



Spotlight on Excellence:

Outstanding Environmental Education Projects



Funded by:
The Ohio Environmental Education Fund

The Ohio Environmental Education Fund (OEEF) was created by the General Assembly in 1990 to enhance Ohio citizens' awareness and understanding of environmental issues. It is administered by the Director of the Ohio Environmental Protection Agency (Ohio EPA) and has an annual budget of \$1.5 million. The OEEF's primary means of supporting environmental education efforts in Ohio is through grants.

OEEF derives its monies from one-half of the civil penalties collected from violations of the Ohio's air and water pollution control regulations. The legislation that developed this funding mechanism is unique; it has enabled Ohio to take a national leadership role in state environmental education grant programs.

OEEF awards approximately \$1 million annually in general grants of \$5,000 to \$50,000, and mini grants of \$500 to \$5,000, for environmental education projects targeting pre-kindergarten through university students and teachers, the general public, and the regulated community. Funding decisions are made through a multi-stage review process. OEEF staff review applications for completeness and compliance with the OEEF guidelines. Substantive review is provided by more than 400 volunteer peer reviewers in schools and universities, state and local government agencies, nonprofits, and the private sector. The Environmental Education Council created in statute reviews proposals according to peer reviewer rankings, and recommends projects to the Ohio EPA Director for his final funding decision. Over ten years, OEEF has been able to fund approximately 27 percent of the applications it receives. Unsuccessful applicants receive significant assistance from OEEF staff, and comments from peer reviewers and Council members enabling them to revise and resubmit their applications.

Since 1990, the OEEF general grant and mini grant programs have funded 370 projects of up to \$50,000 each, targeting the K-12, general public and regulated community audiences in every part of Ohio. OEEF staff review fiscal and activity reports from grantees and conduct site visits to oversee implementation of grant projects. Completed grants are periodically evaluated by independent professional reviewers, in order to identify outstanding projects that can serve as models for others. These outstanding projects are highlighted in this report.

Outstanding OEEF Grant Projects for the K-12 Audience

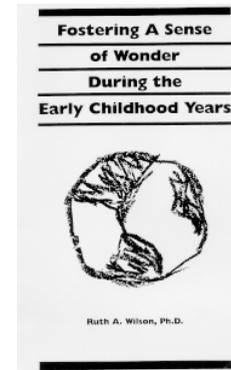
Periodically, the OEEF contracts for independent evaluation of the success of completed grant projects targeting the K-12 audience, including pre-school and college programs, as well as professional development for teachers and other environmental educators working with schoolchildren.

As part of the OEEF partnership with EECO, an independent team of teachers was assembled in 1996, and another in 2000, facilitated by the Science and Mathematics Network. The teams reviewed current scholarship on student learning, and publications such as EECO's guidelines for best EE practices and *Excellence in Environmental Education - Guidelines for Learning (K-12)*, developed by the North American Association for Environmental Education (NAAEE). Three sets of rubrics were developed, as the evaluation instruments for curriculum development, professional development, and student activities, respectively.

In 1996, 61 completed OEEF grant projects were evaluated, with 12 selected as "outstanding." In 2000, 45 more recently completed grant projects were reviewed, and another 12 were selected as "outstanding." OEEF is showcasing these projects to educators and prospective grant applicants as examples of effective environmental education for the K-12 audience.

Bowling Green State University
Environmental Education for Preschoolers
Hancock, Henry, Lucas, Ottawa, Sandusky and Wood Counties

Provided environmental education opportunities to preschoolers, along with curriculum development and networking of preschool teachers in a six-county area. This project brought national and international attention to the need for environmental education materials for a pre-school audience. An advisory committee developed a 207-page curriculum guide and a resource library. The curriculum guide, *Fostering A Sense of Wonder During the Early Childhood Years* was field tested by pre-school educators, and has become one of the OEEF's most widely distributed publications, used as a textbook in a number of pre-service teacher education programs. The project also resulted in 10 presentations throughout the country, and 14 articles on environmental education for a pre-school audience in various journals and periodicals. Contact: Dr. Ruth Wilson, (616) 655-1509, Ruthwilson@netzero.com.



