



Ohio Environmental Education Fund Statewide Partnerships in SFY 2009

Environmental Education Council of Ohio, \$99,800.



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 two-year general grant. Through this fifteen-year 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. For K-12 education, the partnership continues to focus on the STEM disciplines (science, technology, engineering and mathematics), but in recent years has added additional outreach initiatives in social studies, language arts and other areas. Since 2006, the partnership has also strengthened its initiatives for adult environmental education in the state.

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 EECO Executive Director and the Chief of Ohio EPA's Office of Environmental Education, and the chairmanship alternates between OEE and EECO representatives.

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 **contacts in more than 2,000 school buildings** helps to publicize and distribute the partnership's materials statewide. 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.

Workshops and Programs

Partnership funds made it possible to offer 51 **regional professional development workshops** and school presentations, in SFY 2009 to 1,413 participants, offering teachers certification in nationally recognized curricula such as *Healthy Water, Healthy People*, www.healthywater.org; The Leopold Education Project, www.lep.org; Project Learning Tree, www.plt.org; Project WET (Water Education for Teachers), www.projectwet.org; Project WILD, Project WILD Aquatic, Flying WILD, WILD School Sites, and *Science and Civics: Sustaining Wildlife*, all at www.projectwild.org. 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 water quality monitoring demonstrations, an overview of state environmental issues, and environmental careers.

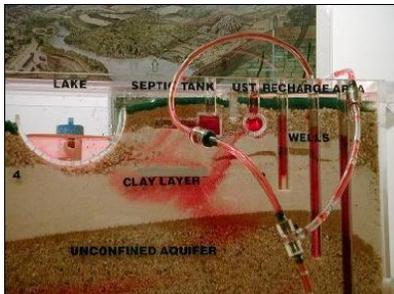
EECO and OEE presenters frequently demonstrate hands-on models such as the **EnviroScape® watershed or drinking water and wastewater treatment models, storm drain models, soil tunnels**, and the **EnVision 3100® ground water flow model**, to a variety of audiences at local events. The partners are collaborating with Project SWEET (source water environmental education teams) coordinated by the Ohio Department of Natural Resources with local soil and water conservation districts, OSU extension, water purveyors and local communities, to educate residents about storm water, nonpoint source pollution, and how to protect drinking water supplies. In its first three years, this initiative has offered 452 demonstrations in 57 counties reaching more than 47,600 people.



watershed model



Franklin SWCD storm drain model



ground water flow simulator



Butler SWCD soil tunnel

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, the Delaware Environmental Education Partnership (DEEP), Greater Cincinnati Environmental Educators (GCEE), Terrific Resources for Environmental Education (TREE) in Columbus, and the Tri-County Environmental Educators in the Youngstown area. These collaboratives offered **regional resource fairs** for teachers, afterschool care providers and home schoolers, and supported 33 **special events** with 11,512 participants, including the Cincinnati Paddlefest, Cleveland Burning River Festival, the Dayton Children’s Water Festival, Central Ohio Water Festival, community earth day events, harvest fairs, country living days, and local sustainability fairs. 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.



Paddlefest



Resource fair for teachers

Adult education opportunities also included 22 **OEEF grant writing workshops** offered around the state last year, reaching a total of 437 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. EECO also conducted an independent review of completed OEEF grant projects, to help select Outstanding Projects and examples of effective environmental education to lift up for new applicants to emulate.

Resource Directory



To provide a one-stop shop of contact information for environmental education content providers, the partnership created a **Directory of Ohio Environmental Education Sites and Resources**, which is being converted from print to an online, searchable and updatable version posted at www.eeco-online.org/calendar/ohio_ee_directory.htm.

Conferences

EECO's April, 2009 **annual conference** at Deer Creek State Park near Mount Sterling featured the theme "It's Easy Being Green." Sessions were tailored to the needs of EECO's different constituencies: business, industry and trade associations; environmental and community-based organizations; EE and outdoor education organizations; government agencies; higher education; pre-school, elementary and secondary education; and environmental education research.



Wetland ecologist Bill Mitsch shows the OSU wetlands research station to field trip participants.

Keynote speakers, workshops, field trips and concurrent sessions helped the 145 participants learn to tailor education programs to most effectively engage audiences of different ages, backgrounds, and interests. EECO's annual conference also honors the legacy of the Ohio Alliance for the Environment, offering an environmental issues forum as an opportunity for balanced discussion of current topics. This year's forum featured tours and discussion of sustainable agriculture and "Overcoming Obstacles to Green Buildings."



Forum participants tour the Lazarus Building green roof, and the Grange Insurance Audubon Center under construction on the Whittier Peninsula near downtown Columbus.

This year's conference again highlighted the burgeoning national No Child Left Inside movement, promoting outdoor learning and increased environmental education content and funding in teacher preparation. EECO is working with local Leave No Child Inside collaboratives in six Ohio cities.



