

Citizen-based Monitoring at the Wisconsin DNR

<http://wiatri.net/>

- WDNR coordinates or co-coordinates 24 citizen-based monitoring projects
- Citizen-based monitoring data from WDNR and external projects are used to inform management and conservation
- Wisconsin's Wildlife Action Plan (drafted) and Water Monitoring Strategy both describe the role of volunteer projects in generating monitoring data
- WDNR employs a full-time Citizen-based Monitoring Coordinator
- WDNR is a primary stakeholder of Wisconsin Citizen-based Monitoring Network, a loose collaboration of over 100 monitoring organizations and Nature centers, schools, and community groups play a key role in organizing local citizen-based monitoring

Since 2004, WDNR has provided \$100,000 annually in funding to citizen-based monitoring groups and projects across the state

Citizen Based Monitoring in WI

Tom Bernthal

WDNR citizen-based monitoring projects

Wisconsin Breeding Bird Atlas II

Wisconsin Bird Monitoring - Owls

Wisconsin Bird Monitoring - Marshbirds

Wisconsin Bird Monitoring - Nightjars

Gill Lice in Brook Trout

Invasive Earthworm Monitoring and Reporting

Invasive Plant Surveys, Reporting and Monitoring

Wetland Invasive Plant Monitoring

Dragonflies and Damselflies

Wisconsin Mussel Monitoring Program

Karner Blue Butterfly Recovery Project

Wisconsin's Freshwater Sponges Project

Wisconsin Bat Monitoring Program - Mobile Acoustic Surveys

Wisconsin Bat Monitoring Program - Roost Monitoring

Volunteer Carnivore Tracking

Operation Deer Watch

Deer Hunter Wildlife Survey

Snapshot Wisconsin

Wisconsin Rare Plant Monitoring Program

Wisconsin Frog and Toad Survey

Wisconsin Turtle Conservation Program

Citizen Lake Monitoring Network (water quality and AIS)

Water Action Volunteers - Stream Monitoring (water quality and AIS)

Clean Boats, Clean Waters



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WISCONSIN EPHEMERAL PONDS PROJECT – CITIZEN MONITORING NETWORK

Eyes on the Water

Wisconsin Ephemeral Ponds
Project: Citizen Monitoring Network





WEPP Goals – Building a Foundation

- ❖ Map ephemeral ponds
 - Focus in SE Wisconsin
- ❖ **Study ephemeral ponds**
 - Aid classification and management
- ❖ Educate the public
 - Citizen Monitoring Network





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Wisconsin Ephemeral Ponds Project Citizen Monitoring Network



Connecting People to Wetlands



What is an 'Ephemeral Pond?'





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WISCONSIN EPHEMERAL PONDS PROJECT – CITIZEN MONITORING NETWORK

Fun in the Muck!



Look! I'm dogpaddling!!



