how to start conversations with youth in the formal classroom that center around relationships with nature!

A Deep Dive into the Great Lakes: Using Mathematics and Scale to Reveal the Big Picture

Sandy Smith, Nichols School

Great Lakes Literacy | Classroom 2315

Seventh graders at Nichols School begin the year using science, math, and art to explore their relationship to the Great Lakes. Learn how classes created a life-size silhouette representation of the Lake Erie and Ontario food webs, a layered Plexiglas map of the Great Lakes basin, and bathymetric profiles of Lakes Erie and Ontario using paper, cardboard, and wood. See how innovative explorations of scale create meaningful connections in the classroom.

Becoming a Boundary Spanner: Why Does Boundary Spanning Matter in Place-Based Education?

Kate Welsh, University of Wyoming / Leslie Cook, Teton Science Schools

Institutionalizing PBE | Classroom 2317

A boundary spanner is an individual or place that fosters reciprocal relationships between partners. Teton Science Schools and University of Wyoming engaged in a year-long reading group to explore how to enhance place-based education through boundary spanning. In this session, we discuss: What is a boundary spanner? How do you develop skills in boundary spanning? How does boundary spanning relate to place-based education? Leave this session with new ideas for improving partnerships between learners and community.

STEM+A (Art) = Us. It's What We Do!

Barb Kinnunen-Skidmore, Lake Superior Stewardship Initiative

STEM-Rich PBE | Classroom 2319

Days filled with age-appropriate activities weave STEM + A content areas into daily planning. The use of a Wonder Wall emphasizes the value of respecting and allowing children's interests to guide the way. A simple web technique ensures that curriculum expectations are met. The Lake Superior Stewardship Initiative and 7th Generation grant activities nurture students' sense of place. A photo journey, examples of online resources, literature connections, and more pull it all together. Teaching with intention and direct application to the learning setting are features of instruction that are emphasized in this presentation.

Voice and Choice: Starting Points for Strong Stewardship

Meag Schwartz, Northeast Michigan Great Lakes Stewardship Initiative | Luke Freeman, Au Gres-Sims High School

Foundational PBE | Classroom 2325

How can we turn students into collaborative partners in place-based education? Discover methods to transform your classroom and field visits into authentic, learner-centered environments that empower student voice and choice. Learn how you can motivate and create agency in your students as they build their leadership and decision-making skills. Educators from northeast Michigan present their best practices and lessons learned from several years of elevating their students' voices in stewardship.

Growing Community Stewards: Community as Teachers

Kay Fukuda, University of Hawai'i | Shannon Bucasas, Megan Garcia, and Students, Wai'anae High School

Ecological and Social Justice | Classroom 2331

Wai'anae High School teachers and students present their experience of tackling real community issues as a part of their curriculum studies. Session presenters reflect on their journey in a place-based curriculum centered upon and co-developed with community activists. Teachers discuss the purpose of shifting students' learning experiences. Students and teachers reflect on the impacts of this shift in terms of learning, relationships, commitments, healing, and community. Finally, presenters address strengths, challenges, and the future of taking on community well-being as part of the learning process.

STEM in Place: Discussing Critical Features of Place-Conscious STEM Learning

Caroline Baillie, Waste for Life | University of San Diego

STEM-Rich PBE | Business Innovation Center

Using critical pedagogical approaches, attendees engage in a discussion of the key question: How does place-consciousness support STEM learning? We explore key differences between and similarities of two outdoor, place-based STEM education programs: one in upstate New York that involved rural white children in a public elementary school, and the other in an "Engineering Bush School" in Noongar territory, Western Australia.

Landing Your Message: Adapting Your Communication to Inspire, Empower, and Educate (2-Hour Workshop)

Pam Baker and Cindy Hunt, Journeous

Institutionalizing PBE | Suites C-F

Optimizing place-based education starts with bringing others along: getting administrative support and funding, enabling students to select projects that fit their strengths, and inspiring advocates to create change. But when the needs, perceptions, and preferences of each stakeholder vary, it's harder for your communication to hit the mark with everyone. There's a scientific reason why. Understanding why allows us to implement easy fixes, create lasting rapport and, in the process, make the most of all that place-based education offers.

A Place-Based Learning Assignment: Relating Self and Place to Plans for Children's Learning

Aviva Dorfman, University of Michigan-Flint

PBE in Higher Education | Classroom 2301

Integrated Curriculum in Early Childhood Education engages college students in: 1) investigating place in their educational journey; 2) planning a study of place with children; and 3) using literature to reflect on how studying the role of place in their own lives influences their designs for children's learning. Attendees review the assignment, experience some of it, and use examples of students' work to explore the value of the integrated curriculum in helping students learn about the importance of studying place with children.

Nature: Playground or Museum?

Joanna Allerhand and Jessica Vander Ark, Groundswell/Grand Valley State University

Foundational PBE | Classroom 2307

How do we connect to nature? Do we touch it, climb on it, play with it—and sometimes break it? Or do we stand quietly, looking at it with our eyes? What types of experiences help children build a sense of connection to nature? In this session, we explore how to build a culture of conservation by providing opportunities for children to interact with nature in both mindful and play-based—and sometimes destructive—ways.

Mapping and Monitoring Vernal Pools: Engaging Students in Place-Based Community Science and Stewardship

Yu Man Lee, Daria Hyde, and Phyllis Higman, Michigan Natural Features Inventory | Teachers and Students from Kinawa School

Great Lakes Literacy | Classroom 2315

Vernal pools are seasonal wetlands that are critical to healthy forest ecosystems. Because they are typically small and isolated, they are rarely studied—and many have been destroyed or degraded. The Vernal Pool Patrol is a community science, place-based education program through which nearly 30 educators and 700 students have helped map and monitor local vernal pools. We share information about the Vernal Pool Patrol, including insights from educators and students who participate in it.

Transforming a Rural Public School District with Maritime and Place-Based Learning

Sarah Rubenstein, Port Townsend Public Schools

Institutionalizing PBE | Classroom 2317

In 2013, the Port Townsend School District embarked on a journey to transform itself. Learn how, after many years of declining enrollment, this small rural school district on Washington's Olympic Peninsula has renewed itself by focusing on place-based education. Port Townsend staff share how they facilitated teacher-based curriculum development and collaboration with over 80 community partners to design a PreK–12th grade continuum of place-based learning.

We Are the Forest: Place-Based, Nature + STEM Certification for K-12 Students and Teachers

Nathan Ayers, We Are The Forest

STEM-Rich PBE | Classroom 2319

We Are The Forest is a Place-Based, Nature + STEM education platform that certifies K–12 students and teachers in "Nature-Based Systems Thinking." Through case studies from public schools in Detroit, Ypsilanti, and Ann Arbor, this presentation highlights our four-week academy, through which we have trained over 1000 students and teachers to connect deeply with nature while learning interdisciplinary skills required to evaluate, design, and install green infrastructure systems in their schools and communities.

Phenology on the Farm: Strategies for Rural Place-Based Stewardship Education Through School-Farm Partnerships

Eileen Boekestein, Grand Valley Metropolitan Council

Foundational PBE | Classroom 2325

A rural place-based education case study highlights strategies for stimulating civic action that transforms communities through strategic partnerships. The “Seasons on the Farm” partnership between students, Plainsong Farm, watershed managers, and conservation districts is supporting the implementation of a \$2.8 million investment in agricultural best management practices in two watersheds. The project provides STEM-rich, place-based learning experiences for students that expose them to new careers and engage the community in the issues of agricultural conservation and food security.

UPRIVER: A Story Map Curriculum for Exploring Watershed Citizenship

Kathy Chambliss, NorthBay Education, Inc.

Ecological and Social Justice | Classroom 2331

The experiential and multidisciplinary UPRIVER Story Map curriculum for 6th through 12th graders invites students to explore what it means to be global water citizens. The stories feature restoration projects in Oregon’s Willamette River watershed and represent water issues people grapple with around the world. This session will first introduce the story map and select video stories, and then have participants complete their own Water Journey map. (A two-day UPRIVER workshop is required to acquire the full curriculum).

Integrating Michigan Geoheritage Sites with STEM Learning Experiences Through Virtual GeoInvestigations and EarthCaches: Examples from Michigan’s Western Upper Peninsula

Emily Gochis, MiSTEM Network/Lake Superior Stewardship Initiative | Lloyd Wescoat, Lake Superior Stewardship Initiative

STEM-Rich PBE | Classroom 2337

A thousand-year flood struck the Copper Country in 2018. A group of educators and scientists, equipped with a 360-degree camera, set out to explore the impact of this event. The mission was to develop an engaging learning experience that allows students to explore and address real-world problems alongside a geoscientist. Come learn about our journey to incorporate virtual reality and EarthCaches into teacher professional development. Gather ideas for developing a Geoheritage investigation! (If possible, bring a computer or handheld device.)

A Change Within: Disrupting Traditional Spaces in Teacher Preparation

Hanna Watters, Donacal Clemons, and Aisha Tahir, Eastern Michigan University

PBE in Higher Education | Classroom 2301

As current teacher candidates in Eastern Michigan University's NEXT place-based teacher preparation program, we share our personal journeys in the program, our visions for place-based teaching practice, and who we are as a community. Through this session, participants learn what a transformational place-based teacher preparation program looks like in practice, why this program feels different to prospective teachers, and why it's so important to set a foundation for place-based practice among undergraduate students.

Listening Is a Radical Act: The Power of Interviews and Site Visits to Connect Students to Place

Jen Plants, University of Wisconsin-Madison

Foundational PBE | Classroom 2307

Looking to theatre artists for ways of hearing and architects for ways of seeing, simple practices of observation can expand students' capacities for interdisciplinary learning, empathy, and active citizenship. Centering listening as the foundation of good storytelling, this discussion offers concrete resources for creating classroom assignments based on both interviews and analyzing the ways that space dictates movement. Learn to translate complicated theories into community practices and enrich teaching and learning no matter what the subject.

