

**Ohio Environmental Education Fund**

**and**

**Ohio Clean Diesel School Bus Fund**

**Financial Summary**

**State Fiscal Year 2015**



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**Ohio Environmental Education Fund  
Ohio Clean Diesel School Bus Fund**

**Financial Summary  
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## Ohio Environmental Education Fund Fiscal Activity SFY 2006-2015

	SFY 2006	SFY 2007	SFY 2008	SFY 2009	SFY2010	SFY2011	SFY2012	SFY 2013	SFY2014	SFY2015
<b>Revenues (1)</b>	846,644	1,404,063	1,918,867	1,758,819	1,862,072	1,258,402	1,736,975	1,233,578	849,249	646,840
<b>Expenditures (2)</b>										
Personal Service (3)	365,436	311,724	387,470	371,873	341,774	369,837	322,841	336,383	283,692	299,836
Supplies & Maintenance (4)	79,554	62,269	56,775	57,730	64,820	73,513	10,118	72,362	75,202	91,222
Indirect	54,639	55,126	57,332	63,206	64,321	58,744	162,156	67,812	73,125	78,600
Equipment	1,708	7,516	2,062	0	0	1,795	5,560	697	3,333	5,889
<b>Total Operating Expenses</b>	<b>501,337</b>	<b>436,635</b>	<b>503,639</b>	<b>492,809</b>	<b>470,915</b>	<b>503,889</b>	<b>500,675</b>	<b>477,254</b>	<b>435,352</b>	<b>475,547</b>
<b>Grant Payments (5)</b>	901,693	845,090	1,413,044	956,858	751,210	1,197,847	748,873	719,028	710,629	526,646
Ending Cash Balance (1)	1,790,809	1,913,146	1,915,183	2,224,335	2,864,282	2,420,949	2,908,376	2,918,377	2,621,644	2,266,291
Open encumbrances	559,653	720,995	277,215	286,315	276,790	384,807	466,791	397,288	640,649	880,834
<b>Grant Awards</b>										
General Grants	754,839	741,803	719,511	704,600	737,294	700,000	670,438	631,948	568,497	591,444
Mini Grants	93,395	98,111	97,596	89,227	95,000	100,256	92,813	100,288	69,706	63,366
EE partner- and sponsorships	183,601	163,851	163,550	163,800	147,800	147,800	174,870	155,670	163,656	154,050
<b>Total Grant Awards</b>	<b>1,031,835</b>	<b>1,003,765</b>	<b>980,657</b>	<b>957,627</b>	<b>980,094</b>	<b>948,056</b>	<b>938,121</b>	<b>887,906</b>	<b>801,859</b>	<b>808,860</b>
<b>Total Commitments (6)</b>										
Operating + Awards	1,533,172	1,440,400	1,484,296	1,450,436	1,451,009	1,451,945	1,438,796	1,365,160	1,237,211	1,284,407

(1) Includes one-half of civil penalties collected by Ohio EPA air and water programs, plus reimbursements and donations.

(2) Includes a total of \$239,488.29 in funding for Ohio EPA Small Business Assistance Office in SFY01.

(3) Includes staff salaries and benefits, reimbursements to volunteers for travel, and substitute teachers. 2007 includes \$38,280 for GMS.

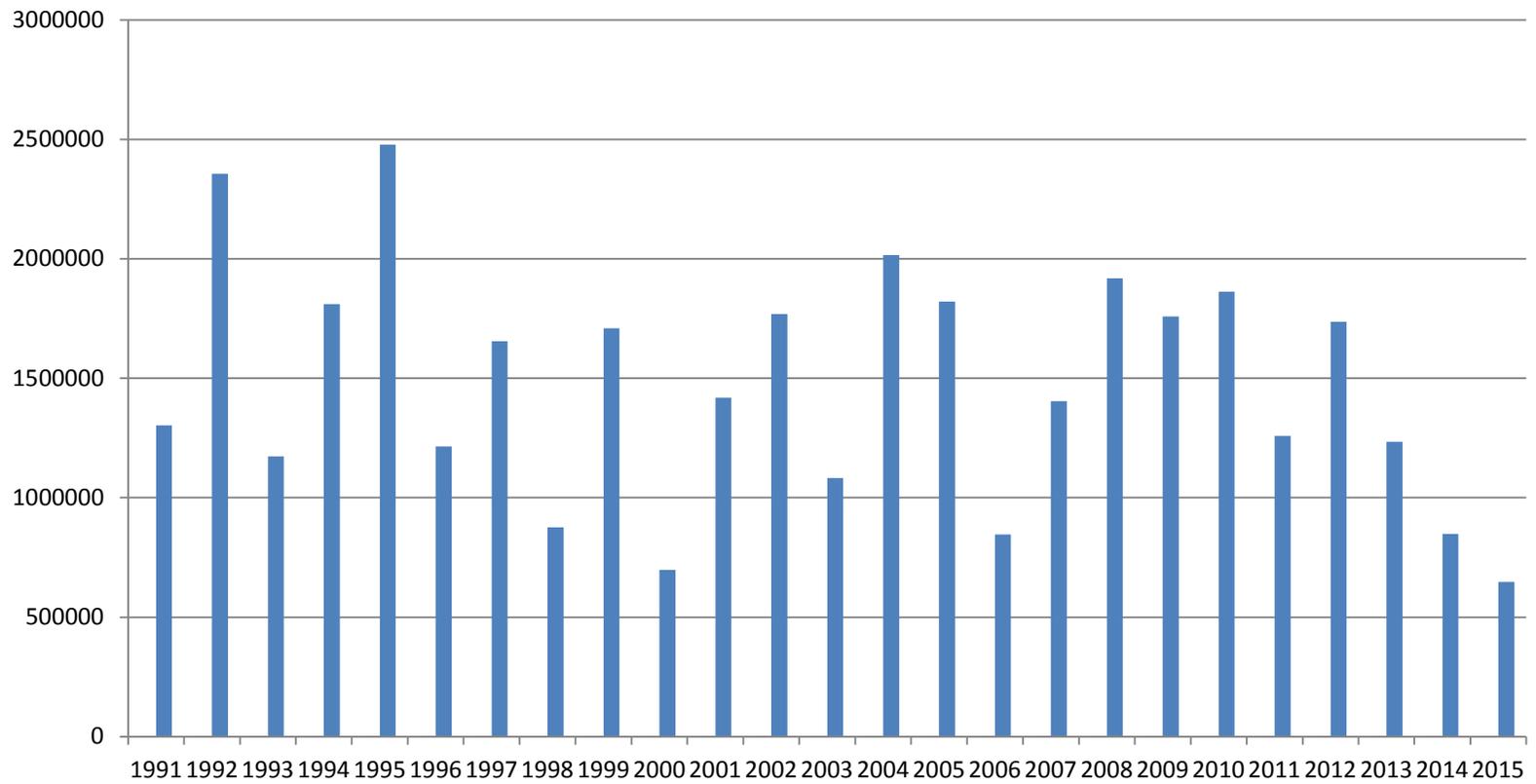
(4) Includes rent, printing, communications, and postage.

(5) Includes final payments to previous fiscal years' grantees.

(6) Comparable to annual budget.

