

Environmental Education: RESOURCES AT A GLANCE



National Education & Environment Partnership
The National Environmental Education & Training Foundation
Washington, DC
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WHAT IS ENVIRONMENTAL EDUCATION (EE)?

Many people think of environmental education as “nature studies” – a supplement to the educational system that relates only tangentially to the core curriculum. In actuality, EE refers to educational efforts that increase public awareness and knowledge about environmental issues while providing critical thinking, problem-solving, and effective decision-making skills. The main goal of EE is for people of all ages to know enough about environmental science and related social issues to make sound and well-reasoned environmental decisions. In this publication, we are focusing on EE programs, organizations, and projects related to K-12 students and educators as well as presenting information on how EE relates to academic achievement, school improvement, and other current issues in formal education.

Professionally-executed EE is a comprehensive process for helping people understand the environment, their place in it, and related issues (Archie and McCrea 1998). EE emphasizes the interdisciplinary integration of subject matter, hands-on learning experiences, and team teaching. Because it centers on problem-solving and decision-making, it fosters so-called constructivist approaches to education, in which children work on real problems in context rather than abstract problems out of context. It fosters both independent and cooperative learning, creating independent thinkers who can work together to solve common problems. The State Education and Environment Roundtable (SEER) (www.seer.org) has developed a school improvement model, Environment as an Integrating Context (EIC), that uses schools’ natural and community surroundings as a venue for connecting these pedagogies to improve teaching and learning. Many people refer to this kind of education as “environment-based education”, in recognition of its primary emphasis on academics.

A broader adoption of EE in the nation’s schools can help produce motivated students, high-performance life-long-learners, effective future workers and problem solvers, thoughtful community leaders, and people who care about the people, creatures, and places that surround them. As a proven method of achieving academic excellence, environmental education has been adopted as an effective tool for meeting and exceeding state and

local educational standards, many of which specifically include EE. A set of national standards for EE, developed by the North American Association for Environmental Education (NAAEE), including both materials (<http://naaee.org/npeee/materials.html>) and learning guidelines (http://naaee.org/npeee/learner_guidelines.html), has also been developed.

INTRODUCTION

The following representative listing of resources provides a “glance” into the increasingly complex field of environmental education (EE). We have included a handful of entries in each of four general categories related to EE: national programs, organizations and projects, the academic benefits of EE, and other resources.

Our organizing principle in preparing this resource has been: keep it simple. Therefore, this is by no means a comprehensive bibliography. Our goal is simply to provide some basic information that, quite literally, can be assimilated “at a glance” while also pointing you in the direction of other resources in case you would like to explore further. We hope that you find it interesting and enlightening. For further information and resources, please feel free to contact Andrew Finch, NEETF’s Senior Director of Education & the Environment Programs, at finch@neetf.org.

I. National Programs and Curricula

Listed are ten popular K-12 programs that are available nationally. All of these programs use environmental education to boost both student achievement and responsible decision-making skills. These represent a small sampling of the wide array of national, state, and local programs available.

Adopt-A-Watershed

<http://www.adopt-a-watershed.org/>
P.O. Box 1850, Hayfork, CA 96041, (530) 628-5334

Adopt-A-Watershed, a K-12 school-community learning experience, uses a local watershed as a living laboratory. Through hands-on activities and service-learning, Adopt-A-Watershed aims to enhance K-12 science education and encourage watershed stewardship. In addition to providing many educational links related to watersheds, their website includes information about their philosophy, available curricular materials and services, and upcoming events.

Audubon Adventures (National Audubon Society)

www.audubon.org/educate/aa/order
700 Broadway, New York, NY 10003, (800) 813-5037

Audubon Adventures is an environmental education program for elementary school students that presents basic, scientifically-accurate facts about birds, wildlife, and their habitats. Thematic lessons include invertebrates, mammalian diversity, cold-blooded animals, and birds.

Earth Force GREEN

<http://www.green.org/>
1908 Mount Vernon Avenue, 2nd Floor, Alexandria, VA 22301 (703) 299-9400
green@earthforce.org

The Global Rivers Environmental Education Network (GREEN), an award-winning program for middle and high school youth, imparts critical academic skills while educating students to improve watersheds in their communities. GREEN's website provides the necessary tools: water monitoring equipment, resource and action guides, web space to post results, and other national and local resources.

