

EECO

Environmental Education Council of Ohio



Winter 2019

Focus on Urban Issues

Winter Snow - Creative Ways to Teach STEAM EECO Winter Conference

Jan 31 - Feb 1

Camp Nuhop, Perrysville, Ohio

Friday Evening

Check-in, welcome, and roly poly races!

Saturday Keynote:

Creative Reuse Inspired by Nature, Michelle Stitzlein. Michelle is an artist who has spent time all over the country creating pieces that are represented in museum and corporate collections such as libraries, science centers, and art museums. She will give a presentation about materials available in the waste stream, and how she has utilized them in her own artwork as well as collaborative projects within schools.

Fees:

- Full conference: (Friday-Saturday, 2 meals, snacks, and lodging) : Member \$85 and Non-member \$125
- Saturday Only: (2 meals, snacks, no lodging): Member \$45 and Non-member \$85
- Student: Full Conference: \$50 ; Sat Only \$30



Register Online at www.eeco-online.org



EE 2020: The Vision of the Future EECO Annual Conference

April 2-5

Hueston Woods State Park, Oxford, Ohio

Join us in SW Ohio for a fun filled chance to network with others while learning new ideas. We will have field trips to vernal pools and fossil hunting areas, sessions on ways to grow your organization, ideas to get your students involved in research, and much more.

On Friday night we will have Open Space. This fantastic networking opportunity is a great chance to come together to discuss issues we are having, learn new ideas, and basically pick peoples brains. On Saturday, Chris Myers with Project Dragonfly will be our keynote.

Registration and further information will be posted soon at www.eeco-online.org

2019 Walter E. Jeske Award Winner Brenda Metcalf

By Bruce Young, (NAAEE) North American
Association of Environmental Education



Brenda accepting the award from NAAEE's Executive Director Judy Braus at the NAAEE Annual Conference

The Walter E. Jeske Award is NAAEE's most prestigious award, given each year to recognize service to NAAEE and leadership within the field of environmental education. This award was established to honor Walt Jeske, Chief of the Education and Publications Unit with the U.S. Soil Conservation Service. Jeske was a dedicated member of the NAAEE Board of Directors, and an outstanding environmental educator until his death in 1981. This year's award was given (in a surprise bait and switch) to the amazing and groovy Brenda Metcalf. Brenda has been the Executive Director of the Ohio NAAEE Affiliate, the Environmental Education Council of Ohio (EECO) since 2003 and has served on the Affiliate Network Steering Committee and as the NAAEE Awards chair since 2007. Additionally she previously served on the NAAEE Board of Directors from 2010 to 2016.

I caught up with Brenda, who was still in shock from the surprise of receiving this year's Jeske Award a few days after the conference to learn more about her, about her path to becoming an environmental educator and how she got involved with NAAEE, as well as some general fun facts about her.

Brenda, can you tell us about yourself. What are some of your hobbies, past-times and things not everyone might know about you?

I like to go hiking, hang out at the campfire, read and crochet.

If anyone has ever attended a session or workshop where you are in the room, they would know that you always come bearing gifts, be it a variety of flavored popcorn from your brother's store, or "fruits" and "vegetables" in the form of Skittles and chocolate. So I have to know, what are some of your favorite "fruits" or "vegetables"?

I am a huge fan of dark chocolate covered almonds, Godiva milk chocolate and Ben Heggy's chocolates are the best veggies out there! Of course fruits in the form of gummy bears and sweet tarts are pretty fabulous too!

I am always interested in people's journey to this field. How did you get involved with environmental education?

My parents took me camping at Old Man's Cave in the Hocking Hills Region of Ohio and I fell in love with the Naturalist Cabin and all the programs that they had.

Part of the Jeske Award's criteria is to have been an NAAEE member for at least five years, as well as having occupied a leadership role in some capacity with NAAEE. Could you share how you got involved with NAAEE?

I became the Executive Director of the Environmental Education Council of Ohio in 2003. In 2004, I was asked by my Board of Directors to go to the NAAEE Conference. That was the first time I had heard of NAAEE. At the conference I was in a different workshop when someone came into the room I was in and informed me I was in the wrong workshop. That is when I was told about the NAAEE Affiliates and that there was an Affiliate Workshop.

