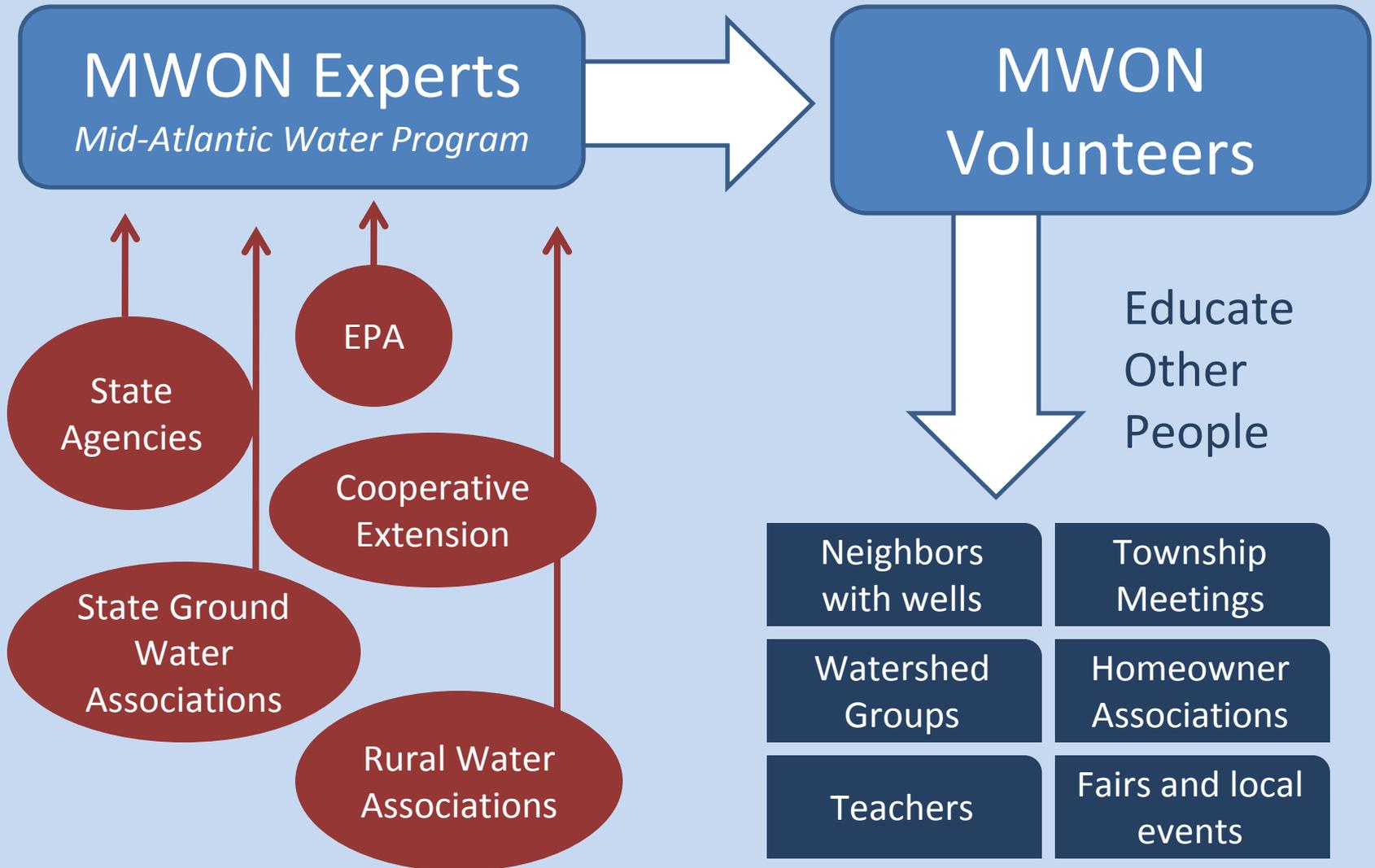


The Master Well Owner Network

Educating Private Well Owners
Throughout Maryland

Stephanie Clemens, University of Maryland, Mid-Atlantic Water Program

What is MWON?



