OHIO WETLANDS ASSOCIATION

# Wetland Trumpeter

Newsletter - May 2018

***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.***

## JOIN US!

**Vernal Pool Discovery Days**
**Coyote Run Farm**
**Friday, June 1, 2018 at 1:30 p.m.**
**Saturday, June 2, 2018 at 9 a.m.**
**Pickerington, Ohio**

**BIOBLITZ**
**Coyote Run Farm**
**Friday, June 1, 9 a.m. to Midnight**
**Saturday, June 2, 9 a.m. - 4 p.m.**
**Pickerington, Ohio**

**OWA Annual Member Picnic**
**Saturday, June 9, 10 a.m. - 2 p.m.**
**Woodside Green Park**
**Gahanna, Ohio**

**2018 Wetlands Photo Contest**
**Details at www.OHwetlands.org**

## Inside this issue:



## Water Supply, Climate Change, and the Classic Maya Collapse by Ray Stewart

Long before Europeans thought to sail west across the Atlantic, the Mayan Civilization of Mesoamerica rose to heights of sophistication in art, language, architecture and commerce. But this magnificence suddenly collapsed around 900 AD, and the evidence of its former grandeur was soon swallowed by the lowland tropical forests. In recent years, their writing has been deciphered, cities have been mapped and the history of the rise and fall of the Mayan world has been uncovered. Of particular interest are the details that explain the sudden cessation of activity that once supported large metropolises and high culture extending from Southern Mexico, Belize, Guatemala and Honduras.


**Maya world map**

One of the challenges to urban life in a climate that routinely lacks sufficient rainfall for half of the year is water management. The rise of Mayan civilization may have been directed by an elite, royal class that created and controlled water resources in areas that had few rivers or lakes. The impressive temples and palaces that were created for ceremonial and religious activities were built from stone. The quarries that produced this stone also served as reservoirs controlled by a religious ruling elite that exacted tribute from expanding urban populations. For many hundreds of years, a sophisticated, literate class supported the religious practices to assure ample rainfall and the infrastructure to provide clean safe water when the former failed.

**Water lily, *Nymphaea ampla***

One of the persistent icons in Mayan art was the water lily, *Nymphaea ampla*, a sensitive plant that grows in still, shallow, clear, clean water. The presence of the water lily indicated to the Maya that the water in which it grew was pure and potable (Lucero, 2002). In one Mayan dialect, the name for this lovely wetland obligate plant translates as, 'the ear of the rain god'. There is a Mayan hieroglyph known by the name "Jaguar-Water Lily" which, incidentally, has played an important role in the deciphering of the Mayan writing system. In all likelihood, the jaguar-water lily depicts a transformed shaman. By "transformed" the meaning refers to certain preparations of the plant that produce a euphoric and psychedelic experience. In the American tropics, the jaguar is the most important shamanic animal, and is considered

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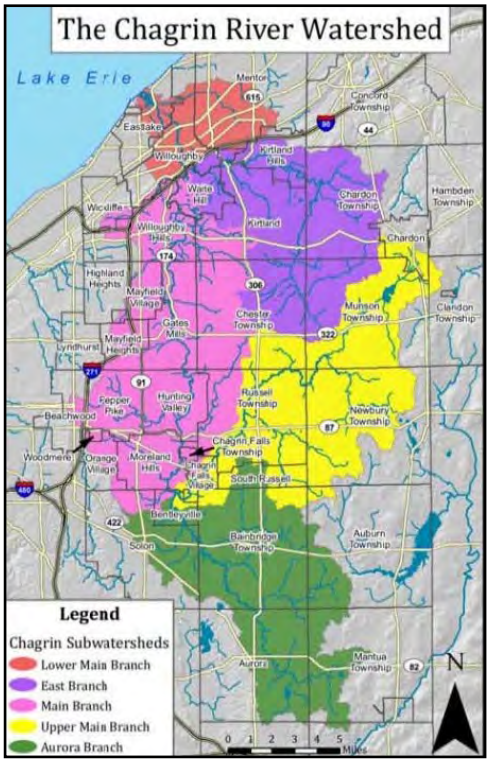
# Local Wetland Protection Picks Up Where Feds and State Leave Off

By Christina Znidarsic, Chagrin River Watershed Partners

Since the establishment of the Clean Water Act, regulatory protections were put in place to restrict, but not prevent, development, degradation, filling and draining of wetlands. As wetlands are converted to other purposes, mitigated wetland projects are implemented with the intent to protect, restore or create other wetlands in an effort to retain the biological and hydrological services that wetlands perform within a watershed.