What was your favorite moment of this year's conference?

The Affiliate Network Steering Committee training with the Center for Diversity and the Environment was GREAT! However, I think getting the Jeske will ALWAYS be not just a favorite moment of the conference, but of my life. I was amazed that I received the award number one, but even more amazed that they were able to keep it a secret from me!!!

Why is environmental education important to you?

Environmental education is the one common thread that connects us all on this planet. No one can deny that educating others to have cleaner air, water and land is a great thing. Having a safer, healthier place to live that is more inclusive and just is something that most people can identify with if they are honest with themselves.

Find out more about NAAEE at <https://naaee.org>

Stormwater in the City

By Ebony Hood, Northeast Ohio Regional Sewer District

Every precious acre is valued when you are looking to divert stormwater from combined sewers in a major urban city. Cleveland, like many of its Midwest counterparts is known for being in the heart of the rust belt. Years of heavy industry and a decline in steel production has left ghastly deserted industrial sites and far too many dumping grounds across the community. With Cleveland's understated mission to transform to a Green City On A Blue Lake the Northeast Ohio Regional Sewer District has been leaving functioning greenspace across many neighborhoods. They are working with community partners to help activate the space in a meaningful way. Here's a small tour of two sites that debuted this year.

Buckeye Road Green Infrastructure

With grant funding from St. Luke's Foundation and the National Endowment for the Arts, and in collaboration with LAND Studio, the Sewer District was able to include sculpture and poetry at this site. Two literary and one public artist brought life to a high traffic intersection in the city. Stephen Manka created the water tower, bike rack, and trench drain sidewalk grates along the stormwater basins. Manka's tower was brought out of storage for a permanent installation on this site. It is reminiscent of the old water towers that housed many rooftops on older buildings. Buckeye resident Dawn Arrington created short poems inscribed in the concrete at each of the four Buckeye detention basins. Arrington chose to use both English and Hungarian words as a tribute to the strong roots of an immigrant community. Buckeye resident Damien Ware wrote "Ode to Lake Erie," which is inscribed on the platform that supports the water tower. He reflects on the value of Lake Erie to the region and how we can bring technology, art, and community together through projects such as this.



Ware, seated at the base of the water tower sculpture.



In front of the cutterhead, liquid is injected to soften the earth for the bore. When the cutterhead breaks through into the receiving shaft as shown here, the liquid gushes out in front.

Woodland Central

Woodland Central sits in the watershed of a culverted stream, Kingsbury Run. A project that used a microtunnel boring machine to mine a curved 2,722-foot-long, five-foot-diameter tunnel will lead to this green infrastructure site. Microtunneling reduces disruptions at the surface by requiring only access shaft sites and is generally less intrusive than open-cut trenching. By curving the tunnel, those disruptions are decreased further by allowing the shaft sites to be off the roads and causes customers fewer headaches. These projects are designed to enhance water quality and mitigate stormwater. The unspoken beauty is their last ability to connect the land with the community! Once you get past the technical details, you are left with what will become a large footprint of greenspace in the heart of a neighborhood that has suffered from years of disinvestment. It will become a natural stopping point for cycling commuters, for kids to play and for adults to track their 10k steps/day!



Before



After

Working in a Changing Landscape

By Sam Ciaramitaro, Warren Soil and Water Conservation District

As I'm sure many of you are no doubt aware, Warren County has experienced tremendous change over the past few decades. Development, mostly centered in the western half of the county, has spread urban areas into land that was formerly used for agriculture, bringing a host of new challenges our communities haven't had to deal with before. To get a better handle on what those challenges are and how they've affected our county, I sat down with a coworker of mine who has worked in this changing landscape: Don Norman, a Natural Resource Conservationist at the Warren County Soil & Water Conservation District (SWCD).

S: So how long exactly have you worked with the SWCD?

D: I started working with the Warren SWCD in 1991.

S: And have you had the same job that entire time?