2009 Monitoring Form



WISCONSIN EPHEMERAL PONDS PROJECT

EPHEMERAL POND DATA FORM - 2008 Page 1



Partner Name: _____ Date: _____ Time: Start _____ End _____ am / pm

A. Basin Location Station ID: _____ PEP ID: _____ PLSS: Twp ___ N Range ___ E/W Sec ___ 1/4 ___ 1/4 County: _____ Local Name: _____ Written directions to pond: _____ GPS Coord: _____ LAT _____ LON (00.00000) (Deg-Min-Sec) Reported GPS Error: _____ m (noted in GPS window) GPS Coordinate System: <input type="checkbox"/> WGS84 <input type="checkbox"/> NAD83 <input type="checkbox"/> WTM83/91 Property Ownership: Public Private Unknown YOU MUST FIRST HAVE LANDOWNER PERMISSION PRIOR TO CONDUCTING ANY SURVEYS ON PRIVATE LANDS		B. Observer Contact WAMS ID: _____ Name: _____ (Print) Address: _____ City: _____ State: _____ Zip: _____ Phone/Email: _____ Co-observer(s): _____ Have you completed forms for this site previously? Yes <input type="checkbox"/> No <input type="checkbox"/>																					
D. Basin Physical and Hydrologic Status Weather Conditions: (see codes on instruction sheet or in methods) WIND: _____ SKY: _____ AIR TEMP: _____ C / F Weather Comment: _____ Basin Isolated: Y / N / ? TYPE: STREAM / DITCH / CULVERT / WOODED SWAMP / OPEN MARSH / SPRING / LAKESHORE Are there other ponds in the area within view from this pond?: Y / N / ? CONNECTED / NOT CONNECTED Hydroperiod History: dry by late spring <input type="checkbox"/> dry by late summer <input type="checkbox"/> dry by late fall <input type="checkbox"/> doesn't dry annually <input type="checkbox"/> Not Sure <input type="checkbox"/>		C. Land Owner Contact (if private land) Name: _____ (Print) Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Landowner grants permission for volunteer to access site: Yes <input type="checkbox"/>																					
SW % cover: 0 / 1-5 / 6-25 / 26-50 / 51-75 / 76-100 / ? SW in contiguous pool?: Y / No, 2 or more separate pools Water Depth: _____ in / cm meas. <input type="checkbox"/> est. <input type="checkbox"/> High Water Mark: _____ in / cm meas. <input type="checkbox"/> est. <input type="checkbox"/>		% Canopy Cover: 0 / 1-5 / 6-25 / 26-50 / 51-75 / 76-100 / ? Trees in basin: Y / N / ? Dom. Sp.: _____ Edge defined: Y / Y-partial / No / ? Basin size: L _____ ft/m W _____ ft/m Circ: _____ ft/m T / P																					
Water Temp: surface _____ C / F bottom _____ C / F Water pH: _____ DO: _____ % / mg/L Cond: _____ uS/cm Water color: clear / cloudy / dark / green tint / brown tint / ? SHOULD THIS SITE BE CONSIDERED A VEP?: Y / N / NOT SURE comment: _____		Substrate Moist: Ponded <input type="checkbox"/> Saturated <input type="checkbox"/> moist <input type="checkbox"/> dry <input type="checkbox"/> Substrate Cover Type: tree leaf <input type="checkbox"/> herb <input type="checkbox"/> mix <input type="checkbox"/> bare <input type="checkbox"/> Substrate: MINERAL / ORG MUCK / ORG PEAT / SAND / GRAVEL / ?																					
E. Basin Sketch (shape, landuse, photo point, hydrology, eggmasses)		F. Adjacent Landuse																					
TAKE PHOTO IF POSSIBLE. PHOTO ID: _____ (e.g. Initials+Camera/Photo) Basin shape: round / oval / egg-shaped / oblong / irregular / ? Prox. to nearest road: < 30m / 30 - 100m / 100 - 300m / > 300m / ? Road type: 2-lane paved / 2-lane other / driveway / field / ATV / ?		<table border="1"> <thead> <tr> <th>TYPE</th> <th>CHECK (within 30 m of edge)</th> </tr> </thead> <tbody> <tr> <td>1. Developed:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (urban, park, sidewalk)</td> </tr> <tr> <td>2. Ag Cropland:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (corn, soybean, hay, etc.)</td> </tr> <tr> <td>3. Ag Pasture:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (active grazing land)</td> </tr> <tr> <td>4. Forested Upland:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (non-wetland landscape)</td> </tr> <tr> <td>5. Shrub Upland:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (non-wetland landscape)</td> </tr> <tr> <td>6. Upland Grassland:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (non-wetland, open areas)</td> </tr> <tr> <td>7. Forested Wetland:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (wooded wetland areas)</td> </tr> <tr> <td>8. Open Marsh:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (open perennial wetlands)</td> </tr> <tr> <td>9. Roads/RR's:</td> <td>yes <input type="checkbox"/> no <input type="checkbox"/> (for motorized travel)</td> </tr> </tbody> </table>		TYPE	CHECK (within 30 m of edge)	1. Developed:	yes <input type="checkbox"/> no <input type="checkbox"/> (urban, park, sidewalk)	2. Ag Cropland:	yes <input type="checkbox"/> no <input type="checkbox"/> (corn, soybean, hay, etc.)	3. Ag Pasture:	yes <input type="checkbox"/> no <input type="checkbox"/> (active grazing land)	4. Forested Upland:	yes <input type="checkbox"/> no <input type="checkbox"/> (non-wetland landscape)	5. Shrub Upland:	yes <input type="checkbox"/> no <input type="checkbox"/> (non-wetland landscape)	6. Upland Grassland:	yes <input type="checkbox"/> no <input type="checkbox"/> (non-wetland, open areas)	7. Forested Wetland:	yes <input type="checkbox"/> no <input type="checkbox"/> (wooded wetland areas)	8. Open Marsh:	yes <input type="checkbox"/> no <input type="checkbox"/> (open perennial wetlands)	9. Roads/RR's:	yes <input type="checkbox"/> no <input type="checkbox"/> (for motorized travel)
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G. Basin Disturbance: (? = not sure)		Cultivation: Y / N / ? Erosion: Y / N / ? Livestock: Y / N / ? Nutrients: Y / N / ? Rutting: Y / N / ? Sediments: Y / N / ? Draining: Y / N / ? Refuse: Y / N / ? Filling: Y / N / ? Inv. Plants: Y / N / ? comment: _____																					



