Water Conservation

Many people think that water is a limitless resource. This is a common misconception and for that reason, water is often misused and wasted in and around our homes. Water conservation is the best way to ensure an adequate supply of water for the future.

Why Conserve Water?

- It will save you money! (energy & water savings)
- Conserve your water supply for later use.
- Reduce the load to your septic or sewer system (which means less maintenance).
- Be a steward of the environment.

Achieving Water Conservation

- Change your habits - save water everyday, not just during times of drought.
- Install water saving appliances and fixtures around your home - toilets are the largest user of water in the home.
- Use rain barrels to collect and use rainwater for outdoor water needs.

Additional Questions

If you have more questions about private water system management, contact your county Cooperative Extension Educator or the Master Well Owner Network.

Master Well Owner Network

814-865-2250

mwon@psu.edu

http://mwon.cas.psu.edu

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Helpful Publications

Contact your county cooperative extension educator with questions. Visit ***http://www.sfr.cas.psu.edu/water/*** to view publications online.

Sources of Water Supply (F195) - fact sheet, 2002

Sanitary Well Caps - fact sheet, 2003

Bottled Water Facts (F142) - fact sheet, 2001

Before You Drill a Well (F197) – fact sheet, 1990

Water Intake and Quality for Dairy Cattle (DAS95-8) - fact sheet, 1995

Managing Your Well During Drought (F110) - fact sheet, 2002

Rainwater Cisterns: Design, Construction, and Water Treatment (SC277) - circular, 1989

Water Testing (F104) – fact sheet, 2001

Where to Have Your Water Tested (F105) - fact sheet, 2000

Water Tests: What Do the Numbers Mean? (UH136) - circular, 2000

How to Interpret a Water Analysis Report (F103) - fact sheet, 2001

Treating Coliform Bacteria in Drinking Water (F132) – fact sheet, 2001

Lead in Drinking Water (EC416) - circular, 1995

Nitrates in Drinking Water (F136) – fact sheet, 2001

Corrosive Water Problems (F137) – fact sheet, 2001

Hydrogen Sulfide (Rotten Egg Odor) in Pennsylvania Groundwater Wells (F139) - fact sheet, 2001

MTBE in Private Water Wells in Pennsylvania - fact sheet, 1999

Removal of Arsenic from Wells in Pennsylvania (F133) - fact sheet, 2001

Reducing Radon in Drinking Water (F135) – fact sheet, 2001

Removing Giardia Cysts from Drinking Water (F134) – fact sheet, 2001

Iron and Manganese in Private Water Systems (F138) - fact sheet, 2001

Home Water Treatment In Perspective (F131) - fact sheet, 2001

Water Softening (F141) - fact sheet, 2001

Magnetic Water Treatment Devices (F143) - fact sheet, 2001

Shock Chlorination of Wells and Springs (F140) - fact sheet, 2001

Safeguarding Wells and Springs from Bacterial Contamination (EC345) - circular, 1996

Methane Gas and Its Removal from Wells in Pennsylvania – fact sheet, 2004

22 Ways to Save Water During an Emergency (EC199) - circular, 1995

Household Water Conservation (UH164) – circular, 2004

Water Conservation Opportunities for Individual Residences Serviced by On-Lot Wastewater Disposal Systems (F190) - fact sheet, 2003

Estimating Water Use for the Farm and Home – fact sheet, 2003

Estimating Water Use and Savings in Your Home – fact sheet, 2004

Private Water System Management

Penn State Recommendations

A Guide for Private Water System Owners throughout Pennsylvania

PENNSTATE

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Master Well Owner Network

http://mwon.cas.psu.edu

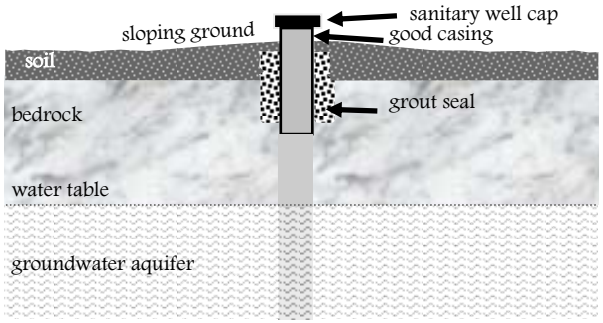
This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, National Integrated Water Quality Program, Under Agreement NO. 2003-04892.

Where To Locate A Well

- At least 25 feet from a silo
- At least 50 feet from sewers and septic tanks
- At least 100 feet from pastures, on-lot sewage system absorption fields, cesspools and barnyards
- Avoid locating a well where groundwater comes to within 10 feet of the soil surface

Proper Well Construction

- **Well casings should be at least 8 inches above the ground** or high enough that surface water will never enter the well (even in times of flood).
- **The ground should slope away from the well** to prevent surface water from ponding around the casing.
- **A pitless adapter should be used to extend the casing above the ground level.** This adapter should be used where the water pipe passes through the well casing below the frost depth.
- **A sanitary well cap should be used at the top of the casing** to prevent insects, small mammals, or other surface contaminants from entering the well.
- To prevent surface water contamination, **the space between the well casing and the drill hole should be filled with clay grout or cement**.



Well Maintenance

- **Every year, homeowners should do a thorough inspection of their home water well.** At least every 10 years you should have your well inspected by a professional.
- **Every year test your home drinking water for coliform bacteria.**
- **Every three years test for pH, TDS,** and other contaminants based on activities occurring locally.
- **All water tests should be done by a certified lab.** www.dep.state.pa.us/labs or at 1-888-DEP-SAFE
- After getting your water tested, **compare your results to the drinking water standards** established by the state.

If you have questions, contact your county's Penn State Cooperative Extension Educator. To locate a qualified well driller visit ***www.wellowner.org.***

Solving Problems

If after testing your water, you find a problem with the quality, there are several options that you can take to ensure that you have a clean source of drinking water.

- Develop a new source of water (drill a new well, develop a new spring, etc.)
- Control the source of pollution (divert runoff)
- Conduct maintenance of your water system (install a sanitary well cap, slope ground, etc.)
- Install water treatment devices

Unused Wells

Unused wells that have not been sealed or backfilled properly may become a serious liability if pollutants can enter that well and potentially contaminate other nearby wells.

Be sure to have any unused well decommissioned properly by a local water well professional.

Springs

A spring forms when groundwater breaks the surface of the ground. Springs serve as private drinking water supplies for many people throughout Pennsylvania.

- Make sure your spring box is sealed to prevent insects, animals, and surface water from entering it.
- Fence livestock out of the spring catchment area.
- Disinfect springs after construction and then test for bacteria.
- Springs are very susceptible to bacterial contamination - get yours tested at least every year!

Cisterns

Cisterns store rainwater collected from roofs for household or other uses. They are used extensively in areas that have severe groundwater pollution or where wells do not yield enough water.

- Make sure that your cistern is constructed properly to ensure it is the proper size to meet your water demands. A minimum storage capacity of 5,000 gallons is recommended.
- All cisterns require treatment. Most cisterns rely on rainwater that can be extremely corrosive to plumbing systems and water entering the cistern should be disinfected before it is consumed.