

New England NEMO - National Leadership, Regional Collaboration & Local Results



National Theme: Watershed
Management

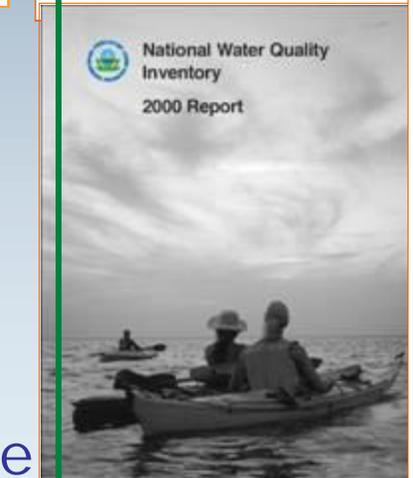
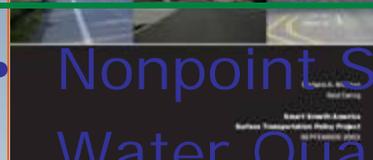
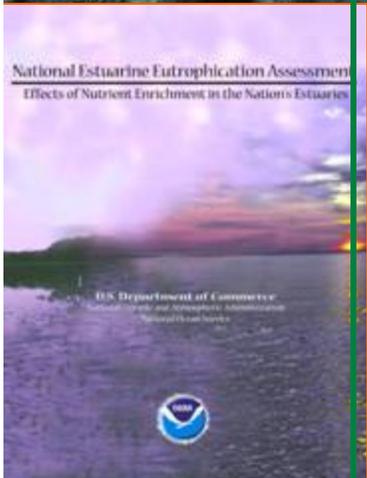
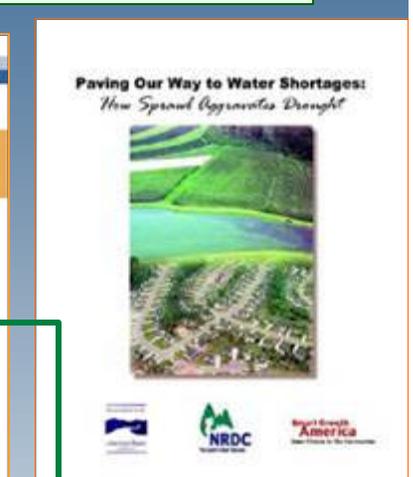
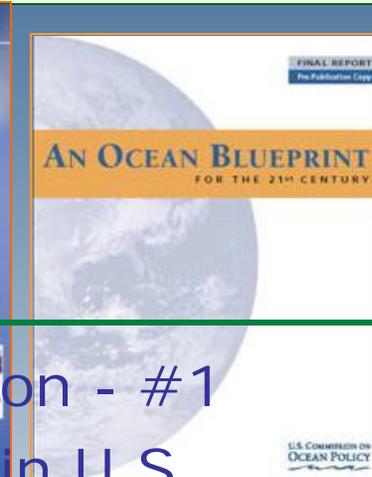
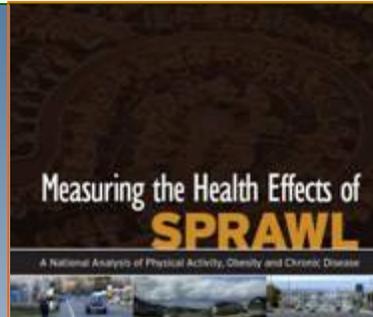
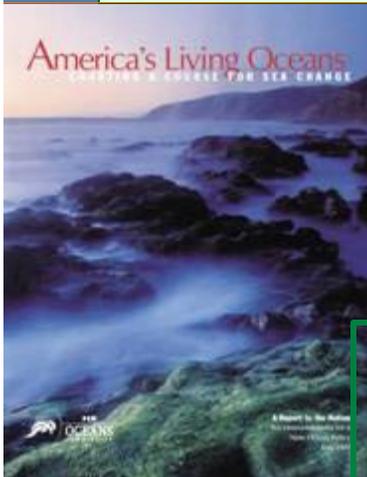
New England Regional Review,
October 16, 2007



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



Situation - Land Use & Water Quality



- Nonpoint Source Pollution - #1 Water Quality problem in U.S.
- Land Use - Critical to Economic, Social, Environmental Health
- Land Use decided at local level
- Preservation of rural lands dependent upon community land use decisions



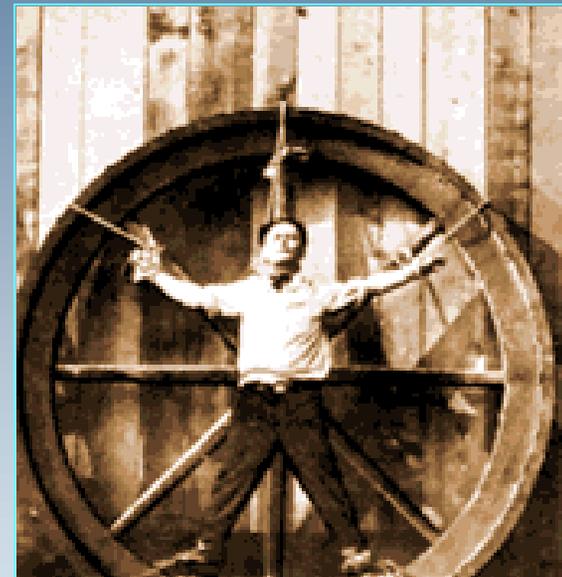
<http://www.usawaterquality.org/newengland>



Situation - An Overwhelmed Target Audience

Local Land Use Commissioners:

- Legal Mandates
- Full Plate
- High Turnover
- Complexity of Environmental Issues
- Inability to Track Cumulative Impacts
- Little/No Training & Tools



Public reaction can be strong at a New England Town Meeting

Nonpoint Education for Municipal Officials

NEMO is an educational program for land use decision makers addressing the relationship between land use and natural resource protection.