East Knox Local Schools, East Knox Elementary
Project Pass It On
Knox County



Project enabled 70 sixth-grade students at East Knox Elementary to write, illustrate, and publish original books about environmental topics. Students attended a three-day residential outdoor educational program at Nature's Classroom at Temple Hills, Bellville. Students established a publishing company and created their own environmental books and kits that were then distributed to all K-4 classrooms in the East Knox School District. Duplicate copies were assembled into kits and made available for loan to all Knox County Schools. Contact OEEF at (614) 644-3769 or OEEF@epa.state.oh.us.

Licking Heights School District, Jersey Elementary School
Organic Gardening
Licking County

Students utilized the school's Nature Study Center garden to study organic gardening, composting, and the use of plants for pest control. Students also visited a sanitary landfill to learn about solid waste disposal and waste reduction. Contact: Lynette Gibboney at Summit Elementary School, (740) 927-3365.



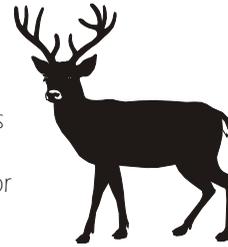
**Ohio Department of Natural Resources,
Division of Recycling and Litter Prevention**
DLPR Secondary Curriculum Development Project
Statewide



Developed and field tested integrated, thematic classroom activities about solid waste and recycling issues for a statewide secondary school curriculum and reference source. Project involved 500 secondary teachers within 10 schools. Since then, a total of 260 workshops have been conducted and 3,000 copies of the *Investigating Solid Waste Issues* curriculum have been distributed statewide. Contact: David Landis, (614) 265-6444, david.landis@dnr.state.oh.us.

Ohio Department of Natural Resources, Division of Wildlife
WILD School Sites for Learning
Statewide

Developed a model WILD school site at the Delaware Wildlife Area, to assist teachers and students developing plans for a wildlife habitat at their home school. The program also provided resource materials, a hands-on workshop and follow-up trouble-shooting assistance for the teachers. Thirty-five educators attended the workshop and through them an estimated 1,678 students and community members were reached by the project. The program has grown currently to 40 certified WILD school site in Ohio with replication efforts in many other states. Contact: Paul Schiff or Joanne McKenzie at 1-800-WILDLIFE or (614) 265-6546, Joanne.McKenzie@dnr.state.oh.us.



Sandusky County Schools, Office of Educational Services
EcoLogics I & EcoLogics II
Sandusky County

The 1991 grant enabled 96 junior high students to study current environmental problems and formulate solutions. Presentations were given by research teams at an all day competition, and students served as mentors to their communities to help create awareness of environmental concerns. An estimated 429 people were contacted through the work of the student mentors. The project also received funding through a collaboration of local corporations and Bowling Green State University. The 1992 grant continued the program to help academically talented students conduct further research on environmental issues. The second year of the program enrolled 120 students. Student research teams again presented findings in an all-day competition. Additional funds made possible the development of a curriculum guide based on the program for the 96 student mentors from the first year of the program. Contact OEEF at (614) 644-3769 or OEEF@epa.state.oh.us.

Ohio University, Institute for Democracy in Education
Project Common Ground
Statewide

Brought together 62 students and teachers from 13 high schools around the state, from diverse social economic, cultural and geographic settings, to share environmental projects through a statewide computer network, newsletters, a conference and teachers' handbook. A facilitators' handbook was also created for teachers wishing to replicate the project. Contact OEEF at (614) 644-3769, OEEF@epa.state.oh.us.



South-Western City School District, Prairie Lincoln Elementary School
Prairie Lincoln/Big Darby Project
Franklin County

Through field trips and classroom study, this project illustrated why the Big Darby Creek watershed is important, what it has to offer the community, and ways of preserving and protecting it. Field study activities specific to the seasons of the year were offered to 581 kindergarten through fifth grade students and 300 parents and visitors. In-service workshops on the Big Darby were held for all members of the school staff. Contact: Kelly Jacobs, (614) 801-8300, Kelly_Jacobs@swcs.k12.oh.us.



