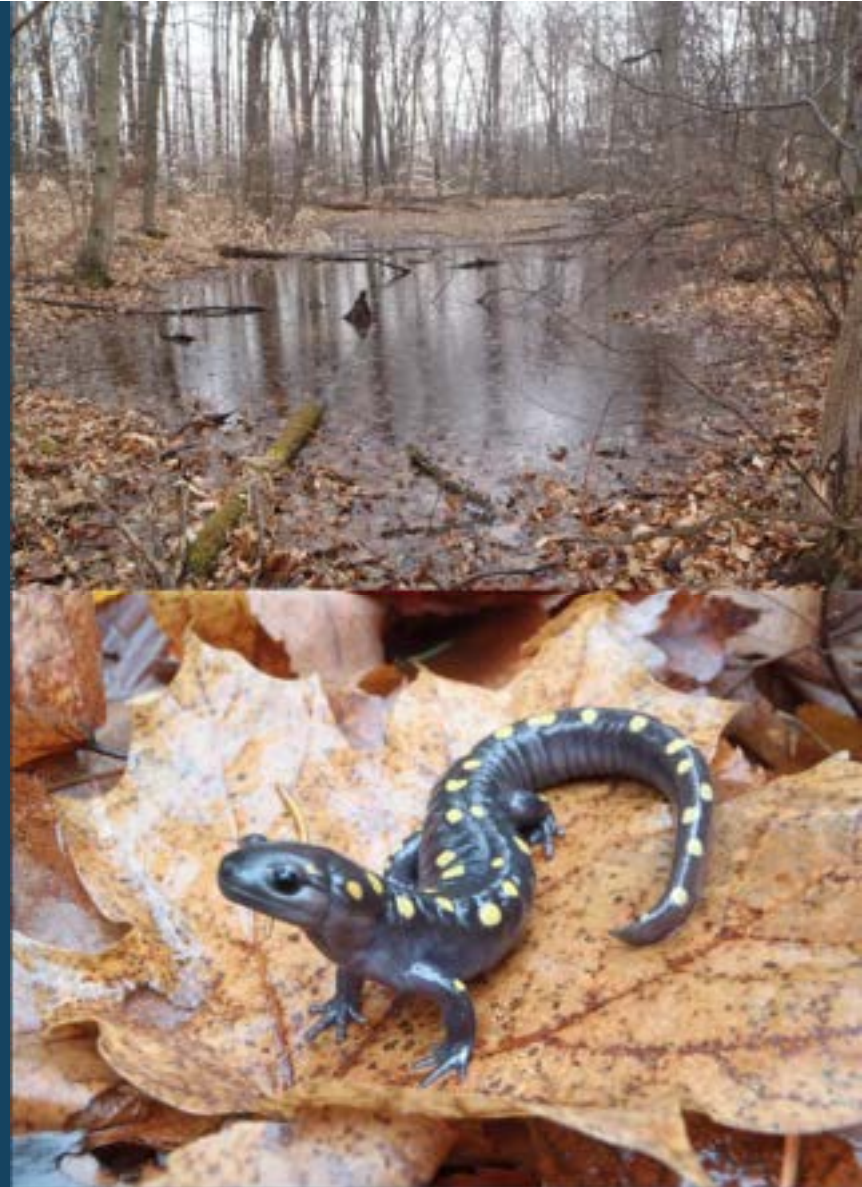


Advancing Vernal Pool Science and Conservation: Michigan's Vernal Pools Partnership



**Yu Man Lee, Conservation Scientist
Michigan Natural Features Inventory (MNFI)
Michigan State University Extension**

Michigan Wetlands Association
Wetland Conference
September 13, 2023



Vernal Pool

- Seasonally flooded
- Forests
- Small and shallow
- Isolated geographically
- Fishless
- Diverse & unique species



Vernal Pool Obligate / Indicator Species



Important habitat for
invertebrates and
amphibians

Important for Forest and Human Health

- Wildlife habitat
- Nutrient cycling
- Water storage
- Groundwater recharge
- Flood control



