



Wetland Trumpeter

Newsletter - January 2019

Our Mission

Ohio Wetlands Association is dedicated to the protection, restoration and enjoyment of Ohio's wetlands and associated ecosystems through science-based programs, education and advocacy.

Vernal Pool Education Package is Ready!

The Ohio Vernal Pool Network (OVPN) has prepared a vernal pool education package. Our team of experts has created a 'workshop in a box' so that communities across the state can enjoy the vernal pool education that we have provided for years. After fine-tuning these resources in our own workshop settings, we are making the five standard workshop PowerPoint presentations available to a growing network of affiliates.



We include the presentations on a flash drive so that you can be ready to hold your own workshop and develop your own local vernal pool education program. But that is just the beginning. Each presentation is loaded with detailed speaker notes to make it easy for non-experts to provide the supporting information behind each PowerPoint slide. We have also included fact sheets, resources and glossaries to support the presentations

and provide deep background into the subjects.

When you receive your Vernal Pool Education Package you also become an affiliate with the OVPN. When you let us know about your programming we will help with marketing by listing your events on our website and other digital communications. You will be invited to join our OVPN Facebook Group to interact with other vernal pool explorers and to get expert answers to your vernal pool questions. Your success is our success and we will support your efforts.

In addition to all of the above, our Vernal Pool Education Package starts with a 'class set' (20) of our book, *Ohio's Hidden Wonders, Guide to the Animals & Plants of Vernal Pools*. We are asking for a donation of \$500.00 (the value of the books alone) for the entire package. Once you are an affiliate you can get additional books when requesting 10 or more at a volume discounted price.

VERNAL POOLOOZA: Wetland Science Conference

Vernal Poolooza is Ohio Wetlands Association spring wetlands science conference. It will be held at the Ashland University Convocation Center on April 4, 5 & 6, 2019. Since we have been hosting one-day vernal pool workshops and shorter vernal pool expeditions we have had plenty of conversations with naturalists, environmental educators, scientists and many people who are general curious about any number of natural

landscapes. From this we have determined that people want to know more and to do more than we can fit into our single-day workshop framework.

We are working on a variety of breakout sessions that should add up to as many as 30 presentations on a variety of topics that past workshop participants have asked about. We will have our 5

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VERNALPOOLOOZA
A Wetlands Science Conference

SAVE THE DATE!
April 4, 5 & 6, 2019
Ashland University Convocation Center
Ashland, Ohio
Join us for 2 1/2 days filled with: amphibians, macroinvertebrates, hydrophytes, research, field trips, monitoring, photography, and college credit. Look for details soon.

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VERNAL POOLOOZA: Wetland Science Conference

basic workshop presentations for those who have not been to one of our workshops lately. These will include vernal pool; overview, plants, amphibians, macroinvertebrates and monitoring using iNaturalist. Some topics of other sessions are; FrogWatch USA Monitoring, Taking Photos with your iPhone, Ohio Environmental Education Fund Small Grants, Learning Techniques in the Sounds of Ohio's Frogs and Toads, Vernal Pools with Odonates in Mind, Local Ordinance Templates for Protecting Wetlands and Streams.

Keynotes have been scheduled that will bring two of our most engaging vernal pool authorities. Elizabeth 'Betsy' Colburn is the author of *Vernal Pools: Natural*

History and Conservation. Since 2001, she has been at Harvard Forest, first as a Bullard Fellow and now as aquatic ecologist. She continues her research on the aquatic life of vernal pools, headwater streams, and kettle ponds, and remains committed to public education and outreach directed toward conservation of freshwater life.

David FitzSimmons is a free-lance photographer and writer as well as a Professor of English. David photographs and writes for various magazines, including Ohio Magazine, Popular Photography & Imaging, and Shutterbug, numerous newspapers, and online publications. He has authored the *Curious Critters* series of children's books, the visually astounding book *Animals of Ohio's Ponds and Vernal Pools* and the more recent, *Salamander Dance*.

