

Focus Area: New England Private Well Initiative

National Theme:
Drinking Water & Human Health

National Water Quality Conference
February 2008



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Situation

- 25% of New Englanders rely on private wells. (Mahler, R., et al. 2005). As high as 40% in northern NE.
- New England is experiencing population movement from urban corridor to suburban/rural areas with higher reliance on private wells.
- Owners are responsible for drinking water quality.
- Regulatory protection is minimal, yet regulations & property laws are changing.
- Naturally-occurring and man-made contaminants present.
- Increased information on contaminant health effects.
- Spatial distribution of contaminants better understood and displayed in GIS.
- Previously, no formal regional coordinating mechanism – Focus Area provides forum for regional, interdisciplinary discussion.



Contaminants Detected in Private Wells

Windham couple sue town, say salt pile leached into well

 PORTSMOUTH HERALD

Health risk: Well water with arsenic

Study shows arsenic in wells

ARSENIC IN GROUND WATER WELLS IN MAINE

Some well owners being asked to assist arsenic test

High amounts of MTBE found in wells

Radon, arsenic found in 100 private wells

HOMEOWNER SAYS TOO MUCH SALT MAY HAVE POLLUTED HIS WELL

Arsenic in Private Bedrock Wells in Southeastern New Hampshire to be Studied

MTBE-contaminated area in Northwood termed 'stable'



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Contaminants Detected in Private Wells

From Mahler, et al. 2006. New England Survey

- 99% of respondents indicated that clean drinking water is very or extremely important to them.
- 30% of respondents have had home drinking water tested.
- 17% claim to be “unaware” of drinking water and human health issues.
- 26% interested in learning more about private well water protection.

MTBE-contaminated area in Northwood termed 'stable'



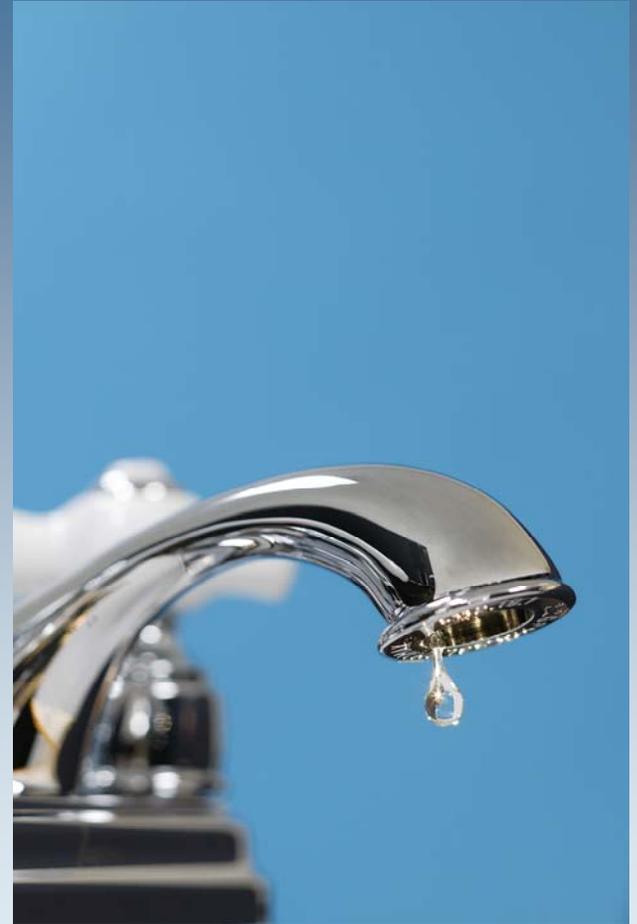
Needs Assessment

- 2001 Extension meets with EPA Region 1 & NH DES
- 2003: Regional planning meeting in Portsmouth, NH (planning grant from NE Extension Directors.)
- Annual Focus Area meeting review efforts and plan
- Private Well Symposium – program evaluation
- New England-wide survey
(conducted by Region 10 in 2005.)



Focus Area Goals

1. Reduce health risks to private well water users.
2. Protect groundwater quality and quantity for drinking water supplies.



