

The Virginia Master Well Owner Network: Building Capacity to Protect Private Water Supplies

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Today's Presentation

- Motivation
- Background
- Solution
 - Virginia Household Water Quality Program (VAHWQP)
 - Virginia Master Well Owner Network (VAMWON)
- Status
- Impacts and Outputs
- Future



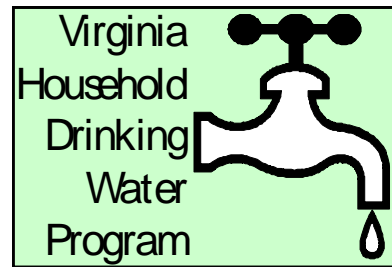
Motivation

- Majority of households in 60 of Virginia's 95 counties rely on private water supply systems (> 1,000,000 households)
- In 52 counties, the number of households using private wells is increasing faster than the number connecting to public systems (VADEQ, 2007)
- Homeowners relying on private water supplies:
 - Are responsible for all aspects of water system management
 - Often lack knowledge and resources to effectively manage
 - Usually don't worry about maintenance until problems arise

Motivation

- Opportunity to develop comprehensive source of information for private water supply owners
- Particular concern about members of underserved communities
 - Limited access to resources
 - May not realize the implications of poor quality water
 - May not take advantage of opportunities for assistance

History



- Established in 1989
- County-based Drinking Water Clinics
 - Coordinated with local Extension Agents
 - Homeowners collect water sample
 - Analysis at Biological Systems Engineering (BSE) Water Quality Lab
 - 14 primary and secondary (nuisance) contaminants
 - Analysis results and guidance for addressing problems provided to homeowner at Interpretation Meeting
- 12,000 samples collected in 82 counties
- Suite of Extension publications supported program
- 2003 budget reductions limited program activity

Revitalization and Expansion

- 2005 Listening Sessions with Extension Agents: requests for return of VAHWQP
- Proposal to Virginia Cooperative Extension
 - Committed to conduct several county drinking water clinics
 - Seek external funding
- Mid-Atlantic Regional Water Quality Project
 - Funded by USDA-CSREES to promote regional coordination to address water quality issues.
 - Pennsylvania Master Well Owner Network project
- “*Extension Education*” grant awarded from USDA-CSREES National Water Program



Private Water Supply Protection in Virginia

- USDA-CSREES competitive grant (2007-10)
- Goals:
 - Create a network of Virginia Cooperative Extension agents and volunteers trained in the proper design, management, and maintenance of private water supply systems (Virginia Master Well Owner Network—VAMWON).
 - Utilize the VAMWON to educate private water supply users by revitalizing and expanding the Virginia Household Water Quality Program (VAHWQP)
 - Drinking water clinics and other outreach activities
 - Household water quality resources
 - Outreach to underserved communities





Virginia Master Well Owner Network
Education for Protection of Virginia Private Home Water Supplies

Train: 70 agents and 240 volunteers

Build Capacity:

- Agents conduct county drinking water clinics
- Agents and volunteers make educational contacts
- Establish relationships across the state

Opportunities for PARTNERSHIPS

- VaDEQ, VaDH, VaSWCD, EPA, and others
- Expanded programming (e.g., septic)
- Information sharing
- Joint grant-writing opportunities
- Continuing education for VAMWON

Revitalized!



VIRGINIA HOUSEHOLD
WATER QUALITY
PROGRAM

By 2010

- 18+ drinking water clinics conducted
- 5,400 + water samples analyzed
- 1,100+ underserved persons reached
- Establish capacity to continue providing drinking water clinics, education and outreach through VAMWON.

Resources

- Website: www.wellwater.bse.vt.edu
- *Well Informed* quarterly newsletter
- Water Quality Resource Expert Panel
- Updated VCE water quality publications
- VAHWQP Coordinator
 - Needs assessment and scheduling of clinics
 - Targeted programming for underserved populations
 - Support for agents and volunteers

Pennsylvania Master Well Owner Network

- Initiated in 2004
- Based on Master Gardener model
 - Train screened volunteers about water quality issues and proper location, construction, and maintenance of wells
- Volunteers agree to try to reach 100 people annually
- 293 trained volunteers (in 61 of 67 counties)
- 15,000 educational contacts to date



Creating the VAMWON

- 2 day training for VCE agents, 1 day for volunteers
- Trainers are agency, academic and industry experts

- Water testing and interpretation
- Common pollutants
- Residential water conservation
- Water treatment processes
- Effective public education and outreach methods
- Proper well location, construction and maintenance
- Groundwater hydrology
- Wellhead protection
- Land use impacts on ground water quality and quantity