Vernal Poolooza

Vegetarian Meals at Vernal Poolooza

By: Ray Stewart

The Ohio Wetland Association favors serving vegetarian meals at its functions, including the upcoming Vernal Poolooza. "Why is that, you may ask?" Well, according to Earth Day's Meatless Monday promotion:

"The United Nations' Food and Agriculture Organization estimates that the meat industry generates nearly one-fifth of the man-made greenhouse gas emissions that are accelerating climate change worldwide – more than the entire transportation sector!"

To make matters worse, producing meat also requires a huge amount of water. An

estimated 1,800 to 2,500 gallons of water go into a single pound of beef. By comparison, soy tofu produced in California requires only 220 gallons of water per pound.

Amazingly, the livestock industry also uses almost 50% of the corn produced in the United States as feed for the animals.

Imagine how much less carbon we would produce and how many other resources we could save if we ate less meat. Even just eating meat one less day a year would make a difference.

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Join the Ohio Vernal Pool Network (OVPN) and put on your very own vernal pool workshop next season!

This fall, the Ohio Vernal Pool Network will be offering an educator's package: With the purchase of a class set of 20 or more [Ohio's Hidden Wonders, A Guide to the Animals and Plants of Vernal Pools](#) you will get a full set of ancillaries including the 5 PowerPoint presentations we use in our own workshops.

The subjects include: Intro to Vernal Pools, Amphibians, Flora, Macroinvertebrates and Data Collection using iNaturalist. Tips on workshop best practices, conducting field trips and ask-the-expert resources are all provided. Details will be published at www.ohiovernalpoolnetwork.org as they become available.

Vegetarian Meals at Vernal Poolooza

By: Ray Stewart

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For instance, if over the course of a year you:

- Ate one less burger a week, it would be the equivalent of taking your car off the road for 320 miles.
- Skip meat and cheese one day a week with your family, it would be the equivalent of taking your car off the road for five weeks – or reducing everyone's daily showers by 3 minutes.
- Skip steak once a week with your family, it would be the equivalent of taking your car off the road for nearly three months.

And if the entire U.S. did not eat meat or cheese for just one day a week, it would be the equivalent of not driving 91 billion miles – or taking 7.6 million cars off the road."

Not putting too fine a point on it, this meatless meal policy helps to offset the carbon footprint, energy consumption, and water usage incurred

by this conference. We see this as the responsible thing to do, and we hope you will agree!



Veggie Bowl

Cafaro Company's Enterprise Park Public Comments

by Ray Stewart and Mick Micacchion

Editor's Note: The Enterprise Park project in Warren, Ohio, was recently brought to the attention of the OWA Policy Committee. While the OWA is not anti-development, we are compelled to comment on projects that are associated with significant wetland impacts, especially where viable alternatives exist. Due to the quality and quantity of wetlands to be impacted, the committee provided this comment letter to the Ohio EPA.

Ohio Wetlands Association is a statewide non-profit conservation organization that works to achieve the highest level of protection for wetlands. We are opposed to the development of "Enterprise Park" on wetlands or on adjacent property that would degrade wetlands along the lower Mosquito Creek.

The permit application states that approximately 16 acres of Category 2 wetlands will be filled and mitigated. Ohio Administrative Code 3745-1-54 Wetland Antidegradation Paragraph (D) (1) (a) (i) states that for impacts to either a Category 2 or Category 3 wetland, the applicant must demonstrate that avoidance is not practicable. It is not clear how avoidance has been considered. Since this proposal is a mixed use complex, several unrelated or loosely

related projects are proposed. There is no apparent need for all these various facilities to be co-located. If some of these were relocated, a smaller footprint would be needed and fewer wetlands would be filled. Why is avoidance not paramount as stated in Ohio Administrative Code? The Lower Mosquito Creek Watershed Balanced Growth Plan of 2011 clearly shows that other developable properties are preferred and would substitute for the mixed use development in this proposal. We argue that avoidance is, indeed, practicable.

