

Earthteaching News, Spring 1998

Earthteaching News

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Earth Partnership Program

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School Grounds as Learning Grounds

A Growing International Movement

Most of you look forward to celebrating Arbor Day and Earth Day. Many may not know about International School Grounds Day. This is no surprise since May 1, 1998 is only the third one. It is exciting that many people and organizations are interested in improving school grounds for student learning and have begun a collaboration to raise awareness of this effort.

Since we began the Earth Partnership Program in 1991, our primary goal has been to enable teachers to use the restoration of ecosystems to provide hands-on learning for students and a place of diverse beauty and interest that students can study and explore. At the same time that we have worked with teachers at schools or in our workshops, we have been presenting at regional and national conferences. In the process we learned that several programs around the country, and indeed the world, are working to improve school grounds.

Some programs are similar to Earth Partnership in that they work to restore native plants on school grounds for students to study. Some, such as Project Home in New Hampshire, or the Fish and Wildlife Service in Maryland, work to restore habitat for wildlife. There is a wide range of programs including the Boston Schoolyard Initiative to the School Nature Area Project in Minnesota. Some programs are connected to national organizations including the National Wildlife Federation, and the North American Association for Environmental Education (NAAEE).

Internationally, Learning Through Landscapes in the United Kingdom has been the most visible organization in coordinating research studies on the impact school grounds have on children, and in incorporating curricular efforts for a holistic view and use of school grounds. They have reached over 10,000 schools. The Japan Ecosystem Conservation Society is involved in a multi-year planning effort to bring schoolyard restoration into the

Japanese educational system. These are only a few of the many international initiatives that are currently underway.

Schoolyard environment groups began meeting at forums at the NAAEE annual conference and the Midwest Environmental Education Conference. It is exciting to have a number of people involved in the effort to utilize school grounds for the educational benefit of students. We are exploring how these groups can collaborate in a synergistic way. How do we raise the awareness of

the nation and world for the need to provide school grounds that are enriching and build ties between students and the natural world?

The Earth Partnership Program is collaborating with groups around the country in order to provide children diverse and interesting school grounds. We hope to create a national culture in which school grounds are valued as a learning resource. We will provide information about programs in each region, curriculum guides, grant opportunities, and conferences. We hope to make it standard practice for school construction projects to include outdoor classroom features that cover the broad, holistic range of opportunities for school ground use. The collaboration will include programs that focus not only on habitat restoration and traditional disciplines, but also play, gardening, art, agriculture, and animal husbandry.

No single program can cover all of these ideas. We will continue to maintain our focus on the process of restoring natural ecosystems, such as prairie, using an integrated curriculum. We will keep you informed of this national collaboration through our website and will provide annotated links to other program websites, with suggestions on how to integrate their offerings with your Earth Partnership restoration efforts. It is a great time to be involved on the leading edge of a movement that will transform how school grounds are used.

Join the "Earth Partnership": E-mail Internet Listserve

Join our listserv for easy updates on events, activities, new resources, and for dialog in school-based ecological restoration. All you need is an e-mail account. Turn to page six for subscription instructions.

To join the Earth Partnership Program listserv (named: "*Earth-Partnership*"):

Send an electronic mail message to: listserv@relay.doit.wisc.edu

Leave the subject line blank

The first line of your message should read as follows:

subscribe earth-partnership <YourFirstName YourLastName>

Replace <YourFirstName YourLastName> with your name

(*Example:* subscribe earth-partnership Judy Jones)

Turn off your signature file, if you have one, when e-mailing the above message. If you don't, you will subscribe successfully but then get an error message back referencing the first word or so of your signature file. You can ignore this message.

Plants for Birds, Butterflies and People

Planting a diversity of native prairie flowers and grasses, along with shrubs and trees nearby, provides optimum habitat and opportunity to attract a variety of butterflies and birds. Wildlife in the schoolyard adds life, discovery, and educational opportunities.

Planning and proper plant selection will increase the number and variety of butterflies and birds attracted to your planting. Select plants native to your region that are suited to the soil, moisture, and light conditions of your school yard. Then develop a plan that allows continuous bloom and takes into consideration wildlife needs for food, water, and shelter at different life stages.

Prairie flowers attract a diversity of pollinating insects. Grazing insects such as grasshoppers, leafhoppers, and butterfly larvae feed on prairie grasses and forbs. These insects form the base of the food web, especially for birds. Birds also feed on the highly nutritious seeds produced by prairie plants. Tall and short grasses provide cover

and nesting. A few selected woody plants located outside the prairie area provides optional habitat needs for butterflies and hummingbirds that forage for nectar on prairie flowers.

Plant Immigrants

Activity Overview:

Students identify non-native plants and research the introduction of these non-native plants to the New World.

Objectives:

Students will:

- * identify plant species using observation skills and keys
- * conduct research, engage in inquiry and communicate findings
- * learn how historical events have changed the present day landscape

Subjects covered: Science, language arts, social studies

Grades: Third through twelfth

Time:

Plant identification: 45 minutes

Research: 45 minutes

Create/display findings: 45 minutes

Materials:

* Resource books to identify non-native plants and to research the introduction of non-native plants in the New World. See bibliography on opposite page.