Even with state and federal regulations in place, many wetlands continue to be degraded. Smaller wetlands, like vernal pools, are often overlooked, unrecognized or thought by some to be insignificant. Mitigated wetlands are often "exported" to locations outside the impacted watershed, permanently losing valuable pollution filtration and flood protection in developing areas where it is most needed. Communities in Ohio have opportunities at the local level to achieve a higher level of protection for these critical ecosystems through the establishment of riparian and wetland setbacks.




Chagrin River Watershed Partners, Inc. (CRWP) was established in 1996 by communities that drain to the Chagrin River watershed, under the founding principles of:

- Natural systems provide flood control, erosion control, and water quality protection services that should be maintained as land is developed.
- It is more cost effective for local governments to take planning and development steps to maintain these services than to pay for costly, and generally less effective, remedial solutions.

As a way for communities to safeguard the valuable services natural systems such as rivers, floodplains, riparian areas, and wetlands provide, CRWP has created model regulations that place protections to limit and more closely monitor development occurring in these areas. National, state and local agencies such as the U.S. Environmental Protection Agency, the U.S. Department of Agriculture's Natural Resource Conservation Service, the Ohio Department of Natural Resources, the Ohio Environmental Protection Agency, and local Soil and Water Conservation Districts recommend riparian and wetland setbacks as a valuable tool in an overall management program for flood risk reduction, erosion control, water quality control, and aquatic habitat protection.

A setback is the area surrounding a stream or wetland that is managed in its natural state. The distance may vary depending on the size of stream or quality of the wetland in question and the wishes of the stakeholders who craft their local ordinances. CRWP's model wetland setback, for example, places a 75 foot setback on a Category 2 wetland and a 120 foot setback on a Category 3 wetland. The value of a setback is to help insure the quality of services that the wetland provides. Much of the wildlife that uses a wetland also requires some upland and buffer area in order to thrive. For example, the mole salamanders (Ambystomatidae) that breed, lay eggs and grow tadpoles in vernal pools spend most of their lives in the surrounding forest. Without these setbacks the entire population is likely to disappear. To properly filter and purify water, wetlands need buffers to help slow water, remove sediment and regulate stream base flows, among other things.

CRWP has produced model regulations for both riparian (stream) setbacks and wetland setbacks. The riparian setback regulation has protections for wetlands (but no setbacks on those wetlands) contiguous with riparian areas built into it, whereas the wetland setback model regulation is much more comprehensive and places setbacks on all wetlands, including those outside the riparian area. Auburn Township and the City of Aurora are two examples of northeast Ohio communities that have placed additional protections on wetlands using the CRWP model. Auburn's zoning resolution adds setbacks to all wetlands contiguous with the riparian area, while Aurora's ordinance places setbacks on all wetlands.

While CRWP's model regulations state that communities must develop a map of known wetlands, we also encourage the community to

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# Protecting a Geological Treasure in Clark County

By Carol Culbertson

Editor's Note: The following article points out some of the complexity and inconsistency of our wetland laws, regulations, and permit programs. Submitted by Carol Culbertson it provides a summary of her organization's efforts to protect a fen in her neighborhood from indirect impacts of an expanding gravel mine and its dewatering activities. Unfortunately, as Carol points out, our current laws don't directly protect wetlands against collateral damage resulting from adjacent land uses. Although it would require substantial changes to our government's programs and wetland protection laws (a time-consuming process), the OWA's position is that interagency coordination must be improved, and indirect, off-site impacts merit consideration, especially when high quality (Category 2 or 3) wetlands are at risk of permanent impairment.

**Marsh Marigold**

Carol makes a good case. Here is her article, as received:

Approximately one year ago, an Ohio based, industrial aggregate company moved into my neighborhood with the intent to mine limestone. Without much opposition from surprised and befuddled community members, in no time at all this mining company walked away with the necessary permits to begin operations from the Ohio Department of Natural Resources, Division of Minerals Resources Management (ODNR).