MWON Background

- Started in 2004 in Pennsylvania
- Expanded into other areas of the Mid-Atlantic Region in 2006
 - Focused on “underserved” communities
 - Not much funding available for full expansion
- 2009/2010 – focus is on building partnerships

WHY?

- ~ Large target audience
- ~ Little protection of private water systems
- ~ Only about 6% of private well owners are having their water tested annually
- ~ Water tests indicate water quality problems
- ~ Uninformed homeowners may fall victim to unethical businesses



The Workshops



“I think this is a fantastic, productive and beneficial attempt to make a lasting impact on our global environment from a local perspective. Thanks!”

The Training



- Private water system basics
- Proper well construction & location
- Wellhead protection
- Drinking water standards
- Water testing & interpretation
- Water treatment
- Water conservation

Who are the Volunteers?

- Residents with individual water quality problems
- Members of watershed groups
- Professionals in the field
 - state agencies, cooperative extension educators, watershed specialists, geologists, health department staff
- Farmers
- Educators
- Various other individuals
 - real estate agents and medical professionals



What Does a Master Well Owner Do?

- Educate ≥ 100 people within two years
- Submit reports to the MWON Coordinator
- Spread the word about Cooperative Extension services and publications
- Fix and/or maintain their own private water system properly

Master Well Owner Accomplishment Report

Please fill out the following form to tell us about completed education activities. We will contact you if you submit this form. Thanks!

1. Please select your name from the alphabetical list.

* 2. In what county of Pennsylvania did this activity take place?

3. When did this activity occur?

Date of activity MM DD YYYY
 □ / □ / □

4. Approximately how many hours did you spend on this activity?

5. What type of activity did you accomplish (check all that apply)?

- Individual consultation
- Presentation to a group
- Table-top display use
- Newspaper or newsletter article
- Other (please specify)

6. How many people were educated?

7. How many addresses or emails did you collect from those that were the reporting web site?

What has MWON accomplished?

- Much success in PA!

 - approx. 400 people have gone through training and reports show 20,000+ have been educated

- Success in PA has lead to expansion into Mid-Atlantic Region

 - MWON volunteers now exist in PA, DE, MD, VA, and WV
 - VA now has their own MWON Coordinator

- MWON has won 2 national awards!

 - 2005 Ground Water Protection Award through the National Ground Water Association