Empowering Students to Deliver the Message

Marti Martz, Pennsylvania Sea Grant | Erica Wisniewski, Erie School District

Great Lakes Literacy | Classroom 2315

In 2018-19, through field and lab activities, students from Collegiate Academy learned about several phenomena that affect Lake Erie, including harmful algal blooms, the International Coastal Cleanup, impacts of stormwater, and ticks as vectors of disease. Students were encouraged to identify and implement a stewardship project. They applied decals on 50 stormwater drains near their building, using this activity to inform and educate their peers, families, and community. We share their 15-minute video that documents this project.

School Adventures in Place-Based Sustainability

Emily Umbarger and Christina Barkel, Interlochen Center for the Arts

Institutionalizing PBE | Classroom 2317

Join us to learn about our three-year journey of establishing a place-based agricultural science and sustainability adventure at our school. We explore the nuances of securing grant funding, developing infrastructure, gaining community support, and bringing topics in sustainability to life. Become inspired and gain ideas for a place-based curriculum, sources of funding, and team-building strategies.

Exhibit Design: Students Practice Engineering Skills to Develop a 3D Model of a New Animal Exhibit

Megan Burkhart, John Ball Zoo

STEM-Rich PBE | Classroom 2319

Exhibit Design is an example of a place-based STEM program we use at John Ball Zoo. Students learn how the zoo chooses which animal species to have at the zoo, and how an engineering process leads us from an interesting idea to a full-blown exhibit. Students then use their new knowledge to design a 3D model of a new exhibit for the zoo. Learn how to bring engineering to life for your students!

Place-Based Education on a National Scale: Earth Force's Model of Partnerships

Grace Edinger, Earth Force

Foundational PBE | Classroom 2325

Using partnerships to create meaningful and impactful education programming, Earth Force has created a network spanning much of the United States and parts of Canada dedicated to civically infused place-based education. Rooted in local place, each program is specified to the needs of that community and the participating youth. By providing a tailorable framework that is youth-driven, Earth Force is inherently and authentically connected in the local community.

Climate Reality: We Must, We Can, and We Will Solve the Climate Crisis

Rachel Rosner, Climate Reality Project

Ecological and Social Justice | Classroom 2331

As leaders in raising the next generation of environmentalists, it is essential that we have a grasp on the foundations of current climate science, its impacts, solutions, and most importantly how to be part of the solution. The focus of this presentation, created by Al Gore and tailored for place-based educators, is “Must we change? (The hard part.) Can we change? (The hopeful part.) Will we change? (The call to action.) Attend — and then leave feeling empowered and ready to help others address the challenge of our time.

Finding a Place for Diverse Audiences Outdoors

Claire Lannoye-Hall and Zahraa Aljebori, Detroit Zoological Society

Ecological and Social Justice | Classroom 2337

The Detroit Zoological Society partners with the Arab Community Center for Economic and Social Services to bring place-based educational experiences to Arab-American students. Join us to explore the successes and opportunities of this program, in which students visited a lake for the first time, investigated macro-invertebrates, and built an appreciation for wildlife in urban areas.

Renewing MEECS: Using Existing Curriculum as a Cornerstone to Place-Based Learning (2-Hour Workshop)

Gabrielle Likavec, Michigan Geographic Alliance
STEM-Rich PBE | Boardrooms B & C

Join us in this hands-on workshop as we apply the three R's to the classic Michigan Environmental Education Curriculum Support units! Teachers from all states can learn how to reduce worksheets, reuse materials, and recycle the MEECS water quality kit into an engaging place-based learning unit that is aligned to the Next Generation Science Standards.

Watershed Engagement Through Live Action Role Play (2-Hour Workshop)

Ellen Schultz, Fairmount Water Works
Foundational PBE | Suites C-F

Environmental educators in Philadelphia and a team of game mechanic designers developed Schuylkill Saved, a fun and meaningful live-action role play game to engage teens in civic and community issues related to the watershed. In this 2-hour session, participants play different characters who are trying to avert an environmental catastrophe and can earn points for acting, listening, and compromising. We discuss how this Philadelphia-based scenario can be re-scripted for your community.

A Commitment to Sustainability: Project-Based Learning in Pre-Service Teacher Education

Suzanne Knight, University of Michigan-Flint | Maybritt Woodcock, University of Greifswald
PBE in Higher Education | Classroom 2301

In this presentation, faculty from Germany's University of Greifswald and the University of Michigan-Flint share their work in sustainability education within the context of teacher education. They describe how they prepared pre-service teachers to engage 5th grade and 9th grade students in project-based learning around issues of sustainability, and discuss how international partnerships around sustainability education provide powerful learning opportunities for faculty, teacher candidates, and students.

Building Citizenship Skills: Empowering Our Students Through Active Roles in the Community

Emily Gillain and Jessica Buckner, Teach with Science
Foundational PBE | Classroom 2307

Students appreciate the meaning and understanding of community on new levels as they grow and add experiences to their lives. Strong stewardship skills are developed throughout these years. Educators can meet students where they are on this journey and scaffold their efforts to engage others in community. From developing empathy for others to learning how to create a public service announcement, students of any age can build citizenship skills throughout the years with our help. Join us to learn more.

Using Classroom-Built Remotely Operated Vehicles to Explore the Underwater World of Shipwreck Histories

Mark Gleason, Grand Valley State University
Great Lakes Literacy | Classroom 2315

Shipwrecks can tell students a lot about local history and the way times were when they sailed. This presentation highlights how history can be made real for students by building a remotely operated vehicle (ROV) and using a shipwreck to examine a place's history. For example, the Lumberman (now a shipwreck), was built more than 150 years ago on what is now the campus of Grand Valley State University. Students explored the Lumberman using ROVs. This shipwreck, like others, can provide a unique way of connecting with and understanding local history.

Transforming School Culture: Optimizing Place-Based Learning with a Field Trip

Darrell Hendrickson and Kristin Svoke, Washington Middle School
Institutionalizing PBE | Classroom 2317

Join the Washington Middle School/Lake Superior Stewardship Initiative team as they describe how—over a 12-year period—a field trip led to place-based stewardship projects at Calumet Township Park that led to place-based education now being a key feature of instruction at this middle school. Teachers take you through the timeline for the evolution of place-based education, explaining how cross-curricular projects have become part of the school's culture.

Green Roof Design Challenge

Tara DenHerder, Traverse City Public Schools | Chelsea Nester, Grand Traverse Stewardship Initiative

STEM-Rich PBE | Classroom 2319

This session will highlight Traverse City West Middle School's 2018-19 Green Roof Design Challenge. We look at lesson planning and project design from the teacher's perspective, explore strategies to recruit the right community partners, and take a walk through the 8th grade students' experience.

Projects, Places, Students, and Standards

Gina Morris-Cicalo, Flint Community Schools

Foundational PBE | Classroom 2325

How do we combine standards, project learning, and place-based education to create meaningful academic experiences? Flint Southwestern Classical Academy's 9th grade students embarked on several place-based projects. They composed personal vignettes and digital stories that were played for the public at the University of Michigan-Flint's Kiva; studied claims and evidence through visits to local art galleries; and used speaking/listening skills, English Language Arts, and math to design a flexible seating classroom to be used for years to come.

Youth Out Front: Leveraging Community, Creativity, and Collaboration for Youth Activism and Political Engagement

Natasha Thomas-Jackson, Michigan Organization on Adolescent Sexual Health

Ecological and Social Justice | Classroom 2331

Many are familiar with longstanding narratives that characterize younger generations as politically apathetic and civically disengaged. What we tend to be less familiar with is the latest research that suggests that we are currently experiencing a powerful "wave" of youth activism—one that's deciding important elections, rewriting long-established policies, and creating critical shifts in today's political climate. Come explore data, review case studies, and learn creative best practices for recognizing and supporting youth as emerging thought leaders, cultural change agents, and engaged citizens who can make powerful contributions to our social and political landscape.

Transforming Community, One Lesson at a Time (2-Hour Workshop)

Lea Sevigny, Learning to Give

Foundational PBE | Classroom 2337

Service-learning is at the heart of place-based education. Participate in Learning to Give's activities and gain firsthand experience with lessons you can take back to your classroom. Gain confidence in implementing place-based projects that affect your community. Each lesson is aligned to state standards, can be developed into cross-curricular units, and enables educators to meet the guiding principles of place-based education. This provides a framework to empower students to implement their heartfelt ideas.

SESSION 10

Saturday

3:15 PM – 4:15 PM

Understanding the Flint River Through Citizen Science

Autumn Mitchell, Flint River Watershed Coalition

Foundational PBE | Classroom 2307

Explore how the Flint River Watershed Coalition and their partners engage community members in ongoing field studies that contribute to real and local decision-making. Learn how data is used to shift negative perceptions of the Flint River while also encouraging citizens to act in its interest. Discover the realities behind the story of the Flint River and discuss environmental and anthropogenic barriers that still exist within its watershed.

Plastic Pollution in the Great Lakes: Connecting Student Learning to Stewardship

Meaghan Gass, Michigan State University Extension | Sarah Waters, Thunder Bay National Marine Sanctuary

Great Lakes Literacy | Classroom 2315

Marine debris is any persistent, manufactured material that can end up – intentionally or unintentionally – in our rivers, lakes, or oceans. This session explores plastic pollution in the Great Lakes and opportunities to engage youth around this emerging issue. Learn about connected place-based education efforts and resources supported by the Center for Great Lakes Literacy and Great Lakes Sea Grant Network, the Great Lakes Stewardship Initiative, the Thunder Bay National Marine Sanctuary, and other partners.

