

# URI CE Home\*A\*Syst and RI SWAP Summary Report -- DRAFT

## Source Water Assessment and Public Education: Coordinating the Rhode Island Home\*A\*Syst Program with the State's Source Water Assessment Efforts

March 2003

### A Model for Public Education and Participation

#### **Project Background**

The Source Water Assessment Program (SWAP) was established by the 1996 Amendments to the federal Safe Drinking Water Act. Its stated purpose is to assess the threats to our sources of drinking water, “for the protection and benefit of public water systems, and to support monitoring flexibility.” The Rhode Island Department of Health (RI HEALTH), Office of Drinking Water Quality is responsible for implementing the State's SWAP. **Source Water Assessment Reports are due by May 2003.** *For more information about the Safe Drinking Water Act, refer to website [www.epa.gov/safewater](http://www.epa.gov/safewater), or call the US EPA Safe Drinking Water Hotline at 1 (800) 426-4791.*

In cooperation with RI HEALTH, the University of Rhode Island Cooperative Extension (URI CE) Water Quality Program is part of Rhode Island's EPA-approved SWAP Plan to provide an integrated, public participation and education component to this effort, which began in 1999.

RI HEALTH is conducting Tier 1 assessments for all of the small community and non-community public water supplies in the state, the majority of which rely on wells. The assessment provides a pollution risk ranking for the source water supplies based on an inventory of pollution sources, distance from pollution sources to the well, land use risk rating from low to high, risk of pollution movement based on soil features, and well characteristics (where applicable). This assessment method employs the use of Rhode Island Geographic Information Systems (RIGIS). *For more information contact Clay Commons, RI HEALTH Office of Drinking Water Quality, (401) 222-6867, [www.healthri.org/environment/dwq/swap/home.htm](http://www.healthri.org/environment/dwq/swap/home.htm)*

The URI CE Nonpoint Source Education for Municipal Officials (NEMO) is conducting Tier 2 assessments for the major water suppliers in the state—those that supply 50 million gallons per year or more. These assessments are much more in-depth with regards to data inputs, land use updates, potential pollution source identification, analysis, results, and recommendations for source water protection. This assessment method employs the use of RIGIS and URI CE's MANAGE (Method for Assessment, Nutrient-loading And Geographic Evaluation) Program **in addition to public participation and education.** *For more information about the Tier 2 assessment process contact Lorraine Joubert, URI CE NEMO, (401) 874-2138, [www.uri.edu/ce/wq](http://www.uri.edu/ce/wq)*

Both the Tier 1 and Tier 2 assessments for the SWAP were developed by URI CE NEMO based on the methods and process used in current work with RI GIS and the MANAGE Program.

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**In 1999, the URI CE Home\*A\*Syst Program began to develop a volunteer-based pollution prevention program to conduct source water assessments and public education and outreach for the State's major public water supplies.**

## **Public Outreach and Land Use Inventory Components**

URI CE Home\*A\*Syst developed a public outreach strategy for the Rhode Island SWAP and an approach for training citizen volunteers to conduct land use inventories within public source water protection areas—a component of the Tier 2 assessments. We adapted Home\*A\*Syst training materials during a one year pilot program within three major public water supply areas. The materials and training program were revised and tailored throughout the remainder of the project implementation based on unique circumstances in each public water supply area and feedback from previous program area participants.

URI CE Home\*A\*Syst coordinated public outreach and information delivery about Rhode Island's SWAP and volunteer opportunities, Rhode Island's drinking water resources, the importance of source water protection, basics on the water cycle, and how land use can impact water quality. This broadened citizen and community awareness about these issues and identified the steps and resources available to individuals and communities for protecting and enhancing these resources—both now and in to the future. It also provided a means of coordinating existing water resource and land use protection programs, efforts, and issues with the efforts of the SWAP to enhance the development and future implementation of source water assessment recommendations.

### Introductory Meeting

An introductory meeting was held within each of the major public water supply areas. The intended audience for this meeting included the water suppliers, municipal officials, agencies, and local organizations within the associated communities. The intent was to inform the attendees about Rhode Island's SWAP and the intended approach for public outreach and volunteer participation in the assessment process. The meeting gave each community the option to establish a local advisory committee whose role was to provide input towards locating potential volunteers for upcoming workshops and coordinating those workshops with regards to suitable times and locations. The water suppliers were given the option to lead the local advisory group and provide as much oversight as desired. The introductory meeting also provided another key function in that it allowed the attendees to identify existing programs, efforts, issues and concerns with their local drinking water resources and land use protection efforts. These issues were recorded and, where possible, incorporated into the assessment process. An example would be analyzing an entire aquifer overlay district because the local community was in the process of developing a new groundwater protection ordinance.