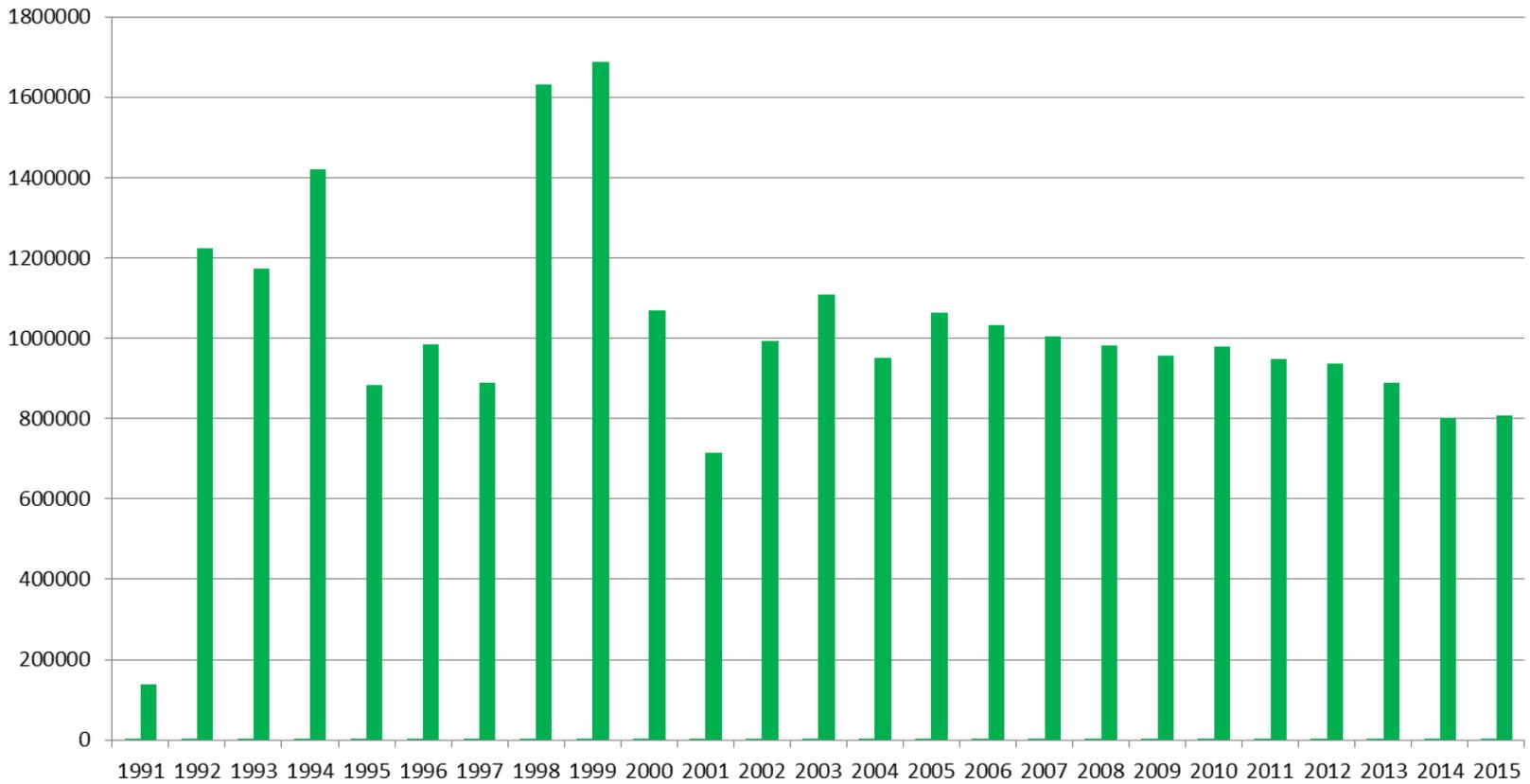
# Ohio Environmental Education Fund

*Revenues 1991-2015*



# Ohio Environmental Education Fund

*Grant Awards 1991-2015*



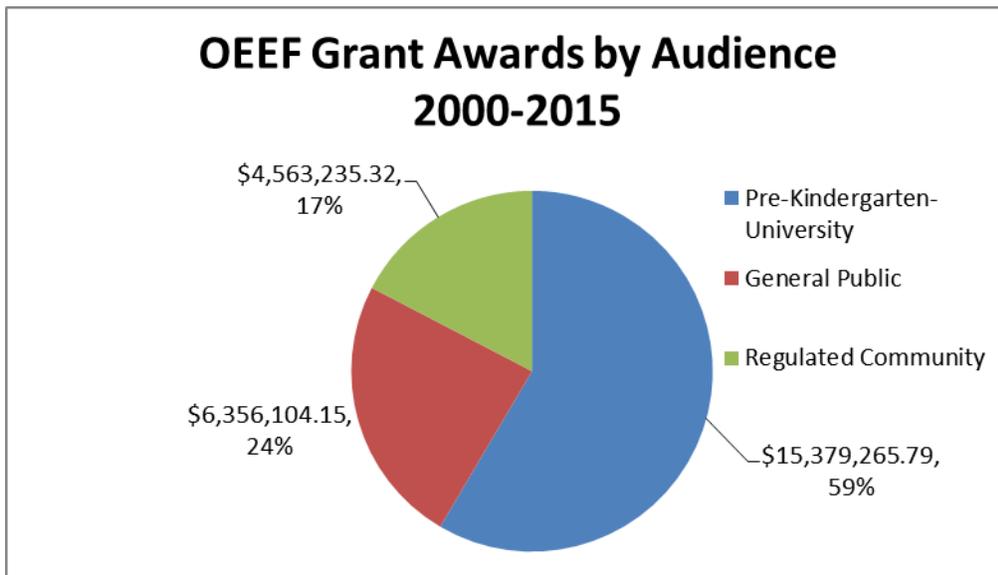
# Ohio Environmental Education Fund Program Highlights 2015

## Educational Priorities for SFY 2015

Funding priorities for OEEF grant programs are set by the OEEF Advisory Council in consultation with the Ohio EPA director. Ohio EPA is interested in using OEEF funds to support projects that are closely linked to the Agency's overall regulatory priorities and efforts to protect Ohio's environment. This year, funding was directed to four of the most pressing areas where Ohio EPA has determined an immediate need for more education, awareness and outreach efforts due to significant environmental impacts in our state:

- projects that demonstrate and encourage the use of **innovative storm water management** practices;
- projects that demonstrate and encourage **the reduction of air emissions**, including, but not limited to, promotion of alternative modes of transportation;
- projects that encourage and explain the importance of **habitat restoration** efforts to increase biodiversity and improve air and water quality; and
- targeted efforts to encourage nutrient management practices that will **reduce nutrient loadings to rivers and streams** from urban and rural areas.

Ohio EPA strives to serve three target audiences with OEEF funding: pre-kindergarten through university students and teachers, the adult general public, and the regulated community.





## Water Quality Monitoring and Education



Ohio EPA provides statewide coordination of Project WET (Water Education for Teachers), a highly respected national curriculum for elementary and middle school grades, and its secondary level curriculum *Healthy Water, Healthy People* (HWHP), training middle and high school students and teachers to monitor water quality in local streams. The Office of Environmental Education also assists Ohio EPA's Division of Surface Water in training adult volunteer monitors to collect stream quality data under Level 1 of Ohio's Credible Data program.

Since taking over coordination of Project WET in January 2015, OEE has hosted a yearly facilitator training with 24 attendees from across Ohio. Approved facilitators are certified to host local educator workshops. A joint facilitator workshop for 2016 is planned for Shawnee State Park, in cooperation with Project Learning Tree – Ohio, which is coordinated by the Ohio Department of Natural Resources, Division of Forestry.

This year local facilitators hosted 10 Project WET educator workshops introducing 96 new users to the 2.0 Educator Guide. Another 89 educators received training in the HWHP curriculum.



## Environmental Careers

Ohio EPA would like for more Ohio students to consider careers in environmental science and engineering. The OEEF is supporting six initiatives described more fully in the sponsorship and partnership pages of this report, in keeping with the state's emphasis on **STEM (science, technology, engineering and mathematics)** education and preparing students to meet the needs of Ohio's increasingly high-tech job market.

- **Scholarships** for environmental science and engineering students at Ohio colleges and universities <http://ohiosci.org/scholarships/>
- Support to the Ohio Academy of Science for **State Science Day**, recognizing original environmental science research by students in grades 7-12, <http://ohiosci.org/ssd-htm/>
- At the middle school level, the **National Engineers Week Future City Competition®**, <http://futurecity.org/ohio>
- At the high school level, the **Ohio Envirothon®** competition sponsored by Ohio's soil and water conservation districts, <http://soilandwater.ohiodnr.gov/education-professional-development/envirothon>
- Sponsorship of the Ohio Chemistry Technology Council's "**Teachers, Industry and the Environment**" conference, <http://www.ohiochemistry.org/aws/OCTC/pt/sp/tieconference> .
- A group of 361 volunteer **environmental career ambassadors** willing to make school presentations, through a partnership with the Environmental Education Council of Ohio and The Ohio State University's Environmental Professionals Network, <http://epn.osu.edu/>

Ohio EPA is also partnering with other state and federal agencies to introduce Ohio's young people to STEM careers, and Ohio EPA staff scientists and engineers provide school presentations and participate in school Career Exploration Days.



*Hazardous Waste Inspector Dan DiMeo and Water Quality Scientist Sarah Adams discuss their careers with Walnut Springs Middle School students.*

**Ohio Environmental Education Fund  
Grants for the Pre-Kindergarten to University Audience**



*In SFY2015, the OEEF funded 17 Pre-Kindergarten--University projects for a total of \$305,344*

**Five Rivers MetroParks**, "Discover Huffman Prairie," F15G-003, \$11,717, Greene County, Audience Pre-Kindergarten-University (Grades 4-12). Contact: David Nolin, [dave.nolin@metroparks.org](mailto:dave.nolin@metroparks.org), (937) 275-7275.

Interpretive signs, plant identification markers, brochures and a weather resistant kiosk will be established on the Huffman Prairie State Natural Landmark, the largest black soil prairie remnant in Ohio. Since the site was rediscovered in 1986, the prairie has been the focus of successful habitat restoration work. The signs and brochures will provide information about the natural history, ecology, and human history of the site, as well as the native plant and wildlife populations. The project will also include prairie walks, bird watching events, and botanical programs that will reach 5,000 people. Collaborators include Wright-Patterson Air Force Base and the Dayton Aviation Heritage National Historical Park.

**Kenston Local School District**, "Kenston Alternative Energy Outdoor Learning Center," F15G-009, \$46,627, Geauga County, Audience: PreK-University. Contact: [lynn.fagerholm@kenstonapps.org](mailto:lynn.fagerholm@kenstonapps.org), (440) 543-1949.

An outdoor learning center will be installed on the Kenston Local Schools campus to teach students and other visitors about the alternative energy initiatives currently in place at the school. Three interpretive signs will provide information about the wind turbine, solar arrays, hybrid school bus and other sustainability features on the campus, linked to the Kilowatts for Kenston energy efficiency curriculum. Students from all grade levels will participate in STEM activities including the use of tablets to monitor the energy generated and used on the campus, the National Engineers Week Future City Competition and K'NEX Forces, Energy, and Motion kits. Geauga Park District is collaborating with a binocular program for fifth grade students.

**Toledo Botanical Garden**, "Ottawa River Watershed Neighbors," F15G-010, \$15,526, Lucas County, Audience: PreK-University (4<sup>th</sup> Grade). Contact: [education@toledogarden.org](mailto:education@toledogarden.org), (419) 536-5589.

A watershed education program will help fourth grade students from 11 area schools understand habitat restoration, storm water and nutrient management benefits of an ongoing Ohio EPA-funded project to create a wetland and reestablish the natural flow of an Ottawa River tributary running through the property. Educators from the Toledo Botanical Garden will visit classrooms to introduce watershed concepts using the Enviroscope Watershed Model. Students will then visit the Toledo Botanical Garden to map their watershed,

collect macroinvertebrates, test water samples, and play games illustrating the aquatic food chain. BP-Husky Refinery is collaborating.

**Ursuline College – Biology Department**, “Stream Restoration Monitoring and Assessment to Improve Campus and Community Environmental Education,” F15G-012, \$26,135, Cuyahoga County, Audience: PreK - University (Undergraduate). Contact: [jsnyder@ursuline.edu](mailto:jsnyder@ursuline.edu), (440) 646-8161.