- Use physical groundwater models and group problem-solving activities
- Post-test administered at close

VAMWON Volunteer Policy

- **Qualifications:**

- Attend VAMWON training and achieve 80% on post-test
- Agree to a goal of making 100 educational contacts annually
- Communicate effectively and diplomatically
- Not work or own a business affiliated with private water systems
- Option to recertify after two years

- **Guidelines:**

- Unpaid, volunteer work only
- Provide general educational information
- Do not give professional advice or make specific recommendations
- Refer specific questions to qualified professional

VAMWON Responsibilities

- **VAMWON Agents**

- Conduct county-based drinking water clinics
- Educate local private water system owners

- **VAMWON Volunteers**

- Assist VAMWON agents with drinking water clinics
- Outreach to church, service, and civic organizations
- Staff VAMWON booth at fairs, clinics, ag and home shows
- Maintain water system as a good practices demonstration site
- Contribute to VAHWQP newsletter and website
- Assist with evaluating program impacts

Building Capacity through VAMWON

- Agents conduct county-based drinking water clinics
- Agents better informed to address water quality concerns

Sustaining relationships:
building capacity to
improve water quality

**Virginia Master
Well Owner
VCE Agents**

**Private Water
System Owners**

**Virginia Master
Well Owner
Volunteers**

- Community-based outreach
- Peer-to-peer education

- Develop relationships through collaborative education and outreach
- Continuing VAMWON training opportunities
- Share innovative education delivery methods

Outreach to underserved communities

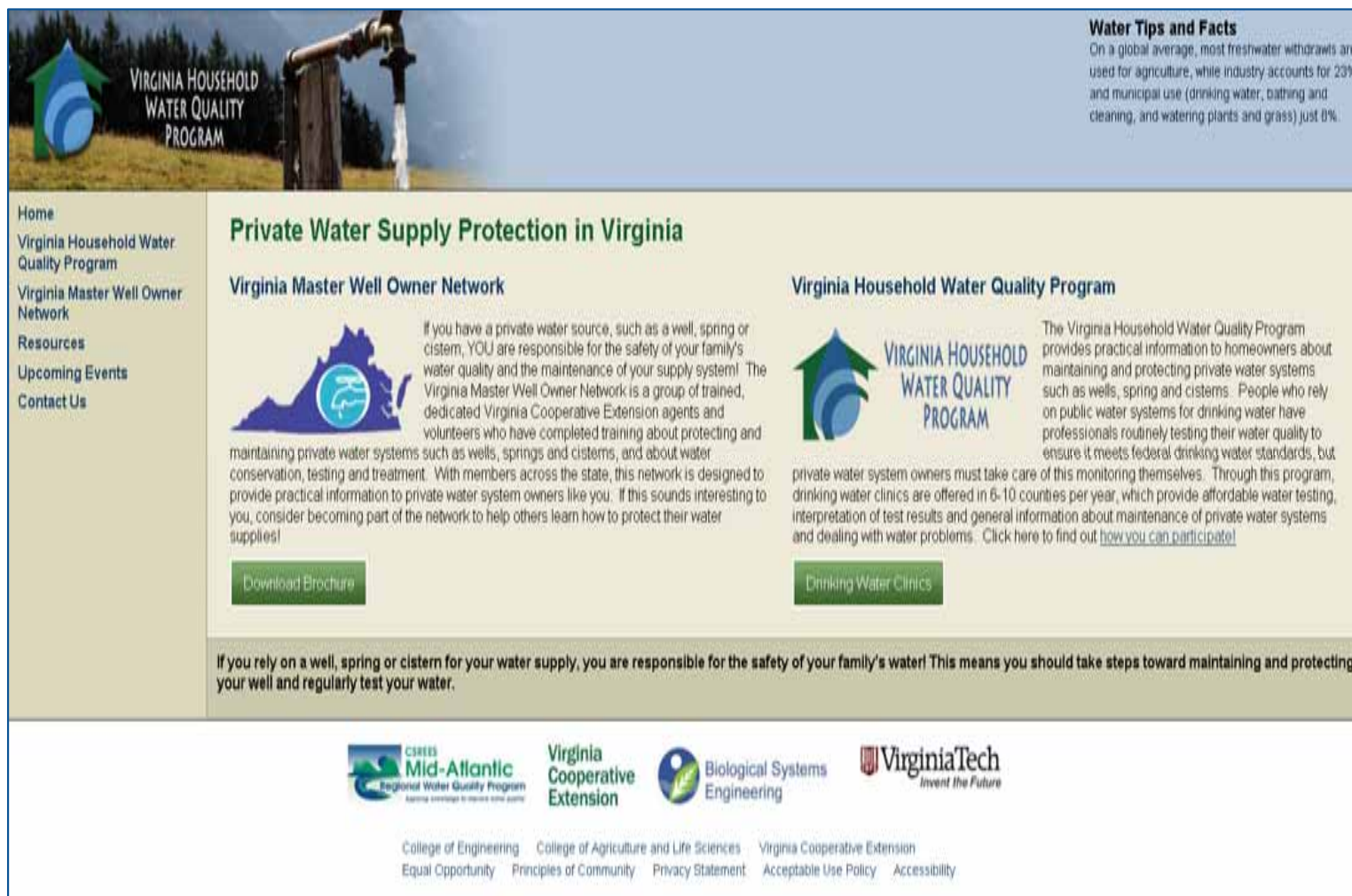
- Identify counties with large underserved populations for drinking water clinics
- Partner with existing, trusted, community-based organizations
- Use emotion-based messages in advertising
- Funds included in grant to offset cost of sample analysis for up to 20% of participants in each clinic
- Identify sources for technical and financial assistance