River Rewilding: Engaging Students in Evaluating the Impacts of River Restoration on Ecosystems and Communities

Brenda Perry, Kent Innovation High | Eileen Boekestein, Grand Valley Metropolitan Council

STEM-Rich PBE | Classroom 2319

Engage students in the social, economic, historical, and biological impacts of humans on the Grand River through the lens of the Grand River revitalization effort. Presenters share how they developed and are implementing place-based lessons aligned with the Next Generation Science Standards, and specific lessons for middle school and high school students. These activities can be implemented alone or combined to create a unit. Many can be adapted to local watersheds.

Start with Why: Building Purpose-Driven Projects to Empower Your Students

Ben Talsma, Van Andel Institute

Foundational PBE | Classroom 2325

We all want to empower students to change the world. We want to show students how their voices matter and how they can be agents of change. But in a system that often rewards stasis, how can we take bold steps to revolutionize classrooms and connect students with their communities? Don't miss your chance to see a step-by-step process for developing projects you can use to help your classroom become a transformative place for your students and your community.

How to Help Young People Tell Other People They Are Full of Poop While Being Polite

Darren Bagley, Michigan State University Extension

Ecological and Social Justice | Classroom 2331

Young people have the power to change the world unlike anyone else. They have innovative ideas, exuberant energy, and are unencumbered by the cynicism that many adults possess. By combining science with civic engagement, young people can improve their community, their country, and their world. This session reviews some ideas, examples, and skills that can help young people find and use their voice.

PRESENTER BIOGRAPHIES

Zahraa Aljebori

Education Specialist, Detroit
Zoological Society
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Zahraa develops and leads educational experiences for youth of all ages at the Detroit Zoo. She also teaches off-site in various after-school settings.

Joanna Allerhand

Assistant Director, Groundswell/
Center for Educational Partnerships at
Grand Valley State University
allerhaj@gvsu.edu

Joanna holds master's degrees in environmental science and public affairs from Indiana University and a bachelor's degree from Northwestern University. She helps design teacher professional development, implement student-led environmental stewardship projects, build community partnerships, and manage communications for Groundswell, a regional hub of the Great Lakes Stewardship Initiative. She fell in love with the outdoors as a child while gathering geodes in the woods of southern Indiana.

Molly Ames Baker

Founder and Facilitator, TOPOnexus
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Molly inspires and supports students, teachers, administrators, and community partners to take the leap into "Learn Local" with her A2A: Awareness to Action approach. For 30 years, Baker has connected people to place with cutting-edge pedagogy and high-quality field experiences at Colgate University, Harbor Springs Public Schools, North Central Michigan College, and the Petoskey Regional Chamber of Commerce. Baker believes that developing a skill set, mindset, and heartset for place is essential to creating community wherever you are.

Logan Applebee

AmeriCorps Green School
Coordinator, EcoWorks Detroit–Youth
Energy Squad
logan@youthenergysquad.org

Logan is a compassionate environmentalist whose technical environmental knowledge and penchant for youth coaching help steer the application of NOAA's "climate resilience from the youth up" approach to the challenge of climate change in the Detroit Public Schools Community District. Logan is passionate about making technical expertise more accessible and using his planning background to help cities best serve their residents.

Nathan Ayers

Director, We Are The Forest
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Nathan is the founder of Chiwara Permaculture Research and Education, director of We Are The Forest, and advisor to the University of Michigan Permaculture Design Team. He has trained students and leaders across the United States in nature-based systems thinking by encouraging K–12 schools, universities, and businesses to integrate permaculture, biomimicry, ecosystem services, and green infrastructure.

Matt Bach

Communications Director, Michigan
Municipal League
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Matt worked as a reporter for several newspapers, including the Flint Journal, the Livingston County Press and the Daily News in Greenville, and as a public relations manager for the Flint Area Convention & Visitors Bureau. He joined the Michigan Municipal League in November of 2009. As communications director he makes Michigan's communities better

by developing programs, connecting ideas and people, providing members with resources and services, and inspiring positive change. He is a City of Flint resident, a 1991 graduate of Central Michigan University, and married with two children.

Darren Bagley

Educator, Michigan State University
Extension
bagleyda@msu.edu

In early 1999, Darren started working at MSU Extension. He has answered questions about cannibalistic squirrels, mountains of manure, and hand grenade disposal. Darren has put stinky lake mud on the faces of teenagers, tromped through swamps filled with carnivorous plants, eaten bugs, and told poop jokes to Michigan legislators. He helps with 4-H programs related to youth leadership, civic engagement, and science.

Caroline Baillie

Waste for Life and Professor,
University San Diego
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Caroline is Professor of Praxis in Engineering and Social Justice at the University of San Diego, cofounder of the not-for-profit Waste For Life (Wasteforlife.org) and the Engineering Social Justice and Peace network (esjp.org). Waste For Life's recent program, "Standing People Together" (<http://wasteforlife.org/spt/>) adapts forest school pedagogy in support of grassroots community action and outdoor STEM learning. A recent book is "Green Composites: Waste and nature-based materials for a sustainable future" (Woodhead, 2017).

Pam Baker

Founder, Journeous
pam@journeous.com

Pam is committed to creating connection and community at work. She founded Journeous after 20 years as a healthcare executive. Before Journeous, she was a principal with Charles River Associates. She started her career at Johnson & Johnson and then worked at Genentech. Pam holds a master's degree in business administration from Thunderbird and a bachelor's degree in political science and Asian studies from Northwestern University.

Christina Barkel

Garden Coordinator, Interlochen Center for the Arts
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Christina manages the botanical lab, garden, and orchard at Interlochen, and also helps teach the agricultural science class. Her background includes many years of organic vegetable farming for CSA and market, as well as working as an educator in school and community gardens across Michigan. Increasing food access and equity in the community is important to her. Christina loves growing and eating all vegetables, especially garlic, peas, carrots, and culinary herbs.

Renee Bayer

Associate Director for Engagement, CREATE for STEM Institute at Michigan State University
rbayer@msu.edu

Renee is the principal investigator of Health in Our Hands. Working with community-health-school partnerships, she combines public health and science education to address issues of health and educational equity.

Bizzy (Elizabeth) Berg

Aquatic Invasive Species Outreach Assistant, Illinois-Indiana Sea Grant/ Illinois Natural History Survey
emberg@illinois.edu

Since January, Bizzy has been working for the aquatic invasive species team of Illinois-Indiana Sea Grant and the Illinois Natural History Survey. She educates the public about how to reduce the spread of invasive species and protect local ecosystems. Bizzy is also a master's student in biology at Loyola University Chicago, where she studies how microplastics move in streams. She is interested in environmental policy, justice, and conservation.

Eileen Boekestein

Environmental Education Coordinator, Grand Valley Metropolitan Council
eileen.boekestein@gvmc.org

Eileen holds a bachelor's degree in environmental biology, a master's degree in environmental studies, and an environmental educator certification from the Michigan Alliance for Environmental and Outdoor Education. She brings experience in formal and informal place-based stewardship education to her work with the Lower Grand River Watershed Management Plan, the regional Public Education Plan for stormwater permits, and other K-12 and community education initiatives.

Rashell Bowerman

Education Consultant, Michigan Department of Education
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With an emphasis in the areas of instruction and intervention, Rashell's position allows her to support Michigan's school districts as they strive to improve outcomes for all students. She has taught at the university level and in the K-12 public education system.

Arleatha Bryant

Educational Consultant, ED-U-K Enterprises
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Arleatha is a passionate advocate for place-based stewardship education who has featured hands-on activities in her instruction for over 28 years. She holds a master's degree in curriculum and instruction and is a doctoral candidate in teacher leadership. She recently presented at the annual conference of the Michigan Alliance for Environmental and Outdoor Education.

Shannon Bucasas

Teacher, Wai'anae High School
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Shannon teaches Hawai'iian studies at Wai'anae High School, and a place-based approach to instruction comes naturally to her. Shannon's students make regular excursions into their own communities, and she is equally committed to connecting them to statewide political advocacy groups, thereby providing young people with opportunities to study issues at both the statewide and local levels.

Jessica Buckner

Educator, Teach with Science
Jessicapbuckner@gmail.com

Jessica was drawn to education after spending time in social work and realizing that at the core of many issues society faces, the answer is education. She is fueled by intentionally teaching critical skills, such as risk-taking, collaboration, and curiosity. She believes that place-based instruction can empower learners to take on the incredible challenges facing society. She also believes in the power of passionate educators, who always do what is right for students.

Megan Burkhardt

Lead Education Instructor,
John Ball Zoo
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Megan guides students, campers, scouts, and others on wildlife conservation adventures at the zoo. She is certified through the Michigan Department of Natural Resources to facilitate outdoor education seminars, and she has been a partner in creating a number of STEM-based programs now offered through John Ball Zoo.

Joan Chadde

Director, Center for Science & Environmental Outreach, Michigan Technological University
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As part of her work at the university, Joan has served as a member of the Lake Superior Stewardship Initiative's leadership team since 2008. She is lead author of the Michigan Environmental Education Curriculum Support Water Quality Unit for middle school and is currently coordinating a two-year project, "Creating Great Lakes Stewards to Promote Clean Water and Healthy Urban Watersheds in Detroit."

Kathy Chambliss

Teacher Professional Development Coordinator, NorthBay Education Inc.
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Kathy's formal education in science, education, sustainability, contemplative practices, and wilderness travel experiences inform and inspire her teachings.