An Ohio EPA Surface Water Improvement Fund grant is supporting the ongoing restoration of a tributary to the Chagrin River that flows through the Ursuline Campus. The OEEF grant will provide equipment and supplies for 60 undergraduate students to collect water samples and assess turbidity, dissolved oxygen, conductivity, pH and temperature data compared to pre-restoration data to understand the effectiveness of the restoration. Student data will be presented at the College Undergraduate Scholarly Symposium. Students will also create posters and permanent interpretive signs to explain the habitat, storm water and nutrient reduction benefits of the stream restoration to local residents, the College community and visitors to the campus.

**Civic Garden Center of Greater Cincinnati**, “Green Learning Station Storm Water Education,” F15G-015, \$31,758, Butler, Clermont, Hamilton, and Counties, Audience: PreK – University (Grades 7-12). Contact: [kjohnson@civicgardencenter.org](mailto:kjohnson@civicgardencenter.org), (513) 221-0981.

A mobile, interactive urban water cycle display will be developed to upgrade the Civic Garden Center of Greater Cincinnati’s Green Learning Station, a site dedicated to educating students and adults about combined sewer overflows. The display will be used on site and transported to regional outreach events to educate audiences about how sewer systems work. The project will also create a data portal and a display that will allow visitors to interact with the data and engineering behind the storm water infrastructure at the Green Learning Station. Students will be engaged in data analysis and real-world engineering through the portal. More than 5,000 people will be reached directly by the project during the year. The University of Cincinnati, Xavier University, Cincinnati State Technical and Community College and the Greater Cincinnati STEM Collaborative are among the collaborators on the project.

**Warren County Soil and Water Conservation District**, “Thomas C. Spellmire Water Trailer,” F15G-017, \$24,400, Warren County, Audience: PreK-University (Grades 2-12). Contact: [amy.pond@co.warren.oh.us](mailto:amy.pond@co.warren.oh.us), (513) 695-1337.

New interactive exhibits will enhance a travelling water quality education trailer and accommodate more visitors at one time. Using computer projection technology, two interactive stream tables will incorporate lessons on



erosion, nonpoint source pollution, pollution prevention and other environmental issues. External graphics will be wrapped on the outside of the trailer to educate visitors about wetlands and stream ecology. A third graphic of a streambed will also be used as flooring on the trailer's ramp. The exhibit reaches 15,000 students and adults annually at school programs and community events.

**Friends of Stark Parks**, "Introduction to Watershed Studies," F15G-020, \$41,832, Stark County, Audience: PreK-University (High School and Undergraduates). Contact: [nmorris@starkparks.com](mailto:nmorris@starkparks.com), (330) 409-8995.

A watershed studies course will provide high school students with a service learning project focusing on evaluating stream habitat, monitoring for aquatic macroinvertebrates and water chemistry sampling. Part of the project will require students to prepare a Level 1 Credible Data Study Plan and assist in a public outreach program focused on storm water impacts in the Sippo Lake Watershed. Students will explore career opportunities as they interact with environmental professionals to learn about sample collection, laboratory analysis, compilation and analysis of data, and how to effectively present the results to the local community. Solar-powered, in-stream water quality monitoring sensors will provide real-time stream conductivity, temperature, pH, algae and stream flow data to an exhibit at the Exploration Gateway at Sippo Lake Park that hosts 134,000 visitors annually.



**ECO Center**, "Outdoor Education Learning Circuit," S15G-033, \$12,314, Morrow County, Audience Pre-Kindergarten-University (Grades K-8). Contact: Francisco Ollervides, [follervides@hotmail.com](mailto:follervides@hotmail.com), (914) 400-8210.

A circuit of interpretive/educational stations will be established at an outdoor education center serving schools in Marion and Morrow Counties, to educate teachers, students and the community about habitat restoration and biodiversity. The project includes installation of a butterfly/bird garden, interpretive wooded trail, and a species diversity station that challenges participants to touch, examine and identify organisms. More than 2,000 students are expected to be reached through the project and lesson plans are aligned with Ohio's New Learning Standards.

**Perry Soil and Water Conservation District**, “Water Quality Investigation of Jonathan Creek,” S15G-034, \$32,824, Muskingum and Perry Counties, Audience PreK-University (Grade 7). Contact: Penny Cox, [penny.cox@oh.nacdnet.net](mailto:penny.cox@oh.nacdnet.net), (740) 743-1325.

A hands-on, inquiry-based project will introduce seventh graders in New Lexington and Sheridan Middle Schools to water quality issues such as nutrient loading and bacterial contamination in a local watershed. Classroom presentations will cover using topographic and aerial maps to study the watershed; how to test for the different contaminants found in the Creek; how to conduct a biological stream assessment; and related environmental careers. Students will visit the creek twice during the school year to conduct chemical tests and kick-seine for macro-invertebrates as a biological indicator of water quality. Teachers will also be trained on standards-aligned water quality activities from the Project WET, Aquatic Project WILD and Healthy Water, Healthy People curricula. Collaborators include the Guernsey and Muskingum Soil and Water Conservation Districts and Rural Action.

**New Philadelphia City Schools**, “LIFE: Learning In Forest Ecosystems,” S15G-036, \$21,305, Tuscarawas County, Audience PreK-University (Grades 5 and 12). Contact: Joseph Brady, [bradyk@npschools.org](mailto:bradyk@npschools.org), (330) 364-0644.

The project will engage students and the general public in experiences that improve their understanding of local wildlife, historic land use and the importance of efforts to restore native forest ecosystems. High school students will conduct a series of field studies to investigate the long-term effects of surface mining and reclamation on bird, mammal, amphibian and plant diversity in local forests. Students will then share their knowledge of these organisms and historical land use with fifth grade students at four elementary schools through a series of natural history tours at regional nature centers. Students and community members will then collaborate to create a long-term field experiment at the Norma Johnson Center to determine if vernal pool habitats offer an effective restoration strategy for improving amphibian diversity in former surface mining sites.

**The Ohio State University Newark - Evolution, Ecology and Organismal Biology**, “Educational programming on pollinator conservation and habitat restoration,” S15G-056, \$15,147, Muskingum County, Audience: PreK-University (Grades 3-12). Contact: Karen Goodell, [goodell.18@osu.edu](mailto:goodell.18@osu.edu), (740) 366-9101.

A permanent exhibit will teach visitors to the Wilds, a reclaimed mine site and conservation facility in Muskingum County, about the role of native bees in pollination and their habitat requirements. The exhibit will link to ongoing

research at the site on the effects of native plant restoration on pollinators. The project will include a series of posters addressing key issues pertaining to pollinator conservation, and two-day workshops on native bee taxonomy, ecology and conservation for the Wilds staff. A native prairie meadow restoration plot will be created on the summer camp campus, and content and equipment provided to enable student campers to conduct research on pollinators and compare their results with the University research data.

**Graham Local Schools**, “Graham Local Schools Trout in the Classroom (TIC),” #F-15M-006, \$2,500, Champaign County, Audience: Pre-Kindergarten – University (Elementary and Middle School), Contact: Emily Kay Shreve, [shreeve@grahamlocalschools.org](mailto:shreeve@grahamlocalschools.org), (937)-663-4449.

Expands the successful Trout in the Classroom program previously funded by the OEEF to more grades, to include more than 400 students in grades 2-12. Students will focus on the relationship between water quality of the Mad River and the conditions required by trout. Students will be responsible for daily chemical testing and observations of the trout to ensure they are in a suitable environment until they are large enough to release to the Onion Creek tributary of the Mad River. Students will present their monitoring data through a community event and presentations to the school board and local organizations. Elementary students will use Nexus Tablets and iPads to photograph the stages of the project and create YouTube videos. The Madmen Chapter of Trout Unlimited is collaborating.



**Carroll-Columbiana-Harrison (CCH) Environmental Group/Solid Waste District,** “Environmental Teachers Academy,” #F-15M-009, \$5,000, Carroll, Columbiana and Harrison Counties, Audience: Pre-Kindergarten – University (Elementary School), Contact: Eric Matthews, [mathesonman@gmail.com](mailto:mathesonman@gmail.com), (330)-627-7311.

Provides three educator workshops and supplies to expand a previously funded Environmental Teachers Academy for middle school to include 20 teachers of grades K-3. Workshops will feature two national curricula (Project Wild-Aquatic, Wonders of Wetlands) to teach watersheds and water quality, and weather and climate change education resources being developed by NASA. Participating teachers will receive Earth Grow Boxes for their students to investigate soil types, decomposition rates, nutrient content, percolation and filtration, leaching of fertilizers and pollutants, and plant productivity. Topics include the use of rain barrels and rain gardens to conserve water and reduce runoff, and the use of remote sensing technology to monitor algal blooms.

**JB Green Team/Jefferson Belmont Regional Solid Waste Authority,** “Enviroscape Wastewater Treatment Model for Land Labs and Education,” #F-15M-014, \$3,280, Belmont and Jefferson Counties, Audience: Pre-Kindergarten – University (Middle and High School), Contact: Tammy Ann Shepherd, [tshepherd@jbgreenteam.org](mailto:tshepherd@jbgreenteam.org) (740)-296-5376.

Provides two EnviroScape© Drinking Water and Wastewater Treatment Models with carrying cases and curriculum to be used for classroom presentations, library programs, after-school, 4-H and scouting club presentations and outdoor events in Belmont and Jefferson Counties. These models will be used in conjunction with EnviroScape© Landfill and Recycling Models to emphasize the importance of recycling, litter prevention and proper disposal of waste to protect drinking water supplies. Collaborators include the Epworth Center, High Meadows 4-H Club, Jefferson Soil and Water Conservation District, Ohio River Valley Council Boy Scouts of America, and St. Clairsville Public Library.