Spotted Turtle - T



Jim Martin, Wikimedia



Smallmouth Salamander - E



Blanding's Turtle - SC



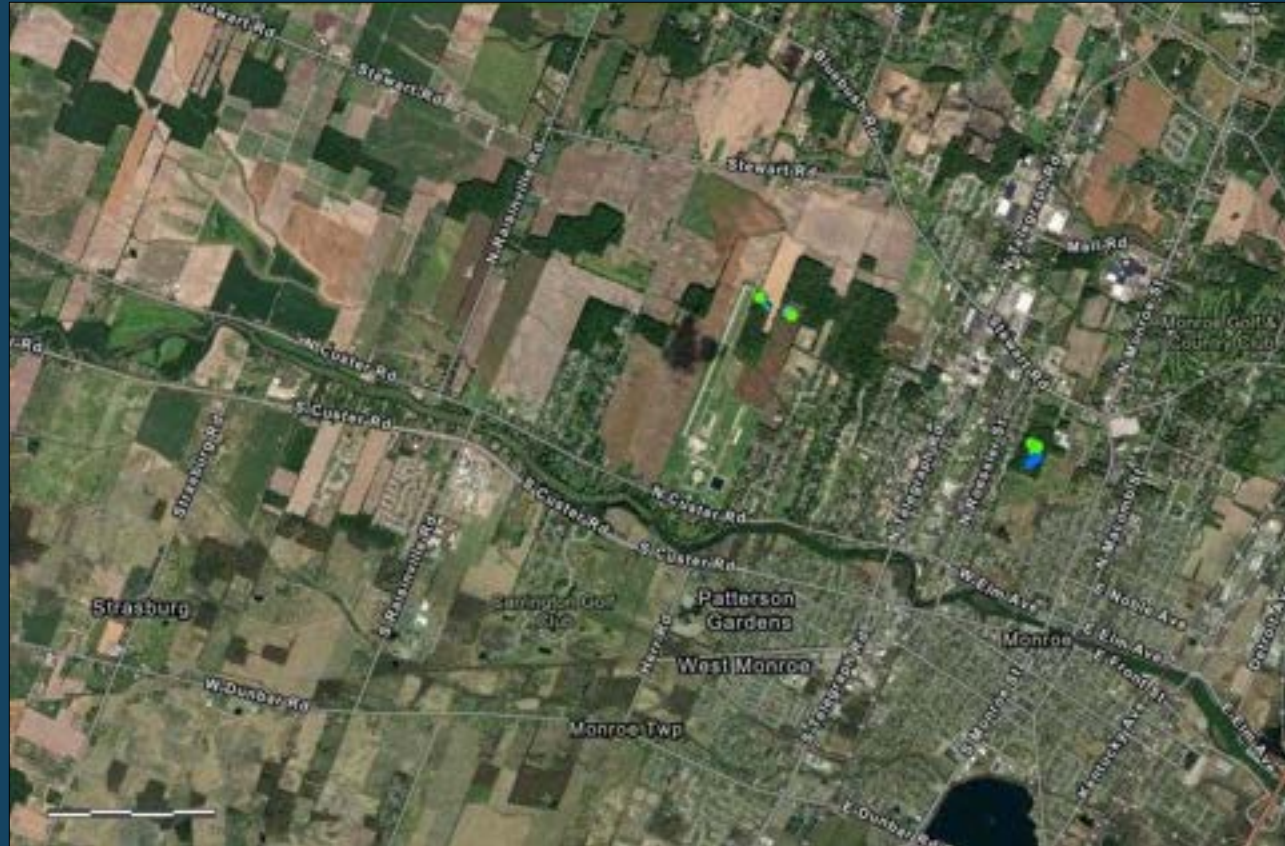
Vernal Pool Status



- **Limited awareness**
- **Limited information**
 - Can be hard to identify and map
 - Limited mapping and research
- **Limited protection**
 - Current regulated wetlands in MI
 - >5 acres in size
 - Connected to/within 1000' of Great Lakes and 500' of inland lake, pond, river, stream
 - Contains T & E species