VAHWQP Update

- Program coordinator hired March 2008
- Writing and revising 22 peer-reviewed VCE water quality publications
- Developing *General Recommendations of the VAHWQP* presentation for VCE agents
- Creating table-top displays for use at home and agriculture shows, fairs, conferences, etc.

Website launched Oct 2008

- www.wellwater.bse.vt.edu



The screenshot shows the homepage of the Virginia Household Water Quality Program website. At the top, there is a banner image of a well in a field with the program's logo and the text "VIRGINIA HOUSEHOLD WATER QUALITY PROGRAM". To the right of the banner is a "Water Tips and Facts" section. Below the banner is a navigation menu on the left and two main content columns. The left column is titled "Private Water Supply Protection in Virginia" and features a "Virginia Master Well Owner Network" section with a map of Virginia and a "Download Brochure" button. The right column is titled "Virginia Household Water Quality Program" and features a "Drinking Water Clinics" button. At the bottom of the page, there is a footer with logos for CSREES Mid-Atlantic, Virginia Cooperative Extension, Biological Systems Engineering, and Virginia Tech, along with a list of links.

Water Tips and Facts
On a global average, most freshwater withdrawals are used for agriculture, while industry accounts for 23% and municipal use (drinking water, bathing and cleaning, and watering plants and grass) just 8%.

Home
Virginia Household Water Quality Program
Virginia Master Well Owner Network
Resources
Upcoming Events
Contact Us

Private Water Supply Protection in Virginia

Virginia Master Well Owner Network

If you have a private water source, such as a well, spring or cistern, YOU are responsible for the safety of your family's water quality and the maintenance of your supply system! The Virginia Master Well Owner Network is a group of trained, dedicated Virginia Cooperative Extension agents and volunteers who have completed training about protecting and maintaining private water systems such as wells, springs and cisterns, and about water conservation, testing and treatment. With members across the state, this network is designed to provide practical information to private water system owners like you. If this sounds interesting to you, consider becoming part of the network to help others learn how to protect their water supplies!





[Download Brochure](#)

Virginia Household Water Quality Program

The Virginia Household Water Quality Program provides practical information to homeowners about maintaining and protecting private water systems such as wells, spring and cisterns. People who rely on public water systems for drinking water have professionals routinely testing their water quality to ensure it meets federal drinking water standards, but private water system owners must take care of this monitoring themselves. Through this program, drinking water clinics are offered in 6-10 counties per year, which provide affordable water testing, interpretation of test results and general information about maintenance of private water systems and dealing with water problems. Click here to find out [how you can participate!](#)

[Drinking Water Clinics](#)

If you rely on a well, spring or cistern for your water supply, you are responsible for the safety of your family's water! This means you should take steps toward maintaining and protecting your well and regularly test your water.

College of Engineering College of Agriculture and Life Sciences Virginia Cooperative Extension
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Newsletter and Listserv

- *Well Informed* quarterly newsletter
- VAHWQP listserv:

- Trained master well owners
- All VCE agents
- Drinking water clinic participants
- Agency representatives
- Academic community
- Contacts from website



VAMWON Activities

- VAMWON Agent Training held October 2008
 - Reached 17 agents representing 11 counties
 - Our first volunteer ☺
 - 9 participating agents will conduct 2009 drinking water clinics
 - Opportunity to connect with industry experts a highlight