NEMO was developed at UConn in 1991-1993, supported by a CSREES Water Quality Initiative grant.



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



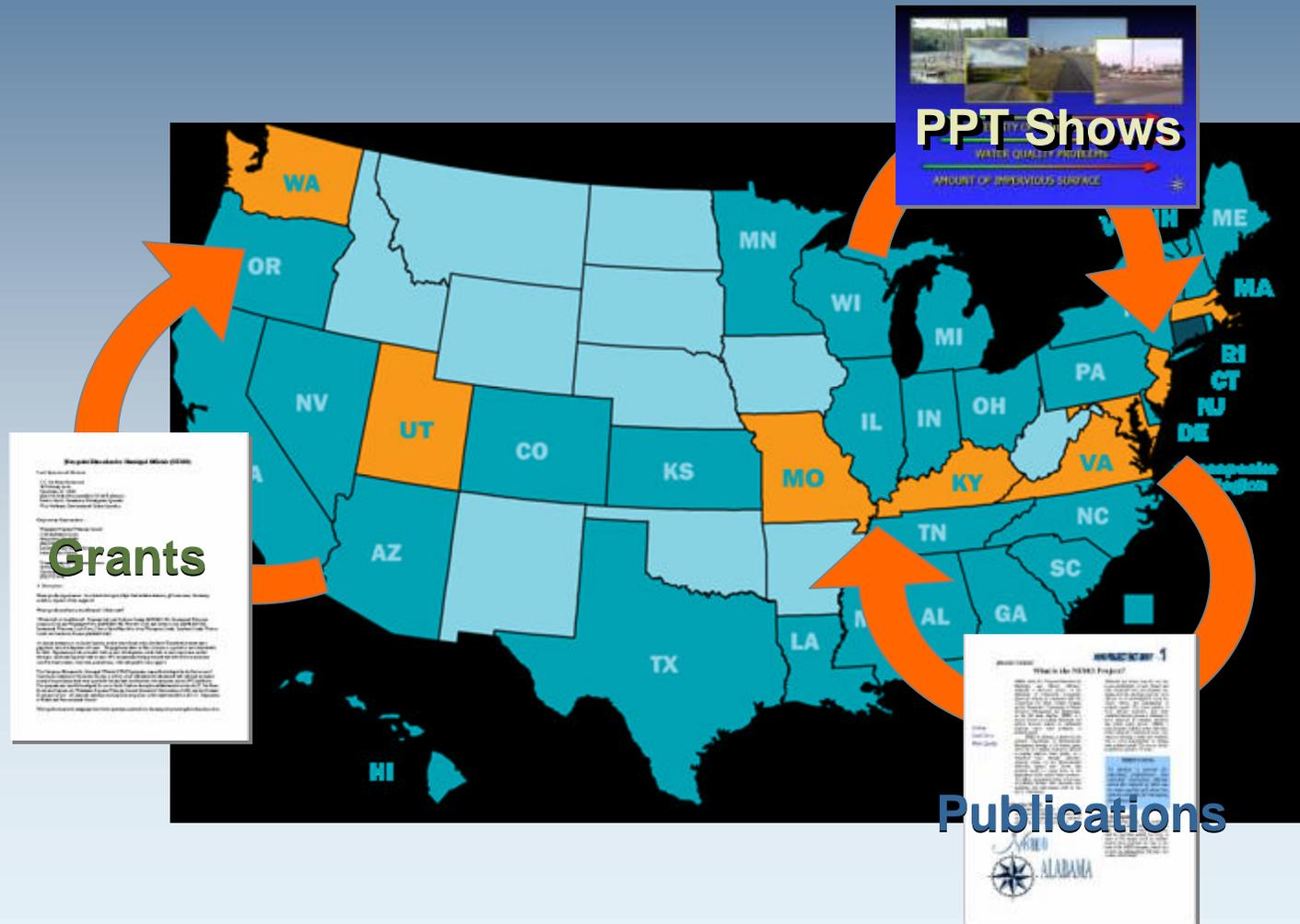
NEMO's Goal

Catalyze land use decision makers to:

- *Ask the right questions*
 - *Put development in greater context*
 - *Get started on natural resource-based planning*



National Facilitation Born in New England



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



NE NEMO's Goal

*Share Methods, Approaches,
Resources & Expertise to:*

- *Strengthen Individual Programs*
- *Serve as Model to National Network*
- *Better serve local land use decision makers*



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



Inputs - NE NEMOIDS



Rhode Island



- Dave Dickson, National NEMO Network Coordinator
- Chet Arnold, NEMO Co-Founder
- John Rozum, CT NEMO
- Julia Peterson, NROC
- Jeff Schloss, NROC
- Emma Melvin, VT NEMO
- LaMarr Clannon, ME NEMO
- Lorraine Joubert, RI NEMO
- Lisa DeProspero Philo, RI NEMO

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



Inputs - Shared Expertise

- **CT:** Stormwater Management, National Facilitation, LID, Geospatial
- **RI:** Sourcewater, Wastewater, Geospatial, LID
- **NH:** Network Approach, Evaluation System, Connection to Vol. Monitoring, Independent Review
- **ME:** Public Works Training
- **VT:** LID



Inputs – Leveraging expertise, projects and funding

2006: \$153,000



Base funding

Base funding leveraged over \$900,000 for Network projects in last 6 years



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



Outputs - NEMO's Education Arsenal

2 Publications

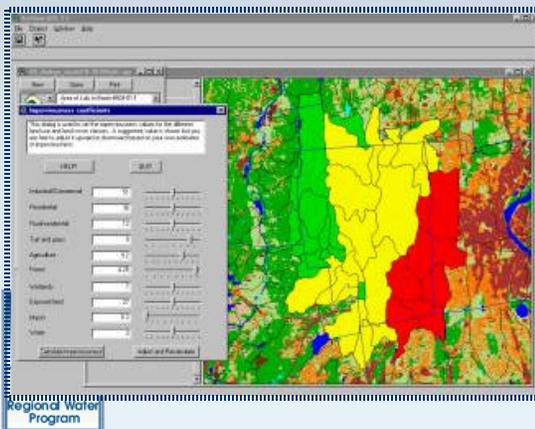
Demonstration Projects



Tech Tools

Web

Presentations



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

Outputs - Workshops

REDUCING RUNOFF

Sea Grant Connecticut University of Connecticut College of Agriculture and Natural Resources