Donacal Clemons

Student, Eastern Michigan University
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Leslie Cook

Senior Director, Teacher Learning Center at the Teton Science Schools
leslie.cook@tetonscience.org

Leslie's interests in science and getting kids outside led her to attend Wolf Ridge Environmental Learning Center's graduate program in

Finland, Minnesota. She completed her master's degree at Prescott College, focusing on understanding how educators connect students to place. Since arriving at Teton Science Schools, Leslie has facilitated trainings for in-service teachers, and worked with the graduate program that involves pre-service teachers.

Malcolm Cottle

Collections Technician, Ruth Mott Foundation
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Since 2016, Malcolm has overseen the curation and preservation of the artifact collection held by the foundation, and managed the public tours of Applewood Estate that are led by volunteer docents. He has a bachelor's degree in history from Alma College, a certificate in museum management and curatorship from Fleming College, and is currently working on a master's degree in public administration at the University of Michigan-Flint.

Julie Crick

Natural Resources Educator, Michigan State University Extension
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Julie works mainly in Roscommon County. She has experience in developing educational offerings for both youth and adult audiences, including the Vernal Pool Monitoring Program and the Eyes on the Forest Sentinel Tree Monitoring Program. She also promotes the Forest to Fish campaign, and enjoys helping people make connections between terrestrial and aquatic ecosystems.

Elizabeth P. Cunningham

Assistant Professor of Mathematics Education, University of Michigan-Flint
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Elizabeth is an assistant professor of mathematics education. Her interests include the use of learning progressions with teachers, formative assessment in elementary school mathematics classrooms, and how pre-service teachers learn to notice

children's developing understandings. She completed the Teton Science Schools graduate program in 2003.

Nic Custer

Program Assistant, University of Michigan-Flint
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As a graduate of the Innovation Incubator, Nic offers a unique perspective when he interviews clients for this program. Nic owned a publishing and editing business, established a housing cooperative, and serves on the board of a local non-profit. As a researcher and writer, he produces marketing and communications materials for University Outreach. He also provides business counseling and directs clients to resources and networking opportunities. Nic is finishing his master's degree in business administration at his home institution.

Tracy D'Augustino

Science Educator, Michigan State University Extension
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Tracy is a self-proclaimed science geek. Even better, she gets paid by Michigan State University to be a science geek and is an expert in engaging youth in science. She thinks that the most important part of teaching science is teaching about its process. Recognized in 2018 as the Michigan Science Teachers Association's Informal Educator of the Year, Tracy feels the best part of science involves asking and answering questions. When youth ask questions and are excited to find the answers, we all win!

Tara DenHerder

Science Teacher, Traverse City Public Schools
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Tara is an award-winning middle school science teacher who specializes in STEM-rich place-based education. She has participated in the Grand Traverse Stewardship Initiative for three years.

Abigail Diaz

Director of Education and Programs,
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Abigail has worked at 13 cultural institutions across four states. In addition to her work at the Wisconsin Maritime Museum, she also serves on the Board of Directors of the Museum Education Roundtable. You can find her at @AbsLovesMuseums.

Aviva Dorfman

Associate Professor, University of Michigan-Flint
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Aviva coordinates the university's offerings related to early childhood. She teaches courses on play, curriculum, assessment in early childhood, and mathematical thinking. Her research interests focus primarily on teachers of young children, in particular on professional development, performance assessment, documentation, and facilitating and extending children's play in classrooms.

Ryan Feldbrugge

Education Specialist, Lake Superior National Estuarine Research Reserve
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Over the last four years, Ryan has supported teachers in their efforts to take learning outside in the Lake Superior watershed. Using place-based and inquiry-based learning, he has put the Great Lakes Literacy Principles to work across the curriculum for 45 teachers and nearly 1,000 students.

Nicole Ferguson

Park Naturalist, For-Mar Nature Preserve and Arboretum
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In her position with Genesee County Parks and Recreation, Nicole has been a member of the For-Mar Nature Preserve and Arboretum team since 2012. She is responsible for the daily operations, property development and coordinating the development and offering of on-site educational programs. She prides herself on

building partnerships within her community in order to create unique educational experiences that bring people together in their parks.

Emily Finnell

Great Lakes Senior Advisor and Strategist, Michigan Department of Environment, Great Lakes, and Energy
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Emily Finnell is proud of the mission of the Department of Environment, Great Lakes, and Energy to protect Michigan's environment and public health by managing air, water, land, and energy resources. She works in the Office of the Great Lakes, which works to protect and restore Michigan's waters.

Laura Florence

Curriculum Coach, Southeast Michigan Stewardship Coalition
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Laura is a curriculum coach who focuses on Great Lakes and STEM education. She helps teachers expand their Great Lakes literacy and connect to community partners with expertise in Great Lakes science and education. Prior to joining the Coalition, she worked at the NOAA Great Lakes Environmental Research Lab and Michigan Sea Grant doing research, outreach, and education.

Luke Freeman

Science Teacher, Au Gres-Sims High School
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Luke earned a bachelor's degree in biology and a minor in chemistry at Emporia State University in Kansas and holds a master's degree in secondary teaching from Greenville University. He has studied endangered species in the mountains of Oregon, sportfish in land-locked lakes of Kansas, and water quality and aquatic communities in Illinois' lakes. Luke's research background helps him provide students with a portal into real-world science. He uses STEM-inspired lab activities, problem-based learning, and place-based

education to prepare students for our technology-driven society.

Jaime Frungillo

Grants Program Specialist,
National Oceanic and Atmospheric Administration
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Jaime works for NOAA's Bay Watershed Education and Training (B-WET) and Environmental Literacy programs. In this role, he supports the B-WET national evaluation and communication priorities, and helps to administer grant competitions. Previously, Jaime worked for the US Environmental Protection Agency on the Trash Free Waters and Ocean Dumping programs. Jaime has a master's degree in environmental management from Duke University and a bachelor's degree in marine science from Boston University.

Kay Fukuda

Specialist, University of Hawai'i
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Kay developed and directs two place-based education programs on the Wai'anae Coast of the island of O'ahu, Hawai'i: PALS (Place-Based Afterschool Literacy Support) and PLACES (Place-Based Learning and Community Engagement in School). The Wai'anae Coast is home to the largest concentration of Native Hawai'ians in the state. The PALS and PLACES programs focus on connecting students to culture, place, and community. Both feature strong collaborations with community organizations.

Erin Gallay

Research Specialist, University of Wisconsin-Madison
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Erin is a practitioner and researcher of environmental civic engagement and place-based stewardship education among youth. Her specific interests include young people's activism in "the environmental commons" and the development of interests in and dispositions toward STEM in under-represented populations.

Megan Garcia

Teacher, Wai'anae High School
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Megan teaches English at Wai'anae High School. She was introduced to place-based teaching and learning through a University of Hawai'i PLACES workshop. Prior to attempting to do place-based education during the regular instructional day, Ms. Garcia joined a place-based afterschool program. She wanted to feel more comfortable. Last school year, she began her journey to integrate "place" as part of her regular instruction.

Meaghan Gass

Sea Grant Extension Educator,
 Michigan State University Extension
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Meaghan serves coastal communities surrounding Saginaw Bay in Lake Huron, working to apply science-based knowledge to address local Great Lakes issues. Beginning in 2018, her Sea Grant Extension efforts involve biodiversity conservation, community resilience, sustainable coastal tourism, and Great Lakes education and stewardship. Meaghan serves on the Center for Great Lakes Literacy team and supports place-based stewardship education regionally in the Saginaw Bay watershed.

Emily Gillain

Educator, Teach with Science
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For the past six years, Emily has been searching for the meaning of quality education. She has found answers to this question within her community of hard working, devoted peers. Emily appreciates that education is a career that requires continuous research and reflection in order for teachers to grow and for students to thrive. Her goal is to make the best research-based practices in education available to her community so that all students can experience quality education.

Mark Gleason

Assistant Professor, Grand Valley State University
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Mark brings a wide range of work experience to his classes. His professional background includes being a National Park ranger, an Outward Bound instructor, and a tall ship sailor. He has worked in criminal justice and at two public museums, and has taught courses at six different institutions of higher education. He has offered or supervised classes in underwater robotics for over 40,000 K-12 students and continues to contribute to Alpena Community College's Marine Tech Program. Over the past 15 years, he has become an expert in the field of underwater robotics.

Emily Gochis

MiSTEM Network Region 16 Director/
 Program Director, Lake Superior Stewardship Initiative
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Emily serves Michigan's Western Upper Peninsula communities through her work with two regional centers, one affiliated with the MiSTEM Network and the other with the Great Lakes Stewardship Initiative. She has been in the education field for over 15 years, and is an experienced environmental educator, high school teacher, curriculum developer, and professional development coordinator. Emily is a doctoral candidate at Michigan Technological University, where her research interests include place-based professional learning experiences that improve literacy in earth science.

Terry Groves

Lecturer of Economics, University of Michigan-Flint
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Terry teaches in the Social Studies TCP program at the university. Terry was the K-8th grade social studies chair and taught 4th-8th grade social studies for the Grand

Blanc School District for 23 years. She holds a bachelor's in education from the University of Michigan-Flint, a master's degree from Marygrove College, and a degree in administration from Oakland University.

Neal Hegarty

Vice President of Programs, Charles Stewart Mott Foundation
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As vice president of programs, Neal oversees the design and implementation of the foundation's grant-making in four program areas. He has been an active and enthusiastic participant on many committees and boards, both in service to philanthropy as well as in Mott's hometown of Flint. Neal holds a bachelor's degree in political science from Texas Tech University and a master's degree in public policy and administration from Michigan State University. Before joining the foundation, he was assistant director of the Capital Area Literacy Coalition in Lansing, Michigan.