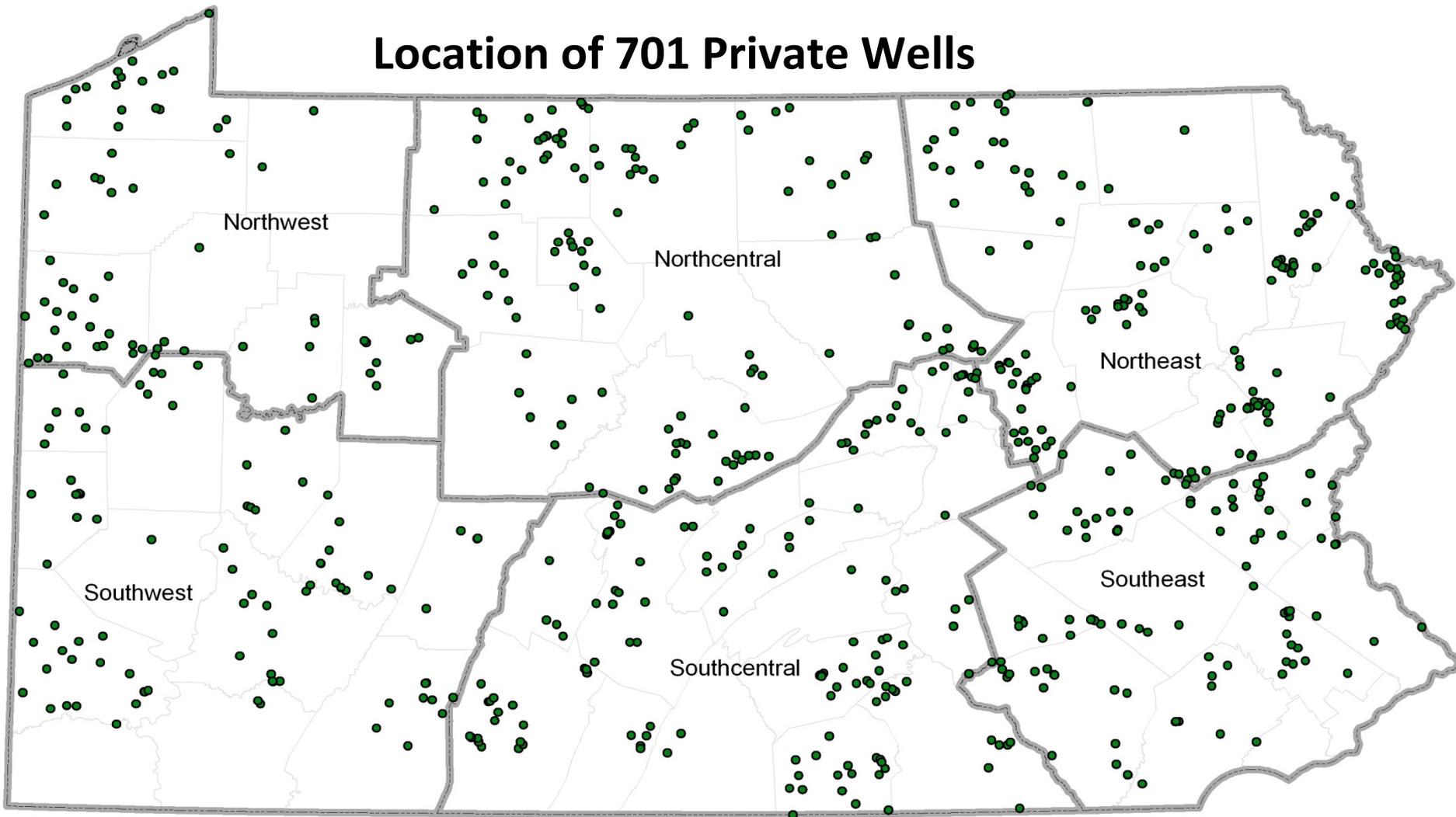
 - 2007 Education and Public Service Award through the Universities Council on Water Resources

Using MWON Volunteers to Assist with Research on

- 172 Master Well Owners participated in the sampling
- 701 private water well samples collected statewide
- Roughly 50% of all wells tested failed to meet at least one drinking water standard
- Find report at http://www.ruralpa.org/drinking_water_quality.pdf



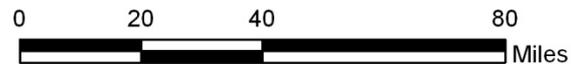
Location of 701 Private Wells



Legend

-  Well Locations
-  Well Study Regions
-  Pennsylvania County Boundaries

Scale



172 volunteers collected samples, Of the 701 well samples, 79 were from MWON volunteer Wells and 622 were homeowner Wells

Does Awareness Translate to Action?

- 76% of homeowners with wells that failed standards took some action within six months to solve the problem
- Actions included removing source of pollution, improving well construction, buying bottled water, installing treatment
- Example – 10% of wells contaminated with bacteria were solved by installing sanitary well cap, chlorinating well and/or removing a source of pollution



Future Work in Maryland

- Continue to expand the MWON program throughout Maryland and the Mid-Atlantic Region
- Create new partnerships to assist with program expansion and improve program quality in MD
- Create Regional Resources
 1. Creation of a private water system manual for homeowners (based on the MWON homeowner guidebook for PA)
 2. Creation of a private water system online course and portable classroom

MWON Resources

- Displays
- Brochures and fact sheets
- Newsletters
- Website resources
<http://mwon.cas.psu.edu>
- MWON Coordinator
- Experts

Why Protect Your Private Well?

In Pennsylvania, there are no state regulations that require private well owners to maintain their well or treat their drinking water. Improperly constructed or poorly maintained wells can create a pathway for pollutants into your home drinking water. The owner of a private water well may be the only line of defense against contamination of that water supply. Treating contaminated water supplies protects the health of you and your family, and it is also less expensive and easier than fixing a water quality problem after it has already occurred. Learning about proper well maintenance is your best line of defense against a polluted water source.