There has been some discussion about the method used to assess the category of wetlands on site. It seems that some of the current Category 2 wetlands were previously scored as Category 3. Where there is a difference in scoring or where the score is close to the break point, another more detailed evaluation should be made. We request a VIBI and an AmphIBI be conducted on all Category 2 wetlands to arrive at a more precise categorization. If a Director's Authorization is allowing development on Category 3 wetlands, we find this an extreme abuse of the provision. Or if it is determined that former Category 3

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Cafaro Company's Enterprise Park Public Comments

by Ray Stewart and Mick Micacchion

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wetlands have been degraded without authorization, according to OAC 3745-1-54 paragraph (6) (a) they should continue to be treated as Category 3 ("Where a wetland has been degraded or destroyed without prior authorization, the wetland will be considered a Category 3 wetland...")

The lower Mosquito Creek corridor has been the subject of conservation efforts for many years. Clean Ohio Fund money has been applied to properties both upstream and downstream from the proposed Enterprise Park site. OWA believes it is a wrongful use of Ohio taxpayer's money to establish a green corridor plan and provide several Clean Ohio Grants for local acquisition of conservation properties in the Mosquito Creek corridor only to then have the State to approve private development in the corridor. Conservation of this site and maintaining a continuous corridor along Mosquito Creek would be the highest and best use of this property. Fragmentation not only compromises flood control and water quality benefits, but also takes its toll on wildlife. Many species require larger ranges to maintain viable populations. For instance, wood frogs, *Lithobates sylvaticus*, breed in wetlands but need an upland forest of 1000-meter radius adjacent to where eggs are laid. To maintain the current biodiversity in and along lower Mosquito Creek, the full extent of the property should be added to the current conservation corridor and protected in perpetuity.

Beyond the biology, this floodplain property provides many other natural services. Both the Lower Mosquito Creek Watershed Balanced Growth Plan 2011 and the Ohio Administrative Code Wetland Antidegradation section itemize the many and diverse services provided by wetlands and floodplains. The proposed "Enterprise Park" location would diminish those services. While proponents of the development claim the benefits of economic expansion, there is an economic downside to the loss of these natural services. While often considered "free," there is a sizable value to those services. While hard to enumerate, has any thought be given to the price of flood prevention, nutrient capture or clear, clean water? If honestly calculated, the balance sheet for the development in this location once the loss of natural services is subtracted would not favor moving forward.

In summary, I would refer to the excellent work of the Watershed Planning Partnership that created the Lower Mosquito Creek Watershed Balanced Growth Plan. The Priority Conservation Areas (PCA) in this plan should weigh heavily in any decision to develop in any ecologically-sensitive and hydrologically challenging Mosquito Creek PCA. Ohio has lost more than 90% of its original wetlands, making the conservation of those that remain even more critical. Vibrant urban wetlands and green corridors are rare assets. Such spaces are jewels of many modern cities. Protecting and preserving this gem will support the quality of life in the city of Warren and surrounding communities. People and businesses will be more likely to stay, and others will be attracted to a community that respects and provides access to these natural amenities.

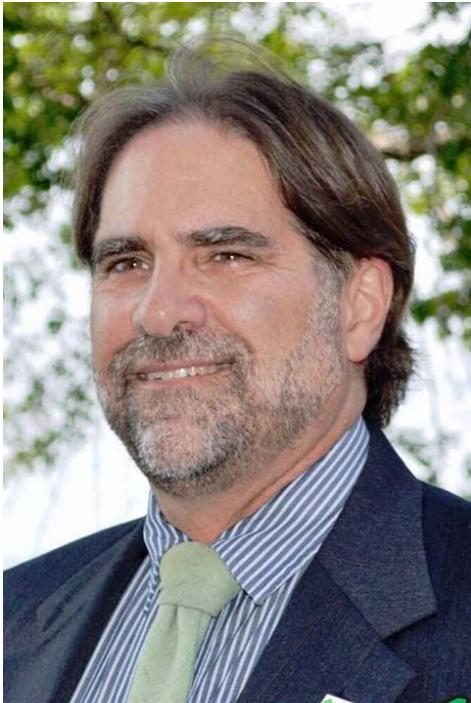


Cafaro Company's "Enterprise Park" proposed impacts to Wetlands in the Lower Mosquito Creek Corridor

Civic Engagement

By: Ray Stewart

It can be an awe-inspiring engagement to speak directly and frankly with a person in, or a candidate for, public office. Often, they make considerable personal sacrifices and commit to the challenges associated with debate and negotiation. They may also submit to the humbling and hard-fought hat-in-hand necessities of fund-raising. So too are the experiences of the many unpaid and underpaid supporters in a campaign.