Terri Hallesy

Education Coordinator, Illinois-Indiana Sea Grant
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Terri leads efforts to improve Great Lakes education in the region. From her office at the University of Illinois Urbana-Champaign, she works with teachers and Sea Grant specialists to design classroom materials, curricula, and websites. In addition, she conducts educator workshops, presents at state and national conferences, and exhibits with partner organizations, including museums, zoos, and aquariums.

Noreen Heikes

Agrisciences and Science Teacher,
Kalamazoo Regional Educational
Service Agency/Vicksburg High
School
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Noreen is a practicing veterinarian who believes that true learning involves doing authentic tasks. She brings this outlook to her current position as a full-time teacher of career and technical education (agrisciences) and biology, framing content with real-world application. Heikes uses project-based, place-based educational opportunities as nearby as her school greenhouse and garden and as far away as South Africa to engage and inspire students. She won statewide awards for excellence in education in 2016 and 2019.

Darrell Hendrickson

Teacher, Washington Middle School
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Darrell Hendrickson is the 7th grade science teacher in Calumet, Michigan, and has been involved in the Lake Superior Stewardship Initiative as a team leader since its inception in 2007. In promoting place-based education, he has incorporated integrated ecological principles in all aspects of his science classes while linking students to the place in which they live. He and his wife enjoy camping, hiking, kayaking, and fishing.

Phyllis Higman

Senior Conservation Scientist/
Botanist, Michigan Natural Features
Inventory
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Since joining the Michigan Natural Features Inventory in 1993, Phyllis has conducted research, training, and education in conserving the biodiversity of Michigan's native plants and ecosystems, including vernal pools. Her seminal work on invasive phragmites resulted in a strategy of early detection and response, a framework and

field guides for managing invasive plants, a mobile app for mapping the occurrence of invasive plants, distribution maps, best treatment strategies, and many new partners statewide.

Kazuko Hiramatsu

Associate Professor of Linguistics,
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Kazuko co-teaches a community-focused, first-year experience course with partners from the Urban Renaissance Center and Joy Tabernacle in Flint. Her research on the scholarship of teaching and learning focuses on the use of signature assignments, service learning, and reflective practice. She helps edit the "Teaching Linguistics" section of the journal, *Language*.

Greg Hitzroth

Aquatic Invasive Species Outreach
Specialist, Illinois-Indiana Sea Grant/
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Greg has been in his current job since the summer of 2012. He works with the aquatic trade industry, hobbyists, scientists, and land managers to develop and disseminate educational materials that aim to prevent the spread of aquatic invasive species in our environment. Greg holds a master's degree in biology from Northern Arizona University.

Cindy Hunt

Chief Communications Officer,
Journeyous
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Creating long-lasting community requires people and partnership. After 30 years of service and partnership aimed at facilitating change through service to the Peace Corps, public and private education, facilitating statewide leadership training, and community volunteering and coaching, Cindy's biggest motivator is creating strong and empowered communities and

making a difference in all the lives she touches. She has a bachelor's degree in design and environmental analysis from Cornell University and a master's degree in curriculum and instruction.

Daria Hyde

Conservation Planner/Zoologist,
Michigan Natural Features Inventory
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Since 1994, Daria has conducted surveys for rare species and worked with partners to promote the protection of Michigan's natural resources. She provides technical support to governmental agencies, collaborates with the Mitchell's Satyr Working Group, and helps local communities understand and protect their natural assets. She helped to initiate the Vernal Pool Monitoring Program and supports citizen scientists, teachers, and students who collect data about Michigan's ecosystems.

Robb Johnston

West Michigan Regional Stewardship
Organizer, Michigan Nature
Association
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Robb oversees nature sanctuary stewardship activities in the western Lower Peninsula for the Michigan Nature Association, with a specific charge to connect Ludington-area schools to the Association's Holly Nature Sanctuary in Mason County. Previously, he worked in ecological restoration and volunteer outreach in both the public and private sector in Ann Arbor. He taught English classes for children and adults in Japan, and is an independently published author/illustrator of three children's picture books.

Christine Kenney

Associate Professor of Education,
University of Michigan-Flint
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Christine has been a member of the Education Department since 2012 and teaches classes in the

early childhood graduate and undergraduate programs and the master's in inclusion program. She holds a doctorate in educational studies from the University of Michigan. Her research interests include examining instructional strategies to foster motivation and studiousness in undergraduate and graduate students, and studying the development and function of learning communities in higher education teaching contexts.

John Kern

Director of Outreach and Community Engagement, The Mill at Vicksburg
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After living elsewhere for 25 years, John and his wife moved back to Michigan in September 2015 to be fully immersed in the rehabilitation of The Mill at Vicksburg. He has an extensive background across several disciplines — primarily education but also audio and video production, marketing promotions, and public speaking. Born and raised in Muskegon Heights, he holds degrees from Michigan State University and Augsburg College in Minneapolis, and has completed coursework toward a master's degree at the University of Washington.

Keem King

AmeriCorps Green Schools
Coordinator, EcoWorks Detroit–Youth Energy Squad
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Keem specializes in forging deep connection to the earth and land around him. He leverages his passion for the land, compassion for his community, and experience as a Detroitier to facilitate climate education that helps high schoolers in the Detroit Public Schools Community District lead their communities' efforts toward climate resilience. Keem grows food and medicinal herbs at the Redzone Garden on Detroit's East Side.

Barb Kinnunen-Skidmore

Retired JK/K Teacher, CLK (Calumet-Laurium-Keweenaw) Elementary/Lake Superior Stewardship Initiative
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Barb is a 2017 Michigan Alliance for Environmental and Outdoor Education award winner, a 10-year team leader for the Lake Superior Stewardship Initiative, and, after 32 years of service, a newly retired early childhood educator. She has specialized in weaving the goals of place-based education with her knowledge of best practices and adopted standards. A key to her effectiveness is the explicit emphasis on utilizing students' interests and voices in daily curriculum planning.

Suzanne Knight

Associate Professor, University of Michigan-Flint
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Suzanne is a former classroom practitioner. Her primary interests are teacher learning and pre-service teacher education. Her recent work has focused on developing a teacher preparation program that is grounded in the principles of place-based education. In 2018, Suzanne's home institution awarded her the Provost Teaching Innovation Prize.

Veronica Konglim

Doctoral Candidate, Eastern Michigan University
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Veronica is a doctoral student in educational studies with a concentration in urban education. She is a former Fulbright scholar from Cameroon. She holds a bachelor's degree in bilingual letters, French/English, translation and interpretation from the University of Yaoundé 1, and a master's in teaching English to speakers of other languages from Eastern Michigan University. Veronica is interested in the use of gardens as a teaching tool and as a space for school and community collaboration through the frameworks of place-based education, ecojustice education, and ecopedagogy.

Laurie Lane-Zucker

Founder and CEO, Impact Entrepreneur
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For nearly 30 years, Laurie has been a recognized leader in sustainability, environmental education, social enterprise, and impact investing. He was the founding executive director of the international environmental organization, The Orion Society, which publishes Orion, an acclaimed magazine on people, nature, and place. Laurie is involved as a leader in three organizations: Impact Entrepreneur, a global, 20,000-member network of entrepreneurs, investors, scholars, and students; a center for social and environmental innovation; and a consulting company that works with blended value companies, impact investors, and academic institutions.

Claire Lannoye-Hall

Curator of Education, Detroit Zoological Society
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Claire supports a team of professionals who create and offer engaging educational experiences for youth of all ages, teachers, and other professionals.

Yu Man Lee

Conservation Scientist/Herpetologist, Michigan Natural Features Inventory
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Yu Man conducts field research to assess the status of Michigan's native species and ecosystems, particularly rare amphibians and reptiles, and provides technical assistance and education that advances the conservation of biodiversity. She co-chairs the Michigan Vernal Pools Partnership and helps coordinate the Vernal Pool Patrol, a community-based science program in which participants help map and monitor these important wetlands.

Samantha Lichtenwald

Biological and Environmental Sciences Teacher, Bay-Arenac Community High School
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Samantha leads alternative high school students' explorations of science and nature, helping them appreciate that their actions both directly and indirectly impact our environment and themselves. The majority of her curriculum is centered around Michigan, the Great Lakes, and sustainability, with a focus on interdisciplinary pedagogy. Her students engage in place-based stewardship and project-based learning opportunities, working with local partners and organizations to evaluate and provide solutions to real-world issues.

Gabrielle Likavec

Co-Coordinator, Michigan Geographic Alliance
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A teacher and born-again environmentalist, Gabrielle serves as a teacher consultant and co-coordinator for the Michigan Geographic Alliance, a network of teachers and geographers who work together to educate K–12 students and teachers.

Timothy Lorek

Community Outreach Coordinator, Center for Latin American and Caribbean Studies at the University of Michigan
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Tim holds a doctorate in history from Yale University and has used place-based methods in his teaching at Yale, Brandeis University, and the University of Hartford. He is a scholar of Colombia, food and agriculture, and Latin American environmental history. At the University of Michigan, Tim is coordinating a K-12 teacher training symposium, "Environmental Justice from Flint to Cochabamba," scheduled for Spring 2020.

Ethan Lowenstein – Director, Southeast Michigan Stewardship Coalition and Professor of Curriculum and Instruction, Eastern Michigan University
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Ethan has two decades of experience in teacher professional development in moral, civic, and place-based education. In recognition of his work in teacher education and his community impact, he received the 2016 Michigan Campus Compact Champion of Engagement Award. He was also awarded the 2015-16 John W. Porter Distinguished Chair in Urban Education at Eastern Michigan University, a position designed to expand the university's role in urban school districts in Michigan, with an emphasis on school-community partnerships.