WISCONSIN EPHEMERAL PONDS PROJECT



I. HOW TO COMPLETE YOUR WEPP DATA FORM (Use a separate field data sheet for each visit.)

A. Observer information:

Record your data using a number 2 lead pencil, it doesn't run when wet and is easy to read when photo copied. Write the names of the people conducting the survey and the name of your local Partner organization. Be sure to include the date and time of your survey! **Fill out the form based on present observations.** You do not have to guess about past or future conditions. Fill out a separate sheet for each visit. We will use the total information from all your visits to make a status determination.

B. Location

Record the Potential Ephemeral Pond (PEP) ID noted on the map supplied by DNR. On your first site visit, complete all location information (i.e., County, and T, R, S, 1/4 S & 1/4 S). The Township, Range and Section will be printed on your map. On subsequent visits only enter the PEP ID. GPS coordinates are not required for mapped PEPs. **For newly observed ponds that are not mapped as PEPs, record GPS coordinates and include a map with the location.** Latitude and longitude in decimal degrees to 7 places after the decimal point is preferred. If your GPS reads out degrees-decimal minutes, make sure that is noted. For decimal minutes at least 3 places after the decimal point is preferred.

C. Property Information

Write down the name of the landowner for your site. You **MUST** obtain permission to enter any property PRIOR to conducting a survey. Permission is also required to cross private lands to gain access to a public site. On public lands contact the land manager.

D. Historic Hydroperiod Data

This is not likely to be used by citizens, however if you are very familiar with the pond, do you know when it typically goes dry? Are other data available describing when the pond has gone dry in previous years? Include the source for your information and the time period for the historic data.

E. Basin Physical and Hydrologic Data

1. **Pond Basin occurrence:** Is there evidence that a basin exists at this site? Typically the basin is most full early in spring. The edge of the ponded water is likely to be the same as, or very close to, the basin edge. **If no, then describe the feature and take a photo to submit with your data sheet. You are now finished at this site. Read section III. below "What to do with your WEPP Data" and proceed as described.**

2. **Basin Connection:** Walk the entire perimeter of the pond basin to determine where the basin edge is in relation to other surface water features, such as stream inlets or outlets or a larger waterbody such as an open marsh. If you circle "yes", also circle the type of waterbody the pond basin is connected to.

3. **Basin Dimensions:** You need only do this once. It can be early when the basin is full of ponded water by pacing parallel to the water's edge or it can be done after the pond has gone dry or is mostly dry. This is expected to be an estimate, not an exact measurement. Use your pacing skills to approximate length and width of the basin. Indicate the units used (m or ft). If the pond is an irregular shape, you may sketch it on the back of the form and show the approximate dimensions.