Audiences

- Private Well Owners
- Educators
- Researchers
- Regulators
- Municipal Officials
- Contractors
- Realtors



Partners

New England Regional Water Quality Program

- US EPA - New England
- Dartmouth College, Toxic Metals Research Program
- University of Maine Water Resources Center
- Water Systems Council
- American Groundwater Trust
- RCAP Solutions
- New England State Drinking Water Agencies
 - Connecticut Dept. of Public Health
 - Connecticut Dept. of Environmental Protection
 - Maine Center for Disease Control
 - Maine Dept. of Environmental Protection
 - Massachusetts Dept. of Environmental Protection
 - New Hampshire Dept. of Environmental Services
 - Rhode Island Dept. of Health
 - Rhode Island Dept. of Environmental Management
 - Vermont Agency of Natural Resources
- Conservation Districts
- Municipalities



Leverage State & Regional Resources

Financial: \$1,075,000

- Resources/Materials (products)
- Personnel – estimated 3 FTEs
 - Symposium planning committee
 - Initiative members



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Leverage State & Regional Resources

Examples:

- \$48,000 value of time (2625 hours) for AmeriCorps members (2003-2007) to serve as program organizer and educator for water quality programs in elementary and middle schools on Cape Cod.
- \$160,000.00 from Covanta of SEMASS (2002-2007) as a part of outreach and education for residents and businesses on Cape Cod to increase collection of hazardous materials and decrease contamination of the sole source aquifer.
- \$40,000 from EPA New England
- \$700,000 over 6 years for RI Dept. of Health for source water protection.



Output Activity Examples



Professional training



Residential workshops



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Barnstable County Extension – Cape Cod, MA

We incorporate information and activities into well established programs.



HHW Collection Days



Educational Displays



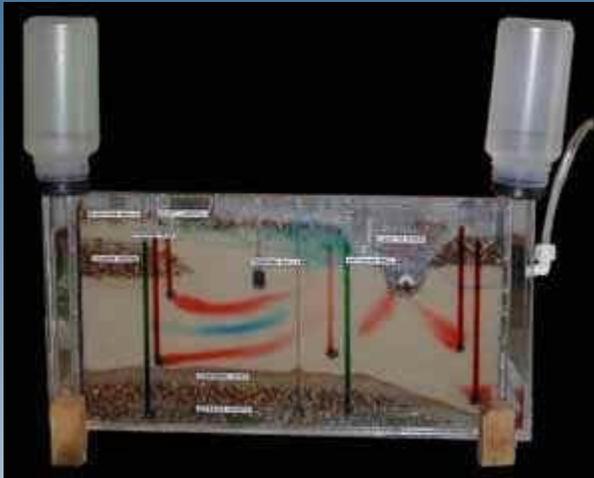
Youth Education



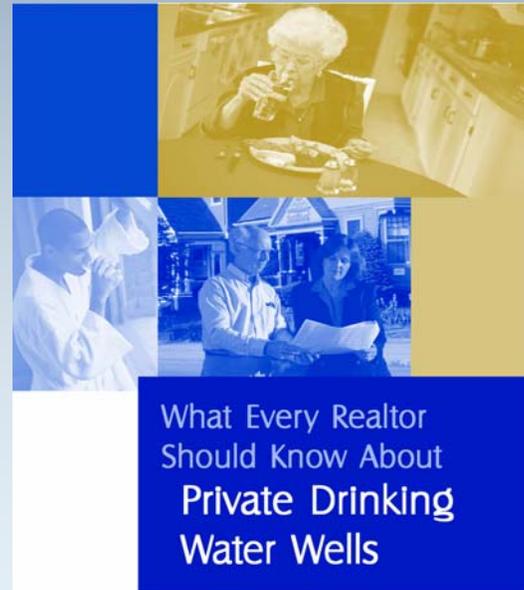
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Products