Tracey Marchyok

Lead Guide, Acton Academy Ann Arbor
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Tracey is a dynamic person with over 25 years of teaching experience in a variety of settings, including independent schools, home schools, public schools, unschooling, childbirth doula, and outdoor education. A leader in stewardship education and deep ecological learning, Tracey was named an "Outstanding Place-Based Educator and Leader" by the Southeast Michigan Stewardship Coalition. She has worked on research vessels on the Great Lakes and driven vans on cross-country learning trips. The Great Lakes basin is her home.

Lisa Marckini-Polk

Evaluator, Civic Research Services, Inc.
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Lisa earned a master's degree in political science from Wayne State University before entering the field of evaluation in 1999. She established Civic Research Services, Inc. in January 2004 and since then has

worked on numerous evaluations and program-development efforts with the environment as a common theme. She has consulted with the Great Lakes Stewardship Initiative since 2007 and maintains an active practice in STEM and environmental education evaluation.

Marti Martz

Senior Coastal Outreach Specialist, Pennsylvania Sea Grant
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Marti has developed and implemented award-winning outreach and education projects, both in her home state of Pennsylvania and across the Great Lakes basin. Through the Center for Great Lakes Literacy, she works with teachers and students to build their understanding of Great Lakes issues and help them turn that knowledge into action.

Matthew McCullough

Director of Curriculum, Instruction, and Professional Development, Kalamazoo Public Schools
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Matt is a state and national presenter in the areas of curriculum, assessment, and educational technology and has worked closely with both the US Department of Education and the Michigan Department of Education. Currently, he resides in Kalamazoo, where he supports regional and district-wide efforts to give students choice, voice, and ownership in their learning.

Sara McDonnell

Program Manager, University of Michigan-Flint
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Sara is a relationship builder who focuses on connecting university faculty and students to community needs. She also serves as a convener, facilitator, and technical advisor for nonprofits around environmental planning and public engagement.

Using her knowledge of local and regional environmental issues and governmental processes, Sara has cultivated a strong and diverse network of community members and leaders. She earned her bachelor's and master's degrees from the University of Michigan-Flint.

Laura McLeman

Associate Professor, University of Michigan-Flint
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Laura holds a doctorate in teaching and teacher education from the University of Arizona. Her areas of interest are secondary mathematics teacher preparation, teacher professional development, and mathematics education of underserved populations.

Amanda Milewski

Assistant Research Scientist, University of Michigan
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Prior to joining the University of Michigan faculty, Amanda worked as a secondary mathematics teacher and a mathematics consultant for 21 school districts. Her research focuses on how innovative professional development can help teachers to see and intervene in their own instructional practice, and how particular instructional approaches can make a difference for students' opportunities to learn mathematics.

Chris Miller

Economic Development Coordinator, City of Adrian
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Chris speaks across the nation on economic development strategies, including investment crowdfunding, public-private partnerships, and the community capital movement. He led the development of Michigan's investment crowdfunding law, working with advocates across the state and members of the Michigan Legislature.

Autumn Mitchell

Education Programs Manager, Flint River Watershed Coalition
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Autumn received her bachelor's degree in fisheries and wildlife from Michigan State University and has spent the last 12 years administering programming in experiential, outdoor education. Autumn has a strong passion for Michigan's cultural and natural history and loves to immerse herself in youth stewardship and related curriculum design.

Gina Morris-Cicalo

Teacher, Flint Community Schools
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Gina teaches ninth grade in the Flint Community Schools. During 2018-2019, she had the opportunity to learn about and use Compose Our World, a project-based curriculum that intertwines academic and character education. Gina and her students partnered with the University of Michigan-Flint and the Mott-Warsh Gallery to complete several place-based projects, including a flexible-seating classroom at the Flint Southwestern Classical Academy.

Paula Nas

Director, Office of University Outreach, and Lecturer of Economics, University of Michigan-Flint
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Paula holds several positions within her home institution and has been a lecturer of economics there for the past 25 years. She holds a master's degree in economics from Michigan State University and a juris doctoral degree from Wayne State University's Law School. Paula's primary academic fields of interest are law and economics, microeconomic theory, and social entrepreneurship.

Chelsea Nester

Program Director, Grand Traverse Stewardship Initiative/Inland Seas Education Association
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Chelsea, an outdoor educator by training and a community organizer by experience, loves being immersed in her community and making long-term connections for the greatest good for people and place. These loves make coordinating the Grand Traverse Stewardship Initiative a great job for her. She connects teachers with community resources and tools to implement student-led place-based projects across disciplines. When she's not diving deep into formal place-based stewardship education, Chelsea can be found in the Lake Leelanau watershed, following animal trails, smelling cottonwood buds, or cooking with her two sons.

Mary Ellen Newport

Director and Teacher, Interlochen Center for the Arts
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Mary Ellen has been teaching at Interlochen Arts Academy for nine years, and has taught science and cross-cultural studies at the secondary and collegiate level for 25 years. With a doctoral degree in evolutionary biology but no training in the arts, her work in STEAM education was a reach for her but her students have taught her everything she needs to know. As a long-time meditator, she is interested in the role of the imagination at the intersection of art and science.

Rebecca Nielsen

Education Specialist and Program Advisor, Southeast Michigan Stewardship Coalition
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Rebecca is an education specialist and program advisor at the Southeast Michigan Stewardship Coalition. She plans and facilitates professional learning and instructional support, and participates in strategic planning for the organization. She also serves on the Great Lakes Stewardship Initiative's evaluation team.

Ohmae Jun-ichi

Executive Director, ECOPLUS
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Ohmae Jun-ichi served as a newspaper reporter for more than 25 years. In 1995, he was tasked with launching the first-ever attempt to dispatch Japanese news and information from a web server located in the United States. His partner and his interest in the natural environment eventually led him to become involved in place-based education. As the executive director of ECOPLUS, he plays an important role in the organization's operation and also contributes his knowledge and skills to projects that involve internet technology.

Brenda Perry

Science Teacher, Kent Innovation High/Kent Intermediate School District
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Brenda is a biology facilitator at Kent Innovation High, a project-based learning lab school on the campus of the Kent Intermediate School District. She has a bachelor's degree in natural resources management, and a master's degree in educational studies. As a classroom teacher, she works with students to foster curiosity and a love of all things science. As a result, her students engage with scientific problems in their own communities and the world around them.

Jen Plants

Faculty Associate, University of Wisconsin-Madison
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Jen is a faculty associate at the University of Wisconsin-Madison, where she teaches playwriting, critical race theory, and community-based theatre-making. She is the Greater Midwest Regional Vice President for the Literary Managers and Dramaturgs of the Americas, and a founding artist of the London-based No Feedback, an immersive theatrical event that combines human rights research and physical theatre. Jen's

company, Third Ridge Theatre, is currently developing performance projects for private homes and third spaces.

Courtney Prout

Environmental Education Outreach Coordinator, For-Mar Nature Preserve and Arboretum
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Courtney has worked at For-Mar Nature Preserve and Arboretum for four years. Earlier work experience built her knowledge of early childhood education and latchkey programs. She also worked as an Explorer Guide with the Michigan Department of Natural Resources. Connecting people of all ages and stages to nature brings her "ultimate joy" and she seizes opportunities to do so whenever possible.

Ayesha Qazi

Teacher, Northside College Preparatory High School, Chicago Public Schools
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Ayesha is an Advanced Placement Environmental Science and Honors Biology teacher and a doctoral student in the Mathematics & Science Education program at the University of Illinois at Chicago. She is also an affiliate of the Field Museum of Natural History and currently collaborates with scientists at that institution, at the University of Florida, and at the University of California-Davis.

Betsy Quail

Conservation Educator, Evanston/Skokie School District 65
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Betsy has 15 years of experience facilitating urban conservation education throughout Chicagoland. She has led 1st–8th graders in habitat restoration, watershed studies, and numerous experiential learning activities aimed at providing them with a personal connection and deeper understanding of the local environment. Betsy understands

the importance of having a well-organized plan for executing successful field experiences and has trained teachers and volunteers on best practices for leading students into the field.

Jori Reigle

Lecturer, University of Michigan-Flint
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Jori teaches community health nursing at the University of Michigan-Flint and has established many collaborations with local community service organizations. Funding from the W.K. Kellogg Foundation has supported her recent, collaborative work with Joy Tabernacle and the Urban Renaissance Center. Her efforts, and those of her students, have helped develop the Civic Park Health and Wellness Program, which inspires "mindfulness, yoga, running, walking, and community health for all."

Bronwen Rice

B-WET National Coordinator, National Oceanic and Atmospheric Administration
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Bronwen coordinates NOAA's B-WET program, which awards grants on a competitive basis to fund meaningful watershed educational experiences in schools throughout the United States. Bronwen holds a master's degree in marine resource management from Oregon State University and bachelor's degree in biology from New College of Florida.

Jane Rice

Science Educator, Michigan State University
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Jane Rice has worked with over 1,000 pre-service and in-service teachers, focusing on the science knowledge needed to address human impacts on the environment. She integrates her background in human physiology with her current work in earth and environmental sciences through projects focused on

sustainable agricultural systems and school-based nutrition programs. In her presentation, Jane shows how her Know-Care-Do approach can transform knowledge and concern into place-based action.

Rachel Rosner

Teacher/Nature Educator/Climate Reality Leader for the Climate Reality Project
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Rachel has been connecting young people with nature in the Chicago area for over 30 years. As a classroom teacher, a program naturalist, and a leader in countless nature-based programs and organizations, Rachel has a "Head, Heart and Hands" approach. She understands that the natural extension of connecting young people with nature is empowering them to take care of the Earth. Knowing that children and nature have the most at stake in the face of climate change, Rachel trained as a Climate Reality Leader. She is eager to share her insights and call to action with fellow educators.