D: I began as a District Technician working mainly with agricultural producers on projects to control erosion and improve productivity on cropland utilizing grassed waterways, water and sediment control basins, sub-surface drainage and usage of cover crops. There was also more livestock production at the time, so we did quite a bit with manure management and watering facilities, such as ponds and spring developments. In the early 2000's, with the increase in residential and commercial development, I moved over to working on plan review and inspection for the enforcement of the Warren County Sediment and Erosion Control Regulations. With the slowdown in construction around 2008, I moved back into working more with agricultural producers and rural landowners with their concerns. But, the constant through it all has always been with demand from residential property owners who need help with managing drainage and erosion matters on their properties. On any given day, it can be something different though.

S: Now take us through a typical work day.

D: Mostly, I respond to requests from landowners for assistance on private properties with natural resource concerns. As you can imagine, this can cover a wide variety of topics, but tends to somewhat go in cycles. For instance, with the record-setting rainfalls in the early part of this year there was a tremendous increase in requests for assistance with poor drainage and flooding issues. I also meet often with people who are interested in management of their ponds, as well as those who are interested in constructing a pond on their property. I do site and soils evaluations to help them determine the potential for a successful pond on their land. We also receive a great number of calls from folks who have a stream flowing through their property and want to

know how to deal with erosion or flooding issues which can be a threat to structures or possible loss of trees.

S: According to the Dayton Daily news, Warren is the 10th largest county in Ohio, and had the third largest population increase in 2018. How have you seen the landscape change



and how has this affected your job in particular?

D: Well, mainly, the population density has increased substantially. There is much more traffic on the roads. A lot of the farms that we put conservation practices on years ago now have medium to high density housing covering them. There has been a great deal of industry and light manufacturing created in the Mason and Lebanon Areas. When I started, the interchange at I-71 and Fields-Ertel Road was basically undeveloped. You couldn't imagine that when passing through that area today. The only areas of the county that kind of retain the "feel" of those days remain on the eastern side of Warren County, and there has still been a fair amount of residential development in those areas as well. But, for all of the changes which could be viewed in a negative light, Warren County is still a great place to live and has retained much of its' natural features and beauty.

S: Would you say that you work now with more urban or rural landowners than when you started here?

D: I'd say that it's a fairly even split between the urban and the rural now. But, like I mentioned earlier, it can go in waves. Like when it rains for weeks on end. But, compared to when I started? I meet a lot more urban folks than before.

S: Given what you've seen so far, what do you think is the future trend for the county?

D: I see our role becoming increasingly education driven, both with adults and in classrooms. I also see a certain increase in a regulatory role in helping municipalities and other units of government meet the requirements under the Clean Water Act for point and non-point discharges. But, ultimately, we will remain a place for landowners to seek out technical assistance for environmental concerns on their private properties, as we have been since our formation in 1944.

EECO Awards

Awards will be presented during the 53rd EECO Annual Conference. If you would like to submit a nominee, please complete the form found at <https://eeco.wildapricot.org/awards> by February 21.

Finlay-Johnson Award

- given to an EECO member for making a significant or outstanding contribution to EECO.

Christy Dixon Award

- given to a young professional who has contributed significantly to environmental education in Ohio.

Outstanding Environmental Educator in the field of formal education

- given to a formal educator for outstanding contributions to environmental education in Ohio.

Outstanding Environmental Educator in the field of nonformal education

- given to a nonformal educator for outstanding contributions to environmental education in Ohio.

Outstanding Volunteer Award

- given to a volunteer who has made a significant or outstanding contribution to environmental education in Ohio.

The Charley Harper Award

- given to a artist who has made a significant or outstanding contribution to environmental education in Ohio through various forms of art.

Organization Award

- given to a business or organization that has made a significant contribution to environmental education in Ohio.

Publications Award

- given to a publication that has made a significant contribution to the public understanding of an environmental issue(s).

Ohio Alliance for the Environment Award

- given to a business or industry that is dedicated to fostering a climate of cooperation for resolving environmental problems.

Regional Director Recognized for Her Excellence

Linda Pettit, Franklin Soil and Water Environmental Education Specialist, has been awarded the Area 5 2019 Educator of the Year Award from the Ohio Federation of Soil and Water Conservation Districts (OFSWCD). Soil and Water Conservation Districts are organized by 5 areas across Ohio, Area 5 includes seventeen counties. Each year, Area Directors choose two Area employees who excel at their job. Those nominations may come from district staff, board members, OFSWCD, or suggestions from the Ohio Department of Agriculture Program Specialist.