The SOP Manual:
Keeping our water out of **Jeopardy**

LuMar Cannon, Maine NEMO Coordinator
504 Main St., South Portland, ME 04106
(207)771-9020, lcannon@maine.nr.com

Managing Stormwater in Urban Areas

Using Restorative Redevelopment to Enhance the Community and the Environment

Conducting a Community Resource Inventory

The first step in preparing for your community's future.

NEMO

UNIVERSITY OF CONNECTICUT COOPERATIVE EXTENSION SYSTEM

Planning to Protect Open Space

Jim Gibbons, Land Use Specialist

UNIVERSITY OF CONNECTICUT COOPERATIVE EXTENSION SYSTEM College of Agriculture and Natural Resources

Using Rain Gardens to reduce stormwater runoff

Don't send it off, Soak it up

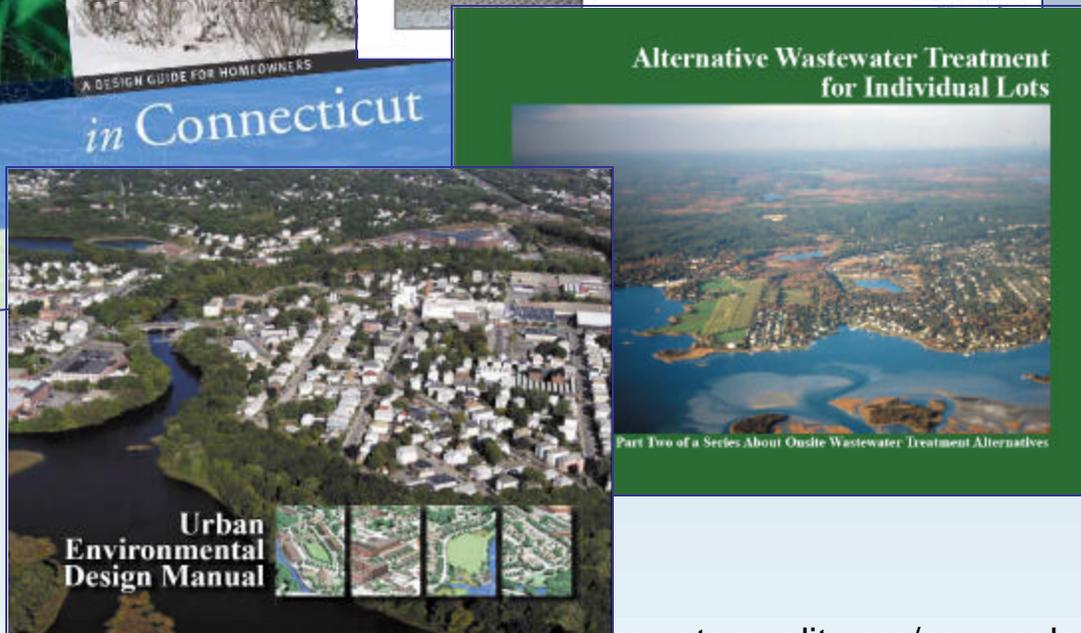
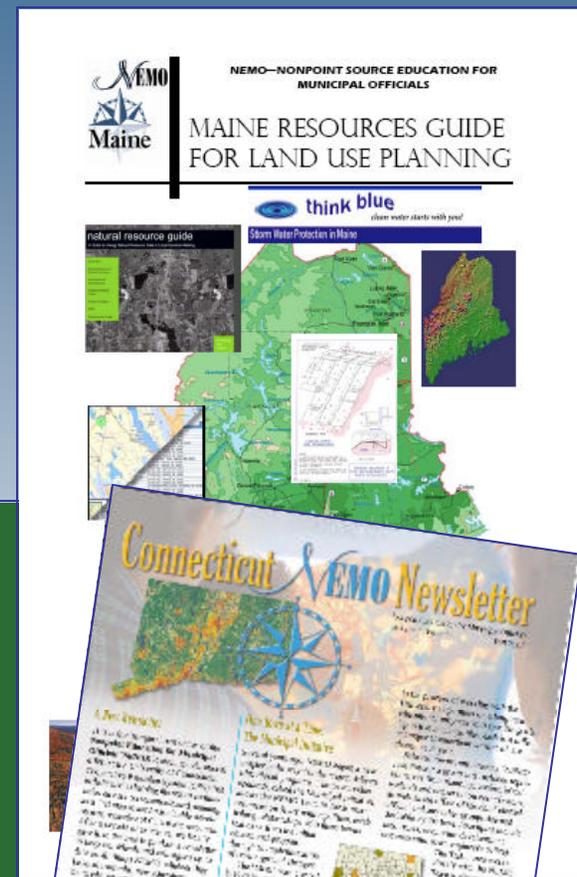
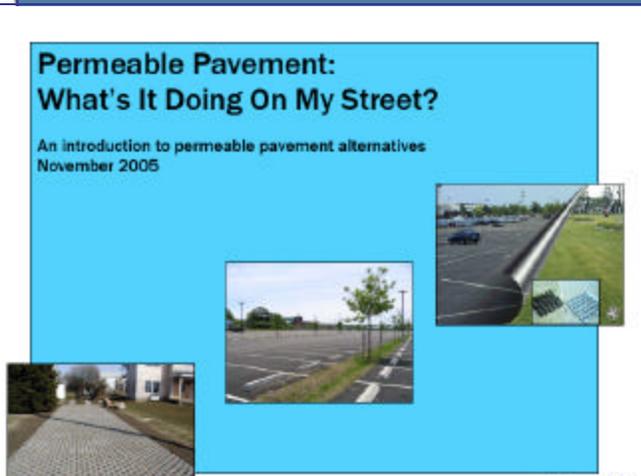
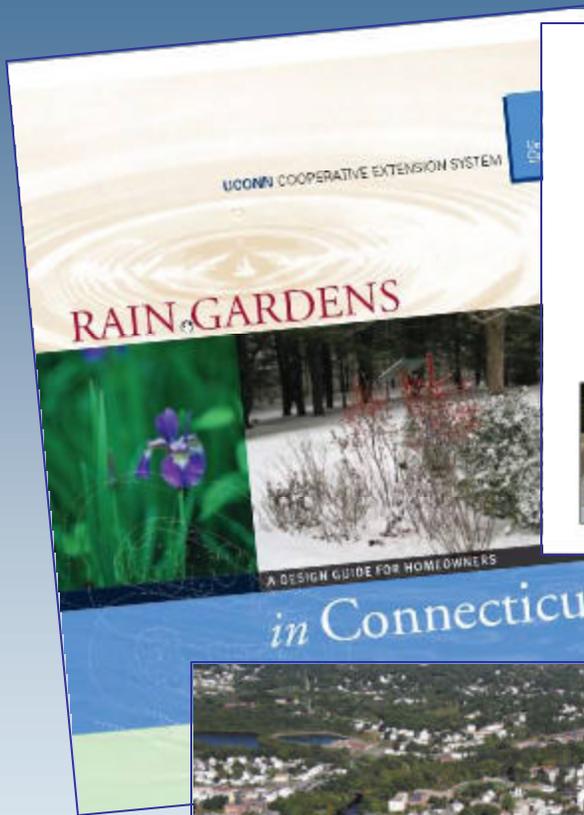
Sea Grant NEMO Vermont VERMONT ENVIRONMENTAL COOPERATION