It was then that the Clark County's Zoning Department quickly sprung into action demanding a conditional use permit from this aggregate company before any mining could occur. Note, the day the company had the mining permits in hand from ODNR, this company sued the county in court claiming to obtain a conditional use permit would somehow violate their constitutional rights for at least part of their property. (This case is now in the federal court). Yet, I ask where is the concern for protecting OUR constitutional right to preserve OUR properties, our wetlands, our creeks, out springs, our fens and OUR drinking water? (It should be noted that comparing the company's own dewatering analysis - which we argue is flawed to begin with and downplays the extent of dewatering to local well logs - shows that their planned mining will completely dewater wells around the quarry, leaving many people with no aquifer to tap into.)

Meanwhile, back on the fen… in February, the Ohio Environmental Protection Agency (OEPA) received a National Pollutant Discharge Elimination System application from the mining company. This time, the Mad River Township citizenry was ready and informed to demand a public hearing in which more than 300 people attended. The opposition led by a

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## Local Wetland Protection Picks Up Where Feds and State Leave Off (cont'd)

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avoid requiring that the wetland first be part of a known wetland inventory to fall under the protection of the setback resolution. Federal and state wetland inventories can be used as a guide to help determine where potential setbacks may need to be enforced, but they are not a complete inventory. CRWP recommends the community take note of conditions on a development site such as presence/absence of hydric soils and/or wetland hydrology or vegetation to require that the developer conduct a wetland delineation with a qualified professional. Our riparian and wetland setback models very clearly state that the map is to be a guide only, and that field conditions prevail in determining where a stream or wetland is located

Examples of ordinances and other resources can be found at CRWP.org and at ohwetlands.org/local-wetlands-protection.html .

## Water Supply, Climate Change, and the Classic Maya Collapse (cont'd)

(Continued from page 1)

identical to the shaman (Coe, 1973).

High culture, extensive trade networks, stunning architecture and the written word came to an abrupt and decisive conclusion, with few explanations, until recent scientific methods revealed details of climatic history in the region. All across Mesoamerica in the early 9th century, buildings were left uncompleted, stone stelae on which detailed inscriptions were made for centuries no longer marked historic events. Much of the population dispersed or disappeared. Scholars estimate that only 10% of the population survived beyond the Classic Period, and their numbers remained low for 1000 years afterward. Even today, much of the interior region of the Yucatan Peninsula known as the Central Mayan Lowlands (CML) is sparsely populated even though environmental recovery and stabilization took just a few centuries.

**Maya Priest Sculptor: Victor Konnov**

Evidence shows that the management and distribution of water was at least one contributing factor in this cultural and population collapse. The CML is a rolling landscape with occasional sinks and depressions, but few rivers or lakes. Seasonal droughts through the first four of five months of the year deplete surface water supplies. In most areas, ground water roughly 100 meters below the surface was virtually unattainable with stone-age technology

Stalactite growth in caves has been used to measure annual precipitation changes. Since soil water infiltration and, therefore rainfall amount, correlates with stalactite growth, their annual rings are signs of surface water and thus, precipitation. During the Mayan Classic Period, the scientific evidence points to several extended, multi-year drought episodes. Some decline in art and architecture correspond with these periods. Multiple indicators point toward a drier climate throughout the region, beginning in the 8th century and continuing into the Post-classic period (Lucero, 2002).

Changes in rainfall were not the only stressors growing in importance. Deforestation that supported more expansive agricultural production was also taking its toll. For one, Phosphorus (P) is a limiting factor in biological growth and crop yields throughout the region. Studies show that most of the available P arrives microscopically from outside the region. Remarkably, 25% or more arrives as wind-blown Saharan dust from across the Atlantic Ocean. Trapped by mature forest canopies more than open lands or secondary growth forests, converted and settled lands gradually became nutrient poor. Secondarily, where land is traditionally cleared by burning, bracken fern soon dominates, retarding any restoration of climax forests for generations. In addition, open land and successional forests retained less soil moisture than the previous mature tropical forests. Open cultivated land and urban areas increased local temperatures which in turn evaporated soil moistures. The negative feedback loop reduced precipitation and lengthened the dry season (Turner & Sabloff, 2012).

