

New England Regional Water Program: Combining Research, Extension and Education to Improve Water Quality

<http://www.usawaterquality.org/newengland>

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 This is contribution number 5076 of the College of the Environment and Life Sciences, University of Rhode Island.



National Theme: Pollution Assessment and Prevention

New England Focus Area: Sustainable Landscaping

New England researchers and extension educators have been awarded an integrated research, extension, and education grant in response to the National Integrated Water Quality Program 2006 RFA to improve the capacity of Extension programming on Best Management Practices (BMPs) to evoke behavior change in stakeholders.

This integrated, interdisciplinary, multi-state project will apply environmental and behavioral research results to Extension efforts to reduce the application of excess nutrients by homeowners in targeted, urbanizing neighborhoods throughout New England with the ultimate goal of protecting surface and ground water quality.

Environmental research will be used to develop regionally specific recommendations for fertilizer use, or no-use, that minimize water quality impacts and to develop a reliable soil based nitrogen test.

Social science research will be conducted in five target communities to identify the primary drivers of homeowners' fertilizer choices and application behaviors by examining the relative strength of various influences including environmental values, attitudes and norms, the level of trust in and influence of opinion leaders, and the relative influence of different types of informational messages.

Extension will be carried out by incorporating the nutrient application recommendations into messages and delivery methods that have been determined to be compelling to neighborhood residents based on social science research. Extension staff will then work with those considered to be reliable, opinion leaders of yard care information to deliver the messages to residents of targeted neighborhoods.

The education component of the project will incorporate undergraduate or graduate students as both part of the social science research team and as co-developers with Extension staff of the outreach campaign. An evaluation of the project will establish whether changes in knowledge, attitude and behavior have occurred as a result of the Extension effort. The project will serve as a pilot that will be adapted and duplicated within or outside the region at the neighborhood, community, or watershed scale.

This project was made possible through the collaborative efforts of the Land Grant Universities via the New England Regional Water Program.



Our Goal :

To improve water quality management through educational knowledge and extension programming that emerges from a research base.

Our objectives are to:

- Facilitate incorporation of science in regionally developed education and outreach programs that improve the quality of New England's water resources in agricultural and rural watersheds.
- Encourage the adoption of behaviors and activities that result in water quality improvement and protection through thematic programming in our seven Focus Areas. The boxes below provide examples of Focus Area activities.

Conduct water quality needs assessments for the Region and Focus Areas and report on partnerships and progress in water quality improvement.

- Work with partners to identify, develop and disseminate research-based tools, curricula and educational programs that promote voluntary approaches to local water quality management.
- Serve as a repository for all reports from water quality projects funded by the CSREES National Integrated Water Quality Program (NIWQP).
- Continue to develop and maintain both the NIWQP and the New England Regional Water Program websites.
- Participate in national activities that strengthen the capacity of the NIWQP.

Our Approach:

To address the water quality challenges of rural New England, we create locally relevant programs focused on land and community management. We work at both local and regional scales to develop, test and refine programs. We work with federal, state, university and local partners to create the mix of resources required to solve real-life water quality problems.

National Theme: Watershed Management

New England Focus Area: New England NEMO

The National NEMO Network, in collaboration with the New England Regional Water Program and the UNH Stormwater Center, conducted a regional workshop on Low Impact Development (LID) for both the New England NEMO and Sustainable Landscaping Focus Area coordinators and their partners. The workshop provided an opportunity for participants to learn about the research and practical application of LID techniques in New England.



Twenty-five educators attended the workshop from NEMO and sustainable landscaping programs, state agencies, U.S. EPA and NOAA. States represented included Maine, New Hampshire, Vermont, Rhode Island, Connecticut and New York.



National Theme: Drinking Water and Human Health

New England Focus Area: New England Private Well Initiative

The Initiative held a regional multi-agency integrated research and extension symposium on private well protection in November 2005 in Portsmouth, NH. Ninety-five people attended the program representing a diverse audience of Federal, state, and local agency and organization staff, university researchers, Extension faculty and staff, private non-profit organizations, and private sector professionals.