This year, Linda Pettit was chosen as the 2019 Area 5 Educator of the Year and was awarded at the Ohio Federation of Soil and Water District's Winter Meeting on Wednesday December 4, 2019. Cody Hacker, Ohio Department of Agriculture's Area 5 Program Specialist, said "Linda has for a very long time, and continues to, spread the conservation message throughout Franklin County, Area 5 and the entire State. As I go throughout and talk to District Educators many of them have been able use ideas Linda has shared in one form or another and implement similar programs in their county. Her recognition is certainly well deserved."

In the 26 years Linda has worked as the District's Environmental Specialist, she has accomplished many things, but what stands out the most is her passion for education, teachers, and most importantly, the kids she connects with. She sets a high bar for the rest of staff in our office for both energy and commitment. Last year alone she reached 12,000 students through her school programs, events, workshops, and activities. Franklin Soil and Water Director, Jennifer Fish, was on hand to proudly present the award to a very surprised, but extremely deserving, Linda.

Linda has been the Environmental Education Council of Ohio's Area 1 Regional Director for many years. Her knowledge and experience are much appreciated by the Board and Director for EECO. Congratulations Linda!



Urban Watersheds

By Kurt Keljo, Franklin Soil and Water Conservation District

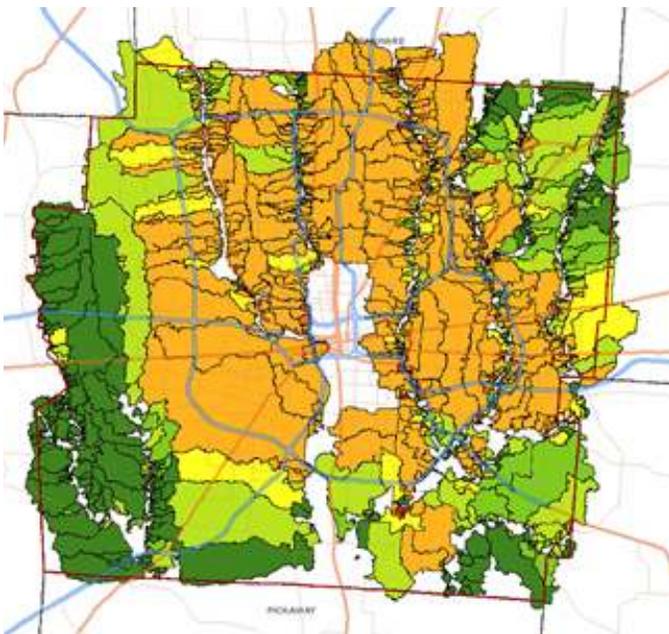
Even though urban watershed coordinators share a common land use context, their work can vary considerably depending on the entity they work for, the role they have within that entity and the specifics of the watershed(s) with which they work.



An urban dry creek bed carved by stormwater runoff

I am one of two watershed coordinators (watershed resource specialists in our context) at Franklin Soil and Water.

My co-worker, Ryan Pilewski, does a lot of work with GIS, an interactive mapping software. The boundaries of watersheds in urban contexts can be radically changed by the placement of storm sewers, which route runoff water directly into urban streams and rivers. Ryan has taken on the major task of determining the outlines of all of the little watersheds (sewersheds) in Franklin County. He has also done a lot of work with mapping land use (e.g. hard surfaces and open space), since what is happening on the land has a major impact on water quality in the streams. Cities and other entities have asked him to walk streams to identify problem areas,



Sewersheds in Franklin County with percentages of hard surfaces indicated by colors (orange areas indicate percentages that would be expected to significantly impair streams)

especially with regard to erosion. Of late, he has been working on new ways to produce stormwater plans for urbanized areas, using story mapping that provides a more visual approach to the plans than the written documents that have been produced in the past.

Our tasks overlap in the area of stormwater. Both of us write Stormwater Management Programs (SWMPs) for jurisdictions. These are required by the Ohio EPA of urbanized areas with stormwater systems (e.g. stormwater pipes and roadside drainage), as a part of their obtaining a permits to discharge stormwater to our waterways. These jurisdictions are required to produce annual reports, which Ryan and I also compile.