4. **Water in the Basin:** If you circle "yes", measure water depth in the deepest area (indicate units). Do not "push" the ruler down into the substrate; instead hold it so that it rests gently on the surface of the substrate. **Surface Water % Cover:** If there is hardly any water left, check <10%. If there is some water but lots of the basin exposed, check 10 to 50%. If mostly water, check >50%.

Water Temperature: Collect water temperature at deepest point. Avoid disturbing the water and ground. Allow thermometer to stabilize for a minimum of 1 minute. Indicate units (C or F).

Substrate Moisture: Select "saturated" if water pools around your boot when pressing down, "moist" if the substrate is wet but does not pool around boot, and "dry" if the material feels dry to the touch.

5. **Evidence of deeper water earlier:** If yes, estimate maximum water depth and evidence used (e.g., water marks on trees, bare soil at basin edge, debris hanging on vegetation on basin edges, other). See diagram on back page for measuring maximum water depth.

(Continued on Back)

A map of Minnesota with county boundaries. The map is color-coded: green for the western part, orange for the central part, and blue for the eastern part. Small yellow and white dots representing PEPs are scattered across the blue area, with a higher density in the eastern half of the state.

2006-09 Results

8296 PEPs mapped

- 753 monitored total (9.1%)

594 by DNR + counties + TNC over 4 years (most in first two years)