- Workshops & Trainings
- Distribution of Materials

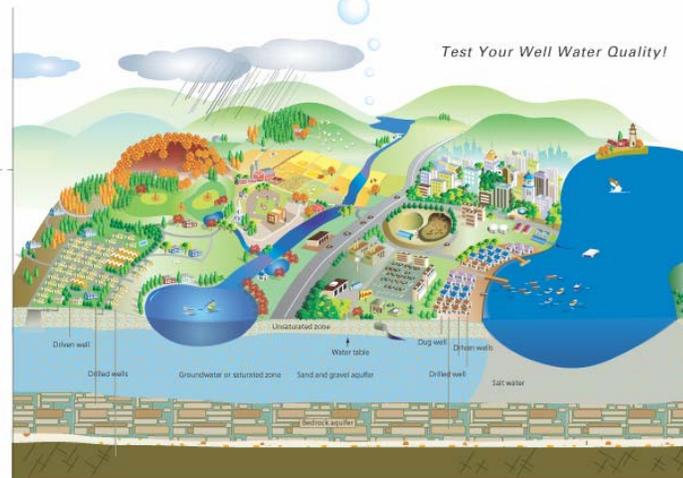


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Products

Protect Your Private Well

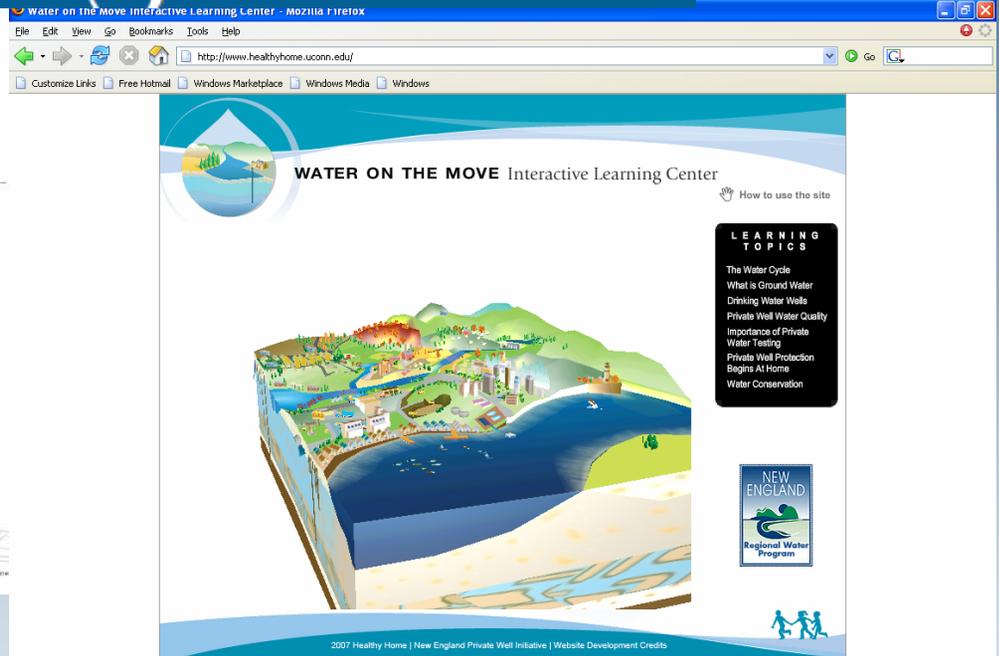


Test Your Well Water Quality!



IFOLD TO STAND!
Pamela Wang, Graphic designer

CASE COUNCIL FOR ADVANCEMENT AND SUPPORT OF EDUCATION



PLUS Accompanying:

- Poster
- Youth Activity Cards

www.healthyhome.uconn.edu



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New England Private Well Water Symposium



Purpose:

1. To provide opportunities for professionals to communicate research, programs, and educational approaches and materials – to find commonalities.
2. To encourage a cross-disciplinary, multiple partner approach to private well water protection that integrates education, science, and policy.



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New England Private Well Water Symposium



- Interagency, regional planning team.
- Conducted evaluation of 2005 program to determine usefulness.
- Leveraged over \$35,000 for Symposiums.
- Expanded to 2-day program in 2007, USDA Healthy Homes grant provided scholarships, incorporated university students.



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2007 Symposium Attendance

Attendees: 123 participants

- Researchers
- Extension/Educators
- Students
- Federal, State, Local agencies
- Private industry
- Private nonprofits

Participants from:

- New England
- New York
- New Jersey
- Virginia
- Georgia
- Kentucky
- Minnesota
- California
- Ohio
- Alaska
- Texas



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Objectives

- At least 85% of respondents will agree or strongly agree that the Symposium provided an effective avenue to exchange ideas. **100% strongly agreed or agreed.**
- At least 70% will report a significant increase in knowledge in at least one of the symposium topic areas. **100% strongly agreed or agreed.**
- At least 30% will report that they anticipate contacting at least one expert/colleague they identified through the event within the year. **89% strongly agreed or agreed.**
- At least 60% will report integration of some knowledge gained from the symposium into their educational efforts within 1 year. **91% strongly agreed or agreed.**
- At least 90% will express a positive opinion about the utility of this event as a regular event in the future. **98% strongly agreed or agreed.**



Outcomes

- **Increased knowledge** among private well owners about the need for regular testing, contaminants of concern and their occurrence, water treatment systems, and best protection practices.
- Increased **regular testing** of private wells by owners throughout the region.
- Private well owners **adopted BMPs** to protect their drinking water supply.
- **Strengthened the connection** between research, Extension, and regulatory and technical assistance groups focused on private well water protection.
- **Identified critical research and educational needs** required for private well water protection.
- **Strengthened the New England Regional Water Program** by extending materials, training, and lessons learned to our colleagues throughout the region and the Nation.



