

Helping students understand the nature of science through place-based education

National efforts to connect children to nature are gaining ground and with new initiatives like the United Nation's Year of the Forest (2011) and Michelle Obama's Let's Move campaign, we have great opportunities to put NRS research into action through education. In FY 2010, the Environmental Literacy Program (ELP) is emphasizing long-term, place-based education programs with sound assessment and evaluation components. Two of our programs are highlighted below.

Forest For Every Classroom

Forest For Every Classroom (FFEC), is an innovative, place-based, year-long professional development program for K-12 teachers, in Wisconsin. Created in 1999 through a partnership between Shelburne Farms, National Wildlife Federation, USDA Forest Service, National Park Service Conservation Study Institute and Marsh-Billings-Rockefeller National Historical Park, FFEC provides a high-quality model for professional development that emphasizes:

- A variety of partners including non-profit environmental education organization and a land management agency
- Sustained year-long professional development that includes at least three overnights and a minimum of 11 days of training distributed throughout the seasons
- Foundational training in the principals and practices of place-based learning
- In-depth strategies, case studies, and resources in service learning and civic engagement
- Exposure of educators to academic and professional resources specialists who are willing to be part of a network of local support for participating teachers
- A curriculum development framework that meets state and/or district standards
- Participation in the FFEC evaluation program including formative and summative evaluation, with data shared with the Founding Partners

Our partners in Wisconsin include State and Private Forestry, R9 Urban Connections, Chequamegon-Nicolet National Forest, LEAF, Project Learning Tree, Trees for Tomorrow, Nicolet Distance Education, Earth Partnership for Schools, and the Wisconsin Department of Natural Resources.

LEAF is Wisconsin's K-12 environmental education program which is a partnership program between the Wisconsin Center for Environmental Education in the College of Natural Resources at the University of Wisconsin Stevens Point and the Wisconsin Department of Natural Resources. Read more about LEAF at <http://www.uwsp.edu/cnr/leaf>.

Are you working with students or educators?

Reporting out helps us let the WO know how important our role as researchers is in education.

Email bm McGuinness@fs.fed.us if you are participating through:

- Long-term relationships with schools and nonformal educators
- Environmental education research
- Improving post-secondary science education
- Teacher training
- Earth Day activities
- Science fairs
- Envirothon
- Field days



Tyler Arboretum Extension

Initiated in 2009, the Station's partnership with Tyler Arboretum, near Newtown Square, includes education and restoration components. In 2009, this partnership supported extensive plant removal and restoration initiatives in the North Woods forest, a remnant of native forest used for programs to educate the public, and development of a Woodland Ecology Program for area 4th graders. The Woodland Ecology Program includes classroom and field visits to help students and educators investigate different forest habitats, explore what causes forest degradation and participate in hands-on planting.

In 2010, we are continuing the restoration work, while expanding the education program to include a second year of teaching for the original 4th grade students, as well as the incoming class of 4th graders. We will also reach out to adult learners as we work public presentations by Station scientists into Tyler's fall schedule of programs.

2009 Accomplishments

In FY2009, NorthSTAR and the Environmental Literacy Program funded five initiatives aimed at getting students outside to learn more about science and the environment. These projects included:

- Syracuse Summer Day Camp, which supported a four-week nature camp for urban elementary students,
- Fire by the Numbers, which used urban and wildfire as a theme to teach math and science to elementary school children in Philadelphia,
- Overnight field visits at the Pocono Environmental Education Center for high school students involved in a year-long after school program in the Bronx,
- Healthy Kids/Healthy Habitats, a school-year education program presented in cooperation with Dyken Pond EE Center in Rensselaer County, NY, and
- Job skills programs, using i-Tree tools, in New Haven, CT.

Many additional programs were funded through CRDC Special Projects Funds, the Directors Office, and individual RWUs. Watch for a link to an updated Station Environmental Literacy Program soon, to read about all of our programs across the Station, and to access lesson plans and activities for K-12 students, best practices in environmental education, and useful links to educational partners and resources.

The NRS Environmental Literacy Program is a component of the Northern Science, Technology and Applied Results (NorthSTAR) unit. Our vision is to create an enduring impact on peoples' values and attitudes towards nature and their role in conserving natural resources for current and future generations. Our goals are to engage partners to develop and promote research and education opportunities; to engage traditional K-12 students and educators; and to link science and citizenship, making research relevant at all stages of life.