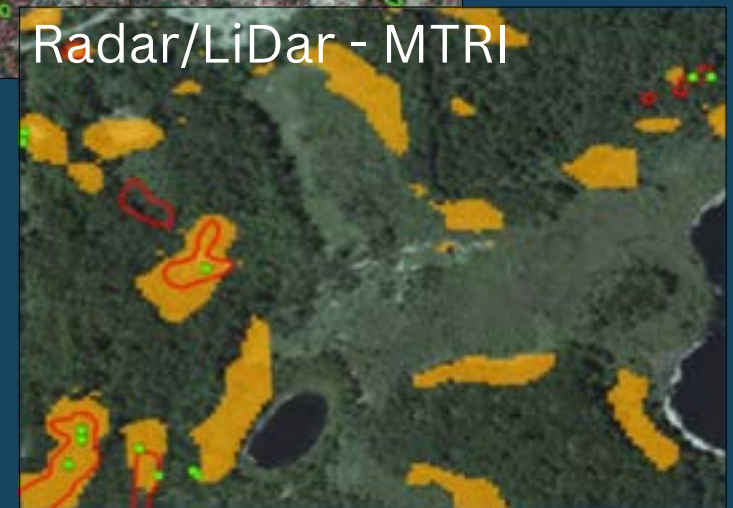
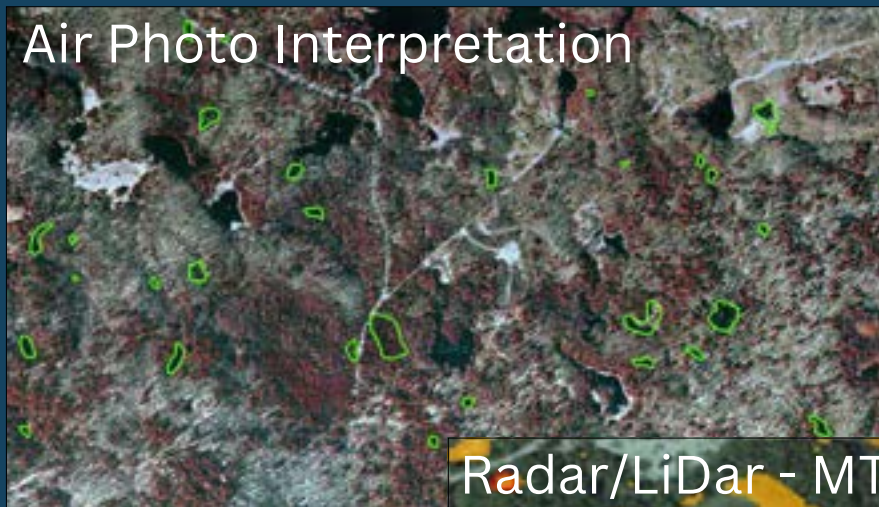
Vernal Pool Status & Threats

- Loss and degradation
 - Development
 - Conversion to permanent ponds
 - Timber harvesting
 - Pollution
 - Invasive species
 - Climate change



Vernal Pool Mapping & Monitoring

- **EPA / EGLE Project**
 - 2011-2014
 - Develop approach for identifying, mapping, and characterizing VPs
 - Michigan Vernal Pool Database
 - Project advisory group



Michigan Vernal Pools Partnership

Promote awareness and protection of vernal pools

- Conservation
- Research & Mapping
- Education & Outreach
- Collaboration & Coordination





Be curious.