Sarah Rubenstein

Maritime Discovery Schools Project Director, Port Townsend Public Schools
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Sarah directs a collaborative effort between the Port Townsend Public Schools and the Northwest Maritime Center that is transforming PreK–12th grade public education through experiential and place-based education. Sarah has lead the school district through a five-year change process, during which all teachers implemented multiple place-based projects in all grades and subjects. She has a master's degree in biology, and has worked as a math and science teacher in Washington and California, a curriculum writer, and an instructional coach.

Renee Saba

Education and Events Coordinator, Ruth Mott Foundation
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Renee coordinates education and events for the foundation. Much of her work centers on Applewood, built in 1916 by C.S. Mott as a family home and gentleman's farm. Today, the estate is a vibrant community resource open to all from May to October. In addition to her work there, Renee has planned and offered educational programs and events in the Flint area. She earned a bachelor's degree in history from Kalamazoo College and a master's degree in history, with a focus on museum education, from the University of Colorado Denver.

Leyla Sanker

Program Manager, University of Michigan-Flint
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Leyla approaches her work from a sustainable community perspective and recognizes the importance of connecting people to the land, their communities, and each other. She uses her training and experience in public participation, community engagement, organizational capacity building, urban planning, and natural resources management to advance those efforts. She coordinates Discovering PLACE, the Flint-based hub of the Great Lakes Stewardship Initiative. Leyla has a master's degree in environmental management from Duke University and bachelor's degree from UM-Flint in resource planning and geographic information systems.

Grace Edinger

Senior Manager of Strategic Projects, Earth Force
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Grace's experience in leading outreach programs and conducting original research enables her to bring a suite of skills to program development. She holds a bachelor's

degree from Michigan State University and a master's degree in biology from the University of Alabama. At Earth Force, she promotes program content creation and education research.

Jenna Scheub

Science Teacher, Interlochen Arts Academy
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Jenna is an avid gardener and biology teacher at Interlochen Arts Academy. Before teaching, she collected data about forests for the National Park Service. She loves getting her students outdoors to collect and analyze real world data.

Megan Schrauben – Executive Director, State of Michigan MiSTEM Network
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Megan holds a bachelor's in physics and math education from the University of Michigan and a master's degree from Michigan Technological University. She held a variety of internships before focusing her work on K–12 education. She taught high school physics and math, directed a regional math and science center, and served as a consultant to the Michigan Department of Education. Megan provides staff support for the Governor's MiSTEM Advisory Council, serves on the board of the Council of State Science Supervisors, and is a member of the Governor's 21st Century Talent Creation Subcommittee.

Brandon Schroeder

Extension Educator, Michigan Sea Grant/Michigan State University Extension
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Brandon helps people in coastal communities in northeast Michigan use science-based knowledge to address local Great Lakes issues. His efforts involve fisheries science, biodiversity conservation, sustainable coastal tourism, and Great Lakes

education. Brandon is a team member of the national Sea Grant Education Network and the Center for Great Lakes Literacy and provides leadership for the 4-H Great Lakes and Natural Resources Camp and the Northeast Michigan Great Lakes Stewardship Initiative, a regional place-based education network.

Ellen Schultz

Associate Director for Education,
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Ellen is the Associate Director of Education for the Fairmount Water Works Interpretive Center, an outreach arm of the Philadelphia Water Department. Over the past decade, she has developed and implemented watershed education programs related to water quality, water systems, and watershed issues. She currently manages a curriculum project, "Understanding the Urban Watershed," that is being implemented in partnership with the School District of Philadelphia.

Meag Schwartz

Network Coordinator, Northeast Michigan Great Lakes Stewardship Initiative
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Meag facilitates school-community partnerships that engage students in place-based stewardship education. She also contributes to the Northeast Michigan Great Lakes Stewardship Initiative's mission of empowering youth to be valued partners in protecting the Great Lakes and natural resources through hands-on learning in and with their communities. She has a master's degree in environmental science from Indiana University and enjoys photography, hiking, homebrewing, and teaching yoga.

Kim Scribner

Professor, Michigan State University
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Kim is an evolutionary ecologist who specializes in aquatic species and habitats, mainly those associated

with the Great Lakes. He has studied lake sturgeon at the Black River research facility for the past 20 years. Research at this site has been used to develop virtual and place-based "citizen science" opportunities for K-12 students, educators, and the general public that are focused on this charismatic species.

Lea Sevigny – Teacher and Trainer,
Learning to Give
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Lea is a Learning to Give Ambassador Trainer and a middle school educator. She focuses her professional learning on place-based education, the watershed, and creating a culture of life-long stewardship and giving. At the heart of her course, "Natural Expressions," are unique experiences in the natural world and ways to give and serve in communities. Using Learning to Give's lessons, Lea helps her students make a positive impact.

Neha Shah

Teacher, Burns Park Elementary School, Ann Arbor Public Schools
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Neha is an elementary educator and has taught in the Ann Arbor Public Schools for 14 years. She loves teaching and has a deep passion for environmental education and advocacy. She believes that students have exceptional voices and she focuses on empowering them as solutionaries. Neha guides their learning by providing real, authentic experiences that integrate ecojustice, place-based, and community-centered education with the curriculum of a public school.

Paula Sizemore

Science Department Head/Science Teacher, Ypsilanti Community High School/AC Tech
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Paula supports administrators and leaders by facilitating and modeling best practice pedagogy and methodology for secondary science instruction. She facilitates monthly meetings to review student data

and works to align Next Generation Science Standards, the Michigan Merit Curriculum, and the district's academic expectations and goals. Paula fosters a collegial, professional science community that provides all students with rigorous and relevant science experiences that involve a variety of partnerships.

Sandy Smith

Teacher, Nichols School
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Over her 22-year tenure, Sandy has designed and implemented a 7th grade science curriculum that introduces principles of chemistry through the lens of water, environmental resources, the Great Lakes, and western New York. She has also created many innovative, interdisciplinary projects with her colleagues at Nichols School. In addition, she collaborates with many organizations on education, outreach, and professional development in the Great Lakes region. She has a bachelor's degree from Amherst College and a master's degree in environmental engineering science from the State University of New York at Buffalo.

Marly Spieser-Schneider

Farmer, Community Farm of Ann Arbor
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Marly is curious by nature and dedicated to equity and awareness. Food, creativity, and social justice are passions of hers. She is currently based at the Community Farm of Ann Arbor, where she works to grow food and ideas to evolve individual and communal health and consciousness. To her, creating connections and dedicating oneself to life-long growth is an integral part of revolution. She recommends you read a book, eat something fresh, and have a personal dance party to your favorite song.

Angela Stamps

Program Coordinator, Kentakee Athletic & Social Clubs
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Angela is a Detroit native who was raised in Flint. For 17 years, she worked in Los Angeles as a cosmetologist. While living there, she became a bike commuter and founded Kentakee Athletic & Social Clubs. She returned to Flint in 2010 to start athletic clubs for teens and educational programs for underserved youth. Since 2012, Angela has offered cycling programs in Flint and the surrounding areas. Her hobbies include biking, listening to music, reading, volunteering, and journaling.

Darin Stockdill

Design Coordinator, Center for Education Design, Evaluation, and Research (CEDER), School of Education at the University of Michigan
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Darin manages a range of projects related to teacher learning and curriculum design. Prior to this work, he was the content area literacy consultant at Oakland Schools, and before that spent 10 years as a secondary social studies teacher in Detroit. For his doctoral degree in education from the University of Michigan, he focused on disciplinary and adolescent literacy.

Julie Stoneman

Director of Outreach and Education, Michigan Nature Association
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Julie Stoneman honed her skills as an environmental educator and public speaker through leadership positions with several regional and statewide nonprofit organizations, including the Land Conservancy of West Michigan, Michigan Environmental Council, and Heart of the Lakes. In her current role at the Michigan Nature Association, a statewide land conservancy that protects habitat for the state's rare, threatened, and endangered species,

Julie is especially thrilled to direct programs that help inspire the next generation of conservationists.

Steve Styers

First Nations Educator
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Steve is an experienced educator, having taught at all levels from elementary to university. He has also served for 15 years as an elementary school principal. Steve has developed initiatives that incorporate the concepts of "Land as our first teacher" and "Animals and plants have a sense of self, family, community, and standards of behavior." Common elements of Indigenous and Western worldviews are used to underpin these efforts.

Emily Sunblade

Education Technician, Sleeping Bear Dunes National Lakeshore and National Park Service
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Emily spent 10 years in Montessori classrooms and with organizations focused on protecting the environment. More recently, she refreshed her snowshoeing skills by leading field trips at Mount Rainier and playing with preschoolers at the Grand Traverse Conservation District. In her current job at Sleeping Bear Dunes, she observes that staff are energized by programmatic additions that feature inquiry-based, problem-solving, data-driven decision-making, and practicing STEM skills through place-based education – and having fun in sand and snow!

Jennifer Suriano

Post-doctoral learner, University of Virginia
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After earning a master's degree in environmental education, Jennifer implemented place-based methods in her own high school English classroom. She continued to explore place-based education as a framework for high-quality writing

instruction and teacher preparation through her doctoral work at the University of Virginia. Her research describes how student-centered practices, supported by place-based opportunities, leverage purpose and authenticity in students' development of effective writing and communication.

Kristin Svoke

Teacher, Washington Middle School
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Kristin is a 7th grade language arts teacher in Calumet, Michigan. She has been involved with the Lake Superior Stewardship Initiative since its beginning in 2007, and has incorporated place-based education in her classroom through the lens of writing. Kristin also composes a monthly column for a local newspaper, and enjoys time in the outdoors with her husband and three daughters.