Potential Contaminants

Regular Tests For...

Total Coliform Bacteria - test every year
pH
Total Dissolved Solids - test every 5 years

Additional Tests for Specific Problems

Symptom	Test For:
Gastro-intestinal illness	coliform bacteria
Cloudy or colored water	detergents
Orange or black stains	iron, manganese
Soap has no lather, white residue	hardness
Water tastes salty	chloride, sodium, TDS*
Color of gas or fuel	VOCs**
Pan leak (scale, bluish stains)	pH, copper, lead

Sanitary Land-use

Agricultural operations
Coal mining
Gas drilling
Chump, landfill, or factory
Heavily rutted roadways

*TDS = Total Dissolved Solids
**VOCs = Volatile Organic Compounds
TDS = Total Dissolved Solids

Inspect Your Well

Every year, homeowners should do a thorough inspection of their home water well.

- Keep the area around your well clean and make sure it is always accessible.
- Limit activities such as use of fertilizers or pesticides near the well
- Be aware of local activities that may impact your well water.
- Complete a visual inspection of your well casing to detect any cracks, holes, or corrosion.
- Replace a standard well cap with a sanitary well cap to keep out insects, small mammals, and other surface contamination.
- Check the wiring for the pump to make sure that it is secured in an electric conduit pipe.
- If you have not taken measures to prevent backflow, contact a plumbing supplier and take advantage of backflow prevention devices that are inexpensive.

Maintaining your well is essential to protecting your family's health on a day to day basis. However, even with proper annual maintenance, well materials and equipment will eventually need replacement. For preventative maintenance, get your well inspected at least every ten years by a qualified professional.



Interpreting Your Water Tests

The results of your water tests¹ will tell you the level at which each of the tested substances were found in your water supply. The presence of any specific substance does not necessarily indicate a danger to your health. Comparing your results to the state or federal drinking water standards will help you to determine how problematic your results really are to the safety of your family. For information on safe drinking water standards, contact your county's Penn State Cooperative Extension office.



Master Well Owner Network

A Program of Penn State Cooperative Extension and the Penn State Institutes of the Environment

Summer 2004
Newsletter

Master Well Owners "Springing" Up Throughout Pennsylvania



The Master Well Owner Network has a strong start with 52 trained Master Well Owners after only two workshops. With six more workshops scheduled through spring 2005, we anticipate reaching our goal of 240 trained Master Well Owners statewide.

Our intent is to select individuals for this program who are interested in educating others in their community about what they have learned through the training. The ultimate goal is to disseminate the information necessary for people to protect the quality and quantity of their home drinking water, and to ensure that people are more aware of their own land-use activities so that they do not contribute to contamination of water supplies.

If successful, within two years, 24,000 residents in Pennsylvania will be educated through this program.

Inexpensive Water Protection

One of the many ways that the Penn State Master Well Owner Network (MWON) recommends protecting your home drinking water well is to install a sanitary watertight well cap. A sanitary well cap is attached to the top of your well in the place of a standard well cap. A sanitary well cap creates a watertight seal so that (less than \$40/each) and any person constructing a new well should ask their well driller to install one. They should also be installed on existing wells, although a professional should still be involved for safety reasons.



In this issue:

- Master Well Owners "Springing" Up Throughout Pennsylvania 1
- Inexpensive Water Protection 1
- Master Well Owner Workshops & Success! 2
- Upcoming Events 2
- Who's Your Regional Coordinator? 2
- Ask the Experts 3
- Master Well Owners in the News 3
- Master Well Owner Listing and Acknowledgments 4

What is the Master Well Owner Network?

The Master Well Owner Network is a program designed to educate and train 240 volunteers throughout Pennsylvania about water quality, source water protection, and proper well location, construction, and maintenance.

Each volunteer of the program will attend a free training workshop within your region. For partici-

Questions?

Stephanie S. Clemens
Mid-Atlantic Water Program
MWON Regional Coordinator
814-865-2250

mwon@psu.edu

sclemens@umd.edu