South-Western City School District, Stiles Elementary School
Wade In - Save Darby Creek
Franklin County

Introduced K-5 students and parents to the effects of urban development and agricultural practices on Darby Creek through a curriculum guide and video. Brought children's author Ron Hirschi to the school for a week to work with students and teachers. Approximately 620 students were involved in project activities demonstrating what they could do to help preserve the creek. Contact OEEF at (614) 644-3769 or OEEF@epa.state.oh.us.

Worthington Public Schools, Outdoor Education Department

Identification and Training of Environmental Education Liaisons for Each Franklin County School District and E² NETWORK: COTA Region

Champaign, Clark, Delaware, Fairfield, Fayette, Franklin, Licking, Logan, Madison, Marion, Pickaway, Ross, and Union Counties

The 1991 grant established a network of environmental educators in each school district in Franklin County by providing a workshop on environmental education to teachers who will become liaisons to other teachers. The workshop was attended by 147 teachers and youth leaders, impacting an estimated 4,350 students. The 1992 grant expanded the Environmental Education network in Franklin County to 12 more counties and approximately 200 neighboring school districts. Provided two "COTA Day" workshops for approximately 400 educators and a newsletter to continue communication within the network. Contact: Marty McTigue at (614) 431-6598.



Metropolitan Park District of Toledo

Nature Express

Lucas County

Project increased curriculum development and teacher training in environmental education within this urban environmental outreach program for economically disadvantaged students and community adults. Provided access, through transportation costs, to nature and park activities for those living in inner city Toledo. Produced a curriculum guide of classroom activities to prepare students for their Metro Park visit. Contact: Denise Gehring (419) 535-3050 or naturalist@glasscity.net.



Niles City Schools, Niles McKinley High School

Mosquito Creek Project

Trumbull County

The Niles McKinley High School Science Club worked with Ohio EPA and Ohio DNR district offices and the Trumbull Soil and Water Conservation District to study Mosquito Creek for wildlife and water quality. Micro invertebrates were collected and analyzed; student curriculum focused on relationships between science, technology and society. Contact: Art Keyser (330) 652-0269.

Stark County School District
Little Tikes Discovery Program

Developed and field tested three model outdoor environmental education programs for area preschool classrooms. Students visit learning stations and react to experiences through art, music, movement, dramatic play, storytelling, cooking or other methods. Project featured collaboration with Stark County Department of Education and Canton Area YMCA. Contact: Corrine Doege (330) 492-8136.

**Ohio Department of Natural Resources,
Office of Public Information and Education**
Habitats for Learning

Developed a video, booklet and professional development program as well as a networking and support system to address issues concerning how to use and develop outdoor learning sites, or school land laboratories, in an educationally sound manner. Program has been well received state-wide and there is a curriculum guidebook and corresponding video with teacher testimony available by contacting the Office of Environmental Education. Contact: OEEF (614) 644-2873 or OEEF@epa.state.oh.us.

Bowling Green State University, Department of Special Education
Natural Beginnings

Focused on increasing pre-school educators expertise and confidence in providing environmental education at the pre-school level. The project developed a four-day summer workshop with a one-day follow-up session in the fall for 25 early childhood educators focusing on understanding and appreciating nature. Teachers will be introduced to environmental education materials and environmental education professionals in the community. Contact Dr. Ruth Wilson, (616) 655-1509, Ruthwilson@netzero.com.

Salesian Boys and Girls Club of Columbus
Challenging Youth to Manage Their Environment
Franklin County

Increased youth's understanding of urban and rural environmental pollution in Franklin and surrounding counties. Environmental clubs were formed for three age groups (7-9, 10-12, 13-18) teaching focused on issues regarding water and air pollution, wildlife preservation, and land conservation through field trips, hands-on activities and survey skill development. Project was conducted in cooperation with The Ohio Wildlife Center, Olde Towne East, and The Humane Society. Contact: OEEF at (614) 644-2873 or OEEF@epa.state.oh.us.