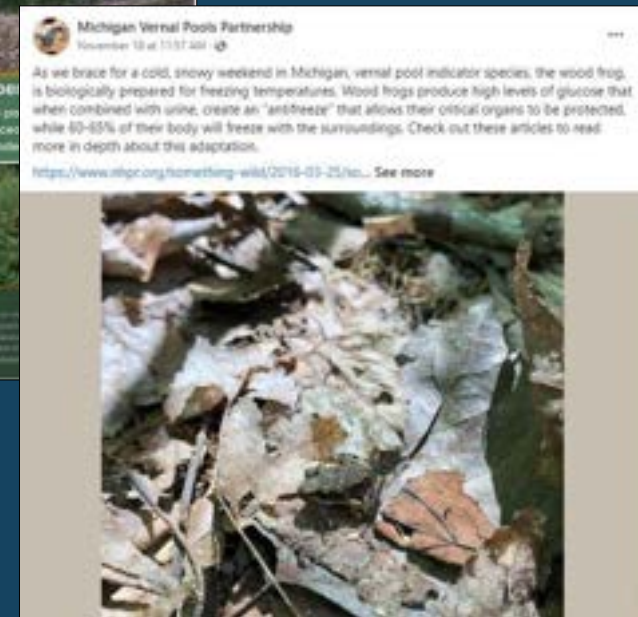


EDUCATION & OUTREACH - mivernalpools.com

The image shows a screenshot of the Michigan Vernal Pools Partnership website. At the top left is the logo, which features a circular emblem with a tree and water, followed by the text "Michigan Vernal Pools Partnership". A dark blue navigation bar contains the following links: Home, About Us, What Are Vernal Pools, Vernal Pool Patrol, Vernal Pool Database, Resources, News & Events, Photography, and Contact Us. Below the navigation bar is a large banner image of a person in a blue jacket looking into a vernal pool in a wooded area. The banner text reads: "LEARN MORE ABOUT VERNAL POOLS NEAR YOU!" and "Interested in learning more about the MVPP and vernal pools?". Below the banner are three white boxes, each with a green circular icon and a title: a tree icon for "CONSERVATION", binoculars for "RESEARCH & MAPPING", and a document for "EDUCATION & OUTREACH". Each box also includes a "More »" link.

EDUCATION & OUTREACH

- Social Media
 - Facebook – 2.1K followers
 - Instagram – 971 followers
 - Thank you, Autumn Baker and Abby Pointer!



EDUCATION & OUTREACH

- "The Pool Report"
 - Quarterly e-newsletter
 - 1K+ subscribers!
 - MVPP website



The screenshot displays the header of 'The Pool Report' e-newsletter. The top section features the Michigan Vernal Pools Partnership logo on the left, which includes a stylized salamander and a vernal pool scene. To the right of the logo is the text 'Michigan Vernal Pools Partnership'. Further right, the title 'THE POOL REPORT' is written in large, bold, white capital letters. Below the title, the text 'Date | Issue 6' is visible. The main content area has a white background with the heading 'eNews & Updates' in bold black text. Below this heading, it says 'Brought to you by [the Michigan Vernal Pools Partnership](#)'. The bottom section of the screenshot is a green-bordered box with a white background. It contains the text 'Save the Date!' at the top, followed by the Michigan Vernal Pools Partnership logo. Below the logo, it says 'Annual Meeting' and 'Join us via Zoom on **December 7th, 2022** 12:30-4:30'. To the right of this box, the text reads 'Join us for our Annual Meeting' followed by 'The Michigan Vernal Pools Partnership will be hosting its 5th Annual Meeting on **Wednesday, December 7th, 2022 from 12:30-4:30.**' and 'Hear from vernal pool experts, educators, and enthusiasts on a'.

EDUCATION & OUTREACH

- **Vernal Pool Video**
 - "Ephemeral" by Fauna Creative & MNA
 - 12K views since March 2022

<https://youtu.be/vdJDe3bA7j8>



EDUCATION & OUTREACH

- Promotional Materials & Resources
 - VP Patrol Rack Card for Educators
 - Brochure
 - Travel Display
 - Retractable Banner
 - Contact Abby Pointer (MNA) or Yu Man Lee (MNFI) for materials



Increasing awareness, understanding and protection of vernal pools through conservation, research & mapping, outreach & education, and collaboration

Get Involved!