Stormwater as it begins to run off of pavement in a subdivision

In addition to working on stormwater programs/plans and reports, we help jurisdictions accomplish the tasks set out in the plans and reported each year. This includes producing articles for public education, planning and facilitating public events, like tree plantings and creek clean-ups, speaking to groups such as classes and homeowners associations, and writing grants to fund projects that help improve water quality. We also help landowners deal with issues related to waterways, typically drainage issues and erosion problems, and participate in meetings of various stakeholders in our watersheds.



A rain garden designed to clean stormwater runoff

In recent years, I have been particularly involved in working with high school students, implementing grant projects, and water quality monitoring. Several entities have become interested in the water quality of particular streams, so I have begun working with professionals and volunteers to collect data, while obtaining equipment, developing expertise and collecting our own data.

In terms of the issues we face, urban settings are not all

the same. Even though our setting is considered urban, agriculture is still a part of our watershed scene. The headwaters of many of the streams we work with are in agricultural settings, and the nutrients in those streams often have agricultural sources. The fish kills of which I have been aware have been caused by agricultural accidents. However, most of the issues we work with day to



A rainbow darter – one of the fish in Franklin County that is sensitive to pollution

es in stream flows due to the hardening of watersheds with paving, houses, buildings etc., and the pollution that comes with the runoff coming off of those surfaces.



Houses threatened by erosion caused by urban runoff, can lose all of their value, and even need to be abandoned.

day are centered around the consequences of urbanization and development. These include: stream channelization, elimination of plants that act as natural stream buffers, changes

in stream flows due to the hardening of watersheds with paving, houses, buildings etc., and the pollution that comes with the runoff coming off of those surfaces. There are also discharges to our streams from household sewage treatment systems (HSTSs), leaking sewage pipes, sewer cross connects and sewage overflows. Industrial discharges, while rare in our con-

text, can create major problems in our waterways.

There are multiple barriers to addressing these problems. Many of the problems would need to be addressed on private land and virtually no money is available to implement projects on private land. There is not much money to draw on for projects of any type. Our streams are off the screen for most folks. They do not notice them and are not aware of the problems that they face. Developers are reluctant to change their practices to protect streams, and jurisdictions are often unwilling to force those changes. Watersheds typically contain multiple jurisdictions, which means that jurisdictions can experience problems created outside their boundaries and problems cannot be addressed without the participation of several governmental bodies. The cost of addressing issues tends to range from expensive (hundreds of thousands of dollars to millions) to very expensive (billions of dollars). The City of Columbus is spending several billion dollars to address overflows of raw sewage that occur during major rain events, a consequence of old sewer designs and infrastructure flaws.

On the bottom line, urban watershed coordinators work with a wide variety of problems, which are typically unnoticed by the general public, involving multiple stakeholders, with limited funds available to address the issues, dealing with restrictions associated with the use of public funds on private property. While the challenges can be overwhelming, they won't go away by ignoring them, and there's nothing quite like having a watershed project come together.



Future City Competition

January 11

Groveport, Ohio

Future City is a project-based learning program for students in 6th, 7th, and 8th grades. Future City starts with a question—how can we make the world a better place? To answer it, students imagine, research, design, and build cities of the future that showcase their solution to a citywide sustainability issue. Past topics include stormwater management, urban agriculture, public spaces, and green energy. The 2019-2020 theme is Clean Water: Tap Into Tomorrow. Teams will choose a threat to their city's water supply and design a resilient system to maintain a reliable supply of clean drinking water.

