



CSREES New England Region Water Quality Program

Applying knowledge to improve water quality

Cooperative Extension
in New England

- Research
- Education
- Extension

“... NROC [New Hampshire’s NEMO program] helped us channel our efforts. Although there were boards and volunteers already working on projects related to growth, it wasn’t until we worked with NROC that we started working together.”

NROC workshop
participant.

New England NEMO—Nonpoint Education for Municipal Officials

Nonpoint Education for Municipal Officials (NEMO) programs within the CSREES New England Water Quality Program cooperate with a variety of land stewards to apply research and technology to the natural resources decision-making process. By helping local officials make informed land use decisions, watersheds and water quality are protected throughout New England.

Situation

Town councils, conservation commissions, and planning and zoning boards manage growth and development in their local community through their land use decisions, such as approving or denying subdivision master plans, granting building permits, establishing zoning laws, and issuing exceptions to zoning ordinances.

Local governments and volunteer board members play an important role in determining the fate of New England’s vital natural resources. Their decisions regarding land use policy directly affect the environmental health of our rural watersheds. However, many of these local decision makers are often volunteers who are not thoroughly educated about water resources. Policy makers and professionals need access to technology and research-based information that allows them to make responsible and informed land use decisions that preserve the quality of our watersheds. Municipal officials need to learn practical information on minimizing pollution risks, appropriate Best Management Practices (BMPs), and how to use rapidly evolving geo-spatial technologies in their local community.



Municipal officials receive training in on-site wastewater technologies that help protect sensitive water resources.

Actions

Working with local land use officials, New England NEMO programs use geo-spatial technologies and educational programs to demonstrate land use effects on water quality. Using this information, Extension programs work with communities to implement actions to protect local water resources.

- Hallmarks of the Connecticut NEMO program are the development and application of tools that analyze impervious cover as an indicator of watershed health. Ten additional educational modules have been integrated into the program’s original pilot project, *Linking Land Use and Water Quality* (http://nemo.uconn.edu/workshops_initiatives/linkingluwq.htm). The project’s workshops continue to be a NEMO programmatic mainstay.
- The New Hampshire Natural Resources Outreach Coalition NROC, (<http://www.state.nh.us/coastal/CoastalPlanning/coastalplanning.htm>), New Hampshire’s Extension-led NEMO program, provides board members and municipal officials with information about the impacts of land use on natural resources and works with communities over a one-year period to take action to protect them.
- The University of Rhode Island NEMO program (<http://www.uri.edu/ce/wq/mtp/html/munitrai.html>) uses MANAGE (Method for Assessment, Nutrient-loading, And Geographic Evaluation of watersheds) combined with community-customized outreach programs to help rural communities and land trusts identify and evaluate pollution risks related to land use and onsite wastewater disposal. The program has a special focus on the effects of land use on nutrient contamination of freshwater and estuaries.

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New England NEMO relates to CSREES National Theme:
Watershed Management

For contacts go to: http://www.usawaterquality.org/newengland/newq_contacts.html

The CSREES New England Regional Water Quality Program works to improve water quality management through educational knowledge and extension programming that emerges from a research base. The program builds on the strengths of the Extension Water Quality Programs at the Land Grant Universities throughout New England. Partners in this regional program are equal opportunity providers and employers.

CSREES is the Cooperative States Research, Education and Extension Service, a sub-agency of the United States Department of Agriculture, and is the federal partner in this water quality program.

"...[The NEMO Network] is a prime example of a leveraging of dollars and expertise. There has been a tremendous amount of resource leveraging at the local, state and federal levels."

Chester Arnold, Project Director,
Connecticut NEMO

- The Maine NEMO program (<http://www.mainenemo.org/>) has developed a lakes educational module and other educational programs based on the original NEMO model.
- Collaboration among states in New England and other regions is assisted by the National NEMO Network (<http://nemo.uconn.edu/national/>), a CSREES National Facilitation Project based at the University of Connecticut. The Network is comprised of 33 programs in 32 US states and territories, including Connecticut, Maine, New Hampshire and Rhode Island.

Impacts

- Catalyzed by NEMO educational programs and information, towns throughout Connecticut have changed their land use plans, regulations, policies and procedures in order to protect water quality. The Connecticut State Nonpoint Source Plan, Coastal Nonpoint Source Plan, and new Stormwater Quality Manual incorporate NEMO principles.
- New Hampshire's NROC has facilitated various community-based natural resource protection initiatives, such as the creation of a water quality monitoring program in Somersworth, an outreach campaign in Dover called "Growing Greener" and a land conservation committee in Exeter.
- Based on watershed pollution risk assessments conducted with the URI NEMO program, several Rhode Island communities have adopted town wastewater management ordinances requiring septic system inspection, repair and upgrading to protect local groundwater supplies and coastal waters. For example, in the town of South Kingstown all cesspools will be replaced and all 6000 onsite wastewater treatment systems will be fully functional by 2015.
- The Maine NEMO program, with assistance from University of Maine Cooperative Extension, conducted a workshop in 2002 in Camden, ME, which led to the development of a comprehensive zoning plan for the town. The plan incorporates language for the protection of water quality and is currently being reviewed at the state level.
- The Connecticut-based National NEMO Network has met to share resources and knowledge annually since 2000.
- Extension has developed and maintained valuable partnerships among individual state programs, the National NEMO Network, Land Grant Universities, state and federal environmental organizations and county, municipal and town officials.

Partners

In addition to the support of CSREES, New England NEMO programs have been facilitated through funding and collaborations with numerous partners, including Sea Grant, the US Environmental Protection Agency, the Natural Resource Conservation Service, Coastal Programs, Estuaries Projects and National Estuarine Research Reserves, various state agencies, local communities, regional planning commissions, conservation districts, environmental nonprofit organizations and lake and watershed associations.



Connecticut NEMO team member Jim Gibbons gives a talk on watershed planning and protection.