Environmental Education Council of Ohio (EECO) (formerly Ohio Conservation and Outdoor Education Association (OCOEA)

Integrating EE and Science

Developed a comprehensive document to assist curriculum writers and teachers in making environmental education an integral part of their science program. This project will encourage environmental literacy and responsible environmental behavior by providing a document that integrates environmental education and science. Each school district will use the document in conjunction with preparing courses of study for implementing the new Ohio Department of Education State Science Model for grades pre-school through 12. The curriculum book is available by contacting the Office of Environmental Education at Ohio EPA. Contact: OEEF, (614) 644-2873 or OEEF@epa.state.oh.us.

Pickerington Local School District, Pickerington Elementary

Saving Our Wetlands

Fairfield County

Recreated a wetland peat bog on school grounds, to provide students with hands-on experimentation in maintenance and monitoring, allowing them to observe native plant and aquatic habitats, utilize monitoring and management techniques, analyze and interpret data, and to interface with other research projects. Also to conduct teacher workshops and to collaborate with author Ron Hirschi in writing a children's book, [Wandering Through Our Wonderful Wetlands](#). Contact: Mary Sheridan, (614) 759-3400.



City of Toledo Division of Parks and Forestry

PARK-IT: Elementary School Land Laboratories in Toledo City Parks

Lucas County

Established five naturalized land labs in Toledo City Parks located close to public elementary schools. Provided a Curriculum Activity Guide for students and teachers to use with the labs to enhance elementary curriculum. Three teacher workshops were also presented to provide appropriate instruction for incorporating the land labs into the curriculum. Contact: Denny Garvin (419) 936-2876.



Recreation Unlimited
National Challenge Center for People with Disabilities
Project Ohio Outdoor Access (POOA)

Developed a handbook of guidelines and resources to assist outdoor educators and special educators throughout the State of Ohio in providing appropriately inclusive experiences in the outdoors for all students, disabled and non-disabled. Handbook was shared and presented in workshops for teachers and various Ohio Associations. Project has garnered international attention for its efforts to provide inclusive environmental education activities. Contact: Gina Freeman, (740) 548-7006.

Rivers Unlimited
Mill Creek Restoration Project
Exploring the Mill Creek Valley
Hamilton and Butler Counties

This interdisciplinary environmental education program used computer simulations and an action research model (data collection, problem-solving and action-taking) to inform and inspire junior and senior high school students, local teachers, and the broader public about an urban, industrialized watershed. Students and community members were able to visualize how a restored Mill Creek and its riparian corridor could look in the future and how ecological restoration will benefit the environment, the economy and the region's quality of life. Project included water quality monitoring and other educational and service project field trips, classroom enrichment, video programs, a 35 mm slide show, and a multimedia and interactive CD ROM. Participants included 200 teachers and community volunteers, and 4,300 students from 20 middle and senior high schools in 10 school districts located in the Mill Creek watershed. Contact: Robin Corathers (513) 731-8400, mcrp@one.net.

Clermont County Educational Service Center
East Fork Region Environmental Project
Clermont County

The environmental and economic impact of the development of the East Fork Region of the Little Miami River is the focus of this project. Teacher leaders were trained in issues related to the East Fork project and identified topics to be included in a seventh and eighth grade science and social studies curriculum guide which built upon an existing fifth and sixth grade unit. The guide provides background information, activities and assessments that can be utilized before, during, and after a field trip while students investigate the East Fork Region. Fifty-three teachers and 2,081 students participated. Contact: Jane Zachman at (513) 735-8324, Zachman_J@hcca.ohio.gov.