Other indicators of intense land use during the pre-classic and classic period are reflected in heavy sediment loads in lakes and coastal areas and a shift in pollen composition identified in sediment cores from forest plants to maize (corn), the cornerstone food source, and fern spores. Over time, much more intensive land management occurred to support growing populations including terracing of mountain slopes and an ingenious use of floating gardens in managed seasonal wetlands.

In the later decades of the Mayan Classic Period, wood fuel and construction timber became increasingly scarce. Sapodilla, *Manilkara zapota,* is a highly valued tree species in the region. It produces a popular fruit and is the source of a latex-like sap used to make chewing gum. Its wood is hard and durable, an excellent choice for an ax or hoe handle. It was also used by classic Mayan architects as a lintel to span a doorway. Examples still exist where Sapodilla wood still remains in classic structures after more than a millennium. This wood ceased to be used for building purposes in the decades preceding the end of the Mayan empire.

Another indicator that deforestation was creating stress among the civilized Maya shows up in the stucco finish commonly covering the Classic Mayan temples. Intensive fires are needed to change abundant common limestone into the plaster that forms stucco. Wood was the only source of fuel available to the Maya. As the end approached, temples used increasingly less stucco to cover their walls. Layers of stucco became thinner as fuel became more scarce.

Many water conservation practices were in use. Ponds and reservoirs were created including wetland

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## Water Supply, Climate Change, and the Classic Maya Collapse (cont'd)

expansion. The response of ruler/priest class to the growing stresses of drought, fuel and food shortage was not entirely science-based. Although the Maya were experts in observational astronomy and practical architecture, their strong suit was ceremony and ritual. Blood-letting and sacrifice to the deities that provided rain and sustenance was their favored and traditional practice. National Geographic Magazine reported in 2015 that a kind of 'Drought Cult' developed (Vergano, 2015). Evidence from sink holes called "Cenotes" shows many more artifacts sacrificed in the final decades of the Classic Period. These special places were believed to be portals to the domain of Chaak, the rain god. When drought persisted, and the ruling class was less able to fulfill their duties, social discord most certainly increased. Conflicts between (and probably within) cities grew. Economic trade engines shifted, depriving the ruling class of their tribute. Support for building and pageantry decreased and the confidence in the ruling class was shaken.

The final trigger that sent a shockwave of collapse across Mesoamerica is not precisely known. The evidence is subtly written in silt and debris. Kings and priests of the time could not change the course of their own history and could not restore the pattern of precipitation that once supported their vast metropolises and sophisticated civilization. They would not have known that regional climate change and stress on essential resources was of their own making. Their only levers on the trajectory of their fate were left to the supernatural.

**Maya Temple**

**Jaguar Lily**

Today, we have a different kind of power. Our global challenges can lean on sustainability sciences. Among these, a key to human destiny is wetland science for the essential services of water purification and powerful climate change moderation.

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## Membership Renewal Time

You should have received a membership renewal reminder letter from our president, Mark Dilley. OWA's membership year runs from June to May the following year.

Our wetlands need advocates, and it is OWA's mission to recruit, educate, and support advocates around the state to be the voice for wetlands – to push for protection and more sustainable land use decisions. With adequate funding, we can amplify these efforts by producing better educational materials, delivering more presentations, setting up displays at more conferences, organizing more events, and improving our website and social media presence. Your contribution will help us get the message out, that our wetlands must be protected, expanded and cherished.

Please renew now for the 2018-19 membership year at the highest support level that fits your passion and budget. You can use the envelope provided with your letter, or renew online with PayPal at https://www.ohwetlands.org/become-a-member.html . Thank you!

# OWA BioBlitz 2018 @ Coyote Run Farm on June 1st & 2nd

Ohio Wetlands Association invites interested naturalists to join our second-round effort to observe, discover and report on the diversity of all living things on the Coyote Run Farm. The owners of this property are devoted to protecting and restoring the habitat where they live and the land around them in perpetuity. OWA strongly supports their efforts. Wetland restoration projects are currently underway. Add your interest and expertise to our project.

Meet at Coyote Run Farm, 9270 Pickerington Road, Pickerington, Ohio.

Come for a short stint or hang out for the full two-day event. Early birding activities will begin at 6 am. After hours mothing, owling and {bat}ing will be supported by campfire. Bring a camper or tent and stay over Friday night if you like. Some food, drinks and snacks will be provided.