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



Outputs - Publications

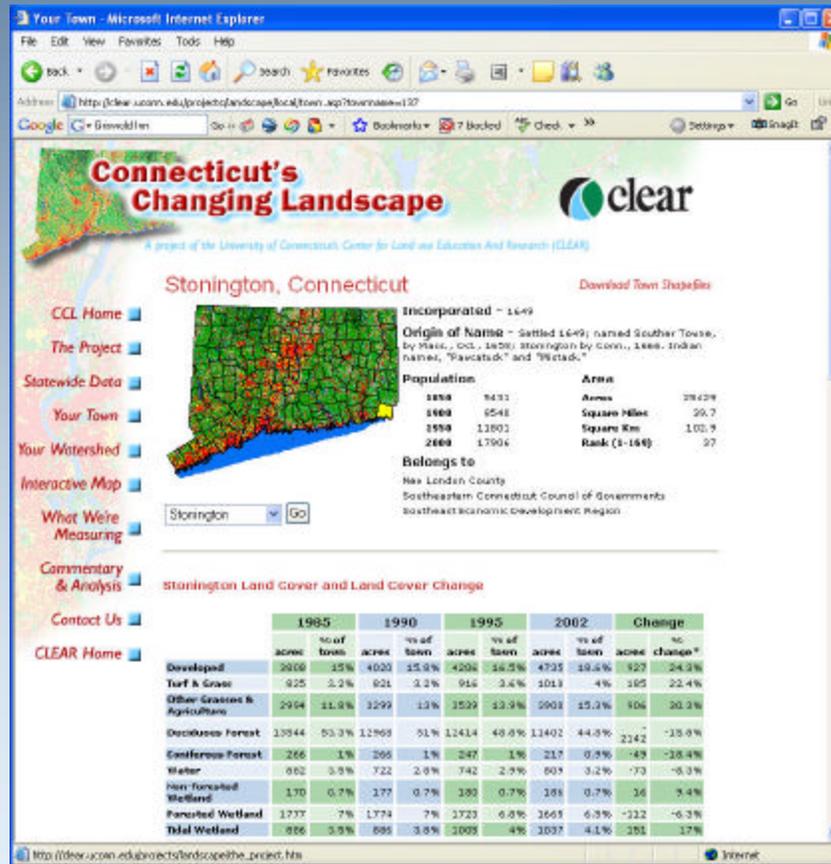


<http://www.usawaterquality.org/newengland>



Outputs - Landscape Research

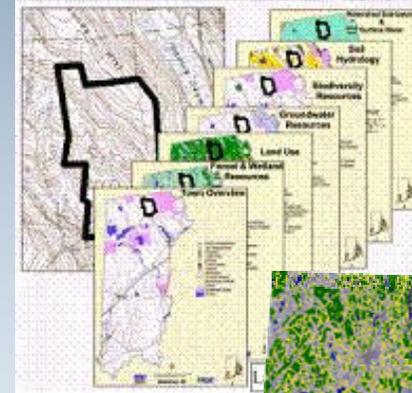
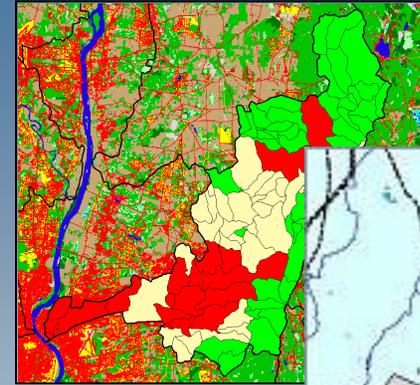
Connecticut's Changing Landscape