For Future City to remain a success for the students, they need Engineer Mentors and also judges for the competition. Judging can be done remotely or at the actual competition. Find out how you can be a part of this at <https://futurecity.org/ohio>

Creative Growth: Urban Space & the Cincinnati Zoo

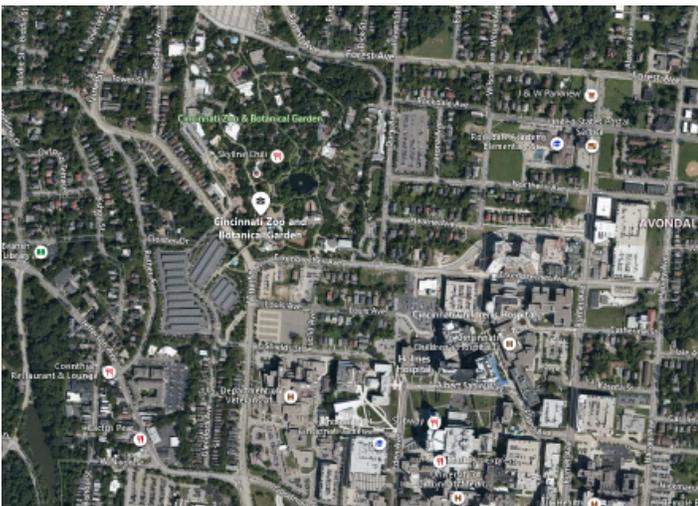
By Samantha Plante, AmeriCorps Community Sustainability Member,
Cincinnati Zoo and Botanical Gardens



The Cincinnati Zoo and Botanical Garden (CZBG) is in Avondale, a neighborhood nestled in the center of the city. Being an urban

zoo has provided many opportunities that not all zoos are given. For example, the public has more access to our zoo with an increased availability to public transit. Beyond this, our visitors come from a variety of backgrounds, age groups, and income levels, allowing us to extend conservation messaging into often unreached groups. Being in Avondale, we have been given the opportunity to truly reinvest in our home community to make a positive impact through programs such as Light Up Avondale, food drives, numerous community cleanups, and more. The CZBG is unique in that it provides exposure to wildlife in a setting that is surrounded by concrete and built environment.

Of course, all the benefits of being an urban zoo do not come without their setbacks. When building a conservation experience for the public, we must always keep in mind that space is precious and limited. The boundaries of the Zoo are not easily expanded without taking up space from our neighbors, the Avondale residents. So how is this combatted? How do you balance community preservation with conservation expansion? The facilities department at CZBG has been working to answer that. Always striving for better, we are reinvesting and reorganizing the 69-acre space that we maintain in Avondale. Building and facility renovations began back



in 2006, with landmark projects such as the Harold C. Schott Education Center, the African Savanna, the African Painted Dog Habitat, and the award-winning Base Camp Café. With sustainability and resource conservation as a priority, we are not only able to reduce impact with these renovations, but we are also able to reduce daily functioning costs such as water and energy. This saves funds to allow for continuation of the updates. By continuously improving habitats and facilities, we can adapt to the more current needs and demands of the zoo without the immediate necessity to expand spatially.

One of the biggest space consumers at the zoo is parking. Currently, we have a 4-acre parking lot on Vine Street. This lot was completed in 2011 with a solar installation to generate energy and to provide shelter and shade for guest vehicles. This lot can fill within 2 hours of opening on some of our busiest days, where attendance can hit well over 10,000 people. The lot has not been enough to accommodate the parking demand. Thanks to a generous donation in 2018 by Harry and Linda Fath, the CZBG will build a parking garage on zoo-owned property on Erkenbrecher Avenue, on top of many other improvements coming with the “More Home to Roam” campaign. This will allow the zoo to reallocate current parking space to expand the internal exhibits without interrupting the surrounding community.

While we cannot expand into Avondale, The CZBG was gifted property in Mason, Ohio called Bowyer Farm. At this 600-acre location, we continue our conservation mission: growing native plants, restoring native habitat, and providing educational opportunities.



Here we are also able to grow food for some of our animals so that we can reduce our own carbon footprint. By expanding out to Bowyer, we do not need to take up any more space in Avondale for these goals and can continue to focus on the betterment of our facilities, our neighborhood, and our conservation mission. While an urban setting can be a challenge due to space and parking, it gives us the best possible opportunity to create adventure, convey knowledge, conserve nature, and serve the community when taken on with creative minds and passionate individuals.