Registration is required, but FREE! Just sign up at http://www.ohwetlands.org/bioblitz-2018.html. You will be sent periodic updates. Participants are asked to use iNaturalist to report observations (alternate methods accepted). With our first-round bioblitz effort in 2017, we have over 1300 observations and 625 species. With your participation we will confirm and expand this dataset in 2018.

For details, see https://www.inaturalist.org/projects/coyote-run-farm or email Ray@OHwetlands.org

## OWA Annual Member Picnic

**Saturday, June 9, 2018**
**10 a.m. to 2 p.m.**
**Woodside Green Park**
**213 Camrose Court**
**Gahanna, Ohio**

We have reserved the Green picnic shelter at Woodside Green Park in Gahanna. Hear updates on OWA's projects and socialize from 10:00 to 11:30 a.m. and at 11:30 a.m. Jeffrey Barr, the Gahanna Parks and Recreation Director, will be accepting an award for wetland protection OWA is giving to the City. Lunch will be at noon followed by a walk to explore the protected wetland. Please RSVP at www.OHwetlands.org.

## 2018 OWA Photo Contest

Give Us Your Best Wetlands Shot! is the Ohio Wetlands Association's 2018 photo contest that celebrates the joy of wetlands through photography. Subjects will include the flora, fauna and variety of landscapes within Ohio's diverse wetlands. For details visit https://www.ohwetlands.org/photo-contest.html

The contest runs from February 2, 2018 (World Wetlands Day) to December 31, 2018. Please considering entering and have fun too!

## VERNALPOOLOOZA *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.

# Vernal Pool Discovery Day at Coyote Run Farm

**Coyote Run Farm**
**Friday, June 1, 2018 at 1:30 p.m.**
**Saturday, June 2, 2018 at 9 a.m.**

**9270 Pickerington Road, Pickerington, Ohio**
**Leader: Mick Micacchion**
Join us to explore vernal pools! Free and open to the public.
On Friday afternoon at 1:30 p.m. Mick Micacchion (OWA Vice President) will lead an expedition to set traps that will be left in the pools overnight to collect specimens. Funnel traps are set in the water to collect salamander larvae, frog, tadpoles, and macroinvertebrates.

At 9 a.m. Saturday morning Mick will return to the vernal pools to empty the traps and examine their contents. Specimens will be brought back alive and placed in aquaria for the discovery day display which we expect to be ready to share at 11:00 a.m. Contact us at info@OHwetlands.org if you are interested in joining Mick on either of these vernal pool collecting trips.

**Directions:** At the main farm barn the historic 'Tabernacle' site, located at 9270 Pickerington Road, Pickerington, Ohio, an educational display will be set up for everyone to examine the hidden wonders of vernal pools.

## 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.

# A Plant to Thrill: Fowl Mannagrass, *Glyceria striata* by Mark Dilley

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.

Fowl mannagrass is a member of the Family Poaceae (Grass Family). Although grasses aren't as eye-catching as our more colorful flowering forbs, this species is not without its charm. Its large, gracefully-nodding inflorescence and long, neatly 2-ranked leaves (forming a row on either side of the culm [stem]), make this grass a standout among its brethren. It shows up most frequently in forested wetlands with dappled sunlight, but may occur in almost any shallow, saturated wetland or pond edge, even in full sun.


**Fowl mannagrass, *Glyceria striata flower head***

**Fowl mannagrass, *Glyceria striata***

Its small seeds are transported by water and wildlife, but vegetative spread via rhizomes is also part of this plant's reproductive strategy. As the name would indicate, waterfowl readily feed on the plant. I've had the enjoyable experience of watching young mallard duckling leap to reach the seed head of this grass (manna from heaven?), grabbing it to pull it over and then stepping on the stem to hold it down while they nibbled on the seeds. I wish I'd had the ability to shoot video with my phone at the time! In addition to waterfowl, deer, muskrat and black bear are known to feed on this plant.

Fowl mannagrass may also be a secret weapon against at least one of my "Plants to Kill": In restoration efforts, adding Fowl mannagrass to seeding mixtures has been shown to improve species richness and exclude reed canarygrass (*Phalaris arundinacea*) prior to its invasion!