Building Relationships in VA

- Well drillers association



- Water treatment experts



- State agencies



- Organizations working with underserved persons

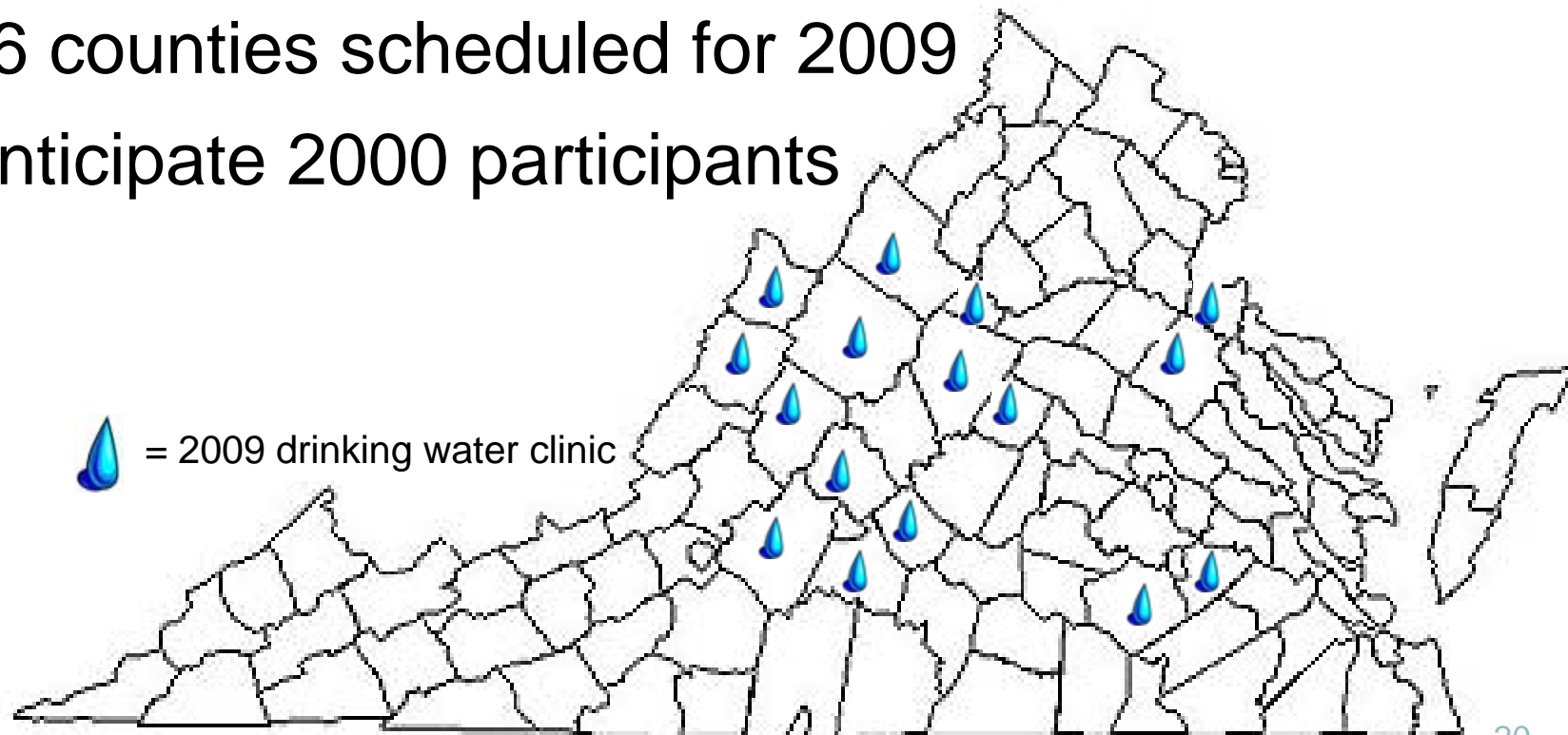


- Other sources of support



Upcoming Events in 2009

- VAMWON
 - Volunteer workshops in May and August
 - VCE Agent workshop in October
- Drinking Water Clinics
 - 16 counties scheduled for 2009
 - Anticipate 2000 participants



Tracking outputs and impacts

- Number of:
 - VAMWON agents and volunteers trained
 - Drinking water clinic participants
 - Educational contacts
 - VAMWON activities
- Follow-up survey to ascertain changes of behavior
 - For example.....
 - ✓ Had water tested
 - ✓ Sought information or installed water treatment equipment
 - ✓ Reduced use of fertilizer or herbicide around spring or well
 - ✓ Shared information learned with friends or family members

Sustaining the VAHWQP

- Funding partners and regional support
- Mid-Atlantic Regional Water Quality Project
 - Similar approach across mid-Atlantic region
 - Regional Drinking Water Coordinator
- Opportunity for partnerships
 - Joint grant-writing possibilities
 - Expanded or linked programming (septic, etc.)
 - Build long-term capacity and sustainability



www.wellwater.bse.vt.edu

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