Case Studies

How Local Programs Strengthen Regional Approach

- Brochure developed by NH DES modified and produced for each state.
- Well protection DVD developed & distributed regionally – incorporated in website.
- Factsheet series distributed regionally for revision and distribution within states.
- Maine Center for Disease Control project on appropriate writing styles and literacy levels to produce brochure for target audiences.



Case Studies – Massachusetts

How Regional Efforts Strengthen Local Programs

Regional materials developed distributed to all 351 communities in state.

26,000 tri-fold brochures to:

- Local Health Agents
 - Libraries
 - Town Managers
 - Conservation Commissions
- Follow-up evaluation with MA Boards of Health indicated over 200 people tested well.



Case Studies – Cape Cod

How Regional Efforts Strengthen Local Programs

- Groundwater model and activities incorporated into community exhibits and classroom activities.
 - More than 1000 students and 700 adults received information on water quality issues at educational exhibits at schools, community events, & volunteer training sessions.
- The Cape Cod & Island Association of Realtors posted the brochure *What Every Realtor Should Know About Private Water Wells* to its website which provides information to approximately 2500 members.
- Working with MA DEP and EPA New England, revised regional factsheets and posting on websites.



Case Study – Maine

How Regional Efforts Strengthen Local Programs



Provided information & resources to 200 middle school educators on use of groundwater model.

UMaine's Water All Around: 4-H community water education event for children & families.



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Case Study – Rhode Island

Private Well Workshop Evaluations

- 55% had their well water tested.
- 37% inspected their wellhead.
- 23% maintained their water treatment system.
- 15% installed a water treatment system.
- 34% inspected septic system.
- 63% shared program info with others.
- 13% began properly disposing of used motor oil.

(1000 respondents – post workshops)



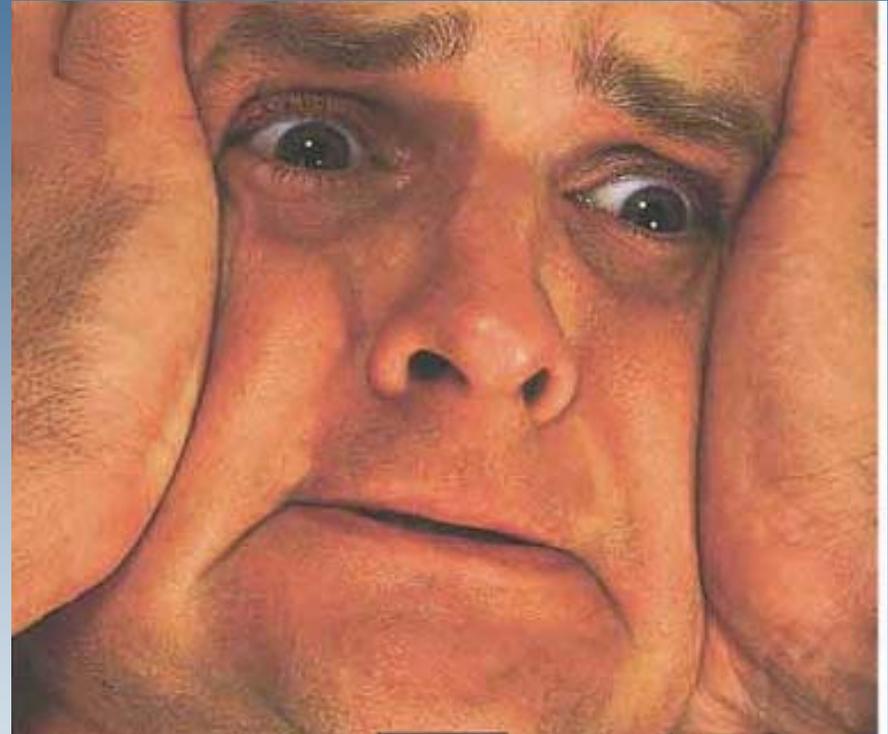
Focus Area Strengths

- Regional Program Effort
- Partnerships – strong EPA and state drinking water agency involvement
- Documented outcomes – people are testing their water
- Leveraging
- Development & Use of Tools and Techniques
- Research and Extension needs are discussed and addressed through Initiative efforts
- Model for other regions/ National Project



Challenges that Face the Region

- Educate/convince busy people that they should test their well water for the right contaminants.
- Educate/convince realtors, buyers and sellers that testing for the right contaminants should occur when property is bought or sold.
- Low income audiences.



Thank You

Questions?



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