Student Wildlife Research Symposium

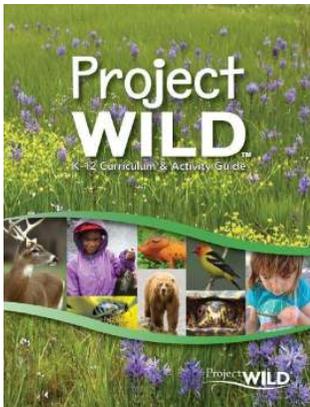
April 2, 2020

Hueston Woods State Park Lodge

The Fourth Annual Ohio Student Wildlife Research Symposium (SWRS) will take place April 2, 2020 at Hueston Woods State Park Lodge. We will, again, be partnering with the Environmental Education Council of Ohio's Annual Conference (EECO), which will follow from April 3-5th at

Hueston Woods State Park as well. We are also joining forces with the Cincinnati Nature Center to host a joint event with their Next in Nature Teen Conservation Summit. You can find additional details about their event, submit proposals, etc., online at <https://www.cincynature.org/get-involved/next-in-nature%3A-teen-conservation-program-4/next-in-nature-teen-conservation-summit-9/>

The call for proposals for the SWRS is now available and will be accepted until January 17, 2020. Registration will open later this year and can be found online on EECO's web site <https://eeco.wildapricot.org/> Any students, family, friends, and professionals are welcome to attend.



Project WILD for Grades 1-5

Saturday, February 29, 2020, 9 am - 3:30 pm
VOA Park, West Chester, Ohio

During this full day workshop, attendees will try their hand at several of the activities including several field investigations.

To register, or find out more, please contact Stephanie McCabe at smccabe@yourmetroparks.net or www.yourmetroparks.net.

Discover & Explore Adult Workshops

Camp Oty'Okwa and Rural Action

A variety of Adult Education programs are being offered to the community. Attend any 2 classes for 1 graduate credit. Each class costs \$35 and includes lunch. Upcoming Topics are:

- World of seven billion, Jan 11
- Winter: A great time to be outside!, Feb 8
- The birds around us, Mar 14

Field Trip: Hidden Treasures of the Edge, Apr 24-26. \$110 includes lodging and meals. 1 graduate credit hour available for an additional \$180.

For additional information: Please visit <http://campotyokwa.org/workshops/>

Contact:

Cathy Knoop 740-603-3911 or cathy.h.knoop@gmail.com

Joe Brehm 740-767-2225 (work) or 614-886-5668 (cell) or joe@ruralaction.org



Ohio Environmental Education Fund

The Ohio Environmental Education Fund (OEEF) invites applications for mini grants (\$500 - \$5,000) and general grants (\$5,000 - \$50,000) for education projects targeting pre-school through university students and teachers, the general public, and the regulated community. Prospective applicants can start the application process by opening an account in Ohio EPA's eBusiness Center at <https://ebiz.epa.ohio.gov/>.

Ohio EPA encourages OEEF applicants to discuss their proposal ideas with OEEF staff members before completing their applications. OEEF staff members will be happy to provide a pre-review of draft applications as they are under development in the online grant service.

Electronic Letter of Intent Deadline is January 8, 2020
Application Deadline is January 15, 2020.



Grant Writing Workshops

The Ohio EPA Office of Environmental Education offers grant writing workshops around the state throughout the year.

- **Grant Writing 101: Finding the Right Funder.** Prospecting tips to help you identify foundations, corporations, and government grant programs, and how to approach different kinds of grantmakers.
- **Grant Writing 102: Writing a Winning Proposal.** How to avoid common mistakes applicants make, and develop realistic objectives, activities and budgets. OEEF will be referred to during this session.

Contact Dennis.Clement@epa.ohio.gov to find out about upcoming workshops.



Environmental Career Ambassadors

Environmental Career Ambassadors are environmental professionals willing to make classroom or school career fair presentations for middle and high school grades about their careers and/or provide shadowing, internship, field trip and scholarship opportunities.

This career initiative was created to address various needs in Ohio. For instance, there is an emerging need to prepare students in fields emphasizing Science, Technology, Engineering and Mathematics (STEM) for careers in today's high-tech economy. This initiative will also aid employers looking to hire professionals in environmental science and engineering as there is a reported shortage of qualified applicants.

Teachers• If you are interested in finding out about the Career Ambassadors available in your area, please contact us at director@eco-online.org.

New Career Ambassadors Needed• If you would like to be more involved by volunteering to be a Career Ambassador you can fill out this form and email back to us at director@eco-online.org.