Grasses are a challenging group of plants to learn, but this one is worth knowing and is easily identified. Once you're familiar with it, you'll start noticing it in many of the wetlands you visit.

## You Shop. Amazon Gives

AmazonSmile is a website operated by Amazon that lets customers enjoy the same wide selection of products, low prices, and convenient shopping features as on Amazon.com. The difference is that when customers shop on AmazonSmile (www.smile.amazon.com), the AmazonSmile Foundation will donate 0.5% of the price of eligible purchases to the charitable organizations selected by customers. Link your Amazon account to the Ohio Wetlands Association today! Just go to www.smile.amazon.com.

## Media County's 22nd Annual Earth Day Festival

Thanks to the efforts of OWA member, Bill Stitt, we hosted a booth at the annual Earth Day festival at Medina County Park District's Buffalo Creek Retreat. Record crowds estimated at 2,500 attendees this year. Thanks to all of you who stopped by to say hello. It was a family oriented fun-filled day. Bill was working double-time all day with the OWA table and with a Pollinators display. We are grateful for your enthusiasm and support.

## Using Ecological Engineering Principals By Dr. William J. "Bill" Mitsch

We have been using ecological engineering principles to design and construct experimental mesocosm systems in Ohio, Florida and elsewhere for the past 2 years to investigate a new landscape-scale approach to integrate created or restored wetland retention of nutrients from agricultural and urban stormwater with a more sustainable agriculture. We refer to our proposed system as "wetlaculture" because it integrates wetlands and agriculture.

**Newest mesocosm experiments.**

See our Barley Prize video describing the wetlaculture concept HERE or go to www.barleyprize.com and search for MITSCH. On **May 3, 2018** we planted a 28-mesocosm experiment at Freedom Park in Naples Florida. This represents the third mesocosm compound designed and created by our Everglades Wetlands Research Park at FGCU's Kapnick Center in Naples Florida. It is the first one constructed in Florida. See local reporting HERE or go to www.naplesnews.com and search for Freedom Park and also HERE or go to www.winknews.com and search for FGCU scientists on the topic of combating algae growth.

The other two mesocosm compounds that we reported on earlier are in Buckeye Lake, central Ohio and in Defiance Ohio, near the Maumee River that subsequently directs phosphorus pollution into western Lake Erie.

Our long-term research plan involves the development of interlinking physical, mathematical, and business models to optimize design parameters for wetlaculture in different climates, soils, landscapes and waterscapes. First, wetlaculture utilizes wetlands to reduce nutrient fluxes from agriculture and cities that otherwise would go directly into lakes, rivers, and estuaries. The second aspect of wetlaculture is what distinguishes it from a typical linear combination of agriculture and treatment wetlands. In wetlaculture, the wetland, in x number of years, would be "flipped" back to an agricultural field, with the idea that the food-production crop would grow well without applying any additional fertilizers over those that accumulated over those "x" years. Then after "y" years, the agricultural field would be "flipped" back to being a wetland. Our physical (mesocosms) and mathematical models will enable us to understand what those "x" and "y" years are for different climates, soils, and nutrient loading rates.