Zoological Society of Cincinnati
Real Solutions for Real Issues
Statewide

Developed curriculum, evaluation tools and workshops for 550 teachers statewide, to accompany *The 90-Second Naturalist* radio segments. Evaluators noted that the project “actively engages students in the real-world problems and solutions by focusing on five key themes: Cheetah - The Story of an Endangered Species; Bald Eagle - Master of the Sky; Rain Forest - Celebration of Life; Bird Migration-Fantastic Flights; and Nature & People-A Vital Connection. Through these stories, students are led through the problem solving process, incorporating their knowledge through role-playing. 60 activities were developed to supplement the environmental themes (12 activities for each of the five themes) in the classroom and at the Zoo.” Materials were later added to a Web site, the Eagle segment was developed into a CD ROM, and the results of the project were presented at two national professional meetings. Contact: David Jenike at (513) 559-7730, David.Jenike@cincyzoo.org.



Science & Mathematics Network of Central Ohio
Enhancing Environmental Education Using Technology
Statewide

Twenty-six elementary teachers from 11 central Ohio school districts worked in teams for nine full-day sessions to explore how to extend and enhance quality hands-on environmental education activities such as Project WILD and school land labs, through the use of computers and on-line technology. Teacher participants met with mentors who were environmental professionals from businesses and agencies to discuss technology applications in the work environment. Each team of teachers designed a set of learning activities that incorporate educational software, CD ROMs and on-line resources. The model activities were compiled into a project notebook that is now being distributed at technology professional development conferences to illustrate “good education” incorporating technology. Contact: Pat Barron at (614) 485-9800, smnco@sciencemathnetwork.org.



Ohio Energy Project
Power Partners Program
Statewide

Teachers from 59 Ohio counties attended week-long workshops to learn about the economic and environmental advantages and disadvantages of the 10 major sources of energy. Teachers then constructed an Energy Bike, to be retained in their school district and used annually by teachers of grades 5-12. The Energy Bike is a bicycle-powered generator that teaches basic concepts relating to



fluorescent and incandescent lighting, electrical safety, capacitors, fuses, energy transformations, horsepower, motors, BTUs, energy efficiency, conservation, photosynthesis, metabolism, and combustion. Participating teachers received curriculum materials for 24 classroom activities and four hands-on science experiments, correlated to Ohio Science and Math Proficiency Outcomes. 7,890 students and teachers participated in the workshops and presentations. OEEF has also provided funding for related OEP projects such as student attendance at Ohio's Youth Energy Summit. Contact: Rich Smith at (614) 785-1717, Richs@Ohioenergy.org.

Mount Vernon Nazarene College *The Clear Fork River Project* Ashland, Knox and Richland Counties

Mount Vernon Nazarene College conducted a two-day workshop for 22 teachers from four high schools, providing interdisciplinary curriculum and water quality monitoring supplies for their classes to use the



Clear Fork River as an outdoor laboratory. Although implementation varied among the schools, chemistry classes did water quality testing, physics and earth science classes did stream flow and discharge measurements, and biology classes did a biotic index of water quality. About 75 students and teachers attended an end-of-year conference to compare their own sampling results with one another and the results of sampling by three Mount Vernon Nazarene College classes. Contact: Dr. Dan Mosher at (740) 397-6862 ext. 3203, Dmosher@mvinc.edu.

ODNR, Division of Parks & Recreation *Save Ohio's Shorelines (S.O.S.)* Statewide

The Save Ohio's Shorelines program utilizes an interactive activity (Wetland Metaphors from Aquatic Project Wild) to demonstrate the many and varied benefits of the Lake Erie shoreline - as well as shorelines of inland lakes. The grant primarily funded the 50 kits that contained various props used for the Wetlands Metaphors activity. Through in-the-field activities, participants can explore the unique ecosystem of the shoreline. Through various exercises and illustrations in the leader's guide, the leader can help students gain a basic understanding of the natural processes that continuously reshape coastal areas and the ways we can protect shoreline habitats from erosion and loss due to human activities. Two hundred and twenty-two summer S.O.S. programs were conducted for a total of 3,410 participants ages 7-14. Contact: Lynn Boydelatour at (614) 265-6556, Lynn.Boydelatour@dnr.state.oh.us.