- ✓ Connecticut
- ✓ Rhode Island

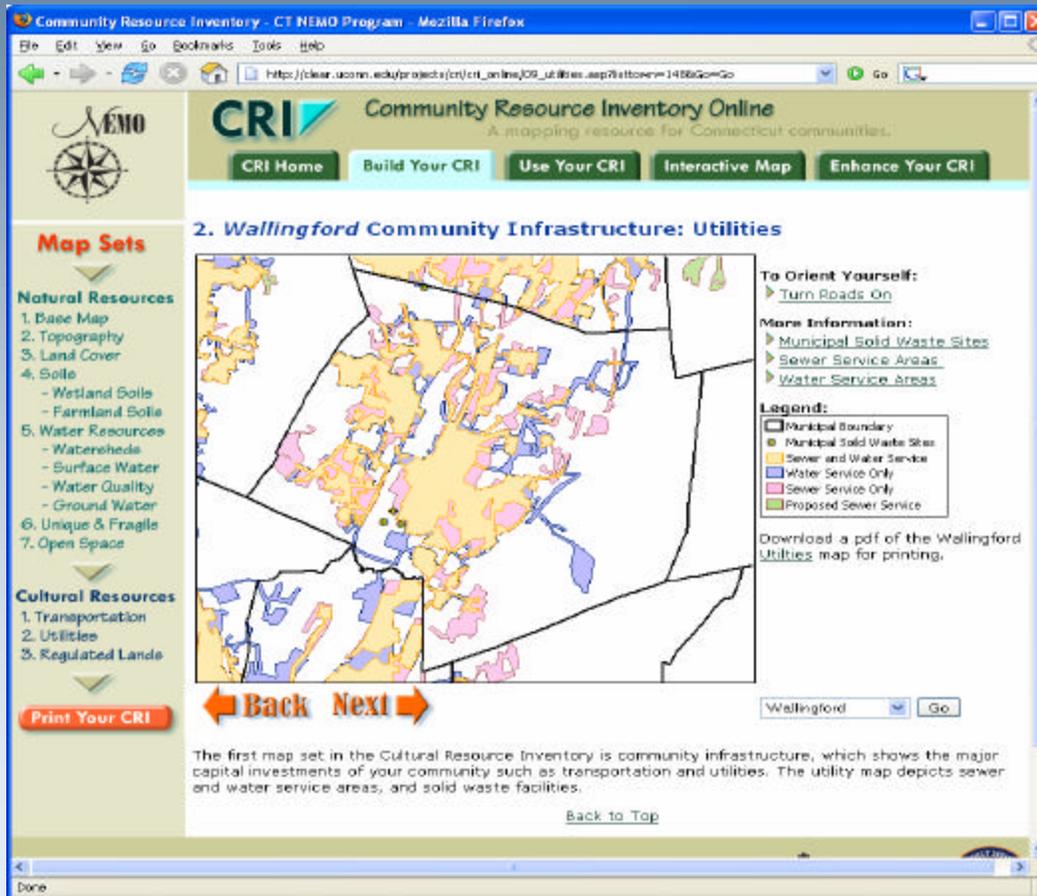
Outputs - Geospatial Tools

- Impervious Surface Analysis Tool (ISAT)
- MANAGE (Pollutant Risk Assessment)
- Rapid Site Assessment Tool
- Landscape Fragmentation



Outputs - Web-based Tools

Online Community Resource Inventory



Franchising

- ✓ Connecticut
- ✓ Rhode Island
- ✓ South Carolina
- ✓ Minnesota



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

Outputs - Web Tools II

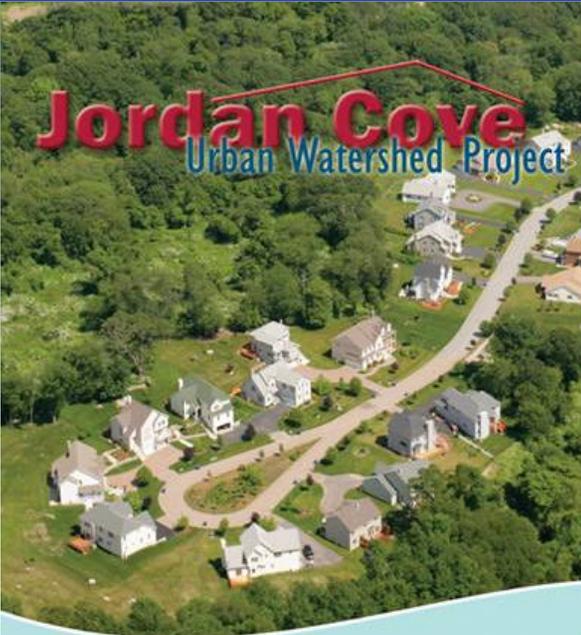
Regional LID Database

Connecticut
↓
New England
↓
Great Lakes
↓
California

The screenshot displays two overlapping browser windows. The background window is titled "NEMO's CT LID Inventory Website" and shows a navigation menu with links for Home, Workshops, Publications, News, National Network, CLEAR, and Contact Us. The foreground window is titled "UNHSC-NEMO Innovative Stormwater Management Inventory" and features a map of New England with state boundaries and names (Maine, New Hampshire, Massachusetts, Vermont, Connecticut, Rhode Island). To the right of the map is a "Search by state" section with a list of states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. Below this is a section for "Or, search by LID treatment practice across New England:" with a list of practices: Retention/Sain Garden, Gravel/Constructed Wetland, Green Roof, Permeable Pavement, and Snake Retrofit. The URL "http://www.usaw" is visible at the bottom of the foreground window.



Outputs - Demonstration Projects



Jordan Cove
Urban Watershed Project

Welcome to the Jordan Cove Urban Watershed Section 319 National Monitoring Program Project, located in Waterford, Connecticut.

This multimedia CD highlights the project's background, has detailed descriptions of the low impact development practices used, lists technical and non-technical results and shows interviews from various project participants.

University of Connecticut
College of Agriculture and Natural Resources

This project is partially funded by the CT DEP through a US EPA, nonpoint source (NPS) grant under section 319 Clean Water Act.