159 by CMN volunteers over 2 years
2008 – 43; 2009 – 116



2006-09 Results

138 Not sure; 615 determined

- 104 Professional Not Sure - 21%
- 34 Volunteer Not Sure – 18%

Of the 615 Determined PEPs

74% verified ephemeral ponds

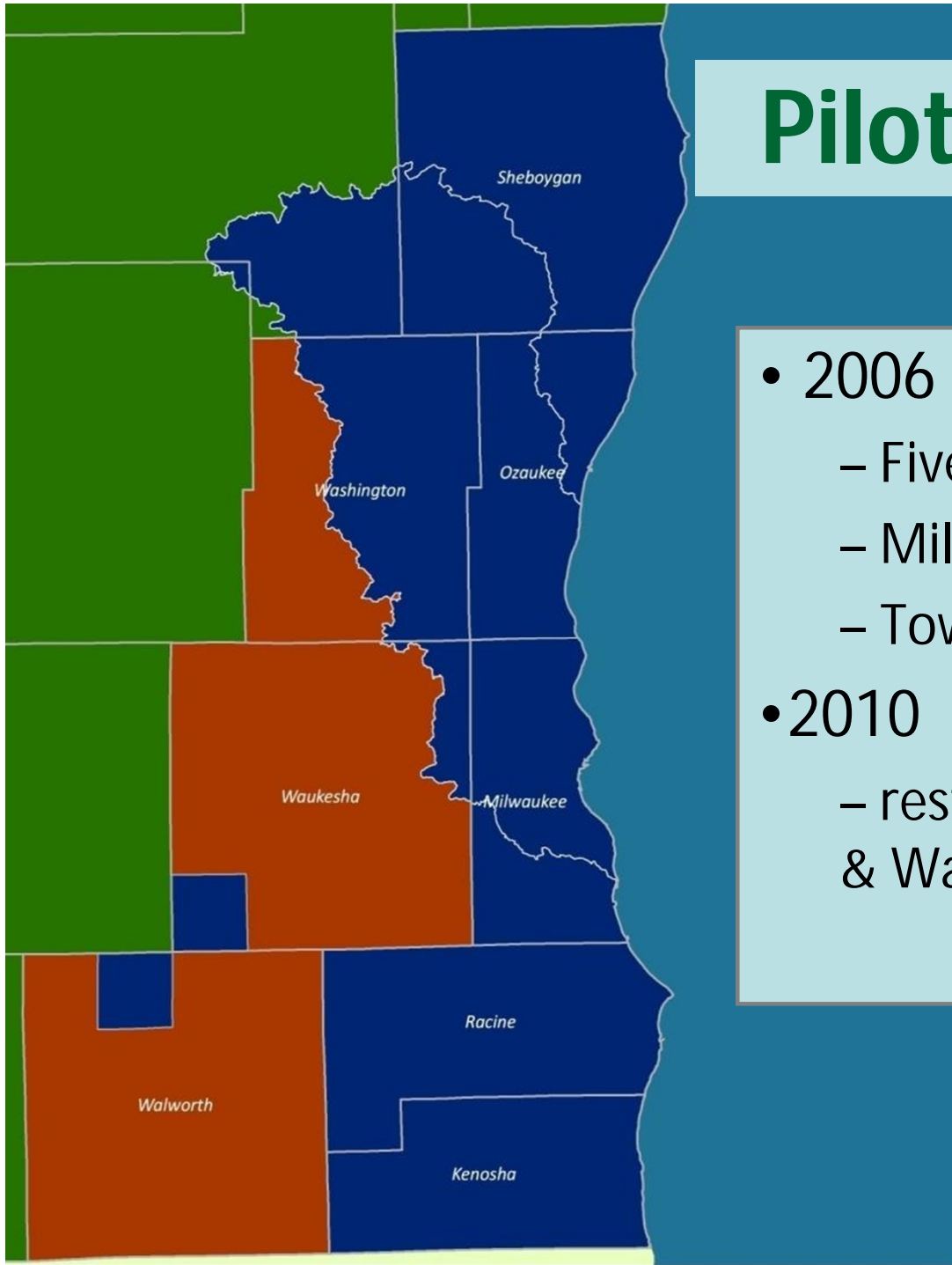
15% other wetlands types

11% not wetland (eg rock pile,)

Monitors also documented 50 unmapped ephemeral ponds

Pilot Mapping Area

- 2006 - 2009
 - Five Coastal Counties
 - Milwaukee River Basin
 - Towns of Eagle & LaGrange
- 2010
 - rest of Washington, Waukesha & Walworth Counties





Ephemeral Ponds in the Fall



June



July



May



December



WEPP Citizen Monitoring Network

September 16, 2009



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What is an 'Ephemeral Pond?'

A Natural Community
Listed in the
Natural Heritage Inventory





The Natural Heritage Inventory

- tracks examples of all types of Wisconsin's natural communities that are deemed significant because of their undisturbed condition, size, what occurs around them or for other reasons.
- They are noted as "hits" when Environmental Reviews are conducted, but have no official protection under the ESA
- Staff strongly encourage voluntary actions to protect natural communities





NHI Ephemeral Ponds:

- ★ Are depressions with impeded drainage (usually in forest landscapes), that hold water for a period of time following snowmelt but typically dry out by mid-summer.
- ★ Provide critical breeding habitat for certain invertebrates, as well as for many amphibians such as frogs and salamanders.