Dr. Brett Joseph

One of our board members, Dr. Brett Joseph, ran for Lt. Governor of Ohio as a Green Party candidate. Dr. Joseph (or Brett as he prefers to be called) is an organizational systems design consultant, attorney, community action researcher, and environmental educator. He serves his native northeast Ohio as a sustainable agriculture program coordinator and permaculture instructor at the Lorain County Community College. Brett is an active proponent of economic democracy and progressive social change. He is committed to generating high quality, ecologically-sustainable livelihoods, through policy reforms and administrative restructuring that encourages citizen-led initiatives that value people over profits. His first priority is to foster Earth-friendly, neighborhood-scale development by strategically steering public and private investment towards individuals, families, community groups, and worker-owned businesses.

Recent studies show that nearly half of all adult Americans are involved in some sort of civic engagement. This is good news in many respects, since

this experiment in democracy requires that citizens participate in the duties and responsibilities of governance. No, half of the country is not campaigning for public office. Civic engagement can mean any activity that addresses issues of public concern. Citizens who identify public values and work to support or change the workings of public management would be included. Non-political engagement counts in the broadest meaning of civic engagement with anything to promote the quality of life in a community.

A Tufts University study broke out three main categories of civic engagement as 1) Civic, 2) Electoral, and 3) Political Voice. The following table lists a variety of activities for each of these.

Measures of Civic Engagement ⁽⁴⁾		
Civic	Electoral	Political Voice
Community problem solving	Regular voting	Contacting officials
Regular volunteering for a non-electoral organization	Persuading others to vote	Contacting the print media
Active membership in a group or association	Displaying buttons, signs, stickers	Contacting the broadcast media
Participation in fund-raising run/walk/ride	Campaign contributions	Protesting
Other fund-raising for charity	Volunteering for candidate or political organizations	Email petitions
Run for Political office	Registering voters	Written petitions and canvassing
Symbolic Non-Participation		Boycotting

Keeter, Scott; Cliff Zukin; Molly Andolina; Krista Jenkins (2002-09-19). ["The civic and political health of a nation: a generational portrait"](#) (PDF). Center for Information & Research on Civic Learning & Engagement.

If you are an engaged citizen, you work to make a difference, large or small, for your community - be that your neighborhood, city, state or country. You employ your skills, based on your values and motivation, to make things better. You recognize that you are part of a larger social fabric and that you have a responsibility to do your part. Where do your activities fall in this engagement hierarchy?:

- Vote
- Sign a petition
- Contact public officials
- Submit a letter to the editor
- Provide financial support to a group that is engaged in civic activities
- Work with others to solve a problem in your community
- Attend a meeting with local decision makers
- Actively participate in an organization that tries to influence the public or government
- Run

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Predaceous Diving Beetle (*Copelatus glyphicus*)

By: Ray Stewart

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used to pull those fluids into the mouth of the larva. Adults are more traditional pursuit predators having chewing, clamping mouth parts that rip their quarry into bite-sized bits to swallow. Depending on the size and type of diving beetle, they prey upon almost anything they encounter, even small vertebrates like tadpoles and mud minnows.

Predaceous Diving Beetles are similar to the Water Scavenger Beetle (Hydrophilidae), but can be

distinguished in two ways. First, the scavenger beetle is the one that surfaces for air head first. And second, they swim by moving their hind legs alternatively. Scavenger beetles are much less active and tend to be ambush predators.

When monitoring a vernal pool or marsh at night, watch closely when you shine a light into the water. Predaceous diving beetles can be attracted to light, and with any luck, you may be able to enjoy the underwater antics of these sleek aquatic predators.

A Plant to Kill: Purple Loosestrife (*Lythrum salicaria*)

By: Mark Dilley, OWA President

Editor's Note: Board Member Mark Dilley delivered a presentation at the 2016 Flora Quest conference with the title "Wetland Plants: Twenty to thrill, five to kill." He will be sharing details of select plants from this talk in a series of articles for the OWA newsletter.