The goal of the 2005 New England Private Well Symposium was to bring together professionals working in the field of private well protection and provide the opportunity to communicate current research, share programming and educational approaches and materials, and to interact with each other in an effort to reduce the risks associated with groundwater use to private well water users. The Initiative leveraged over \$15,000 from partner agencies and organizations in support of the Symposium. Efforts are underway for the 2007 Symposium to be held December 3 & 4 in Newport, Rhode Island.

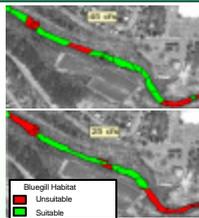


National Theme: Environmental Restoration

New England Focus Area: River and Stream Restoration

The Focus Area encompasses the work of the Northeast Instream Habitat Program (NEIHP), a partnership among the University of Massachusetts, the US Geological Survey, US Fish and Wildlife Service, and the Environmental Protection Agency. This partnership leverages funds from the New England Regional Water Program to enhance research and outreach projects that disseminate knowledge on stream restoration and addresses the demand for NEIHP services.

NEIHP provided technical assistance to the Commissioner's Stream Flow Advisory Group of the Connecticut Department of Environmental Protection which develops statewide Minimum Flow Regulations.



NEIHP conducted two pilot projects to determine Protected Instream Flow and Water Management for the state of New Hampshire.

- These projects create:
- a methodological foundation for state laws regulating water use;
 - development and implementation of protocols, data forms and training materials for volunteer assessment of road-stream crossings;
 - development of collaborative NEIHP projects with New England Land Grant Universities; and
 - incorporation of road-stream crossing standards developed by the River and Stream Continuity Partnership into state and federal policy.



National Theme: Watershed Management

New England Focus Area: Volunteer Water Quality Monitoring

The New England Regional Water Quality Program sponsored the National Water Quality Monitoring Council's 2006 biennial conference, *Monitoring Networks - Connecting for Clean Water*, May 2006, San Jose, CA. Several members of the New England Volunteer Monitoring Focus Area played major roles in the planning and implementation of this national conference.

The conference, attended by more than 700 members of the monitoring community from watershed-based to national agency-based, had more than 380 presentations focused on:

- Assessing methods & data comparability
- Applying new methods & innovative techniques
- Addressing different scales & multiple objectives
- Synthesizing & sharing data
- Improving communication among all stakeholders
- Integrating monitoring & prediction

Large-scale programs: Results, lessons learned, and future directions, with workshops, short courses, oral and poster presentations and informal meetings for special interest topics such as:

- Large-scale collaborative monitoring networks, such as the proposed National Water Quality Monitoring Network for U.S. Coastal Waters and their Tributaries
- Enabling volunteer monitoring program coordinators to exchange information, develop new skills, and build better networks
- The USGS National Water-Quality Assessment Program's new findings on the quality of the nation's streams and ground water.



National Theme: Nutrient and Pesticide Management

New England Focus Area: Agricultural Nutrient and Pest Management & Animal Waste Management

A two day regional In-Service Training for Agricultural Service

Providers was held for over 60 people at New Castle, NH in Feb 2006.

The focus was on organic production methods. Farmers, researchers, and extension staff presented results from applied research, experiences with organic grain production, and other topics. Over 80% of the respondents indicated that the speakers were very good or excellent; over 60% agreed that the presentations were very relevant to their work with presentations addressing nutrient and pest management issues and global issues receiving the highest relevancy ratings; and 97% indicated they had adequate time to network. 100% of respondents indicated a desire to continue to hold the in-service training annually. Over 64% of those attending had attended this conference three or more times in the past indicating that the participants find the material and educational opportunities valuable.



New sources of funding include: \$40,000 from USDA-NRCS, and \$40,000 from UMass Extension (this is in addition to the same amount provided in 2004); USDA-SARE \$85,000 for further research on cover crops for end-of-season nutrient uptake. A regional research project was submitted and approved by NE-SARE, entitled Expanding Grain Production and Use on Organic Dairy Farms in Maine and Vermont.

In addition, New England Regional Water Program funds have successfully leveraged funding from partner agencies that contribute to the training of agricultural service providers, farmers, the New England Sustainable Agriculture Working Group and food system organizations, such as Community Supported Agriculture.