### Land Use Inventory Workshop

This workshop followed the introductory meeting and was usually scheduled four to six weeks later. Working with the local advisory committee, we conducted extensive outreach to solicit general interest, as well as actual volunteers to participate in the Source Water Assessment process.

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The first half of the Land Use Inventory Workshop contained an informational presentation on Rhode Island's drinking water resources, public water, basics on the water cycle, and land use impacts to water quality. The general public was encouraged to attend this portion of the workshop.

We also provided specific outreach and training to citizen volunteers on how to conduct a Land Use Inventory for use in the Tier 2 assessments for the major public drinking water supplies. This training was conducted during the second half of the Land Use Inventory Workshop. Volunteers worked with RI GIS land use maps and 1996 Orthophotos to provide land use updates in assigned source water protection areas. These updates may have shown changes in land use that have taken place since 1995 (RI GIS land use data) or corrections in the original land use designations. Volunteers were also directed to identify certain "high-intensity" land uses, which have the potential to use, store, or generate contaminants that may pose a risk to drinking water quality. This coded list of "high-intensity" land uses was developed and provided by RI HEALTH. The Land Use Inventory allowed citizens to become more knowledgeable of their drinking water sources and increased their interest and involvement in protecting those resources. In return, local citizens were able to provide URI CE and RI HEALTH with valuable, accurate knowledge about historical and current land uses—for example, the location of old dumpsites.

### Assessment Workshops

URI CE Home\*A\*Syst also provided outreach and coordination for the public participation component of the Tier 2 Assessment process, which consisted of a series of workshops conducted by URI CE NEMO staff.

## **Methods for Implementing the Public Outreach and Land Use Inventory Components**

### **Preparation - working in each major public water supply area and associated communities:**

- URI CE Home\*A\*Syst Program (HAS) and NEMO programs meet with RI HEALTH to discuss the Source Water Protection (SWP) areas and corresponding suppliers to be inventoried and assessed. Some source water supplies serve two or more cities and towns, or their protection areas extend within two or more cities and towns. Generally, all of these communities are included in the outreach component.
- URI CE and RI HEALTH create a timeline, with tentative dates, for an Introductory Meeting and the Land Use Inventory and Assessment Workshops.
- URI CE and RI HEALTH work together to create a RI GIS locus map of the SWP areas to undergo the Tier 2 Inventory and Assessment process. This will help determine the number of volunteers and training packets needed for the Land Use Inventory phase. Each volunteer group consists of a minimum of two people, and they are assigned to one or more SWP areas. Where interested, volunteers also worked directly with HEALTH, using URI CE's training, to provide inventory and land use data on source water protection areas undergoing Tier 1 assessments.

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- RI HEALTH contacts the water supplier(s) to begin organizing the Introductory Meeting. URI HAS identifies municipal officials, agencies, and local community groups to target for outreach and volunteer participation. Examples include conservation commissions, planning boards, municipal planning staff, watershed associations, land trusts, RI Audubon Society, and other conservation organizations, etc. URI HAS conducts outreach by attending local meetings, preparing articles and flyers for local newsletters or events, and through direct phone calls.
- URI HAS begins a database of names, addresses, phone numbers, and degree of participation or interest in the upcoming SWAP.
- RI HEALTH and URI HAS contact the appropriate water suppliers, town officials, and community groups to schedule the Introductory Meeting at the local water supply office, a local town hall, or appropriate community center. RI HEALTH mails an invitation letter to the list of contacts and the meeting is posted on URI CE and RI HEALTH websites. ***All meeting dates are provided to the State SWAP Advisory Committee along with sufficient public notice.***
- Follow Introductory Meeting notices with phone calls to key contacts.

### **Introductory Meeting, Planning for Upcoming Volunteer Workshops**

This meeting was scheduled weekdays throughout the afternoon hours and lasted between one and half to two hours.