**The Wilderness Center,** “Sugar Creek Watershed Environmental Education Project,” #F-15M-015, \$4,982, Holmes, Stark and Wayne Counties, Audience: Pre-Kindergarten – University (Middle and High School), Contact: Lynda Marie Price, [lynda@wildernesscenter.org](mailto:lynda@wildernesscenter.org), (330)-359-5235.

The purpose of this project is to implement site-specific watershed science lessons targeted to 7th-12th grade groups. The project involves reestablishment of an educational outdoor space with accessible headwater streams in an area recently subjected to storm damage. This space offers a prime demonstration of the impact of natural and human disturbance on watershed ecosystems. Multiple lesson plans will be tailored to give students effective environmental problem solving experiences including hands-on learning activities, evidence-based decision making, and multidisciplinary approaches. Provides macroinvertebrate

sampling supplies and supports the cost of transportation and substitute teachers to enable 200 students to identify how natural disturbance, local land use and community decisions affect the quality of the environment. The mini grant will also replace storm-damaged trail markers utilized with a Wilderness Walk podcast used by thousands of hikers. Collaborators include the Ohio State University School of Environment and Natural Resources and the Dalton Local, East Holmes Local, Green Local and Orrville City School Districts.

**City of Delaware**, “Water Treatment Plant Educational Center,” #S-15M-023, \$5,000, Delaware County, Audience: Pre-Kindergarten – University (Middle School and Undergraduate), Contact: Brad Stanton [bstanton@delawareohio.net](mailto:bstanton@delawareohio.net), (740)-203-1903.

The City of Delaware Water Treatment Plant is one of a few in the U.S. using ultrafiltration and nanofiltration. New exhibits for visitors touring the plant will illustrate water conservation, water and wastewater treatment, the lack of treatment of storm water, and regional water supplies and history. An exhibit on the hydrological cycle is aligned with seventh grade science standards to illustrate the changing states of water moving through the lithosphere, biosphere, hydrosphere and atmosphere. This center will also be used with Ohio Wesleyan University's environmental studies program. Collaborators providing suggestions on the design include Buckeye Valley Local Schools, Delaware Area Career Center, Delaware City Schools, Delaware Soil and Water Conservation District, and Ohio Wesleyan.

**Northwood Local Schools – Northwood High School**, “Northwood Outdoor Environmental Science Lab,” #S-15M-027, \$4,997, Wood County, Audience: Pre-Kindergarten – University (Middle and High School), Contact: Lara Michele Fish, [lfish@northwoodschoools.org](mailto:lfish@northwoodschoools.org), (419)-691-4651.

Students will monitor water quality impacts from 20 acres of land owned by the school district that was previously a farm field and borders Dry Creek, which empties into Lake Erie. The goal of this project is to restore this land to its natural habitat with the help of students and community volunteers, while providing 150 seventh grade and high school environmental science students with access to outdoor water quality testing in a hands-on inquiry setting. Students will combine classroom and field activities from the Healthy Water, Healthy People curriculum, collect and identify macro-invertebrates as an indicator of stream health, and sample dissolved oxygen, turbidity, pH and flow rate. They will also study phosphorus and nitrate loads that contribute to harmful algal blooms in Lake Erie, and share their research results at TMACOG’s annual Student Watershed Watch congress. Seventh grade students will also participate in a field trip to the Ottawa National Wildlife Refuge for wetland education activities developed with funding from a previous OEEF grant. Collaborators include Northwestern Water and Sewer District, Ottawa National Wildlife Refuge and Toledo Metropolitan Council of Governments.

**Ohio Environmental Education Fund  
Grants for the General Public Audience**



*In SFY 2015, the OEEF funded 17 adult education projects for a total of \$288,492*

**Village of Cuyahoga Heights**, “Mill Creek Watershed Awareness and Education,” F15G-024, \$5,269, Cuyahoga County, Audience: General Public.  
Contact: [goodmanj@crcpo.org](mailto:goodmanj@crcpo.org), (216) 241-2414.

The project will raise watershed literacy among residents and visitors to the Mill Creek watershed. More than 100 signs marking the boundaries of the Mill Creek Watershed and identifying stream crossings will be installed in 10 Mill Creek communities, including the city of Cleveland. Brochures explaining what property owners can do to improve habitat, manage storm water and reduce runoff will be distributed to help residents make the connection between where they live or work and the relationship with Mill Creek. The project is part of a larger public awareness campaign that will include outreach through community newsletters, web and social media, presentations, and exhibits at local events.

**Medina County Beekeepers Association**, “Beekeepers Collaborating to Create Pollinator Habitats,” F15G-028, \$24,070, Holmes, Medina, Montgomery and Summit Counties, Audience: General Public. Contact: [progdirector@pollinatorstewardship.org](mailto:progdirector@pollinatorstewardship.org), (832) 727-9492.

Education materials, signs, native bee houses and seeds will be purchased to educate landowners and convert grassy land into pollinator habitat. Corporate, institutional and other landowners will prepare their land to be transitioned to pollinator habitat and agree to maintain the land as pollinator habitat for five years. Local beekeepers and 4-H youth would work with the land partner to locate managed pollinators on the forage area or place native pollinator houses on the site. Collaborators include the Ohio State Beekeepers Association and the Pollinator Stewardship Council.

**Ohio State University - Stone Laboratory**, “Communicating water quality data to the public and students, including charter boat captain sampling,” S15G-042, \$43,293, Ottawa County, Audience: General Public. Contact: Justin Chaffin, [chaffin.46@osu.edu](mailto:chaffin.46@osu.edu), (419) 285-1845.

This Citizen Science project involves students, teachers and adults in water sample collection on Lake Erie for researchers studying cyanobacterial blooms and nutrient runoff. Water samples will be collected during Stone Lab field trips and by charter boat captains to be analyzed by Stone Laboratory’s water lab and processed for concentrations of microcystin, algae biomass, and several other water quality parameters. Data will be posted to the OSU Stone Laboratory

webpage and provided on fact sheets for the captains each week, to share the information with their charter clients. Tours of the water quality lab will also show students and visitors how scientists who study Lake Erie and algal blooms process a water sample for water quality parameters. The Lake Erie Charter Boat Association is collaborating. *(photos courtesy of Ohio Sea Grant)*



**Yay Bikes**, “Helping festival attendees 'Pedal Instead' of driving,” S15G-048, \$50,000, Franklin County, Audience: General Public. Contact: Catherine Girves, [catherine@yaybikes.com](mailto:catherine@yaybikes.com), (614) 371-8232.

The project will expand awareness of the Pedal Instead bicycle valet service to encourage more people to ride bikes to events, reducing air emissions. A key component of the project will provide information about bicycle transportation to people and link them to on-road educational experiences to increase their cycling knowledge and confidence. Signs and print materials at events such as OSU home football games, neighborhood festivals and the Columbus Marathon will address common obstacles to bicycling and trained volunteers will engage and educate prospective cyclists. At least 8,000 event attendees will learn about the service and 100,000 will encounter messages on the Pedal Instead bike corral.

**Dayton Society of Natural History, dba SunWatch Indian Village/Archaeological Park**, “SunWatch Prairie Restoration,” S15G-051, \$28,634, Montgomery County, Audience: General Public. Contact: Mark Meister, [mmeister@boonshoftmuseum.org](mailto:mmeister@boonshoftmuseum.org), (937) 275-7431.

Approximately five acres of prairie inside the SunWatch Indian Village/Archaeological Park will be reclaimed to increase biodiversity and improve air quality. Restoration of the prairie will include seeding grasses, prescribed burns and removal of invasive plants. A series of interpretive signs will discuss the role and importance of native plantings, pollinators and prairie animals. Each year, an estimated 16,000 – 28,000 people and an additional 6,000 – 7,000 students visit the site.

**Friends of the Lower Olentangy Watershed (FLOW)**, “Adopt Your Waterway Training,” S15G-055, \$7,753, Franklin County, Audience: General Public. Contact: Laura Fay, [info@olentangywatershed.org](mailto:info@olentangywatershed.org), (614) 267-3386.

The project will focus on increasing citizens’ knowledge and awareness of the physical, chemical and biological aspects of water quality in their neighborhood streams. Approximately 100 residents within the lower Olentangy watershed will be educated on watershed issues and water quality. FLOW members will also be trained to become sampling coordinators to encourage and train volunteers to become Water Stewards and regularly collect water samples in their area. Classroom sessions will be aimed at the broader public and hands-on sessions will educate FLOW sampling coordinators. ODNR Scenic Rivers, the Sierra Club and Franklin Soil and Water Conservation District will collaborate on the project.

**Ohio Interfaith Power and Light - Ohio Council of Churches**, “Cool Congregations: Profiles in Earth Stewardship,” S15G-057, \$32,157, Statewide, Audience: General Public. Contact: Sara Ward, [sara.ward54@gmail.com](mailto:sara.ward54@gmail.com), (614) 561-6629.

Over a two-year period, college student interns will be partnered with host congregations and faith-based organizations to help plan, prioritize and implement initiatives and research sustainability options such as energy conservation actions that would benefit the host site. Through this partnership between student and congregation, each will build skills in sustainability through hands-on experience. It will include workshops, educational events, facility energy and water use audits, and Green Team development. The Cool Congregations will be featured in video profiles and on the OhIPL Earth Stewards Directory of resources, sharing their successes and providing inspirational examples for other congregations and persons of faith.

**City of Mentor**, “Mentor Natural Areas Restoration Programs,” S15G-058, \$14,771, Lake County, Audience: General Public. Contact: Nick E. Mikash, [mikash@cityofmentor.com](mailto:mikash@cityofmentor.com), (440) 974-5717.