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 the Cuyahoga Valley National Park near Peninsula (northeast Ohio) in February; the “**Black Swamp Educators’ Extravaganza**” in Perrysburg in June, sponsored by a number of northwest Ohio soil and water conservation districts; and the “**101 Alternatives to the Chalkboard**” conference at YMCA Camp Kern in Oregonia (southwest Ohio) the first weekend in October.



Ohio EPA-Environmental Education Council of Ohio Partnership Regional Priorities



- Region 1: urban/multicultural, language arts
- Region 2: high school, environmental careers
- Region 3: social studies, environmental careers
- Region 4: urban/multicultural, environmental careers
- Region 5: pre-service teachers
- Region 6: language arts

- Region 7: adult education
- Region 8: urban/multicultural, environmental careers
- Region 9: pre-service teachers, high school
- Region 10: high school, environmental careers
- Region 11: adult education, environmental careers
- Region 12: early childhood, urban/multicultural

EECO-OEEF Partnership Regional Directors

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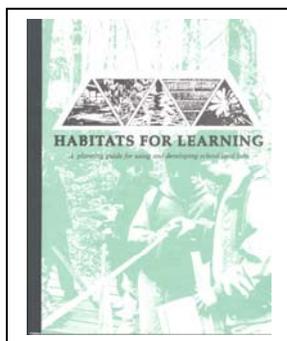
Targeting Outreach to Specific Audiences

While environmental education continues to be most closely associated with science, in 2001, EECO identified five under-served audiences for K-12 environmental education: **urban/multicultural, language arts, social studies, and the high school, and early childhood** age groups. The partnership continues to focus on providing special initiatives to support educators in these five areas. Regional directors are working with local teams in each of the state's 12 education regions, to concentrate their efforts on special initiatives to reach these audiences. In 2006, **environmental careers** and **adult education** were added as additional targets. Partnership funds helped EECO leverage an additional \$52,000 over the past four years in federally-funded EETAP (Environmental Education and Training Partnership) grants from US EPA. Partnership goals for 2007-9 have been aligned with this effort to include a new focus on **pre-service teacher preparation**.

Target Audience: Urban/Multicultural

In Region 1, the partnership sponsors an Urban Environmental Learning Collaborative (UELC) of local EE provider organizations working with after-school programs serving Columbus Public Schools students. The team developed 20 travelling trunks of supplies and trained after-care educators to provide activities from Projects WET, WILD, and Learning Tree and OSU Extension.

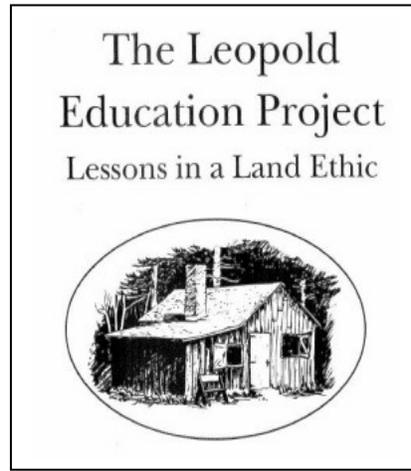
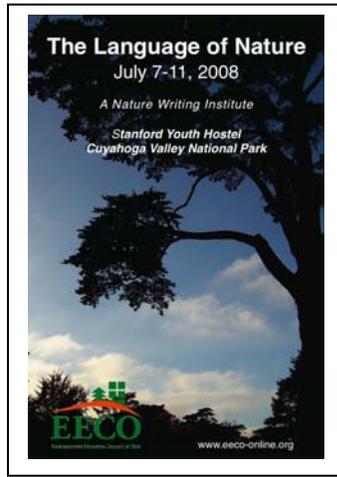
The Region 8 team identified as its primary stakeholders the teachers and students of the Cleveland Municipal School District. They have been training teachers in a number of standards- and inquiry-based activities that can take place outdoors, such as bird banding, water quality monitoring, and biological surveys. The team is working closely with the Earth Day Coalition's Student Environmental Congress, the Nature Center and Shaker Lakes, and local community organizations to create a new outdoor learning area and environmental education center at the East Cleveland location of the U.S. Army Corps of Engineers Dike 14 dredge spoils disposal site along Lake Erie.



The Tri-County Environmental Educators network in the Youngstown/Warren area (Region 12) has been supporting the development of outdoor learning areas in several urban schools, utilizing *Habitats for Learning: A Planning Guide for Developing and Using School Land Labs* that EECO developed with an OEEF grant that was selected as an Outstanding Project.

Target Audience: Language Arts

"**The Language of Nature VII**," a summer writing institute for language arts teachers, was offered in July at the Cuyahoga Valley National Park. This year's institute included sessions on nature writing and photography, naturalist interpretation, and teaching activities from the Leopold Education Project, which features journaling and environmental ethics components. Sessions included fiction, nonfiction, poetry and journaling. Funding from the partnership has helped to leverage additional support from the Ohio Arts Council for this institute.