RI's Permeable Parking Lots

The University of Rhode Island's Permeable Parking Lots:

A Case Study of Alternative Pavement Materials



The University of Rhode Island Cooperative Extension in partnership with the Rhode Island Department of Health Source Water Protection Program



Outputs - Program Assessment Tools

NROC Assessment Models

NROC Dealing with Growth Presentation Evaluation

Town - Date _____

The organizations and agencies that form New Hampshire's Natural Resources Outreach Coalition (NROC) want to know more about the effectiveness of this educational presentation and your interest in various follow-up topics. Please help us improve this program by completing this evaluation. Your responses will remain anonymous unless you indicate otherwise.

Please mark the role that best describes your reason for attending this meeting.

Selected member or City Councilor Interested resident
 Conservation Commission member Local businessperson
 Planning Board member Private organization member
 Other _____

Satisfaction _____

1. How would you rate tonight's presentation overall?

Excellent Good Fair Poor

Knowledge _____

2. Please rate the following components of the presentation in terms of how much **knowledge** you had **PRIOR** to the presentation AND how your knowledge of the subject **CHANGED** as a result of this presentation.

Presentation components	Prior Knowledge Level	Knowledge Level Change
	0 = none 1 = some 2 = lots	0 = no change 1 = increased somewhat 2 = increased greatly
A. The rate of growth in NH and your community	[]	[]
B. If there are natural resources exist in your community	[]	[]
C. If there are natural resources exist in your community	[]	[]
D. Potential effects of growth on water quality and quantity	[]	[]
E. Potential effects of growth on other natural areas <i>e.g. forests, farmland, fields</i>	[]	[]

3. Put a check mark in the box underneath the response that makes each of the following statements accurate.

	Increases	Decreases	
INCREASES in impervious surface can lead to...	<input type="checkbox"/>	<input type="checkbox"/>	polluted runoff
	<input type="checkbox"/>	<input type="checkbox"/>	stream bank erosion
	<input type="checkbox"/>	<input type="checkbox"/>	infiltration of rainwater and pollutants in soil

CUMULATIVE OUTCOME TALLY	
	TOWN NAME
Year	Year
2008	2009
2010	2011
2012	2013
2014	2015
2016	2017
2018	2019
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Outputs - Regional Training

Low Impact Development (LID) Workshop

- ✓ Connecticut
- ✓ Rhode Island



- ✓ New Hampshire
- ✓ Vermont



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



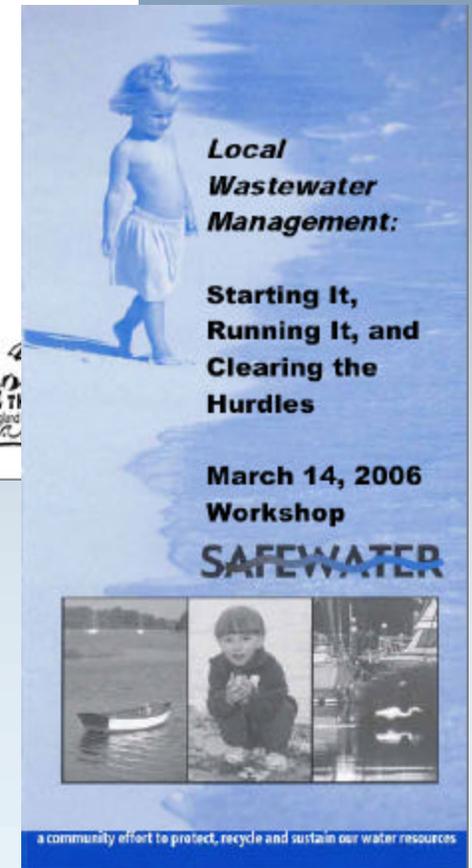
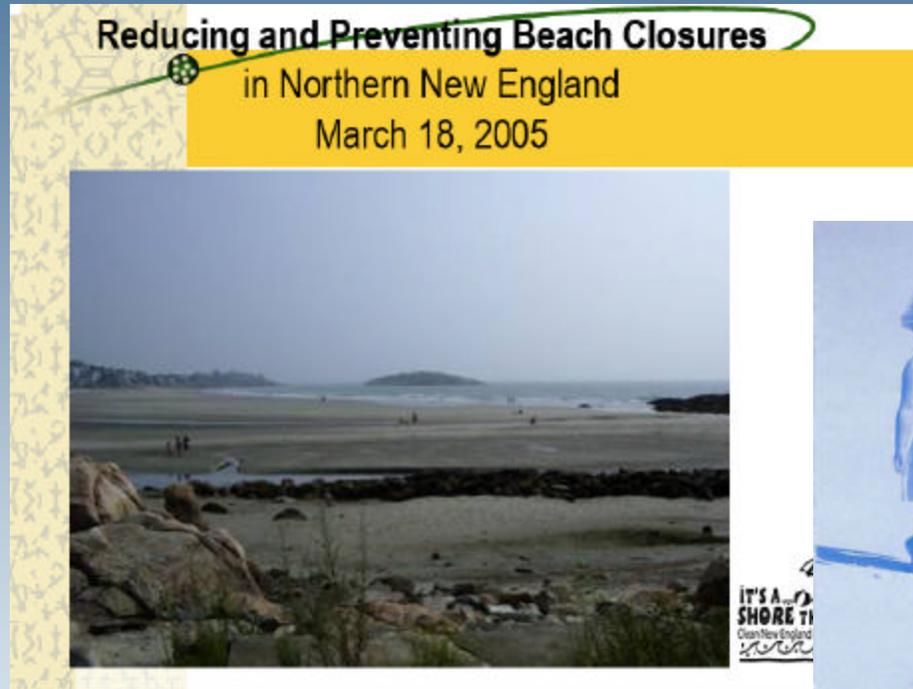
Outputs - Regional Workshops