The project expands the scope of the City of Mentor’s outdoor educational programming, while controlling invasive species. Educational programs geared toward young people will include three native species planting project demonstration sites, a restored lake overlook, native butterfly garden and tall grass prairie. Guided hikes, workshops and conservation activities for the public will include invasive species identification and removal, rain barrel and nest box construction, and identification of native and migratory plant and animal species. Classes will highlight the City of Mentor’s Restoration Project Sites and help promote awareness of the city’s enhanced stewardship efforts. Mentor Public Schools and local Boy Scouts are collaborating.

**City of Columbus - Department of Public Utilities**, “Blueprint Green Infrastructure Maintenance Workforce Development Program,” S15G-062, \$49,938, Franklin County, Audience: General Public. Contact: Keena Smith, [kmsmith@columbus.gov](mailto:kmsmith@columbus.gov), (614) 645-0807.

A Green Infrastructure Workforce Development training program will be created to address poverty and unemployment and create green-collar jobs. The six week training course will focus on water, wastewater and storm water infrastructure; basics of soil and ecology; and greenspace maintenance. Week six of the program will include work experience field trips to the Franklin Park Conservatory, Grange Insurance Audubon Center and vacant lots that have been converted to storm water projects. Graduates of the program will receive a training certificate that will be recognized by the City and will be offered intense placement assistance in securing a green infrastructure maintenance job. The Columbus Urban League and Columbus State Community College are collaborating.

**Medina County Park District**, “Demonstration and Interpretation of a Vegetated Storm Water Buffer Strip,” #F-15M-005, \$2,500, Medina County, Audience: General Public, James C. Spetz, [jspetz@medinaco.org](mailto:jspetz@medinaco.org), (330)-722-9375.

The project site is a newly-developed park located directly on the divide that separates the headwaters of the Rocky River watershed (Lake Erie Basin) and Wolf Creek watershed (Ohio River Basin). A strip of native vegetation will be planted in a high-visibility area to intercept storm water running off a slope before it enters a recreational fishing area. The project will involve a series of interpretive signs along approximately 425 feet of trail that will cover topics of watershed function and storm water management, native vs. nonnative species, the importance of pollinators and host plants, and the role of vegetation in stabilizing soils and absorbing nutrients.

**Williams Soil and Water Conservation District**, “Rivers Around Us,” #F-15M-007, \$3,367, Williams County, Audience: General Public, Contact: Loretta Hayek, [lhayek@williamsswcd.org](mailto:lhayek@williamsswcd.org), (419)-636-2349.

Provides equipment and supplies to train a network of up to 15 citizen volunteers and local school classes to regularly monitor water quality in the Tiffin River. Workshops will introduce teachers to the Project WET and Healthy Water, Healthy People curricula and testing methodologies, and how to post their students’ data to an online database for comparison over time. Teachers and citizen volunteer monitors will have the opportunity to receive certification as Level One Credible Data Collectors. The Ohio State University Extension Office in Williams County is collaborating.

**City of Canton Parks Department**, "Conservation Area Signage," #F-15M-010, \$5,000, Stark County, Audience: General Public, Contact: Theresa Gang, [Theresa.gang@cantonohio.gov](mailto:Theresa.gang@cantonohio.gov), (330)-438-4691.

The City of Canton Parks Department plans to cease mowing to improve water quality and restore habitat in areas of seven parks and the Nimishillen Creek Watershed. The mini grant will support interpretive signs to help park visitors understand the water quality, cost saving, and ecological benefits of the no-mow areas. Benefits include: natural infiltration; slowing down and cleaning storm water runoff before it enters a creek; reducing stream bank erosion and sediment; less use of fertilizer, water and weed killer; increasing biodiversity by providing food and habitat for native animals and plants; and providing shade and cooler temperatures for fish and aquatic insects.

**Village of Lowellville**, "The Mahoning River on Display," #F-15M-011, \$5,000, Mahoning County, Audience: General Public, Contact: Joann Esenwein, [Lowellville.dam@yahoo.com](mailto:Lowellville.dam@yahoo.com), (330)-717-5441.

Funding will provide an interpretive sign and informational flyers about the environmental benefits of the Mahoning River Water Resource Restoration Sponsor Program (WRRSP) dam removal project in the Village of Lowellville. Benefits include removal of sediment, restoration of natural stream flow and improvement of water quality and warm water aquatic habitat. The sign will include the dam site history, and flyers will be distributed by the Village, local businesses and schools. The Eastgate Regional Council of Governments and Lowellville Board of Education are collaborating.

**Cuyahoga River Community Planning**, "Woods for Waters: A Guide to Planting Riparian Buffers for Stream Health," #F-15M-019, \$4,960, Cuyahoga and Summit Counties, Audience: General Public, Contact: Jane Goodman, [goodmanj@crcpo.org](mailto:goodmanj@crcpo.org), (216)-241-2414.

Provides funding for the printing and distribution of 4,000 copies of the "Woods for Waters" guide to planting riparian buffers, a step-by-step manual for homeowners and other property owners. The guide was created to help people with streams on their properties to a.) understand how vegetated buffers create habitat, prevent polluted runoff and soil erosion, and increase biological diversity, and b.) design, lay out, choose appropriate trees and plants, and plant and maintain their riparian buffer. Collaborators include Cleveland Metroparks, Cuyahoga County Board of Health and Ohio Department of Natural Resources Division of Forestry.

**Belmont Soil and Water Conservation District**, “Captina Creek Watershed Streambank Stabilization and Riparian Enhancement Educational Initiative,” #S-15M-025, \$1,850, Belmont County, Audience: General Public, Contact: Kimberly Brewster, [kb.belmontswcd@att.net](mailto:kb.belmontswcd@att.net), (740)-526-0027.

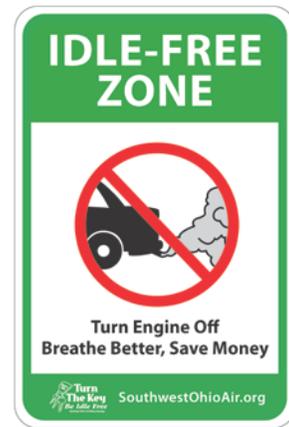
Supports a workshop to increase the awareness and knowledge of proper streambank stabilization techniques among 50 local officials and operators in the Captina Creek Watershed, including county commissioners, township trustees, floodplain managers, stream cleanup crews employed by the county, local Ohio Department of Transportation employees, and industries operating within the watershed. Streambank erosion and sedimentation constitute one of the top threats to this high quality creek, and improper stabilization methods can exacerbate the problem. A workshop on riparian zone protection will be led by an experienced stream restoration expert. Topics will include stream physical forms and functions, how they can degrade, and how to develop restoration and enhancement projects to benefit watersheds and communities. Examples of successful solutions will focus on cost, permit and monitoring requirements and lessons learned. Captina Conservancy and Olney Friends School Stillwater Science Center are collaborating.



**Southwest Air Quality Agency**, “Idle-Free Campaign,” #S-15M-029, \$4,930, Butler, Clermont, Hamilton and Warren Counties, Audience: General Public, Contact: Joy Landry, [joy.landry@hamilton-co.org](mailto:joy.landry@hamilton-co.org), (513)-946-7754.

Southwest Ohio Air Quality Agency proposes to expand its existing Idle-Free initiative to 190 area schools, day care centers, parks, sports complexes, YMCAs, recreation centers and other facilities where children are dropped off and picked up for their sports and extracurricular activities by parents who idle their vehicles. The mini grant will provide 190 Idle-free zone signs and posts at these locations. The message about the health and environmental benefits of

reduced emissions will be reinforced through the ongoing four-county public awareness campaign incorporating social media, television, web links, electronic newsletters and school programs.



**Preservation Parks of Delaware County, “Planting for Pollinators,” #S-15M-032, \$5,000, Delaware County, Audience: General Public, Contact: Richard E. Niccum, Jr., [rniccum@preservationparks.com](mailto:rniccum@preservationparks.com), (740)-524-8600, Ext. 3.**

The primary purpose of the project is to educate visitors about how to enhance insect biodiversity and provide habitat to native pollinator species such as honeybees, solitary bees, butterflies, moths and hummingbirds. These species are facing declines in Ohio and globally, and are responsible for pollinating more than 75% of flowering plants. A nearly half-acre demonstration garden and interpretive signs at Deer Haven Preserve will educate visitors on the benefits of planting native species, limiting chemical use, and providing food (pollen, nectar), water (water feature, sunning puddle) and shelter for overwintering and reproduction of native insects, birds and other wildlife species. In addition to the signs, education staff will conduct programs throughout the year related to pollinators and utilizing the garden. These educators also host a number of school field trips at Deer Haven Preserve each year and will incorporate the garden and pollinator topics into field trip sessions that meet Ohio's academic content standards in science, social studies, language arts, fine arts and math. An accompanying media campaign will include the creation of short videos on You Tube, Facebook and the Park District website to promote the project and highlight what residents can do in their own yards. Liberty Township, Olentangy Local Schools and Sustainable Delaware are collaborating.

**Ohio Environmental Education Fund  
Grants for the Regulated Community Audience**



*In SFY2015, the OEEF funded three regulated community projects for a total of \$60,974*

**The Ohio State University Extension**, “Expanding the Livestock Manure Application Window in Ohio,” F15G-022, \$42,000, Darke, Fulton, Hancock, Mercer, Paulding, Putnam and Seneca Counties, Audience: Regulated Community. Contact: Glen Arnold, [Arnold.2@osu.edu](mailto:Arnold.2@osu.edu), (419) 235-4724.