Purple loosestrife (*Lythrum salicaria*)

Purple Loosestrife is a Eurasian import from the Family Lythraceae (Loosestrife Family). Historically, it was used as a medicinal herb for the treatment of diarrhea, dysentery, bleeding, wounds, ulcers and sores, though it was probably favored primarily for its beauty. Once introduced to North America, this obligate wetland plant quickly invaded our marshes and lake fringes, rapidly

claiming more territory than its native cousin, the Winged Loosestrife (*L. alatum*). With its showy spikes of purple flowers, it is a tall order to convince the general public that this plant is a bad player. In fact, it continues to be sold in the nursery trade in many areas (thankfully, the Ohio Department of Agriculture now recognizes this species as invasive and sale of the plant is no longer to be allowed in our state).



Purple loosestrife removal

As is the case for most plants with showy flowers, bees and other insects are the main pollinators of purple loosestrife. The seeds are spread by water and wildlife, and populations of this plant can grow prolifically, forming dense stands that are to the detriment of native wetland species. Marshes infested with loosestrife no longer provide suitable habitat (cover, food, nesting sites, etc.) for many of our native wetland species, including ducks, geese, rails, bitterns, muskrats, frogs, toads, and turtles. Some declining species directly affected by its invasion are the bog turtle, black tern and canvasback duck.

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A Plant to Kill: Purple Loosestrife (*Lythrum salicaria*)

By: Mark Dilley, OWA President

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Once it is established in natural ecosystems, control of this plant can be challenging. However, efforts are still warranted. Uprooting the plant by hand and ensuring the removal of all vegetative parts can eliminate it when small patches are present. Other control techniques for large areas of infestation include water-level manipulation, mowing or cutting, burning, and herbicide application.

Wetland managers are also experimenting with biological control: Four host specific insect species

approved by the U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS) have been released. These species are *Hylobius transversovittatus*, a root-mining weevil, *Galerucella californiensis* and *Galerucella pusilla*, two leaf-eating beetles, and *Nanophyes marmoratus*, a flower-feeding weevil. While these efforts have shown some success, there is always an inherent risk to introducing one non-native species for control of another. From this point forward, we must be much more mindful of how we move species, intentionally or unintentionally, around this beautiful planet – that is, if we want to keep it that way.

Phantom Midge

By: Ray Stewart

The adult phantom midge, *Chaoborus* sp., is a delicate little fly that resembles a mosquito but lacks the piercing, sucking mouth part and does not bite. Its larvae are found in vernal pools and other water bodies, but to find them you must look very close. Sometimes called glass worms or ghost midge larvae, their bodies are quite transparent. What stands out are the eyes, two pairs of air bladders and sometimes the contents of their bowels if they have eaten recently.

These one-centimeter-long prowlers are ambush hunters. They float motionless, rising or descending in the water by adjusting their air bladders. Common species migrate daily from the detritus at the bottom of a pond or pool to the near surface waters at night. When an unwitting daphnia or mosquito larva comes swimming by, they will grasp it with their modified prehensile antenna and direct the morsel to their feeding mouthparts.

Phantom midge larvae absorb oxygen through surface contact with the water. They store oxygen in their air bladders to be used when they are low in the sediment of a pool where oxygen concentrations are

low. At night, when they drift to the surface, the more highly concentrated oxygen replenishes this system.

There can be an interesting cascade of predation with phantom midge larvae. They prefer to gulp a large mouthful meal, and the common water flea, a.k.a. *Daphnia* sp. is often that meal. When there is an abundance of phantom midge larvae, they can noticeably depress the population of *Daphnia*.



Transparent Phantom Midge

The *Daphnia* prey upon even small creatures, notably, rotifers. So, when phantom midge larvae are plentiful, *Daphnia* are fewer and rotifers populations increase. And the reverse is also observed where phantom midge larvae are absent or few, the *Daphnia* population explodes and rotifers become scarce.