GLOBE Office

<http://www.globe.gov/>

1800 G Street NW, Suite 800, Washington, DC 20006, (202) 501-3200

GLOBE trains teachers to help students improve their achievement in science, math, and computer literacy by taking scientifically valid measurements in the fields of atmosphere, hydrology, soils, and land cover/phenology and reporting their data through the Internet to the student data archive. By creating partnerships between students and professional scientists, GLOBE increases student awareness of the environment from a scientific viewpoint. GLOBE's extensive website multiple resources for teachers and students as well as news, a FAQ list, links, evaluations of the program, and more.

National Wildlife Federation's Environmental Education Programs

<http://www.nwf.org/education/>

1400 16th Street NW, Washington, DC 20036, (202) 797-6800

The National Wildlife Federation offers several environmental education programs tailored to both communities and schools. For example, the Schoolyard Habitats Program focuses specifically on assisting school communities in using school grounds as learning sites for wildlife conservation and cross-curricular learning. This site provides detailed information about EE programs including Schoolyard Habitats, Earthsavers, and more.

Project Learning Tree (American Forest Foundation)

<http://www.plt.org/>

1111 19th Street NW, Suite 780, Washington, DC, 20036

(202) 463-2462

This acclaimed interdisciplinary K-12 EE program promotes knowledge of the natural and built environment and the human role in preserving it. PLT activities, many of which are available in both Spanish and English, correlate to national standards for science, social studies, language arts, and math, while topics range from forests, wildlife, and water, to community planning, waste management and energy. The website includes materials for teachers and informal educators, news, evaluations, and other information.

Project WET (Montana State University)

<http://www.montana.edu/wwwwet/>

Project WET, 201 Culbertson Hall, Montana State University Bozeman, MT 59717, (406) 994-5392

Project WET (Water Education for Teachers) fosters knowledge and stewardship of water resources while helping students meet academic standards, such

as the Benchmarks for Science Literacy. The website contains information on the program's goals, history, correlation to curriculum standards, and more.

Project WILD (Council for Environmental Education)

<http://www.projectwild.org/>

Project WILD National Office, 5555 Morningside Drive, Suite 212, Houston, TX 77005, (713) 520-1936 info@projectwild.org

Project WILD, an interdisciplinary K-12 environmental education program, focuses on wildlife as a means of engaging student interest in learning and academic achievement. The website includes materials and guidebooks correlated to the National Science Education Content Standards, program information and evaluations, a database of Project WILD schools, and more.

Waste in Place (Keep America Beautiful)

www.kab.org

1010 Washington Boulevard, Stamford, CT 06901 (203) 323-8987

Waste in Place, a classroom curricular supplement, provides a balanced perspective of waste and the options for its management. Topics include litter prevention, solid waste management, source reduction, recycling, composting, landfills, and waste-to-energy incineration.

Windows on the Wild, Biodiversity Basics (World Wildlife Fund)

<http://www.worldwildlife.org/windows/>

1250 24th Street NW, Washington, DC 20037, (800) 225-5993

Windows on the Wild, or WOW, uses biodiversity as a “window” through which to view complex scientific, social, political, cultural, and economic issues. WOW simultaneously provides quality environmental education and demonstrates the interconnectedness of all life on Earth. The website includes extensive teacher guides, classroom activities, professional development resources, as well as a wealth of information related to biodiversity.

II. Environmental Education Organizations and Projects

ASCD Environmental Education Network

Bora Simmons, Dept. of Teaching and Learning, Northern Illinois University, DeKalb, IL 60115 (815)753 8594

boras@niu.edu

An ASCD “network” is a group of people united by a common purpose, interested in a particular issue, or seeking similar information. Groups are welcome to join the EE Network, which supports and promotes EE, without being members of ASCD, provided that at least 50% of the individuals are members. For more information about ASCD networks, please visit <http://www.ascd.org/aboutascd/cr/networks/aboutnet.html>.