- Create a meeting agenda and other handouts. Handouts include the SWAP Brochure, the RI SWAP Executive Summary, proposed volunteer workshop dates (change dates if group identifies major conflicts), example of a Land Use Inventory packet, examples of GIS maps used in the Assessment Workshops, etc.
- Record all questions and concerns particular to the water suppliers, communities and SWP areas. Determine which people or groups might serve as Inventory and Assessment volunteers, or get recommendations on additional contacts (neighbors, teachers, other interest groups).
- Follow up with those interested in volunteering or finding other volunteers. Work with community members to locate places and contacts where Inventory and Assessment workshops can be held.
- Contact other existing community groups and citizens (former HAS workshop participants, Watershed Watch volunteers, URI Master Gardener Program, Homeowner Associations) who may be interested in volunteering, or who can locate additional volunteers. This is accomplished through listserv announcements, mailing flyers, or presentations at meeting events, etc.
- Obtain final list of volunteers through mass outreach efforts including press releases in local papers, flyers distributed to town halls and libraries, announcements on URI CE and RI HEALTH websites, other listserv email announcements, newsletter articles, etc. Add to the database. Allow four to six weeks between the Introductory Meeting and the Land Use Inventory workshop to allow for adequate final outreach and to obtain a final group of volunteers.

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## **URI CE Home\*A\*Syst Program -- Land Use Inventory Training Workshop and Process**

This was a two-hour workshop scheduled during the evening hours between Monday and Thursday of the week.

### Before Workshop:

- URI CE staff prepares GIS Land Use Maps and Orthophotos of the SWP areas for the Land Use Inventory Volunteers.
- Assemble Inventory packets. One packet is prepared for each group of volunteers assigned to a designated SWP area. Packets should include: written instructions, data tables, a “comments” sheet, a locus map (with assigned SWP areas highlighted), the Executive RI SWAP Summary, an identification letter on RI HEALTH letterhead, the publication ***Your Guide to Public Drinking Water***, a CE Programs fact sheet, and two large maps of the SWP areas to be inventoried—one RI GIS land use map and one Orthophoto. *Refer to sample packet.*
- Provide all volunteers with a one-week reminder notice of the Land Use Inventory Workshop date, time and location.

### At the Workshop:

- Provide a slide presentation addressing Rhode Island’s public drinking water resources and facts, the water cycle, demonstration of the groundwater model, and land use impacts to water quality. This portion of the workshop is informational and the general public was encouraged to attend.
- Upon completing the slide presentation, assign volunteers to groups and SWP areas. Hand out maps and packets and conduct “How To” training for land use inventory process.
- Upon completing the training segment, announce the date for the Collection Meeting. This meeting is held three to four weeks after the training workshop at the same location. The meeting location for this Collection Meeting is reserved when scheduling the Land Use Inventory Workshop.

### After the Workshop:

- Follow up with all volunteers within ten days to two weeks after the training workshop. Respond to any questions or logistical problems at this time. Remind all volunteers of the upcoming Collection Meeting.

## **URI Home\*A\*Syst Program -- Land Use Inventory Collection Meeting**

This meeting lasts for one hour and allows volunteers to stop by with their results at any time within the scheduled hour, which is early evening.

### Before Meeting:

- Prepare evaluation forms and check lists.
- Prepare a thank you letter for each volunteer. Assemble one complimentary URI HAS Handbook to accompany each thank you letter.

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### At Meeting:

- Review Land Use Inventories (maps and data tables) with each group. Collect all provided materials such as clipboards and markers and fill out checklist. Have each volunteer fill out an evaluation form. This allows volunteers to provide feedback on the training and process. Provide each volunteer with a thank you letter and URI HAS Handbook. Collect the total number of hours spent conducting the Inventory (including meeting and workshop times) from volunteers needing a verification letter (towards Master Gardener program, etc.).
- Allow for group discussion and record any recommendations for future URI HAS educational programs that volunteers feel are needed in the community. Remind volunteers how this valuable inventory data will be used and that they will be contacted when the final results are available to the public.

### After Meeting:

- Write and mail letters for volunteers who need to have their hours and duties verified.
- Summarize the evaluations and SWAP process for this area. Use this information to make adjustments for future work and for scheduling follow up for potential education programs and delivery of final SWAP Reports.
- URI HAS arranges to deliver the maps, data tables and other valuable information to other CE staff and RI HEALTH for use in the Assessment process.