Aisha Tahir

Student, Eastern Michigan University
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Aisha is a senior at Eastern Michigan University. She hopes to be a teacher who caters to the needs of her students in a way that gets them excited about their themselves, learning, and life. She has had the pleasure of being in supportive spaces with individuals who strive to do the same. Aisha appreciates how much that has helped her grow as a person and future educator.

Takano Takako

Professor, Waseda University | ECOPLUS
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Takano Takako practiced place-based education for over 25 years before she knew the concept. She met the term while working on her doctorate in Alaska. Her charity, ECOPLUS, promotes place-based education through research and practice in Japanese communities. After her first career as a newspaper writer, she has

completed many expeditions and travels through natural environments in the Amazon, the Arctic, Micronesia, and other fascinating regions.

Clare Tallon Ruen

Pipes and Precipitation Educator, Evanston/Skokie School District 65
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Since 2009, Clare has worked in Evanston's public school district to get students out of their seats and connect them to the water cycle. "Pipes and Precipitation" works within and adapts existing science curricula to include field trips. Through her work on this project, Clare has learned about collaborations with teachers and administrators and the need to be adaptable through changes, particularly those related to the Next Generation Science Standards. What hasn't changed is the way that students light up when they are invited to wonder and explore, to propose ideas and advance their own thinking. This is what motivates Clare.

Ben Talsma

Learning Solutions Specialist, Van Andel Institute
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During 12 years in the classroom, Ben learned the power of project-based learning and place-based education. He started a STEAM program at his school to show his students that they are builders and makers and creators. Now, he is driven to share his passion for using education to make the world a better place. He works with teachers to help them integrate their content into powerful projects that have a real impact on their community.

June Teisan

STEM/STEAM Educator and Education Specialist, Michigan Teacher of the Year Network, and Belle Isle Aquarium
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June is a National Board-certified teacher who brought science to life for students on Detroit's northeast

border for 27 years. She now designs and delivers vibrant learning experiences for students and fellow teachers across the country. June served as Michigan Teacher of the Year and as an education specialist with NOAA in Washington, DC. She is passionately committed to expanding opportunities in the STEM fields for underrepresented and underserved students.

Kristin TePas

Outreach Specialist, Illinois-Indiana Sea Grant
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Kristin is a Sea Grant liaison in the US Environmental Protection Agency's Great Lakes National Program Office. She conducts workshops for educators, including "Shipboard Science," held annually on the R/V Lake Guardian. She also enjoys creating opportunities to connect scientists on the ship with educators and students through ship tours or video chats. She coordinates "Limno Loan," which provides professional water quality monitoring equipment to educators for use with their students.

Natasha Thomas-Jackson

Genesee County Coordinator, Michigan Organization on Adolescent Sexual Health
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Natasha is a writer, administrator, advocate, and performance artist. She co-founded and directed RAISE IT UP! Youth Arts & Awareness, an award-winning organization promoting youth engagement, expression, and empowerment through performance, literary art, and social activism. In 2018, she became Regional Organizing Director for NextGen Rising, the youth voter mobilization arm of NextGen America. In her current job, Natasha works with the Genesee Intermediate School District, Wellness Services, and others to improve sex education advisory boards and gender and sexuality alliances. She also facilitates the Michigan Youth Advisory Council

on HIV/AIDS, which recently hosted the first statewide Youth HIV Summit.

Karoline Thorbecke

Research Assistant, University of Greifswald
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Karoline is a former teacher of German and English in a comprehensive school in Hamburg. Her new position as a research assistant and doctoral student in Greifswald allows her to connect her fascination for language education with her concern for the environment and her passion for teaching. Karoline's research interests focus on project- and inquiry-based learning, place-based education, and genre learning in literacy education.

Emily Umbarger

Instructor of Sustainable Agricultural Science and Sustainability Manager, Interlochen Arts Academy
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Emily, a graduate of Michigan State University, has spent the past 20 years deeply invested in education. She started the Sustainability Department at her school and introduced agricultural science to the curriculum. She's been the primary investigator for several projects, has raised more than \$300,000 in grant funding to support place-based learning at Interlochen, and this year helped her school earn the US Department of Education's Green Ribbon Award. Emily is a certified Master Gardener and aquaponics instructor.

Jessica Vander Ark

Program Manager, Groundswell/Grand Valley State University
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Jessica earned her bachelor's degree in group science and geology (with elementary and 6th-8th grade science certification) at Grand Valley State University and has more than 15 years of experience as an educator, coach, and green team leader. Prior to joining Groundswell, a regional hub of the Great Lakes Stewardship

Initiative, she served as the director of environmental education at the West Michigan Environmental Action Council. Jessica lives with her husband and children in Spring Lake.

Jeff Vierra

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Emily Vogelgesang

Environmental Education Coordinator, Huron Pines
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Emily coordinates opportunities for people throughout northern Michigan to engage in the stewardship of natural resources. With a background in ecological engineering and a passion for empowering all generations to care for their local resources, she works to increase the understanding of how natural systems are interconnected and where humans can support those connections. Vogelgesang is a proud leadership partner for the Northeast Michigan Great Lakes Stewardship Initiative.

Sarah Waters

Education Coordinator, Thunder Bay National Marine Sanctuary
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Sarah Waters is a maritime archaeologist and the current education coordinator at NOAA's Thunder Bay National Marine Sanctuary. She's been with the marine sanctuary since 2008. She contributes to its mission of protecting the Great Lakes and their rich maritime history through research, education, and resource protection, with a goal of ensuring that future generations can enjoy these underwater resources.

Hanna Watters

Student, Eastern Michigan University
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Hanna's major includes the disciplines of secondary education

and integrated science. She is a place-based learner, a member of Eastern Michigan University's place-based learning community, and the president of Students for Place-based Education. In 2017-18, she received a Place-Based Education Fellowship from Youth Driven Space. Hannah believes that true growth happens in spaces that foster reciprocal learning between teachers and students and embolden a diversity of experience, thought, and being through community-building and that a teacher's success lies not only in mastery of material, but also in the capacity for care.

John Weiss

Director of Strategic Initiatives, Neutral Zone
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John has worked with diverse populations of youth and with youth programs and schools for over 25 years. He served as the executive director of Neutral Zone and currently serves as its director of strategic initiatives. John was a teacher in Ypsilanti and Willow Run Community Schools, directed the adolescent division of the HighScope Educational Research Foundation, and was a Peace Corps volunteer. John has lived in Ypsilanti with his family for the past 24 years.

Kate Welsh

Associate Professor, University of Wyoming
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Kate is a science educator with over 25 years of experience in both formal and informal education settings, 15 of them in Wyoming. Her primary research agenda and published work focuses on collaboration, equity, access, and social justice in education, with an emphasis on science education. During the 2018-19 academic year, Kate spent her sabbatical at the Teton Science Schools.

Lloyd Wescoat

Lake Superior Stewardship Initiative and Center for Science and Environmental Outreach, Michigan Technological University
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Lloyd mentors school-community teams and coordinates fundraising for the Lake Superior Stewardship Initiative. Since 2008, she has supported teachers, students, and community partners across the western Upper Peninsula as they implement place-based stewardship projects. Lloyd has a master's degree in elementary education and a background in service learning. She is also a program assistant and service learning coordinator at Michigan Technological University.

Annie Whitlock

Associate Professor of Elementary Education, University of Michigan-Flint
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In addition to teaching courses in elementary social studies methods and integrated curriculum, Annie is the coordinator of the elementary education program at her institution. Her research centers on teaching social studies through civic engagement, place-based inquiry, and the integration of language arts and literature. She previously served as the President of the Michigan Council for the Social Studies.

Mary Whitmore

Executive Director, Great Lakes Stewardship Initiative
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After eight years as a field-based research biologist in Australia, Mary served as resident ecologist and director of science education at the University of Michigan Biological Station. There she developed a program for international graduate students, residential institutes for K-12 science teachers, and a regional center for science, math, and environmental education. In 2007, Mary helped establish the Great Lakes Stewardship Initiative and since

then has worked in its service. She loves to be outdoors, teach people about birds, play music, and write. She and her border collies tend a flock of sheep.

Jennifer Wisdom

Family Physician
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Jennifer specializes in family medicine, with a focus on nature and nutrition's impact on health. In addition to her clinical work, she has 10 years' experience teaching patients and medical students. She is currently on sabbatical, traveling with her family and working on a book about nature's critical but overlooked role in health. Jennifer practices and applies evidence-based science and passionately advocates for a lifestyle approach to wellness.

Erica Wisniewski

Science Teacher, Erie School District
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Erica currently teaches advanced placement environmental science, honors chemistry, and honors freshwater and marine biology in Erie, Pennsylvania. She also advises the National Ocean Science Bowl Team and the Green Team. She is married with three young children.

Todd Womack

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Todd has been an instructor at the University of Michigan-Flint for six years. His professional experience covers over 25 years of micro- and macro-practice in social work. He has a bachelor's degree from St. Cloud State University and a master's degree from Clark Atlanta University. Todd has high expectations of students because his goal is to prepare social workers for a practice that brings only their best to the therapeutic relationship with families. It is always his hope that students'

experience at his home institution will clarify for them their call to the profession of social work. Todd is a husband and a father of three.

Maybritt Woodcock

Research Assistant and Doctoral Candidate, University of Greifswald
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Maybritt Woodcock is a lecturer of English didactics and linguistics and pursues her doctoral degree in English linguistics at the University of Greifswald, Germany. Her interest in English didactics lies in education for sustainable development and intercultural communication. In her doctoral studies, she focuses on victims of human trafficking and linguistic human rights from a sociolinguistic perspective. If she had the choice, she would type up her research work overlooking an Australian farm.



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