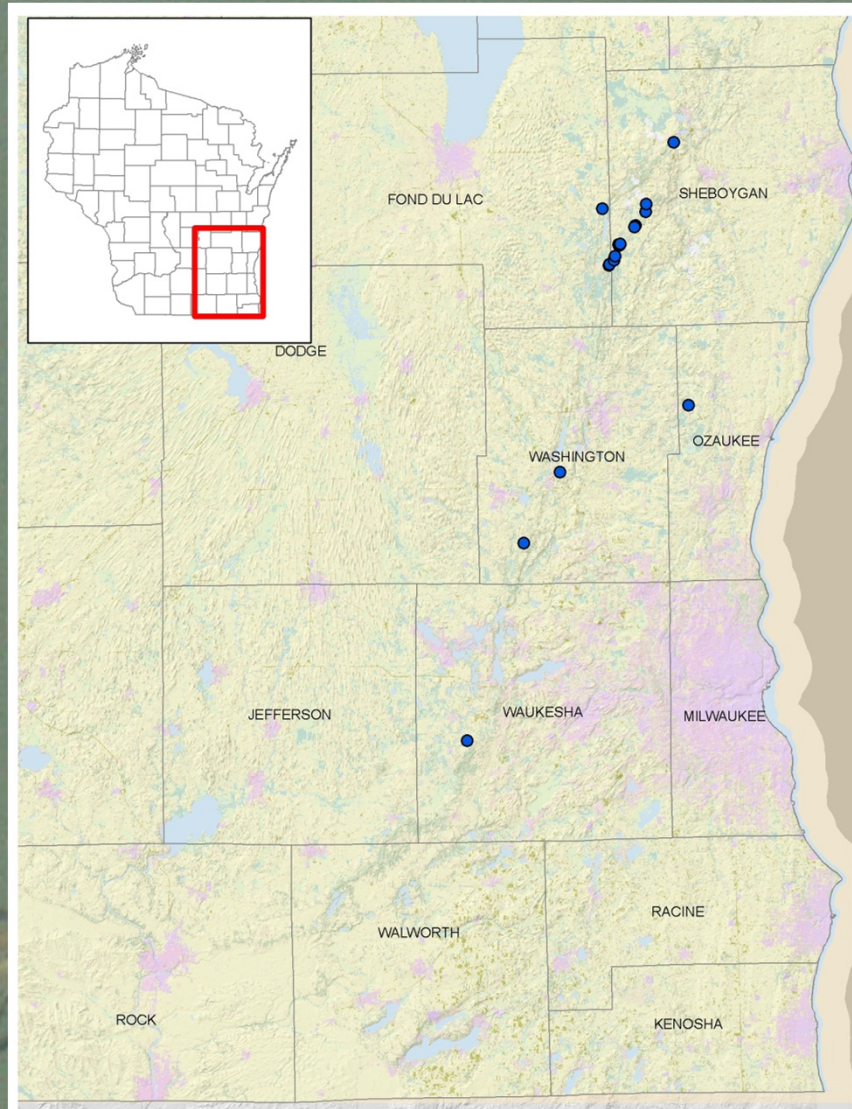


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NHI Ephemeral Pond Sites in Southeast Wisconsin





NHI –High Quality Ephemeral Ponds

- 450 ponds from WEPP were screened for NHI criteria
- 99 Ponds added in SE WI
- Increase from 12 to 99



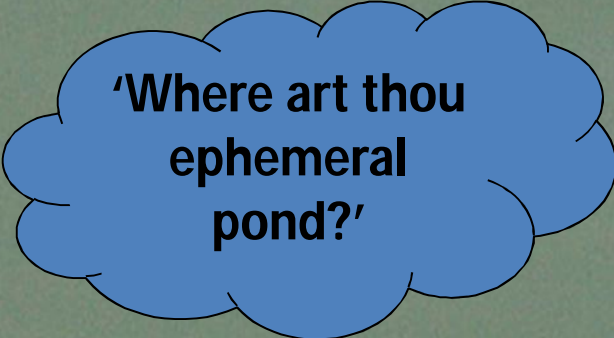
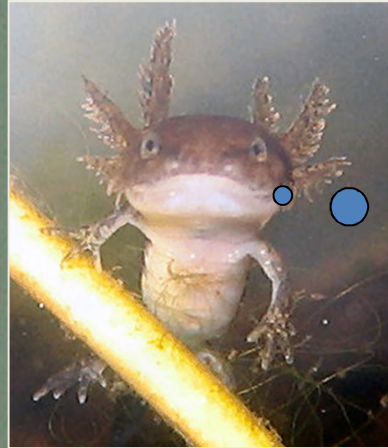


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Thank You!



Partners & Volunteers

Riveredge Nature Center

Tom Bernthal, WDNR
Dave Winston, WDNR
Christina Isenring, WDNR
Dr Gary Casper,
Dr Mary Linton,

Wisconsin Coastal Management Program
University of Wisconsin Extension