Adults emerge often in large numbers synchronously in spring and summer. As their pupae rise to the surface, they can be preyed upon by fish. In vernal pools, without fish, they may fall victim to tadpole predation. Those that survive the emergence process live brief adult lives, breeding and laying eggs, beginning the cycle anew with the next generation of “phantoms.”

Amphibian Species and the Importance of Reference Condition Vernal Pools

By: Mick Micacchion

In developing the Amphibian Index of Biotic Integrity (AmphIBI), I was involved in monitoring the amphibian communities of hundreds of Ohio's vernal pools. The primary goal of surveying vernal pools selected from across the state was to develop an assessment tool that would enable ecologists to rate the ecological condition of these important ecosystems based on the composition of their amphibian community. To achieve this, we selected vernal pools that represented the entire range of human disturbance levels, from those that were the least impacted (reference condition) to those that were the most disturbed (poor condition) and every condition in between.



Reference Condition Vernal Pool

Amphibians proved to be excellent indicators, and the AmphIBI does a reliable job of defining the ecological conditions of vernal pools. The range of sites used demonstrated the differences that can occur in the assemblage of amphibian species a vernal pool can support. For instance, those vernal pools with little to no disturbance (reference condition), were predictably found to support healthy amphibian communities.

Vernal pool obligate species, those that almost always reproduce in vernal pools, require a large percentage of forested habitat in the first 200 to 1000 meters (656 to 3280 feet) surrounding the pool – a setting that typifies a reference condition vernal pool. Most adult salamanders and some of the frogs spend only a few days to a couple of weeks each year in vernal pools, mating and depositing eggs. The large terrestrial areas around the wetlands are essential to complete their life cycles and sustain their populations.

Most vernal pool salamanders spend the rest of their spring and summer in the areas surrounding the pools and then hibernate through the winter beneath the soil

surface in abandoned rodent burrows or ones they have dug themselves. Living below the soil surface, generally at depths of 30cm (12 inches) or greater, allows them to occupy habitats where temperatures stay at or above 50° Fahrenheit.

Vernal pool frog species also spend their non-breeding lifetimes in the adjacent habitats, but have evolved other strategies of getting through the winter. Some, like the wood frog, spring peeper, and chorus frogs are able to freeze and then thaw when spring returns. Others like northern leopard frogs and pickerel frogs bury themselves in the vernal pool substrates and slow down their metabolism drastically, remaining inactive and reducing their oxygen requirements until warmer temperatures return.

In Ohio, our vernal pool obligate amphibians include:

1. Wood Frog, *Lithobates sylvaticus*
2. Northern Leopard Frog, *L. pipiens*
3. Pickerel Frog, *L. palustris* (if there is a groundwater source)
4. Gray Treefrog, *Hyla versicolor*
5. Cope's Gray Treefrog, *H. chrysoscelis*
6. Spring Peeper, *Pseudacris crucifer*
7. Western Chorus Frog, *P. triseriata*
8. Mountain Chorus Frog, *P. brachyphona*
9. Spotted Salamander, *Ambystoma maculatum*
10. Small-mouthed Salamander, *A. texanum*
11. Jefferson Salamander, *A. jeffersonianum*
12. Eastern Tiger Salamander, *A. tigrinum*
13. Blue Spotted Salamander, *A. laterale*
14. Marbled Salamander, *A. opacum*
15. Four-toed Salamander, *Hemidactylum scutatu*
16. Red-spotted newt, *Notophthalmus viridescens viridescens*

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Amphibian Species and the Importance of Reference Condition Vernal Pools

By: Mick Micacchion

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In contrast to reference condition, a disturbed vernal pool might have areas that are not dominated by trees or shrubs, and therefore have open canopy areas where full sunlight can shine on parts of the vernal pool. Additionally, the surrounding habitats, while still dominated by trees or shrubs, may be greatly reduced in width or have gaps where there is no canopy cover and the sun warms and dries the soil. Along with some of the above vernal pool obligate species, disturbed vernal pools will likely have in them: Eastern American Toads, *Anaxyrus americanus*; Fowler

Toads, *A. fowleri*; Green Frogs, *Lithobates clamitans*; and American Bullfrogs, *L. catesbeianus*. None of these are species are vernal pool obligates that naturally and almost exclusively bred in vernal pools. They are only found where vernal pools and the landscape surrounding them have experienced moderate to large levels of anthropogenic disturbances. Our remaining reference condition vernal pools must be treasured and protected if these special ecosystems and their obligate amphibian populations are to be sustained for the enjoyment of future generations.