Beach Closures
Conference

Wastewater
Management

Dealing with
Density

LID - Are We
Convinced Yet



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

Outputs – Regional training and leadership via NEMO U

- Networking
- Training
- Regional Meetings
- Sharing Expertise

10:45 a.m. **New & Noteworthy at CT NEMO**
John Rozum, *CT NEMO Director*

11:30 a.m. **Regional Lunch Meetings**

- **Northeast – led by LaMarr Cannon (ME)**
- Great Lakes – led by Tim Lawrence (OH)
- South – led by Dan Hitchcock (SC)
- West – led by Sue Zaleski (CA)

3:15 p.m. **Promising Partnerships**

- 1:45 – 2:10 Buffers – Dan Hitchcock, *SC NEMO*
- 2:10 – 2:30 **The NROC Model – Julia Peterson/Amanda Stone, NROC (NH)**
- 2:30 – 2:50 Making use of Volunteer Monitoring Data – Eve Brantley, *AL NEMO*
- 2:50 – 3:15 **NEMO & Wastewater Management - Lorraine Joubert, RI NEMO**

Expanding our Efforts

- 1:45 – 2:10 Pretty in Practice – Sue Donaldson, *NV NEMO*
- 2:10 – 2:30 A Statewide Approach – Laura DiBatista, *AWARE CO*
- 2:30 – 2:50 **This is Jeopardy - LaMarr Cannon, ME NEMO**
- 2:50 – 3:15 The Hills are Alive – Bob McCormick, *Planning with POWER (IN)*



Outcomes

- **new programs**
- **enhanced research, tools & educational capabilities**
- **changes in community land use plans, policies & practices**

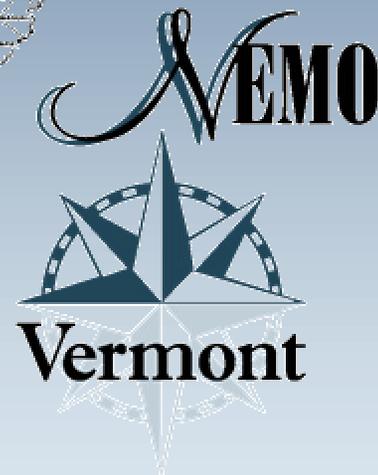


<http://www.usawaterquality.org/newengland>



Outcomes

new programs



The Vermont Center for Geographic Information
58 South Main Street, Suite 2
Waterbury, VT 05676
802-882-3002
<http://www.vcgl.org>

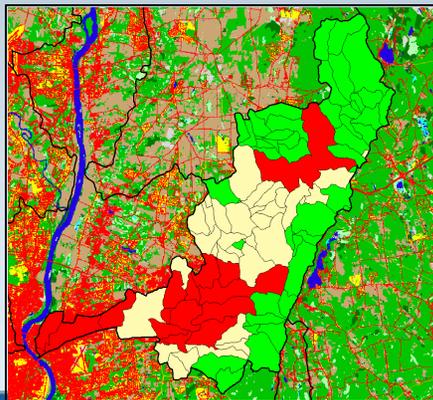


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Outcomes

enhanced research, tools & educational capabilities

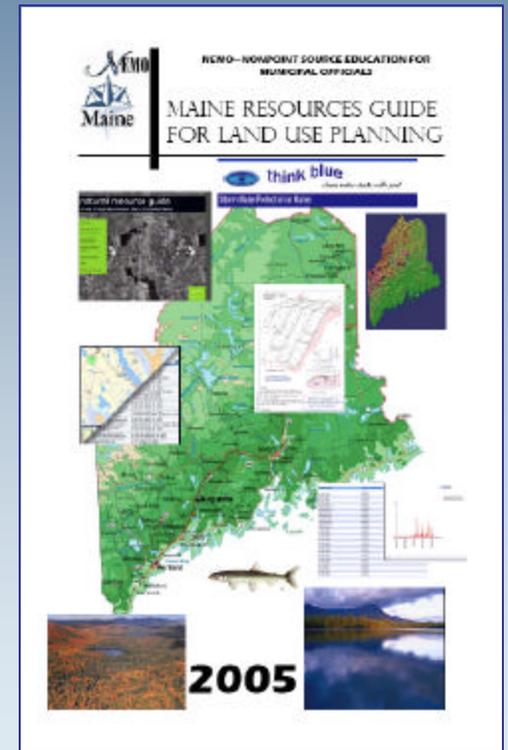


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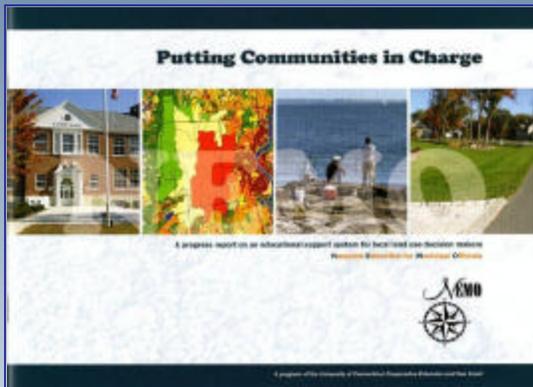


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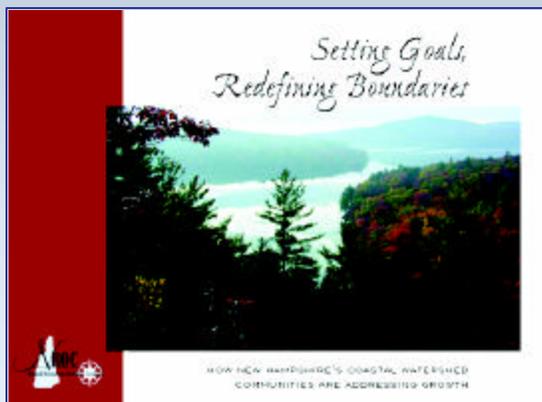


Outcomes

changes in community land use plans, policies & practices



"Connecticut's communities can do amazing things, given a little information and assistance, and ideas for how to tap into the natural talent that resides in every town."