The project will conduct on-farm demonstration plots with livestock producers to demonstrate the application of liquid livestock manure to growing crops, for better uptake of nutrients and reduced runoff to local streams compared to manure applications to bare ground after the growing season. Three new technologies will be used to apply manure to growing wheat and corn in side-by-side comparison to commercial fertilizer. The plots will demonstrate the economic and environmental value of applying manure to growing crops as a method of better capturing the nitrogen, phosphorous and potash in liquid swine and dairy manure. Applying manure to growing crops in late spring and early summer will extend the manure application window in Ohio and reduce the runoff of nutrients that contribute to the formation of harmful algal blooms in Lake Erie and inland lakes.



**Mayor's Office of Sustainability**, "Storm Water Management Training for MS4 Municipal Employees in Northeast Ohio," S15G-045, \$13,974, Cuyahoga, Geauga, Lake, Stark and Summit Counties, Audience: Regulated Community. Contact: Cathi Lehn, [clehn@city.cleveland.oh.us](mailto:clehn@city.cleveland.oh.us), (216) 664-2421.

Provides two-hour training modules, half-day workshops, site tours and supporting materials for employees of MS4 (municipal separate storm sewer system) regulated communities in Northeast Ohio on the proper maintenance of storm water management features. Training will focus on green infrastructure such as bioretention cells, permeable pavement, green roofs and urban tree plantings. Curriculum development and training will be provided by storm water professionals in the region and scheduling will be coordinated through the City of Cleveland Mayor's Office of Sustainability. Collaborators include the Chagrin River Watershed Partners, Cleveland Metroparks Watershed Stewardship Center, Cuyahoga and Lake Soil and Water Conservation Districts, Northeast Ohio Regional Sewer District, Northeast Ohio Storm Water Training Council, and West Creek Conservancy.

**The Ohio State University Extension - Darke County**, "Manure Science Review: Nutrient Stewardship Education for Farmers," #S-15M-033, \$5,000, Darke County, Audience: Regulated Community. Contact: Amanda Douridas, [douridas.9@osu.edu](mailto:douridas.9@osu.edu), (937)-484-1526.

The Manure Science Review, an educational field day that provides science-based information on best practices for manure nutrient management, will be held in Darke County, Ohio in August 2015, reaching an estimated 175-200 farmers. The program will include presentations that provide information on relevant issues, including feeding strategies to reduce phosphorus (P) in manure, methods for reducing nutrient runoff from cropland, and technologies to utilize manure. Field demonstrations, which will illustrate practices and equipment that can reduce the risk of manure nutrient runoff, will include field trials for cover crops and manure side-dressing, technologies for injecting liquid and solid manures, smoking drainage tile to illustrate preferential flow, and manure application equipment calibration. The MSR site is rotated to different regions of the state each year in an effort to reach new livestock producer audiences. The Grand Lake/Wabash Watershed Alliance, Ohio Farm Bureau, and Soil and Water Conservation Districts in Auglaize, Darke, Mercer and Shelby Counties are helping to plan and publicize the event, and the Ohio Department of Agriculture's Certified Livestock Manager program is providing continuing education hours for attendees.

## Ohio Environmental Education Fund Statewide Sponsorships in SFY 2015



Ohio Academy of Science, *Environmental Science and Engineering Scholarship Program*, \$50,000, [www.ohiosci.org](http://www.ohiosci.org)

OEEF provided environmental science and engineering scholarships to 13 university students to encourage them to complete their degrees and enter professional practice in Ohio. According to Ohio EPA Director Craig Butler, “These awards encourage students to consider careers in environmental science and engineering. These fields not only offer many job opportunities, but are critical for training in advanced environmental technologies, advancing Ohio’s technical expertise and building Ohio’s future economy.”

Students in four-year programs who received a \$2,500 scholarship for 2015 include:

- Tiffany Atkinson, Ohio State University (Environmental Science), Columbus
- Maria Bon, Ashland University (Biology and Environmental Science), Jeromesville
- Emily Cigolle, University of Cincinnati (Geology and Environmental Studies), Youngstown
- Amanda Conklin, Ohio State University (Environmental Engineering), Norton
- Cassandra Craig, Ashland University (Biology and Environmental Science), Orient
- Emily Hetman, Ashland University (Forensic Biology and Toxicology), North Olmsted
- Olivia Macek, Ashland University (Biology and Environmental Science), Willoughby
- Andrea Martinson, Cedarville University (Biology), Springfield
- Braydi McPherson-Hathaway, Ohio State University (Food, Agricultural and Biological Engineering), Hilliard
- Dawn Musil, Ohio State University (Evolution, Ecology and Organismal Biology), Ashville
- Obagaeli Ngene-Igwe, Ohio State University (Biology), Columbus
- Jordyn Stoll, Cleveland State University (Environmental Science and Biology), Vermilion
- Amiah Warder, Cedarville University (Environmental Science), Sheridan, Wyoming

This year’s student recipients have research and work experience in areas such as:

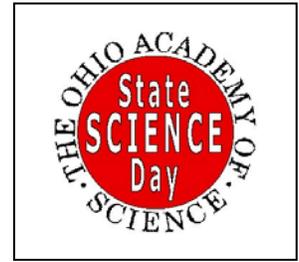
- Nitrogen utilization and release by bacteria under hypoxic conditions in Lake Erie
- Effects of algal and sedimentary turbidity on fish in degraded urban streams
- Bioremediation of brewery wastes
- Effectiveness of activated carbon for treatment of cyanotoxins in drinking water
- Anaerobic digester effectiveness in processing agricultural wastes
- Biological pest controls
- Retention times of pesticides in soils

- U.S. EPA methods for extraction and analysis of contaminants such as arsenic in ground water, lead in soil and organic pesticides in sediments and surface water

Students are selected to receive scholarships based on an academic record with at least an overall GPA of 3.0; original research, scholarship, employment, volunteering, or other unique contributions to environmental science or environmental engineering; activity in non-athletic extra-curricular activities and organizations; ability to communicate; recommendations from education and environmental professionals; and a major in environmental science or environmental engineering.

Since the program began in 2000, \$726,200 in scholarships have been awarded statewide to 295 students at 48 Ohio colleges and universities.

## Ohio Environmental Education Fund Statewide Sponsorships in SFY 2015 (Continued)



Ohio Academy of Science, *State Science Day 2015*,  
\$12,700, [www.ohiosci.org](http://www.ohiosci.org)

OEEF presented \$100 prizes to the 25 winners of the Governor's Awards for Excellence in Environmental Protection Research at this year's State Science Day at the Ohio State University on May 10. In addition, OEEF provided \$10,000 as a title sponsor of the event, the equivalent of a state championship for student science research. The primary objective of State Science Day is to provide an opportunity for young students to demonstrate their abilities and interest in science through individual experimentation and research.



### 2015 Governor's Award Winners for Excellence in Environmental Protection Research

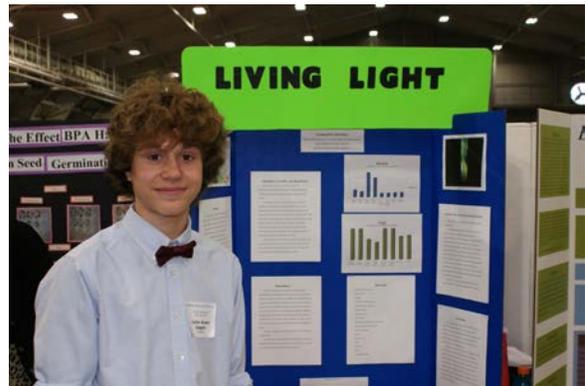
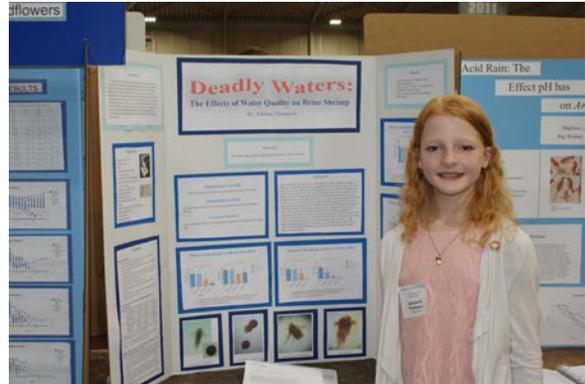
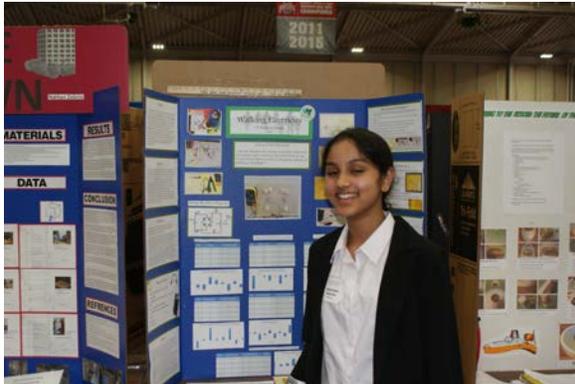
#### 7<sup>th</sup> Grade

First Place: Ms. Maanasa Mendu, Mason MS, Mason  
*Walking Electricity*

Second Place: Ms. Adriane E. Thompson, Genoa MS, Westerville  
*Deadly Waters: The Effects of Water Quality on Artemia salina*

Third Place: Ms. Salma M. Fleifil, Schilling School for Gifted, Cincinnati  
*Green Insulating Materials*

Honorable Mention: Mr. Colin Green Gagne, John Sells MS, Dublin  
*Living Light: Bioluminescence – the “Green” Light Source of the Future?*

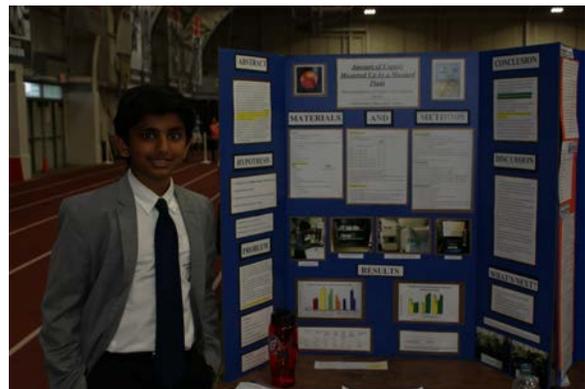


## 8<sup>th</sup> Grade

First Place: Mr. Mukund Anand Seshadri,  
Village Academy, Powell  
*Phytoremediation of Copper using Brassica Juncea*