Target Audiences: Social Studies and High School

A new “**Environmental Education and the Social Studies**” **slideshow** is now posted on the OEE, EECO and Project WILD Facilitator Web sites, and featured at several teacher conferences, to showcase activities from well-known curricula that can be used to meet both Ohio and national social studies content standards.

“Water Court”
Project WET

- Students participate in a mock court to settle water quality and quantity disputes.
- Demonstrates how disputes can be settled through mediation or litigation.
- Evaluate arguments presented by opposing sides
- (Middle and high school)



Geography
using migratory
birds and butterflies



- *Journey North*
www.learner.org/jnorth/current.html
- *Monarch Watch*
www.monarchwatch.org
- “Back from the Argentine” *Leopold Education Project*, www.lep.org

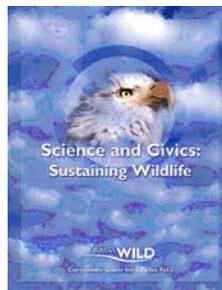
The partners also demonstrate ODNR Division of Wildlife’s tabletop model and poster timeline of “**Wildlife in Ohio History**” at teacher workshops and various public events. The timeline helps elementary students learn how animal and plant species have flourished or been extirpated in Ohio.



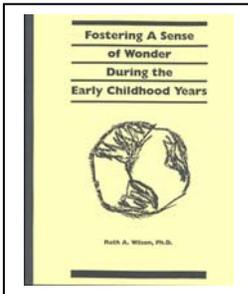
Wildlife in Ohio History



At the high school level, the partners are helping the ODNR Division of Wildlife promote **Project WILD’s Science and Civics: Sustaining Wildlife** curriculum where high school biology, history, economics and government classes collaborate on service learning projects to benefit wildlife in the local community. Learning activities are aligned with the state academic content standards for science and social studies.



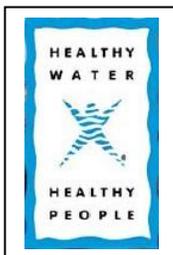
Target Audience: Early Childhood



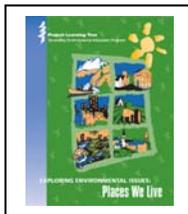
The partnership promotes and distributes copies of *Fostering a Sense of Wonder During the Early Childhood Years*, developed by Dr. Ruth Wilson at Bowling Green State University with OEEF funding, and selected as an OEEF Outstanding Project resource for educators.

Target Audiences: Environmental Careers

The partnership is intensifying its efforts to introduce Ohio students and teachers to **careers in environmental science and engineering**, in tune with the state's current priority on STEM (science, technology, engineering and mathematics) disciplines and preparing students to meet the needs of employers. Careers education is also an important theme throughout the Ohio Department of Education's academic content standards. The partnership works with businesses and with the 22 state and 9 federal agencies participating in the Ohio Inter-Agency Council for Environmental Education (OICEE) to help schools recruit environmental professionals as collaborating partners and career role models. Partnership funded workshops show teachers how to use authentic science data and technical methods in the classroom.



For example, Project WET and *Healthy Water, Healthy People* activities have students test their drinking water or local streams for various parameters and compare their results with official sampling data from Ohio EPA and local water purveyors.



Activities from Project Learning Tree's secondary education modules on forest ecology, risk assessment, energy, and local environmental issues also include significant career components.

The Ohio Environmental Education Fund has made environmental careers one of its six priority areas for awarding grants. Six of the twelve EECO regional directors added careers education as a focus for their local outreach committees. The Ohio Department of Natural Resources "Real World Learning" Web pages at <http://ohiodnr.com/tabid/18945/Default.aspx> feature profiles of conservation professionals, their training and current projects.

Target Audience: Pre-Service Teachers

EECO and Ohio EPA are supporting the North American Association for Environmental Education's efforts to incorporate stronger environmental education components in the accreditation standards of colleges of education by the National Council for Accreditation of Teacher Education (NCATE). Partnership funds were used to leverage five years of federal funding from the Environmental Education and Training Partnership (EETAP), for state capacity building. Pre-service teacher preparation is the current focus of that grant, and the partnership goals have been expanded to include this new audience as well. In 2007, EECO certified twelve education faculty members from different Ohio colleges and universities in Project Learning Tree and Project WILD, so that a new generation of teachers will become familiar with these excellent teaching resources. In 2009, the partners will certify teaching faculty in Project WET and *Healthy Water, Healthy People*. The OEEF has funded alignment of all these curricula with the Ohio Department of Education's academic content standards for science and social studies education. These correlations are posted at <http://www.dnr.state.oh.us/education/correlations/> and will be updated as needed to keep pace with ODE's revisions to the standards in 2009-2010.