"...the resulting conservation of natural resources is achieved in an inclusive manner that empowers and mobilizes communities to engage in conservation actions."



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



Outcomes: Community Actions

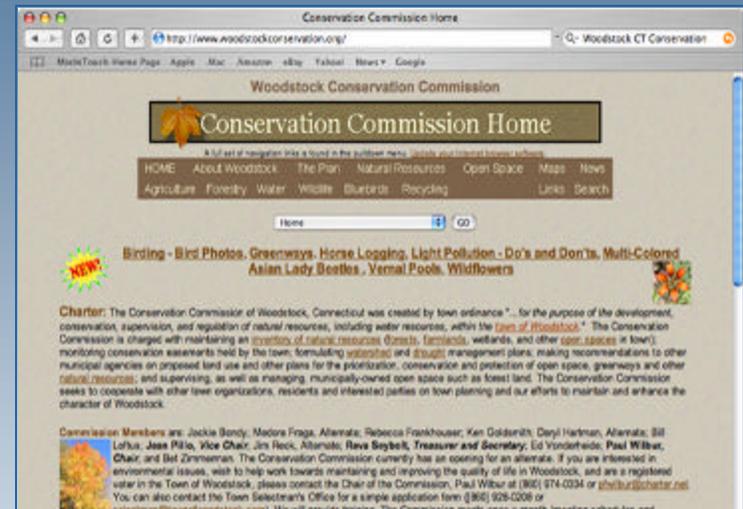
1. Research & information gathering
2. Changes to the decision making process
3. Changes to plans
4. Changes to regulations
5. On the ground changes
6. Beyond local impacts



Outcomes - Examples

Woodstock, CT

- New natural resources inventory
- Resource inventory web site
- New open space plan
- Conservation Commission review of subdivision applications > 10 acres
- Conservation Commission of the Year award for 2004



*** Site/Subdivision Plan Review for Compatibility with Woodstock Plan of Open Space and Conservation ***
 Prepared by the Town of Woodstock (Connecticut) Conservation Commission, with input from the UCONN CES MEMO Project, Rev 8/4, 02/11/02 - endorsed by PA2 03-03

PROJECT NAME/DESCRIPTION: _____ DATE CHECKLIST WAS COMPLETED: _____
 PROPOSED LOCATION: _____
 POINT OF CONTACT FOR PROJECT (Name, address, phone number): _____

NO.	RESOURCE	Proposed Site Controls/Adjustment to: (check all applicable boxes, and fill in the blanks):	CONSIDERATIONS	RECOMMENDATIONS by Conservation Subcommittee:
1.	Wetland & Water Resources (Slope F2, F4 and F5):	<input type="checkbox"/> Aquifer? _____ % <input type="checkbox"/> Aquifer recharge _____ % <input type="checkbox"/> Floodplain (FEMA)? _____ 100 yr _____ 500 yr <input type="checkbox"/> Feet from public water supply? <input type="checkbox"/> Streams? _____ % <input type="checkbox"/> Feet from tributary streams: <input type="checkbox"/> Vernal pools? _____ % <input type="checkbox"/> Reg. activities? list in Comments:	• Manage impacts from development: • Protect (up) from contamination: • Protect (down) riparian buffers at least 75' from stream edge for perennial, 50' for intermittent streams, 150' preferred for habitat corridor (see map 20) • Protect vernal pools.	
2.	Steep Slopes, Surfaces:	<input type="checkbox"/> Steep slopes =15% adjacent to water body? <input type="checkbox"/> Impervious surface _____ %	• Prevent erosion, stormwater runoff during and post construction: • Avoid disturbing slopes =15% with 100' of water body: • Keep impervious surfaces =10%	
3.	Productive Wetlands/Corridors (Map F3):	<input type="checkbox"/> Forest cover/riparian habitat _____ % <input type="checkbox"/> Riparian corridor _____ % <input type="checkbox"/> Endangered, rare or species of special concern (unchecked)	• Buffer/protective wildlife corridors without stream, 200' min. buffer (see 20) • Riparian habitat corridors, 500' including streambed: • Buffer/protect endangered, rare or species of special concern and habitat.	
4.	Viewshed (scenic Values):	<input type="checkbox"/> CT Scenic Road name: <input type="checkbox"/> Town Scenic Road name: <input type="checkbox"/> Property in or part of Viewshed Scenic View or Viewshed Scenic View visible from property:	• Maintain viewshed: • Wetland buffer separating development from scenic roadway: • Roads maintain natural contours • Utility lines buried • New development blends into existing neighborhood character	
5.	Ferriand Resources (Map F6):	<input type="checkbox"/> Active Ag land _____ % <input type="checkbox"/> Prime Ag soils _____ %	• Opportunities to preserve prime and important soils: • New development includes buffer strip between Active Mills.	



<http://www.usawaterquality.org>

Outcomes - Examples

Jamestown, RI

- Special Area Overlay
- Impervious Surface Limits
- Alternative Wastewater Treatment & LID Requirements



Outcomes - Examples

Wakefield, NH

- Land Conservation Committee
- Added Rural Zoning District
- Prime Soils Overlay District
- Cluster Development Ordinance
- \$500,000 for Conservation
- Land Use Change Tax Proceeds committed to Conservation



WAKEFIELD

STEVE J. MILLER



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



Focus Area Strengths

- National Leaders
 - National Facilitation Project
- Strong Individual Programs
- Geospatial Expertise
- Programmatic Resources
(Different Models/ Approaches)
- Documented impacts



What's Next

- **Map Reading/Site Plan Review materials - Collaboration of CT & RI**
- **Geospatial Tool Collaborations - Online CRI**
- **Northern NE LID Workshop Series (ME, VT, NH)**
- **NROC/Stormwater Center Community Guide**



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



Any Questions?



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