* Blank world maps

* Graph paper

* Plant photos or drawings

* Poster board

Season:

Identification is best done in the fall; research can be done any time.

Introduction

Plant composition in the ecosystems of North America has changed since European settlement and the introduction of non-native plant species from other parts of the world. Once non-native plants are transplanted from their homeland and no longer constrained by naturally occurring disease and competition, they often spread aggressively, out-competing native plants. Consequently, the interrelationships in a naturally functioning ecosystem are thrown out-of-balance. Restorationists, land managers, and homeowners spend millions of hours and dollars removing many of these exotic plants. How and why did these plants come here in the first place?

Non-native weeds and seeds came to North America several different ways. Colonists brought seed from their homelands for their family garden plots. Puritan women brought plantain (*Plantago major*) to North America for treating bites, cuts, and other painful wounds. These plants escaped their well-tended gardens by birds, settlers' feet, or other animals, and quickly spread throughout North America. Native Americans called the plantain "white man's foot" because it would grow along well traveled trails.

Dandelion (*Taraxacum officinale*) originated in Asia Minor. It spread to Europe before written history. For centuries, its long taproot and leaves have been used for food and medicine. The leaves and flowers contain more vitamins C and A than most garden vegetables. Dutch, German, French, and English emigrants brought seed from the Old World. The parachuted dandelion seed spread west before settlers arrived to claim their

homesteads. Apache Indians welcomed the new plant and sent groups in search of it for spring feasts.

Seeds or plants also reached North America in impure shipments of grain, as ornamental plants, or as a food for domestic animals. Crabgrass (*Digitaria sanguinalis*) was first brought over in 1849 by the U.S. Patent Office as forage food. Later, Eastern Europeans brought crabgrass for cereal and flour. Today, crabgrass has spread to every state in the nation and is considered the number one pest in lawns.

Honeysuckle (*Lonicera tartarica*, *L. morrowii*, *L. X bella*) was introduced as an ornamental in the colonies in 1752 and is still sold at garden centers today. It is a serious nuisance in natural areas around urban centers, eliminating native wildflowers and shrubs. The summer-ripening fruit is readily consumed by birds and dispersed in forests and fields.

Activity Description

1. Identify non-native plants in your restoration plot, in your school yard, or in an old field using field guides.
2. Research the origins of these non-native plants and how and why they were brought to North America.
3. Indicate on a world map where the exotic species originated, their route to North America, and the extent of their spread, with approximate dates.
4. Create a display of your findings; include a world map, a description with a drawing or photograph of your plant, a summary of how your plant came to the new world, and its impact in natural ecosystems today.

Extensions

- * Compose a fictional essay about a seed's journey to the New World from its native home.
- * Construct a timeline or graph that shows the number of plants introduced through history. Determine historical events that may correlate with the introduction of non-native species.
- * Discuss what the implications are for the modern world when plant-seed hitchhikers are carried all over the world.
- * Research cases of exotic plant or animal introductions, both intentional, such as kudzu or water hyacinth in the southeast United States, or unintentional, such as sea lamprey in the Great Lakes. Consider the case history and biological results of these prolific pests.

Resources

[For plant identification:](#)

Brown, Lauren. *Grasses and Identification Guide*. Boston, MS: Houghton Mifflin, 1979.

Courtenay, Booth and James Zimmerman. *Wildflowers and Weeds*. New York:Simon & Schuster, 1992.

Martin, Alexander C. *Golden Guide: Weeds*. Racine, Wis.: Golden Press, Western Publishing Company, Inc., 1987.

University of Wisconsin-Extension Publications:

Lawn Weeds and Their Control (NCR0260, \$2; *Weeds of the North Central States* (A9NXP281), \$8; *Annual Broadleaf Weed Identification* (NCR090), \$0.65; *Annual Grass and Perennial Weed Identification* (NCR092), \$0.65.

Order: <http://www.uwex.edu/ces/pubs>, and/or, in Wisconsin, through your county extension office.

[For researching the introduction of non-native plants to the New World:](#)

Gleason, Henry A. and Arthur Cronquist. *Manual of Vascular Plants of the Northeastern United States and Adjacent Canada*. New York: D. Van Nostrand Co., 1991.

Haughton, Claire Shaver. *Green Immigrants*. San Diego, CA: Harcourt, Brace, Jovanovich. 1978.

Hobhouse, Henry. *Seeds of Change: Five Plants that Transformed Mankind*. New York: Harper & Row. 1986.

Holm, LeRoy and Jerry Doll. *World Weeds: Natural Histories and Distributions*. New York: John Wiley & Sons, 1997.

Quinn, John R. *Wildlife Survivors—The flora and Fauna of Tomorrow*. Blue Ridge Summit, PA: McGraw-Hill, Inc., 1994.

Federal Interagency Weed Committee:

<http://bluegoose.arw.r9.fws.gov/FICMNEWFiles/FICMNEWHomepage.html>