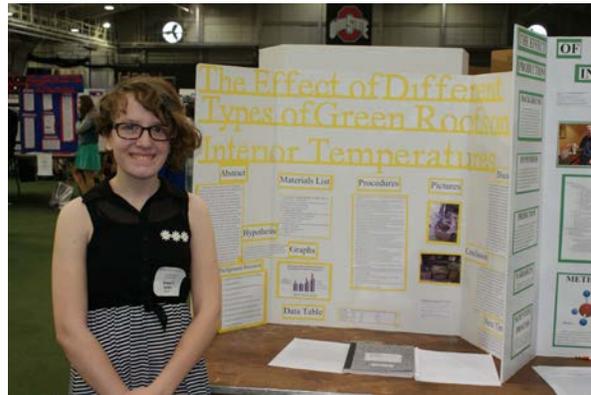
Second Place: Mr. Thomas Gregory Deep,  
St. Luke, Beaver Creek  
*Saltwater Battery*

Third Place: Ms. Grace E. Julien, National



Inventor's Hall of Fame School, Akron

*The Effect of Different Types of Green Roofs on Interior Temperatures*



### 9<sup>th</sup> Grade

First Place: Mr. Vinodh K. Erukonda, Beaver Creek HS, Beaver Creek  
*Building Energy Efficient Green Towers*

Second Place: Mr. Akul Rajan, William Mason HS, Mason  
*The Phytotoxic Effect of Allelochemicals to Help Weed Control in a Natural Approach*

Third Place: Mr. Grant S. Lach, Bloom Carroll HS, Carroll  
*Can You Make a Cost Efficient Photobioreactor?*

Honorable Mention: Mr. Michael J. Chmura, St. Vincent St. Mary, Akron  
*The Effect of Varying pH on Methane Production in Anaerobic Digesters*



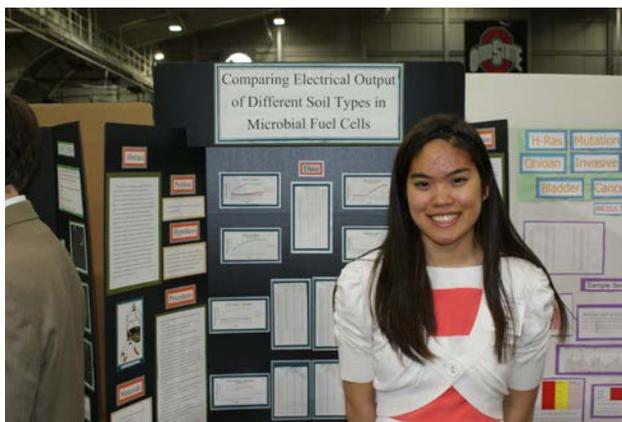
### 10<sup>th</sup> Grade

First Place: Ms. Nikita R. Kesav, William Mason HS, Mason  
*Resource Recovery and Reuse: Recycled Magnetically Separable Iron-based Catalysts for Arsenic Removal and Phosphate Recovery*

Second Place: Ms. Anastasia Axiopoulos,  
Mansfield Senior HS, Mansfield  
*Creating and Decomposing  
Biodegradable Bioplastic*

Third Place: Ms. Abigail L. Myers, Big  
Walnut HS, Sunbury  
*Oil Spill Clean-up: Sorbent Effectiveness  
Near Aquatic Shorelines*

Honorable Mention: Ms. Martha J. Blatt,  
Beaumont School, Cleveland Heights  
*Comparing Electrical Output of Different  
Soil Types in Microbial Fuel Cells*



## 11<sup>th</sup> Grade

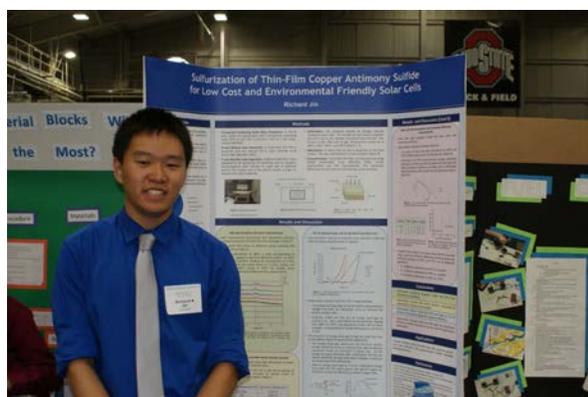
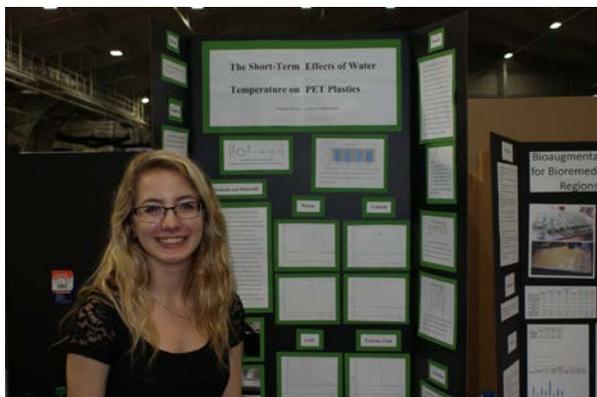
First Place: Ms. Emily A. Gootzeit, Tippecanoe HS, Tipp City  
*Non-standard Substances for Melting Ice*

Second Place: Ms. Amanda E. Janecek, Louisville HS, Louisville  
*The Short-Term Effects of Water Temperature on PET Plastics*

Third Place: Mr. Alan Fong, Sylvania Southview HS, Sylvania  
*Optical and Electrical Characterization of ZnO:Al Transparent Conducting Oxides*

Honorable Mention: Mr. Richard B. Jin, Maumee Valley Country Day, Toledo  
*Sulfurization of Thin-Film Copper Antimony Sulfide for Low Cost and Environmentally  
Friendly Solar Cells*

Honorable Mention: Ms. Pallavi Lanka, Sylvania Southview HS, Sylvania  
*The Viability of Switchable Hydrophilicity Solvents for Lipid Extraction in Algal Biofuel  
Production*



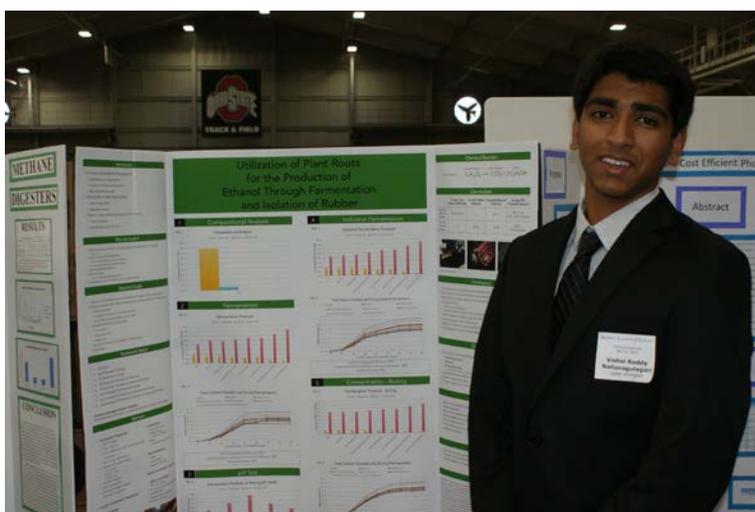
## 12<sup>th</sup> Grade

First Place: Mr. Vishal Reddy Nallanagulagari, Upper Arlington HS, Upper Arlington  
*Utilization of Plant Roots for the Production of Ethanol Through Fermentation and Isolation of Rubber*

Second Place: Ms. Michaela M. Dean, Rutherford B. Hayes HS, Delaware  
*Plants to Plastics: A Study of Unique Biopolymers*

Third Place: Ms. Alyssa P. Armstrong, Canfield HS, Canfield  
*Using Isotherms to Examine Competitive Sorption of Heavy Metals by Soils, Biochar and Biosolids*

Honorable Mention: Mr. Jarrett Willoughby, Miami East HS, Casstown  
*Predicting the Structure of Biodiesel Fuel via Combustion of Esters*



## Ohio Environmental Education Fund Statewide Sponsorships in SFY 2015 (Continued)

Ohio Federation of Soil and Water Conservation Districts,  
*Ohio Envirothon 2015*, \$1,000

<http://www.dnr.state.oh.us/tabid/8652/Default.aspx>



OEEF sponsored the Oral Presentation Medallion at this year's Ohio Envirothon state championship for high school teams, June 9-10 at Salt Fork State Park. The teams from Boardman and Chardon High Schools tied for this award and Boardman High School placed first place in the overall competition. The Envirothon is the nation's largest high school environmental competition, testing student knowledge of soils and land use, forestry, wildlife, aquatic ecology and current environmental issues. Each year the Envirothon focuses on a specific environmental theme. This year's theme was "Nonpoint Source Pollution and Low Impact Development."



## Ohio Environmental Education Fund Statewide Sponsorships in SFY 2015 (Continued)

National Engineers Week Future City Competition,  
Ohio Region, \$1,000, [www.futurecity.org](http://www.futurecity.org) and  
[www.futurecity.org/ohio](http://www.futurecity.org/ohio)



Teams from 19 Ohio middle schools built cities of the future for the 2015 state finals competition, January 17 at Columbus State Community College. This national competition for middle school teams introduces students to careers in engineering, architecture and city planning. Teams work with a teacher and engineer-mentor to design a city of the future, using an award-winning computer game, SimCity™. Teams must also build a scale model of their city, write an essay and prepare an oral presentation. Scoring for the competition incorporates realistic engineering factors, social factors such as population density and transportation needs, and environmental factors such as energy efficiency and recycling infrastructure. This year's competition essay topic asked students to choose an energy source for their city that does not deplete natural resources and has limited impact on the environment. Essays must address how engineering can improve the health and welfare of the team's Future City citizens.

