



Private Drinking Water Wells

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Kevin McCray, CAE, is the chief executive of the National Ground Water Association, where he has served for 32 years. He has been CEO since 1995, and he also serves as the chief executive of the National Ground Water Research and Educational Foundation.

As NGWA's CEO, he has worked to increase international awareness of groundwater and of the association, which today has mutual cooperation agreements in place with 17 of its foreign counterparts.

McCray has served on a number of water-related advisory groups, authored multiple articles and groups, and works with public relations and education.



Private Household Water Well Utilization

Groundwater withdrawals from private household water well systems (mgd).....	3,740
Percentage of total groundwater.....	4.7%
Percentage of total individual household supply.....	97.7%

- 41,913,300 American residents served by privately owned individual wells
- 13,249,000 occupied American households served by privately owned individual wells

Reducing risks to home water supplies

- There are 4 basic steps
 1. Proper well location and construction
 2. Well maintenance
 3. Testing and treatment, if needed
 4. Groundwater protection

Starts with

- #1 Proper well location and construction
 - Minimizes contamination potential
 - Protects consumer and groundwater

 - Well owner should
 - Employ qualified professionals
 - Maintain protection areas around wells

 - States and others provide support to well owners...

Current state well construction policies:

- 48 states license water well construction and service professionals through competency testing
 - Many with mandatory continuing education
- 16 states using NGWA certification exams for licensure or registration
- 47 states with statewide well construction standards
- Special construction standards in certain areas

Additional thoughts for states:

- Fill in gaps if state doesn't have program
- Ensure adequate funding for inspections and enforcement
- Review state standards against industry standards

#2 Regular maintenance is vital

- Regular visual inspection of
 - Well casing
 - Various sanitary seals
 - Pitless equipment, well caps
 - Other vital well system components
 - Service of any water treatment equipment according to the manufacturer's recommendations

The homeowner's obligations

- ✓ Have furnace checked
- ✓ Change smoke detector battery
- ✓ Be responsible for your water well system



#3 Regular testing is

- The responsibility of the private water well system owner.
- Many public and private organizations recommend the same approach
- Government and private sector guidance is available for when and where to get water tested and for help in understanding the results

The steps to follow in testing

- Qualified water well system professional should determine if the well is clean
 - Critical to obtaining a representative sample of the groundwater
 - If the well needs cleaning, it should be cleansed by a qualified professional prior to taking water sample

The steps to follow in testing

- Test annually for...
 - Bacteria
 - Nitrate
 - Anything of local concern
- Or, more frequently if certain circumstances indicate the need, such as changes in odor, taste, or color
- Find out what is of local concern.

If test results find problems:

- Does NOT mean that the well owner can't use the groundwater
- Options
 - Well rehabilitation
 - New well
 - Appropriately matched water treatment technology

Water treatment considerations

- Specifications of the technology match to the substances and concentrations of concern
- Performance tested by NSF International, Water Quality Association, or others

Current state testing and treatment policies:

- State certified drinking water laboratories
 - States certify labs for testing under SDWA
 - May also offer services to private well owners
 - SDWA standards used for public water systems can provide private well owners with a benchmark against which to compare constituents
 - Typically are used by labs when testing private well water

Current state testing and treatment policies cont:

- All 50 states have well owner education web sites
 - Vary in content
 - Tailored guidance on contaminants of specific state concern
 - Places get additional credible advice
- Some states have specific laws addressing private water well system testing at property transfer
- Numerous state disclosure laws related to material defects
- Some states license treatment professionals

Additional thoughts for states on testing and treatment:

- Support state groundwater quality and level monitoring networks
- Additional resources to state agencies for well owner education
- Consider licensing treatment professionals

#4 Protect groundwater

- Locate and appropriately decommission any abandoned wells
- Well owners with septic or other on-site wastewater systems should have the system regularly checked by a qualified wastewater system professional
- Proper use, storage, and disposal of hazardous household substances

State groundwater protection policies:

- State groundwater protection policies vary
- Continue to support and enhance groundwater protection policies to avoid water supply problems and protect resource.

Federal assistance

Some federal programs may provide financial assistance for a rehabilitated well, a new well, and/or water treatment is called for...

- Rural Housing Administration 504 Program
 - Low interest loans to very low income households
 - Grants in some cases to residents 62 or older
- Rural Utilities Service household water well financing program
 - Low- to moderate-income household eligibility

Federal assistance

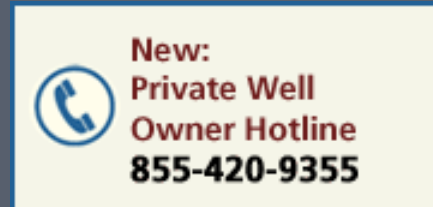
- CDC supports state/local health agencies in identifying local water quality issues, determining if health impacts, sharing best practices among professionals, and raising public awareness
- National groundwater level and quality network – with state grants proposed
- U.S. EPA technical assistance to well owner grants – NGWA grant recipient

Federal assistance cont.

- Veterans Administration property loan process requires testing
- Federal Housing Administration property loan process identifies certain triggers when water testing is required

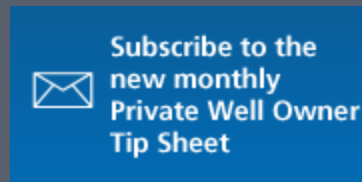
At national level

- NGWA consumer focused programming - Basic information, encouragement and connection to local experts
 - NGWA's **www.wellowner.org**
 - More than 1 million visitors since 2005
 - Highly ranked on Google
 - Free online instructional guidance for private well owners
 - NGWA operated toll-free hotline



At national level

- Private well owner tip sheets at <http://wellowner.org/private-well-owner-tip-sheet/>



- National Ground Water Awareness Week
 - More than 100 partners in 2014
- Protect Your Groundwater Day



At the national level

- NGWA professional focused programming – knowledge and tools
 - Government well inspector training
 - Regulators interest group
 - Professional certification
 - Journals and technical literature
 - Conferences, short courses, webinars
 - Research, e.g. cleaning and disinfecting flooded wells
 - Standards, best suggested practices
 - State affiliated associations

In summary

- 4 basic steps to reduce risks:
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