### **Assessment Workshops Conducted by URI CE Nonpoint Education for Municipal Officials (NEMO)**

- URI HAS assists with the initial outreach and coordination of volunteers for both the Land Use Inventory and Assessment Workshops. URI HAS also provides reminder notices for all scheduled Assessment Workshops and attends these workshops for some of the public water supply areas.
- The first Assessment Workshop is scheduled six weeks after the Land Use Collection Meeting. This allows URI CE NEMO time to incorporate Land Use Inventory data into the preliminary assessment. The second Assessment Workshop is scheduled one month after the first workshop.
- URI CE NEMO began by holding a series of four workshops, which was then reduced to a series of three workshops, which then became the two workshops described above. As the project was implemented, it was determined that the information provided within the first two of four original workshops could be effectively incorporated into the Introductory Meeting and the Land Use Inventory Workshop. Many citizen volunteers, municipal officials, and other group members were attending these other meetings and workshops in addition to the Assessment Workshop Series. As a result, and to make the most effective use of volunteer time and participation, the Assessment Workshops were reduced to the final two, which focused on preliminary assessment results, data inputs and analysis options, suggested Best Management Practices and many other core land use and source water protection issues that are extremely valuable to Program outcome.

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## **Development and Delivery of Final Assessment Reports**

There are approximately 480 public water systems using approximately 600 water supply sources in Rhode Island.

URI CE is developing detailed source water assessment reports and 4 page summary factsheets for the large community water supplies in Rhode Island (supplying 50 million gallons per year or more) and include: The city of Newport, Water Division; The Pawtucket Water Supply Board; The town of Cumberland Water Department; The Lincoln Water Commission; The town of South Kingstown Water Department; The University of Rhode Island; The Kingstown Water District; United Water (Wakefield Water Company); The Town of North Kingstown Water Department; The Town of Jamestown Water Department; The Kent County Water Authority; The Bristol County Water Authority; The town of Westerly Water Department; The Woonsocket Water Division; and The Providence Water Supply Board. In addition, URI CE will be providing detailed assessment reports and summary factsheets for the town of New Shoreham (all public water supplies including the Block Island Water Company), and the Rhode Island Economic Development Corp. (a non-transient – non-community system serving Quonset Point).

RI HEALTH will be completing reports for all other public water supplies in Rhode Island. This will include: community water systems supplying less than 50 million gallons per year, non-transient – non-community systems, which serve schools and office buildings, and transient – non-community systems, which serve restaurants and parks. Final reports are due by May 6, 2003. Public outreach will be conducted to deliver the assessment reports. Reports will also be made available on RI HEALTH's website.

## **Project Outputs and Outcomes**

### **Outputs**

- Public Outreach Strategy developed
- Volunteer Training Program developed
- Final Source Water Assessment Reports produced
- Ten Introductory Meetings held; at least 131 people attended
- Eight Land Use Inventory Workshops conducted; at least 115 people attended
- 85 Land Use Inventory Volunteers participating. This does not include several other water supplier staff, municipal board members, and conservation organizations that provided map reviews and input outside of the formal land use inventory process.

### **Outcomes**

- Project volunteers have become new members of municipal boards and are involved in local decision-making.
- Protection efforts for local public drinking water supplies have been increased.
- Citizens are more aware of public drinking water resources and protection efforts and needs.
- A follow up Capacity Development Program has been established between RI HEALTH and URI CE to provide education and assistance to communities for drinking water protection and implementing the Source Water Assessment recommendations.

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## **Capacity Development – New Program Established**

**Beyond May 2003.** RI HEALTH and URI CE will expand community-based education and technical support to municipal officials, water suppliers and the general public to implement the recommendations provided in the SWAP reports. URI CE is planning new workshops and educational materials, including a new series of water quality factsheets for municipal officials and residents addressing land use planning and development, nonpoint source pollution prevention and private well protection.

This Program is being funded by RI HEALTH's Capacity Development Program. For more information about this Program contact the RI HEALTH Office of Drinking Water Quality at (401) 222-6867; [www.healthri.org/environment/dwq/capacity/home.htm](http://www.healthri.org/environment/dwq/capacity/home.htm)

For more information about URI CE workshops and educational materials contact URI NEMO at (401) 874-2138 (Municipal Programs) and URI Home\*A\*Syst at (401) 874-5398 (Residential Programs); [www.uri.edu/ce/wq](http://www.uri.edu/ce/wq)