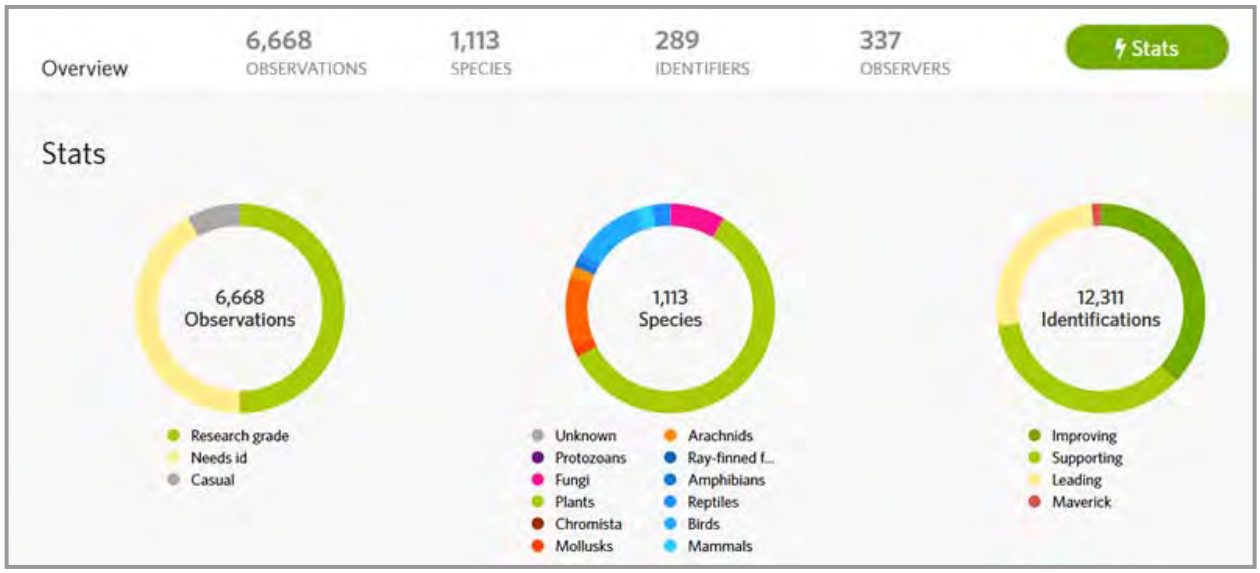
Our mesocosm research program continues to be supported by a variety of individuals, NGOs, public agencies, and corporations in Florida and Ohio such as Collier County (Naples, FL); the Judy Sproul Endowment for Habitat Restoration at the Naples Botanical Garden (Naples, FL); the College of Arts & Sciences, FGCU (Ft. Myers, FL); Buckeye Lake for Tomorrow (Buckeye Lake, OH); Steiner + Associates (Columbus OH); the South Central Power Company (Lancaster, OH); and Stream and Wetlands Foundation (Lancaster OH).

## In Memory.

Ralph D. McGinnis, 65, of Elyria, died Saturday, February 10, 2018. He was born May 2, 1952 in Columbus and was a 1970 graduate of Elyria High School. I met Ralph as a fellow kindergarten student when we were 5 years old. We shared many interests throughout school and beyond. In 1991 we became charter members of Friends of Wetlands which is now Ohio Wetlands Association.

Ralph was an accomplished poet, a Thespian and a musician. He was loved by many and will surely be missed. His family generously included OWA in his obituary, asking that memorial contributions be made to this organization in lieu of flowers. I want to thank those generous friends and family members for their support. It was good to see so many of you in recent days as we remember and celebrate Ralph's life.

# City Nature Challenge 2018: Cleveland by Ray Stewart




The Cleveland-Akron-Canton area competed in the 2018 City Nature Challenge. The City Nature Challenge is organized by the California Academy of Sciences and the Natural History Museum of Los Angeles County. Cities around the world documented biodiversity and were ranked by number of participants, number of observations, and number of species.

Anyone could get out, observe and post the living things nearby. Observations recorded in the following counties were automatically added to the project: Cuyahoga, Lake, Geauga, Medina, Lorain, Portage, Summit, Stark, Carroll, Ashtabula, Tuscarawas, Erie or Huron. All observations were entered into iNaturalist, a powerful online network with an amazing smartphone application.

With iNaturalist, a simple list of observations is all that is needed. But you can take it to the next level with the power of an app. Using the camera in your phone, its geo-location and time stamp, iNaturalist creates a respectable voucher, proof of what you have seen. Other participants serve as 'identifiers', who scour these data to verify their accuracy whenever possible. As confirmations come in, the quality of the data improves. When identifiers and observers all reach consensus the data gets labeled "research grade".

The Cleveland area has many dedicated naturalists who participated in the CNC. Of the 69 cities that submitted observations this year our NE Ohio region ranked #16. Considering our disadvantages of weather and delayed phenology, we did very well. OWA participated in the challenge by organizing a bioblitz at the Cassell Reservation, a rich wet lake plain woods, a new Lorain County Metroparks property in Vermilion, Ohio.

**Midland Painted Turtles, Erie County**

The one-day OWA event was done in coordination with Western Reserve Land Conservancy (who first acquired the property) and Lorain County Metroparks. You can check out the project at https://www.inaturalist.org/projects/city-nature-challenge-2018-cleveland. When you do, notice that OWA-RAY is on the leader board. Much of the credit goes to those who joined our bioblitz, shared their observations with me in real time and provided lists for me to enter afterward. Thanks to all who joined in the adventure and accepted the challenge.