Contact us at mvpp@michiganature.org or follow us @MIVernalPools





Michigan Vernal Pools Partnership

PRESENTER SPOTLIGHT

ANNUAL MEETING

"Mapping, Monitoring, and Managing Seasonal Ponds in Forested Landscapes"



Katy Hofmeister
Assistant Professor of Environmental Studies, University of Wisconsin-Oshkosh

Wednesday, December 7
12:30 PM ET
Registration link in caption



Michigan Vernal Pools Partnership

PRESENTER SPOTLIGHT

ANNUAL MEETING

"Mapping and Characterization of Vernal Pools in the Great Lakes Region"



Sam Kurkowski
Master's student at Michigan Tech

Wednesday, December 7
12:30 PM ET
Registration link in caption



Michigan Vernal Pools Partnership

PRESENTER SPOTLIGHT

ANNUAL MEETING

"Salamander Crossing Brigades & Big Night Detours: Lessons Learned from Grassroots Amphibian Conservation Efforts in New Hampshire"



Brett Amy Thelen
Science Director, Harris Center for Conservation Education

Wednesday, December 7
12:30 PM ET
Registration link in caption



Michigan Vernal Pools Partnership

PRESENTER SPOTLIGHT

ANNUAL MEETING

"Spatial Ecology and Habitat Selection of Spotted Turtles in Southwest Michigan"



Michela Coury
Conservation Biologist

Wednesday, December 7
12:30 PM ET
Registration link in caption

MVPP Annual Meetings

- Learn latest research
- Share experiences
- Inspire and facilitate collaboration
- Recognize partners and progress
- 2022 – 200+ participants from MI and 12 other states/provinces
- December 6, 2023

EDUCATION & OUTREACH / RESEARCH & MAPPING



[About](#) [Program Coordinators](#) [Training Workshops](#) [Training Resources](#) [MI Vernal Pool Database](#) [Submit Data](#) [Patrol FAQ](#)

Vernal Pool Patrol

Michigan's statewide vernal pool mapping and monitoring program



EDUCATION & OUTREACH / RESEARCH & MAPPING



- **Vernal Pool Patrol**
 - Virtual & Field Trainings
 - 2023 – virtual - 500+ participants from MI & 8 other states/provinces
 - Total – 2,000+ trained since 2012
 - 200+ volunteers, 500+ students, 16-23 local coordinators



Vernal Pool Patrol Training Workshops

Vernal Pool Patrol

- Physical, chemical, and biological characteristics
 - Vernal pool type
 - Indicator & other species
 - Dominant vegetation and structure
 - Pool size, water depth & temperature
 - Disturbances