The Environmental Career Ambassador (ECA) Initiative was created by the Environmental Education Council of Ohio (EECO) and the Ohio Environmental Protection Agency with the assistance of the Ohio State University School of Environmental and Natural Resources. Find out more at <https://eco.wildapricot.org/eca>

Environmental Education In the Concrete Jungle

By Ryan Bourgart, Ohio EPA Office of Environmental Education

The concrete jungle is spreading; society is becoming more urbanized. As more natural land is converted to accommodate greater populations, opportunities to experience nature dwindle. Environmental educators are adapting in creative ways to meet the needs of urban audiences. Four recent projects funded by the Ohio Environmental Education Fund (OEEF) offer good examples of spreading environmental awareness, knowledge, and skill in making sustainable decisions.

Microgrid Engineers of Tomorrow awarded \$23,112 to the **St. Clair-Superior Development Corporation** to involve 40 Cleveland teens in sustainable community development projects. Participants will monitor local air quality, plan career paths and attend presentations and field trips highlighting environmental science and engineering careers. Students will also complete photovoltaic training and assemble a microgrid usable by neighborhood residents. Project Director Philip Hewitt emphasized how invaluable the summer workers, fall interns, and aspiring engineers and architects are to the project. The community will be surveyed on how to use the green energy that is generated by the microgrid. Effective EE involves the community in the participation, evaluation, and improvement of the projects.

Nature in the 216 by the Boys & Girls Clubs of Cleveland and the Cleveland Museum of Natural History received \$25,935 to immerse youth in a 4.5 acre nature preserve within the city, to explore stormwater management, biodiversity, habitat restoration, and careers in the environmental sciences. Robert Koonce, Interim Chief Development Officer of the Boys & Girls Clubs of Cleveland, emphasized that getting youth into nature helps them to calm down, think things through, and be more active and physically healthy. By focusing on people and the neighborhood, urban EE will do its intended good.

Cleveland Neighborhood Tree Steward Program is greening local Cleveland neighborhoods with help from the Western Reserve Land Conservancy and Holden Forests and Gardens. With an award of \$46,374 the project focused on the importance of building community involvement to protect and nurture trees. Project Director Elizabeth Grace said that, "through this program Tree Stewards develop the knowledge and skills they need to coordinate and lead planting efforts in their communities. Having residents engaged in reforestation at the neighborhood level means more trees in the ground while also raising the awareness of the importance of reforesting our city." Many urban tree planting projects

fail unless residents understand the benefits of trees and make a commitment to water and care for the trees during their first years. This project is modeled on a successful approach taken in Portland to recruit caretakers in neighborhoods where trees are being planted to restore canopy, provide shade and improve air quality. Planting projects and educational workshops were also provided to city schools.

Mill Creek Urban AgroForestry Program by Groundwork Cincinnati was awarded \$36,745 to provide at least 800 middle and high school students hands-on field work activities that improved urban wildlife habitat in the Mill Creek watershed. These activities were aligned with Ohio science education standards and helped students learn about habitat restoration, reforestation, and water quality improvements. Through classroom presentations and discussions, students also learned about the impacts of climate change on stormwater runoff and the urban environment.

How we live in the urban environment as well as their design are important considerations when it comes to creating a sustainable future. Educating urban communities about environmental challenges and involving them in solutions may empower them to get involved in sustainable decision-making and create the cities of the future.

Ohio EPA Environmental Science & Engineering Scholarship Deadline

Applications will be accepted beginning January 15, 2020. The application deadline is April 15, 2020.

These merit based, nonrenewable, scholarships will be given to undergraduate students admitted to Ohio state or private colleges and universities who can demonstrate their knowledge and commitment to careers in environmental sciences or environmental engineering. Students must be entering the final year of the program. Awardees will be selected by the Academy appointed panel.

Find out more at:

www.ohiosci.org/oef-scholarship

Contact EECO

Partnerships strengthen EE in Ohio, leading to a more environmentally literate population and a healthier environment. You are welcome to become a partner and friend to EECO. Please contact any of our regional directors, officers, advisors, and board members to find out more about becoming a part of EECO.

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