It’s smart to be curious about your well water

Alyson McCann, Water Quality Program Coordinator
University of Rhode Island Cooperative Extension
alyson@uri.edu  401-874-5398

Shannon Nakama, Environmental Scientist
RI Department of Health
Shannon.Nakama@health.ri.gov  401-222-7781
Topics

• Private Well Water Protection
  What you need to know

• What to Test for, when & where

• Water Treatment Options

Information pertains to RI private well owners. If you live in another state, check with the local Board of Health or your state agency.
Groundwater is the source of your well water

Your well is placed into the groundwater to supply water to your home.

What to do if the well runs dry:
https://health.ri.gov/water/for/privatewellowners/about/care/
Private wells are installed in:
1. Bedrock, or
2. Sand & Gravel
Well water quality is affected by:
1. What we do in and around our home.
2. What is in the soil and rock that the groundwater moves through.
Let’s look at an example

How can a septic system affect **groundwater** and **well water** quality?
Well Water Protection

Learn:

✓ Where the well is located on your property.

✓ What is going on around the well.

✓ What type of well you have.

✓ What the water test results mean.
Where is the well located
1. In the yard?
Where is the well located
2. In the Neighborhood?
Minimum private well water set back distances from potential sources of contamination

- Septic System Drainfield: 100 feet
- Septic Tank: 50 feet
- Sewer Line: 50 feet
- Road Surface: 25 feet
- Animals: 50 feet
 ✓ Low maintenance grass is best around the well

 X Decorative coverings, plants and shrubs will encourage animals to live near the well.
What type of well do you have?

Drilled Well

Driven Well

Dug Well
Well Construction - What’s Important?

✓ Wellhead is at least 18” above the ground.

✓ Well cap is on tight and sealed.

✓ Well casing (piping) is grouted with a water-tight seal.

✓ Well is located away from potential pollution sources.

✓ Well driller submits a Well Completion Report to RI Dept of Health and homeowner. Need yours?

Contact Grace Clancey at RIDOH – 222-6867

✓ Regulations for new well construction & existing well repair:

https://rules.sos.ri.gov/regulations/part/440-10-00-6
# New Well Construction – Drilling Depths

<table>
<thead>
<tr>
<th>Well Yield</th>
<th>Minimum Well Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 gallons per minute (gpm)</td>
<td>100 ft. or less</td>
</tr>
<tr>
<td>3.5 gpm</td>
<td>150 ft.</td>
</tr>
<tr>
<td>2 gpm</td>
<td>200 ft.</td>
</tr>
<tr>
<td>1 gpm</td>
<td>300 ft.</td>
</tr>
<tr>
<td>0.5 gpm</td>
<td>450 ft.</td>
</tr>
</tbody>
</table>

https://rules.sos.ri.gov/regulations/part/440-10-00-6
Drilled Well
Captures groundwater flowing through cracks in bedrock
Hiring a well contractor?

✔ Make sure he/she is licensed and insured.

✔ You can double check on RI Contractors’ Registration and Licensing Board website. (need contractor’s registration #)
# Follow the Well Testing Schedule

<table>
<thead>
<tr>
<th></th>
<th>Every year</th>
<th>Every 3–5 years</th>
<th>Every 5–10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coliform bacteria (germs)</td>
<td></td>
<td>Cadmium, Lead</td>
<td>Volatile Organic Compounds (VOCs)</td>
</tr>
<tr>
<td>Nitrate</td>
<td></td>
<td>Calcium, Manganese</td>
<td>MtBE</td>
</tr>
<tr>
<td>Nitrite</td>
<td></td>
<td>Copper, Sulfate</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td>Fluoride, pH</td>
<td></td>
</tr>
<tr>
<td>Turbidity (cloudy water)</td>
<td></td>
<td>Iron, Zinc</td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td>Tests for corrosiveness</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>· Alkalinity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Total Dissolved Solids</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Hardness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Specific Conductance</td>
<td></td>
</tr>
</tbody>
</table>

- Keep your test results together in a file. It will help you track any changes in your well water quality over time.
Also, test for:

1. **Arsenic** if you live near an orchard or where there was one.

2. **Beryllium** if you live in:
   
   - East Greenwich
   - West Greenwich
   - Coventry
   - Exeter
   - western Cranston
   - Johnston
   - Scituate
RI HEALTH’s Private Well Viewer

https://health.ri.gov/water/for/privatewellowners/about/testing/

Testing Your Well Water

As a private well owner, you need to make sure that your water is safe to drink.

What to Test for

Water quality can change over time and can be affected by various things in the environment. The three routine sets of recommended tests for private wells are:

- Every year: Test for coliform bacteria, nitrate/nitrite, color, chloride, sodium, and turbidity.
- Every three to five years: Test for metals, corrosivity, and hardness.
- Every five to 10 years: Test for volatile organic compounds, and MTBE.

For more details, see our Smart Well Owner Guide. If you’ve had problems with your well water before or are at a higher risk for certain things (such as soil heavy in iron, or worn-down copper pipes), you should test for those items more often.

There are some areas in Rhode Island where it may be a good idea to test for arsenic and/or beryllium. Arsenic was once used in orchards as a pesticide, and beryllium can naturally be found in the bedrock. You only need to test for arsenic and beryllium once.

You can use our online tool to see if your home is in an area where testing either arsenic or beryllium tests is recommended.

If you are buying or selling a home with a private well, see Buying or Selling a Home below.
Other Times to Test?