A Clarion Call for Clean Water

By: Mark Dilley, OWA President

As many of you are likely aware, on Dec 11, 2018, the USEPA and Department of the Army proposed a new and revised definition of the “Waters of the United States” that highlights federal authority under the Clean Water Act. The U.S government enacted the CWA in 1972 to protect and regulate surface waters of the U.S. The Clean Water Rule (2015) broadened the range to include wetlands and streams that have a significant connection to navigable waters, a change that many saw as federal overreach. To its credit, however, this Rule recognizes that pollution upstream eventually travels downstream (NPR,2018).

Recently, in order to boost the economy and land development, the Trump administration provided a revised definition to federally protected waters. The new definition will align with the Executive Order, “Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the ‘Waters of the United States’ Rule,” replacing the 2015 WOTUS (Clean Water) Rule and pre-2015 clean water regulations. The OWA sees this pending change as a significant setback for wetland protections, since it narrows the federal

WOTUS definition to include only wetlands that “are adjacent to a major body of water, or ones that are connected to a major waterway by surface water.” This would effectively erase federal protection for wetlands associated with ephemeral or intermittent waterways and the waterways themselves.

Although the definition has needed improvement and clarity, the OWA believes this proposed rule change moves us in the wrong direction, particularly when water quality issues seem to be worsening (with Hazardous Algal Blooms becoming a regular occurrence in many inland lakes and red tides and dead zones increasing in frequency and severity in coastal areas). In addition, it is hard to imagine that, as a nation, we’ll be able to meet our goal of no net loss of wetlands when these protections are no longer in place. It is equally difficult to imagine that water quality can be maintained, and even less so, improved, when a significant portion of the drainages within a watershed (our headwaters) are no longer protected.

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For this reason, **we ask all of our members join the OWA leadership and take advantage of the public comment period to voice your concerns and make recommendations for improving the new rule.**

The agencies will take comment on the proposal for 60 days after publication in the Federal Register (no date for this has yet been announced). Please speak up for clean water and healthy wetlands, streams, rivers and watersheds! Future generations are relying on us to take a stand.

You can find the publication here: <http://www.regulations.gov> in Docket No. EPA-HQ-OW-2018-0149 The agencies will hold an informational webcast on January 10, 2019 and will host a public listening session on the proposed rule in Kansas City, KS, is scheduled for January 23, 2019. Additional information on both engagements is available at <https://www.epa.gov/wotus-rule>. For additional information, including the full EPA public comment policy, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

Autumnal Pools

By: Ray Stewart

Over the years, the Ohio Wetlands Association has raised awareness of vernal pools, produced a book, held workshops, and developed a total education package. It seems that we couldn't do more for these vernal "spring" pools. So why not move on to autumnal "fall" pools? If you have been out to your favorite wet woods this fall, you have likely seen standing water. If you have looked beneath the surface, tadpoles and the whole suite of macroinvertebrates are busy as ever.

So what makes these autumnal pools any different than vernal pools? Frankly, they are in the same places, with the same ecology and rich biodiversity. Other than time of year, the biggest difference is that most amphibians are not breeding, frogs are not calling and the rain of oak and maple pollen has not yet begun.

You can add months to your vernal pool exploration by adding a season or two. If you wait until the actual, astronomical spring you are getting a late start. To see what other vernal pool explorers are finding check out Ohio Vernal Pool Network Facebook group, www.facebook.com/groups/OhioVPN/. You will find pictures, videos, interesting discussions and a chance to open your eyes to the Hidden Wonders beneath the surface.

When you explore, we implore you also take photographs to post on the Ohio Vernal Pool project in iNaturalist; <https://www.inaturalist.org/projects/ohio-vernal-pool-network>! Your discoveries may inspire many others to "fall" in love with vernal pools!



Ray and his Ice Net



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Wetlands for a Better Ohio

January 2019 Issue



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