Little Miami Local Schools, Little Miami High School
An Interdisciplinary Study of the Little Miami River
Warren County

An interdisciplinary study of the ecology and water quality of the Little Miami River was conducted by high school math and science classes. 250 students participated, with eight field trips to study the Todd's Fork ecosystem. Students worked in groups to conduct macro-invertebrate sampling, chemical testing, and fecal coliform testing, measure river depth, and identify trees, flowers and fossils found at the site. Students were responsible for data management and Powerpoint presentations of their results, which were shared with a neighboring high school, the Warren County Soil and Water Conservation District, and state agencies via computer and video conferencing. Project design was also shared at several professional development workshops for teachers. Contact: Deb Haisley at (513) 899-3781.

Anthony Wayne Board of Education
Waterville Land Lab
Lucas County

Developed an outdoor classroom featuring northwest Ohio's natural heritage, for use by three adjacent elementary schools and the surrounding community. A strength of this project was the involvement of 18 students in grades 2-12 in the actual planning and design of the land lab. Student planning team members helped assess the proposed site, made public presentations, circulated questionnaires to neighborhood residents, traveled to other land labs to collect information and seeds, and designed and selected logos with the help of graphic arts students from the high school.

Toledo Metro parks naturalists and staff from the Lucas Soil and Water Conservation District helped 29 teachers develop activities to use the land lab with their classes. The site includes annual and perennial garden pathways, a butterfly/hummingbird garden, an oak savannah garden, a three-sisters' garden, weather station, and prairie and geology areas. The project featured strong collaboration, with community organizations, scouts, parents, and other volunteers providing labor, materials, and summer maintenance. Contact: Jane Yates at (419) 878-6324.



Ohio Historical Society
Why is Rush Creek Orange?
Franklin, Hamilton, Muskingum and Perry Counties

The OHS joined forces with the New Lexington schools, The Wilds, and The Cincinnati Zoo to develop an interdisciplinary curriculum for students to study causes and solutions to problems resulting from human impact on the environment. Using cooperative and distance learning models, students in first, third, fourth, eighth, ninth and tenth grades investigated different aspects of the question, "Why is Rush Creek a bright orange color?" Students investigated the region's natural history, biota and archaeology from prehistoric times, through impacts from industrialization and strip mining. During the year-long study, students communicated with archaeologists, engineers, scientists, utility managers, wildlife experts and zoo animal handlers through the use of teleconferencing, computer programs and the Internet to try to answer the question. Their results were presented in a town meeting and traveling exhibit/multimedia presentation. Contact: Sharon Antle at (614) 297-2661, Sanle@ohiohistory.org.



Ohio State University Extension
The Master Gardener Program for Teachers
Stark and Summit Counties

Provided three weeks of horticultural and environmental education and curriculum materials to certify 12 teachers from urban areas in Akron and Canton as Master Gardeners. These teachers brought indoor and outdoor gardening experiences to their own schools, and trained an additional 360 teachers through workshops on science content and classroom activities. Project WET, Project WILD, and GrowLab activities were incorporated into the curriculum, along with units on insects, worms, heirloom plants, attracting wildlife, art in the garden, herbs, and environmental education in the classroom. Contact: Denise Ellsworth at (330) 497-1611 ext. 21, Ellsworth.2@osu.edu.



The Office of Environmental Education is proud of the contribution that these outstanding projects have made to the status of environmental education throughout Ohio. It is our hope that this brochure will inspire others to apply for OEEF funding and enable you to make a difference in environmental education.

General Grant deadlines: January 15 and July 15 *(if this date falls on a weekend or holiday, the deadline will be the following business day)*

Project amount up to \$50,000.00

Mini-Grant deadlines: January 15 and July 15 *(if this date falls on a weekend or holiday, the deadline will be the following business day)*

Project amounts from \$500.00 to \$5,000.00

Please contact the Ohio Environmental Education Fund for additional information;

Ohio EPA
Office of Environmental Education
122 South Front Street
Columbus, Ohio 43215
(614) 644-2873
e-mail: OEEF@epa.state.oh.us

Grant applications and guidelines are available at our web site:
<http://www.epa.state.oh.us/other/oeef/oeemain.html>