Students from Batavia Middle School took top honors at Ohio's Future City Competition this year, with their city Avantieme. The 2015 Ohio Special Award for Best Use of Water Resources Engineering (Sam Chebaro Memorial Award), sponsored by Ohio EPA, was won by the team from Holy Family School in Poland, with Honorable Mention to the team from St. Ambrose Middle School in Brunswick. OEEF support also helped the Batavia team travel to Washington, DC in March to compete in the national Future City Competition.



Batavia Middle School with their winning model at the 2015 Future City Competition.



## Ohio Environmental Education Fund Statewide Sponsorships in SFY 2015 (Continued)

**Ohio Chemistry Technology Foundation, \$1,000, “Teachers, Industry and the Environment (TIE) Conference”**

<http://www.ohiochemistry.org/aws/OCTC/pt/sp/tieconference>

TIE is a 2½-day professional development conference giving teachers the opportunity to experience first-hand real world environmental challenges, and to learn how they are being addressed by scientists and engineers in industry and government. Established in 1993, the conference is presented each October to a select group of 60 elementary and middle school teachers from across Ohio, each sponsored by a member company of the Ohio Chemistry Technology Council. Engineers, educators and scientists from the chemical industry and Ohio EPA present environmental science in understandable, entertaining and action-packed experiments.



## Ohio Environmental Education Fund Statewide Sponsorships in SFY 2015 (Continued)

Ohio Stormwater Association and Tinker's Creek Watershed Partners, "Ohio Stormwater Conference 2015," \$1,000, <http://www.ohstormwaterconference.com/past-conferences/2015-ohio-stormwater-conference/>

The annual Ohio Stormwater Conference is dedicated to advance the knowledge and understanding of comprehensive storm water management for those dealing in all aspects of planning, design, implementation and regulatory compliance. The conference provides updates on environmental issues, new technologies, regulatory information and pollution prevention. The 2015 Conference was held at the Kalahari Resort and Conference Center in Sandusky, May 6-8, 2015. The conference had 741 attendees, 92 exhibitors/sponsors and over 70 sessions (along with 92 speakers) on storm water management.



## Ohio Environmental Education Fund Statewide Partnerships in SFY 2015

**Environmental Education Council of Ohio, \$87,550**

In 1995, Ohio EPA's Office of Environmental Education initiated a long-term partnership with EECO to build statewide capacity for environmental education in ways that could not be accomplished within the confines of a short-term general grant. Through this 20 partnership, OEEF and EECO are able to provide professional development opportunities for teachers and non-formal environmental educators, as well as quality curriculum resources aligned with the Ohio Department of Education's Academic Content Standards and Model Curriculum.

### Environmental Career Ambassadors

For K-12 education, the partnership continues to focus on the STEM disciplines (science, technology, engineering and mathematics). In 2013 OEEF and EECO joined forces with The Ohio State University School of Environment and Natural Resources to launch a new statewide network of volunteer **career ambassadors in environmental science and engineering**.

More than 350 professionals in 62 Ohio counties have volunteered, indicating their willingness to:

- \*Make classroom presentations
- \*Participate in school Career Days
- \*Host field trips
- \*Offer internships
- \*Offer job shadowing opportunities
- \*Mentor young professionals, and
- \*Recruit additional career ambassadors

EECO, Ohio EPA and OSU are continuing to recruit more professionals to the online database, at <http://epn.osu.edu>. Now that we have a fully populated database of Ambassadors we are offering K-12 Teachers and Higher Education Professionals lists by county to identify local environmental scientists and engineers interested in working with their local schools.

To aid in recruiting of Career Ambassadors, the partners **published 19 articles** in various professional association newsletters.

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**STATE**  
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PROFESSIONALS  
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COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

## Partnership Structure

A six-member **partnership steering committee** sets partnership goals in consultation with the EECO Board of Directors and the OEEF Advisory Council. The committee includes the Chief of Ohio EPA's Office of Environmental Education, and the chairmanship alternates between OEE and EECO representatives. The EECO Executive Director sits on the committee in an ex-officio capacity. The partnership supports part-time **regional directors** in each of the state's 12 education regions, who work closely with teachers and environmental educators at the local level to offer workshops and share teaching resources. A network of **more than 10,000 educators state wide** helps to publicize and distribute the partnership's materials. A **partnership insert** in the EECO newsletter goes out three times each academic year to educators statewide, promoting cross-pollination between the OEEF grant programs, the products resulting from outstanding environmental education grant projects and EECO conference and workshop opportunities.

### Ohio EPA—Environmental Education Council of Ohio Partnership Regions



## Workshops, Programs and School Presentations

Partnership funds made it possible to offer **68 regional professional development workshops, school presentations and displays by EECO staff in SFY 2015 to 15,728 participants**, offering teachers STEM Career information as well as certification in nationally recognized curricula such as *Healthy Water, Healthy People*, [www.healthywater.org](http://www.healthywater.org), The Leopold Education Project, <http://www.aldoleopold.org/Programs/lep.shtml>, Project Learning Tree, [www.plt.org](http://www.plt.org); Project WET (Water Education for Teachers), [www.projectwet.org](http://www.projectwet.org), Project WILD, Project WILD Aquatic, Flying WILD, and WILD School Sites, all at [www.projectwild.org](http://www.projectwild.org); and Wow! The Wonders of Wetlands, [http://www.wetland.org/education\\_wow.htm](http://www.wetland.org/education_wow.htm). This year the partners continued to promote new early childhood modules from Project WILD and Project Learning Tree to Head Start educators and pre-school programs. Other teacher workshops offered training in programs developed specifically for Ohio, such as Master Composting, Vermi-composting, Dig in Soils, Insects, Science Through Stories, Geology Rocks, Taking Care of Nature's Resources and Animal Adaptations. School presentations included demonstrations of water quality monitoring techniques, the EnviroScape® drinking and wastewater treatment model and Ohio Wildlife History model. EECO and OEE presenters also frequently demonstrate other hands-on models such as the EnviroScape® watershed model, storm drain models, soil tunnels and the EnVision 3100® ground water flow model at schools and teacher conferences. In SFY 15 the partners focused more on STEM career programs. A number of school presentations and displays were provided. **Ohio EPA provided outreach for 37 recruiting events to 4,842 professionals, and 45 educational opportunities to 921 teachers and 3,359 students.**

The volunteer Environmental Career Ambassadors reported providing:

**Career Classroom Presentations:**

Three presentations for 82 Middle School Students

**Career Fairs:** Two fairs for 130 middle school students

**Career Days:** One for 35 high school seniors

**Shadowing:** One high school shadowed an education specialist for a waste reduction and recycling program

**Mentoring:** Eight college students were mentored by employees at American Electric Power



STEM Environmental Career Fair

## Conferences

EECO's April, 2015 **annual conference** at Maumee State Park featured a day of interactive forums discussing Lake Erie issues, alternative energy and green building technologies. The second day of the conference included workshops on curricula aligned to Ohio's New Learning Standards and field trips to area locations to see excellent environmental education in action. The third day of the conference showcased concurrent sessions on cutting edge topics and programs for environmental and STEM education. Keynote speakers from the Ohio State University's Stone Laboratory included Dr. Kristin Stanford, who has been actively involved in Lake Erie watersnake conservation for 15 years, and Dr. Jeff Reutter, an aquatic biologist and limnologist, the author more than 150 technical reports and journal articles, and a frequent lecturer on issues related to the changing Lake Erie ecosystem, harmful algal blooms, nutrient loading, aquatic invasive species, linking environmental health and coastal economic development. Exhibits and presentations also highlighted the accomplishments of the 20-year partnership between EECO and Ohio EPA, and the new STEM Environmental Career Ambassador Program.



## Regional Conferences

The partnership also provides financial support for three regional conferences for teachers and non-formal educators: the “**Winter Snow, Out We Go**” conference in northeast Ohio in February; the “**Black Swamp Educators’ Extravaganza**” in northwest Ohio in June, sponsored by a number of soil and water conservation districts; and the “**101 Alternatives to the Chalkboard**” conference in southwest Ohio in October.



The 2015 Winter Snow Conference focused on creative ways to teach STEM using winter or Arctic concepts. Keynote speaker Jason Cervenec from the Byrd Polar and Climate Research Center at OSU taught a session on simulating ice cores in the classroom for students to investigate.

## Local Programs

To most effectively reach a wider audience and avoid duplication of effort, the partners work closely with local environmental educator collaboratives such as the Earth Day Coalition in Cleveland, Greater Cincinnati Environmental Educators (GCEE), Terrific Resources for Environmental Education (TREE) in central Ohio and the Tri-County Environmental Educators in the Youngstown area. These collaboratives offered **regional resource fairs** for teachers, afterschool care providers and home schoolers. The partners also exhibited or presented at **special events and conferences with 4,736 participants**, including the Cincinnati Paddlefest, Children's Water Festivals in Dayton and Columbus, the Ohio Wildlife Diversity Conference and local Earth Day events. Local collaborators include soil and water conservation districts, solid waste management districts, county extension offices, health departments, zoos, nature centers, botanical gardens, and recycling and litter prevention offices. Adult education opportunities also included **nine OEEF grant writing workshops** offered around the state last year, reaching a total of **201 participants**. EECO's assistance in hosting and publicizing these workshops has been instrumental in helping the OEEF increase the number of grants awarded in under-served counties.