North American Association for Environmental Education (NAAEE)

<http://naaee.org/>

410 Tarvin Road, Rock Spring, GA 30739, (706) 764-2926

email@naaee.org

NAAEE, an association of EE educators, students, and volunteers, offers a variety of programs and activities to support EE worldwide. Their website includes a list of environmental education standards, called the materials and learning guidelines. It also incorporates EE resources, projects, and news as well as more detailed information about their association.

Environmental Education and Training Partnership (EETAP)

<http://eetap.org/>

EETAP, College of Natural Resources, University of Wisconsin Stevens Point, WI 54481, (715) 346-4958

EETAP, the national training program of the U.S. Environmental Protection Agency’s (EPA) Office of Environmental Education, supports classroom teachers as well educators working for nature centers, museums, and government agencies. Information about a wide range of programs, services, and resources can be found on their website.

National Environmental Education Advancement Project (NEEAP)

<http://www.uwsp.edu/cnr/neeap/>

NEEAP, College of Natural Resources, UWSP, Stevens Point, WI 54481 (715) 346-4748

NEEAP, a member of EETAP, focuses on building national, state, and local capacity for environmental education. Their website contains further information on their strategy and goals as well as a seasonal newsletter.

National Environmental Education & Training Foundation (NEETF)

<http://www.neetf.org/>

1707 H Street NW, Suite 900, Washington, DC 20006-3915

(202) 833-2933

NEETF strives to build a stronger economic, societal, and ecological future

through environmental learning. The Foundation focuses on EE's potential to strengthen and improve education, health, and business, especially in disadvantaged communities. NEETF's website includes detailed information on its various programs as well as links to several of its publications.

US EPA, Office of Environmental Education

<http://www.epa.gov/enviroed/>

1200 Pennsylvania Avenue, N.W. (1704A), Washington, DC 20460 (202) 564-0443

The Environmental Protection Agency's Office of Environmental Education promotes EE efforts by linking EE to educational reform, supporting EE capacity building, researching and improving EE programs, and keeping the public informed of their activities. The Office strives to improve academic achievement while fostering responsible and informed environmental decision-making.

III. Academic Benefits of EE

Closing the Achievement Gap: Using the Environment as an Integrating Context for Learning

<http://www.seer.org/pages/GAP.html>

Lieberman, G.A., and L. L. Hoody. San Diego, CA: State Education and Environmental Roundtable, 1998.

When the environment is used as an integrating context for learning, student achievement improves. This qualitative study of 40 schools provides the results of surveys, interviews, observations, and achievement tests to demonstrate how, why, and to what degree. As mentioned above, the State Education and Environment Roundtable (SEER) has developed a comprehensive school reform model that is being used in many states across the country. For more information, please go to SEER's home page.

EEducator: Advancing Education Reform

<http://naaee.org/publications/pubdescriptions.php>

North American Association for Environmental Education (NAAEE), Spring 1999.

This collection of articles examines how EE can be used to advance student learning. It covers topics including instruction, professional development, assessment, and standards.

EE: Moving into the Education Mainstream, Issue 26

<http://www.ascd.org/readingroom/infobrief/issue26.html>

Association for Supervision and Curriculum Development, August 2001.

This publication explores how environmental education can be linked to current movements in education to improve student achievement.

Environment-based Education: Creating High Performance Schools and Students

<http://www.neetf.org/pubs/NEETF8400.pdf>

Washington, DC: The National Environmental Education & Training Foundation, 2000.

This report contains case studies of schools and programs that have adopted EE as their curricular focus.

Environmental Education: A Resource Handbook

<http://www.pdkintl.org/>

Heimlich, Joe E. Bloomington, Indiana: Phi Delta Kappa International, 2002.

This collection of articles explores major issue areas in EE, including the question of integrating EE and formal education. It includes listings of resources available through the ERIC Clearinghouse for Science, Mathematics, and EE and the Eisenhower Clearinghouse.

Environmental Education in the United States — Past, Present, and Future

<http://www.naaee.org/html/pubdescrips.htm>

Archie, Michele, ed. Burlingame: Collected Papers of the 1996 National EE Summit, 1998.

This collection of discussion papers includes a thorough analysis of many important issues in EE.