- If the well flooded
- If you notice a change in the color, taste or smell of your well water
Test at a State-Certified Lab

1. Call and tell the lab what tests you want.
2. They will give you bottles and directions to collect the sample.

1. Carefully follow directions when collecting the sample.
2. Take the sample to the lab within 24 hours.
3. The lab will send you the results. If you have questions about the results, call us.
4. For a fee, many labs will come to the home, collect the sample and take it to the lab for testing.
Where to test: State-certified Water Testing Labs

**BAL and ESS Labs**  
(401) 785-0241  
185 Frances Avenue  
Cranston, RI 02910  
www.ballaboratory.com

**RI Analytical Labs**  
(401) 737-8500  
41 Illinois Avenue  
Warwick, RI 02888  
www.rianalytical.com

**Microbac Laboratories**  
(800) 334-0103  
61 Louisa Viens Drive  
Dayville, CT 06241  
www.microbac.com

**RI State Health Laboratories**  
(401) 222-5600  
50 Orms Street  
Providence, RI 02904  
www.health.ri.gov/programs/laboratory

**New England Testing Lab, Inc.**  
(401) 353-3420  
59 Greenhill Street  
West Warwick, RI 02893  
www.newenglandtesting.com

*These labs are State-certified as of 3/2019. For updates, see:  
www.health.ri.gov/find/labs/privatewelltesting/index.php*
Estimated Testing Costs

Annual Well Test costs $95 at the RI State Health Lab.

Testing costs for everything on the Well Testing Schedule is $410 at the RI State Health Lab

Average annual public water bill is $600 +
RI Dept of Health’s
Private Well Testing Regulations
June 2008

1. Requires testing of new wells.

2. Requires testing upon sale of existing homes with a well.

Buyers are responsible for testing.

Sellers are responsible to disclose all previous water test results.

https://health.ri.gov/water/for/privatewellowners/about/care/
Home Water Treatment

Test and Talk before you treat. Call Us!

We can help answer your questions about treatment.

Point-of-use Treatment:
Treats water at a single tap. This is an example of an activated carbon filter.

Whole-house Treatment:
Treats all the water entering the house and is installed in the basement. This is an example of a 1.) sediment filter and 2.) a water softener.
Take the 4 steps

1. **Learn** about your well

2. **Protect**
   - Keep pollution away
   - Properly use, store & dispose of household chemicals
   - Make sure any new well is properly sited
   - Seal any unused well

3. **Test** – Follow the Well Testing Schedule

4. **Act** – Call or email us! We’re here to help.

---

**YOUR HOMEWORK**

---

**Safe Well Water RI**
Trusted, expert information

---

**THE UNIVERSITY OF RHODE ISLAND**
Eco-Depot Schedule 2022

HOURS OF OPERATION
8 AM to 12 PM
Rain or shine*

March 26, 2022 Providence – Clean Earth Facility, 252 Allens Ave.
April 9, 2022 Coventry – Town Hall Annex, 1675 Flat River Rd.
April 23, 2022 Narragansett – North Pavilion, 77 Boston Neck Rd.
May 7, 2022 Cumberland – Monastery, 1464 Diamond Hill Rd.
May 21, 2022 Burrillville – DPW, 200 Clear River Drive
June 4, 2022 Warren – DPW, 21 Birch Swamp Rd.
June 18, 2022 West Warwick – Civic Center, 100 Factory St.
July 9, 2022 Westerly – DPW, 35 Larry Hirsh Lane
July 23, 2022 Providence – Clean Earth Facility, 252 Allens Ave.
August 13, 2022 East Providence – DPW, 60 Commercial Way
August 27, 2022 Tiverton – DPW, 50 Industrial Way
September 10, 2022 Providence – Clean Earth Facility, 252 Allens Ave.
September 24, 2022 North Kingstown – DPW, 2050 Davisville Rd.
October 1, 2022 Richmond – DPW, 51 Buttonwoods Rd.
October 15, 2022 Newport – Easton’s Beach, 175 Memorial Blvd.
October 29, 2022 Woonsocket – Recycling Facility, 1117 River St.
November 5, 2022 Warwick – DPW, 925 Sandy Lane
November 19, 2022 Pawtucket – Agnes Little School, 60 South Bend St. (Behind School, back parking lot)
December 3, 2022 Providence – Clean Earth Facility, 252 Allens Ave.

*In the event of severe weather (e.g. blizzards, hurricanes), event cancellations will be posted on www.rirrc.org.

We serve approximately 20-25 vehicles every 15 minutes. Appointments are used to avoid everyone arriving at one time, thus reducing waiting times. To make an appointment please call 401.942.1430 x 3241 or visit our website at www.rirrc.org/ecodepot

Date of Publication: 11/11/2021; visit www.rirrc.org for most up-to-date version.
Call or email with your questions

Alyson McCann, 
Water Quality Program Coordinator, 
University of Rhode Island
alyson@uri.edu
401-874-5398

Shannon Nakama, Environmental Scientist
RI Department of Health
Shannon.Nakama@health.ri.gov
401-222-7781

“We took the 4 steps. We know our well water is safe for our family.”
Website Review

URI resources:
www.riwelltesting.org

RI Dept. of Health resources:
https://health.ri.gov/water/for/privatewellowners/about/testing

RI Dept. of Health testing map
http://rihealth.maps.arcgis.com/apps/View/index.html?appid=96595ebffaf848cdb7707fb141c55880

RI EcoDepot Schedule:
https://www.rirrc.org/announcements/events
Big Thank You for joining us!

Test your well water.
Contact us with questions.