## Be a Vernal Poolooza Conference Sponsor

After many years of providing one-day vernal pool workshops we are expanding our format to a 3-day conference. The Ohio Vernal Pool Network, a team effort of Ohio Wetlands Association and Midwest Biodiversity Institute, is taking our expertise and experience to the next level. The conference will provide more depth and breadth of vernal pool topics than we can provide in a one-day format.

Feedback from our workshop attendees indicates a need for expanded experiences and offerings on vernal pool subjects. We will also be offering a variety of laboratory and field experiences. Our quest to recruit and train vernal pool monitors will include training on specific monitoring techniques. And our train the trainer program that includes workshop and outdoor resources will be completed and available to enhance the repertoire of environmental educators across the state.

Vernal Poolooza will be at the Ashland University Convocation Center on April 4, 5 & 6, 2019. AU catering is an award winning and nationally recognized food service provider. We have secured Keynote speakers for the two evening sessions, Jim McCormac, a popular and well respected Ohio naturalist and Elizabeth Colburn, author of the natural science book Vernal Pools. They are both charismatic and informative speakers that should please all who attend. Several nearby locations will provide superior vernal pool experiences.

We are expecting 100 to 200 attendees at this conference. There will be students, volunteer naturalists, park managers and environmental educators from around the state. While some attendees will enjoy this event as paid professional development, many will take time off and pay out of pocket for the experience. We need sponsors to help us keep registration costs as low as possible. Your generous support will help defray the cost of food, materials and logistics. Thousands of hours of volunteer time will also contribute to keeping costs down. Still, there is no substitute for cash donations. See back for sponsorship levels and benefits. Sponsorship and payment information can be found at https://www.ohiovernalpoolnetwork.org/become-an-ovpn-sponsor.html .

**Thank you for your consideration!**

## Protecting a Geological Treasure in Clark County (cont'd)

*(Continued from page 3)*

grassroots community group was prepared with testimony to defend the township's environmental treasures and to oppose the company's proposed discharge of mining waste water into an unnamed tributary of the Mud Run, our small meandering county stream.

At this meeting, as with all other meetings and correspondence with ODNR and OEPA, I requested protection of a category 3 wetland fen and surrounding wetlands. In the past year, most conversations I have had with these governmental agencies regarding the protection of this fen and associated wetlands has easily been passed along to some other agency's jurisdiction.

And herein lies the problem, the dredging and filling of wetlands do not apply in this situation. It is the dewatering of the mining property which will draw down the water table of the surface and ground water of adjacent properties. This category 3 fen will be affected as it lies within the mine's proposed cone of depression. So tell me now, WHO IS RESPONSIBLE FOR PROTECTING THE WETLANDS, ESPECIALLY THIS WETLAND FEN ADJACENT TO THE MINING PROPERTY?

The fen will be indirectly affected by the company's dewatering, the lowering of the water table and the blasting which will change the hydrological pathways in this fragile karst geological area. As recently reported by the Ohio EPA, it is difficult if not impossible to mitigate a category 3 wetland fen. And remember, this fen lies outside of the mining property and is not theirs to mitigate.

It is hoped the Ohio EPA and/or the ODNR will step up to the plate and do the right thing in protecting this valuable community resource. This fen is preserved in perpetuity for future generations by the Tecumseh Land Trust. But, its very survival is dependent right now on the protection afforded to it by the Ohio Environmental Agency and the Ohio Department of Natural Resources.

The Ohio Administrative Code 3745-1-51 sets forth criteria applicable to the maintenance or enhancement of wetland functions. It states, "to every extent practicable and possible as determined by the director…" "the hydrology necessary to support the biological and physical characteristics naturally present in wetlands shall be protected." Furthermore, the Administrative Code states, the "water quality necessary to support existing habitats and the populations of wetland flora and fauna shall be protected."

This unique category 3 wetland fen is most certainly deserving of these aforementioned protections.

Any correspondence from wetland enthusiasts to the director of the Ohio EPA requesting protection of this important geological feature in Clark County would be most helpful and appreciated. Thank you in advance for your assistance in this matter.

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