Environmental Problem Solving: Theory, Practice and Possibilities in Environmental Education

<http://www.naaee.org/html/pubdescrips.htm>

Editors Bardwell, Monroe, and Tudor. NAAEE, 1994.

This clearly written book unites problem-solving theory with its practice in EE.

Evaluating Environmental Education

<http://www.iucn.org/cec/documents/ACF8044.pdf>

Stokking, K., van Aert, L., Meijberg, W., and A. Kaskens. Trans. Rosemary Martin. IUCN - The World Conservation Union, Gland, Switzerland, 1999.

This book describes a formal evaluation process for environmental education programs.

Molokai: An Investment in Children, the Community, and the Environment

Cheak, M., Volk, T., and H. Hungerford. Carbondale, IL: The Center for Instruction, Staff Development and Evaluation, 2002.

Report Assessing Environmental Education in the United States and the Implementation of the National Environmental Education Act of 1990

National Environmental Education Advisory Council. Washington, DC: U. S. Environmental Protection Agency, 1996.

This report, prepared for Congress, provides an overview of the need for EE, the status of EE in the United States, and recommendations for action.

Using Environment-based Education to Advance Learning Skills and Character Development

<http://www.neetf.org/pubs/EnviroEdReport.pdf>

Washington, DC: The National Environmental Education and Training Foundation, 2001.

This report describes the efficacy of EE in helping young people become lifelong learners and leaders.

IV. Other Resources

EE-Link

www.eelink.net

EE-Link, a project of NAAEE, develops and collects EE quality EE materials and makes them available to a broad audience of teachers and other educators. It uses only fact-based, accurate resources that inspire inquiry, critical thinking and decision-making, and engagement.

ERIC Clearinghouse for Science, Mathematics, and Environmental Education

www.ericse.org/eeindex.html

The Educational Resources Information Center (ERIC) is a federally supported system of 16 education clearinghouses. This site enables the user to search a database that describes nearly one million articles, reports, curriculum guides, books, and other information resources.

GreenCOM

<http://greencom.aed.org/dbtw-wpd/gcom.htm>

The GreenCOM Resource Center contains a searchable collection of over 3,000 different classroom materials, each of which is carefully screened for quality and excellence.

U.S. Environmental Protection Agency (EPA)'s Office of Environmental Education

<http://www.epa.gov/enviroed/resources.html>

<http://www.epa.gov/enviroed/teachers>

<http://www.epa.gov/enviroed/otherepa2.html>

<http://www.epa.gov/enviroed/ftfee.html>

This site offers a wide array of EE information developed and/or funded by the EPA. It also includes a search engine of EE materials sorted by environmental topic.

The National Environmental Education & Training Foundation

The National Environmental Education & Training Foundation (NEETF), chartered by Congress in 1990, fulfills a unique role in the environmental education (EE) and training field. The Foundation fosters environmental learning at the national level and provides a voice for learning-oriented solutions to environmental problems. It is a forum for unique, unusual, and effective working relationships that focus on the environment. These include partnerships between government, business, citizen groups and individuals. As part of its Congressional charter, the Foundation, a private, non-profit organization, also has a formal partnership with the U.S. Environmental Protection Agency to support scientifically sound and effective development of non-regulatory voluntary programs for environmental stewardship.

The National Education & Environment Partnership

The National Education & Environment Partnership's purpose is to help mainstream environmental education by fostering connections among formal, informal and environmental education policymakers and organizations. It believes that environmental education can lead to improved academic achievement for students, better teaching, and stronger stewardship attitudes and skills. To this end, it is issuing a series of publications that explain EE to other fields and that introduce EE practitioners to funding and other advancement opportunities, as well as holding workshops and other events to bring the worlds of EE, formal and informal education closer together. The Partnership is a project of NEETF with major support from the U.S. EPA Office of Environmental Education. For more information and links, please go to www.neetf.org/education/index.shtml.

National Education and Environment Partnership Executive Committee

American Association of Museums

Environmental Council of the States

Environmental Education and Training Partnership

National Environmental Education and Training Foundation

State Education and Environment Roundtable

U.S. Environmental Protection Agency, Office of Environmental Education

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