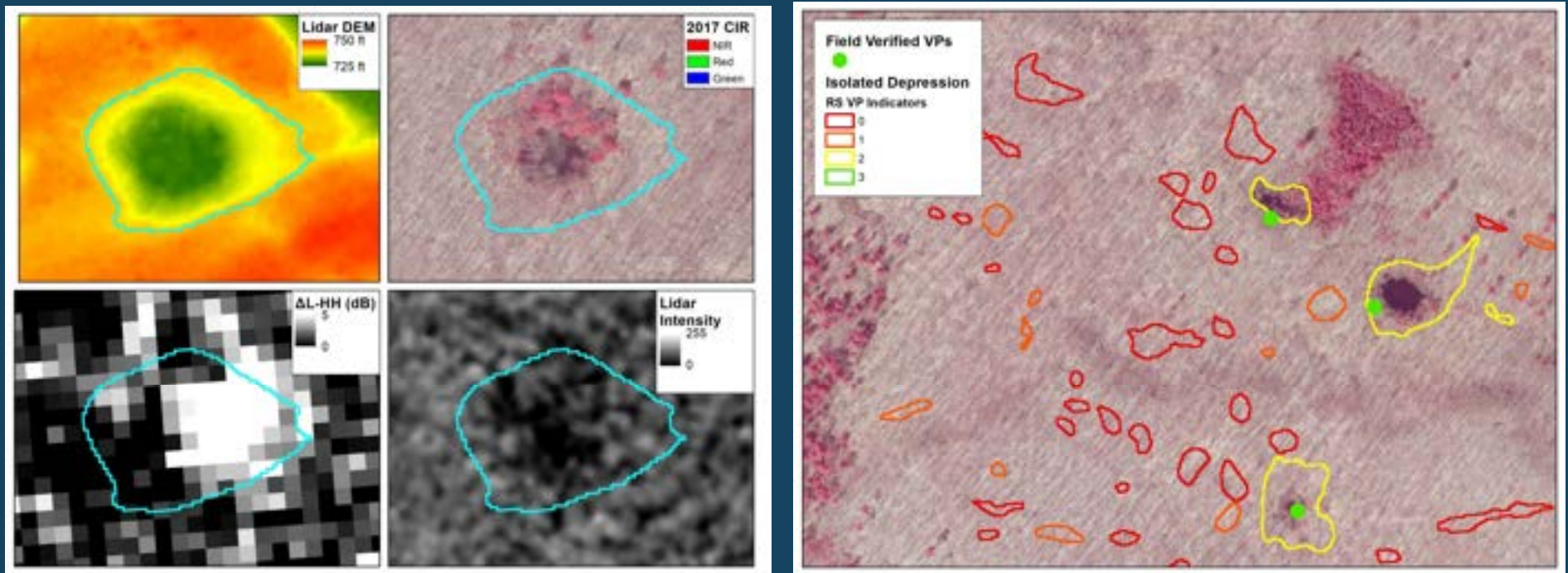


Michigan Vernal Pool Database

- 5,075 potential vernal pools
- Of the 776 verified vernal pools, 229 (30%) are noted to have indicator species.
- 2023 – 140 volunteers, 362 visits

RESEARCH AND MAPPING

VP Mapping using radar and lidar



MTRI - Pictured Rocks National Lakeshore - 76% accuracy rate

RESEARCH AND MAPPING

Criteria for identifying high quality vernal pools

- Presence and abundance of VP obligate/indicator species
- Kurkowski (MTU, 2023) –more likely in deciduous and/or open pools than coniferous pools in 5 national parks in the Great Lakes region



Autumn Baker

CONSERVATION



- Focus on how local governments can protect vernal pools
 - TSN / EGLE webinar
 - MVPP website
 - Work with watershed council, MSUE, and other local partners

CONSERVATION



- **Best Management Practices**
 - **Amphibian and Reptile BMPs 2nd Edition – HRM**
 - **Herp Habitat Assessment Tool (HHAT) - HRM**
 - **SOM Forest Management BMPs –potential for enhancing VP protection in future update**
- **Criteria for identifying high quality VPs**

IMPACT ON CONSERVATION

- **Individual Level**
 - 92% of VP Patrollers (n=61 respondents) intentionally shared information about vernal pools to increase conservation efforts, at home, at work, with students , or at community meetings.
 - 49% - participating in the Patrol motivated them to further get involved in local conservation efforts.
 - 27% have contributed their experience to aid in decision making or conservation efforts in their community.
- **Regional Level**
 - Model for other states – OH, NY, IN

Join the Michigan Vernal Pools Partnership!

- Check out mivernalpools.com
- Contact Abby Pointer with MNA, MVPP Coordinator, apointer@michigan-nature.org



Join the Michigan Vernal Pool Patrol!

Become a Vernal Pool Patrol Volunteer, Local Program Coordinator, or Partner! Contribute data!



<https://vernal-pool-patrol-mnfi.hub.arcgis.com/>

Thank You!



Michigan
Vernal Pools
Partnership

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mivernalpools.com