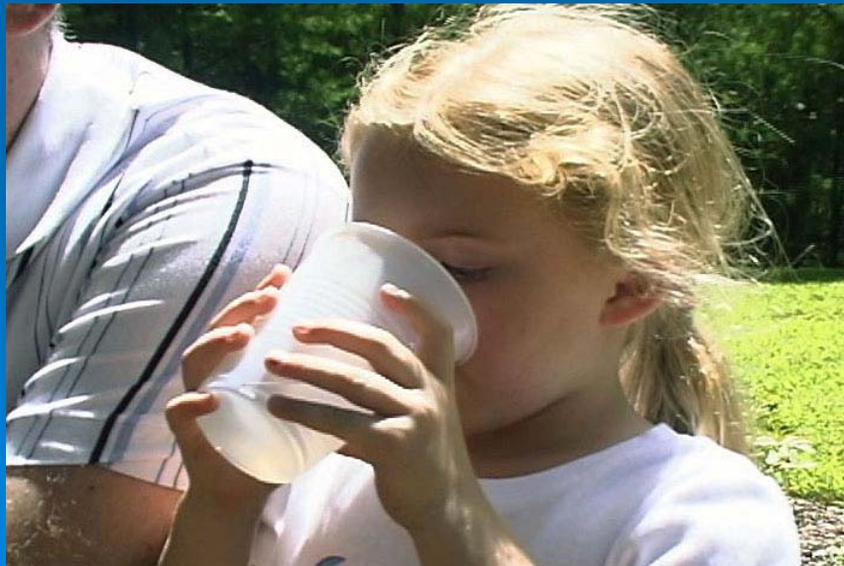


Test Your Private Well

Sponsored by:

- URI Cooperative Extension Home*A*Syst
- RI Department of HEALTH, Division of Environmental Health, Office of Drinking Water Quality
- Town of North Kingstown



Presented by the RI Department of Health and the University of Rhode Island Home*A*Syst Program





In the dark about private well testing?

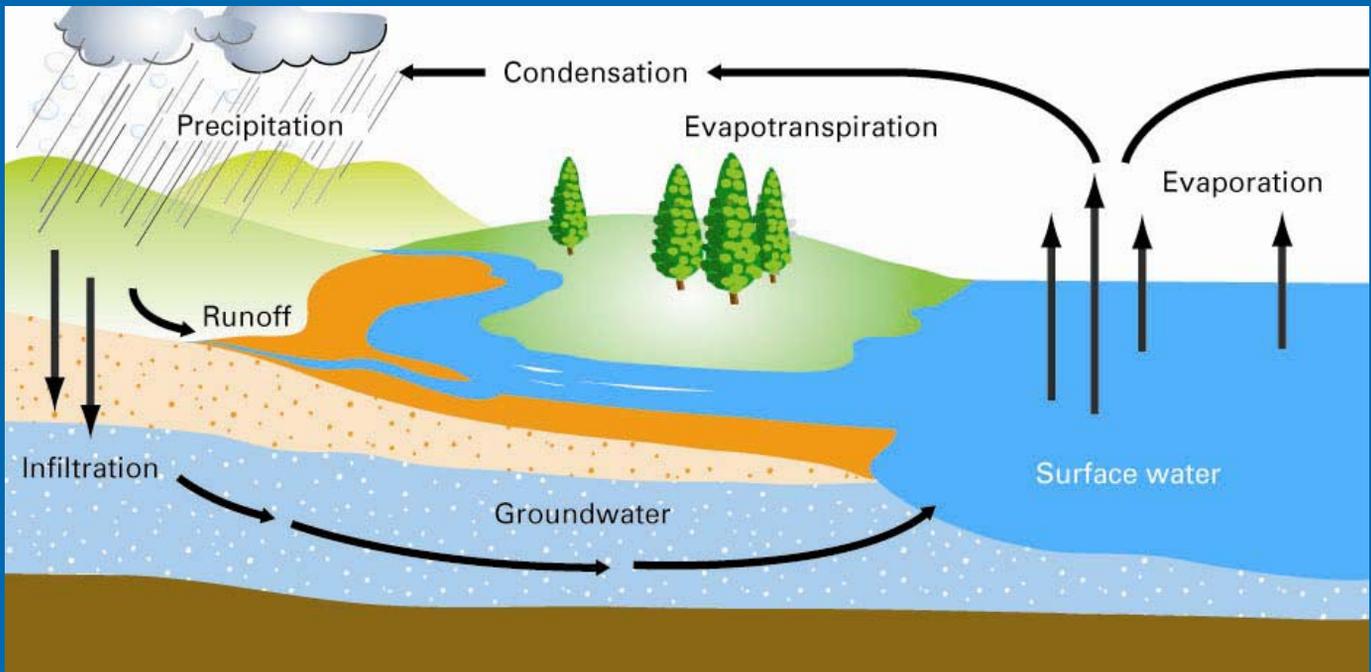


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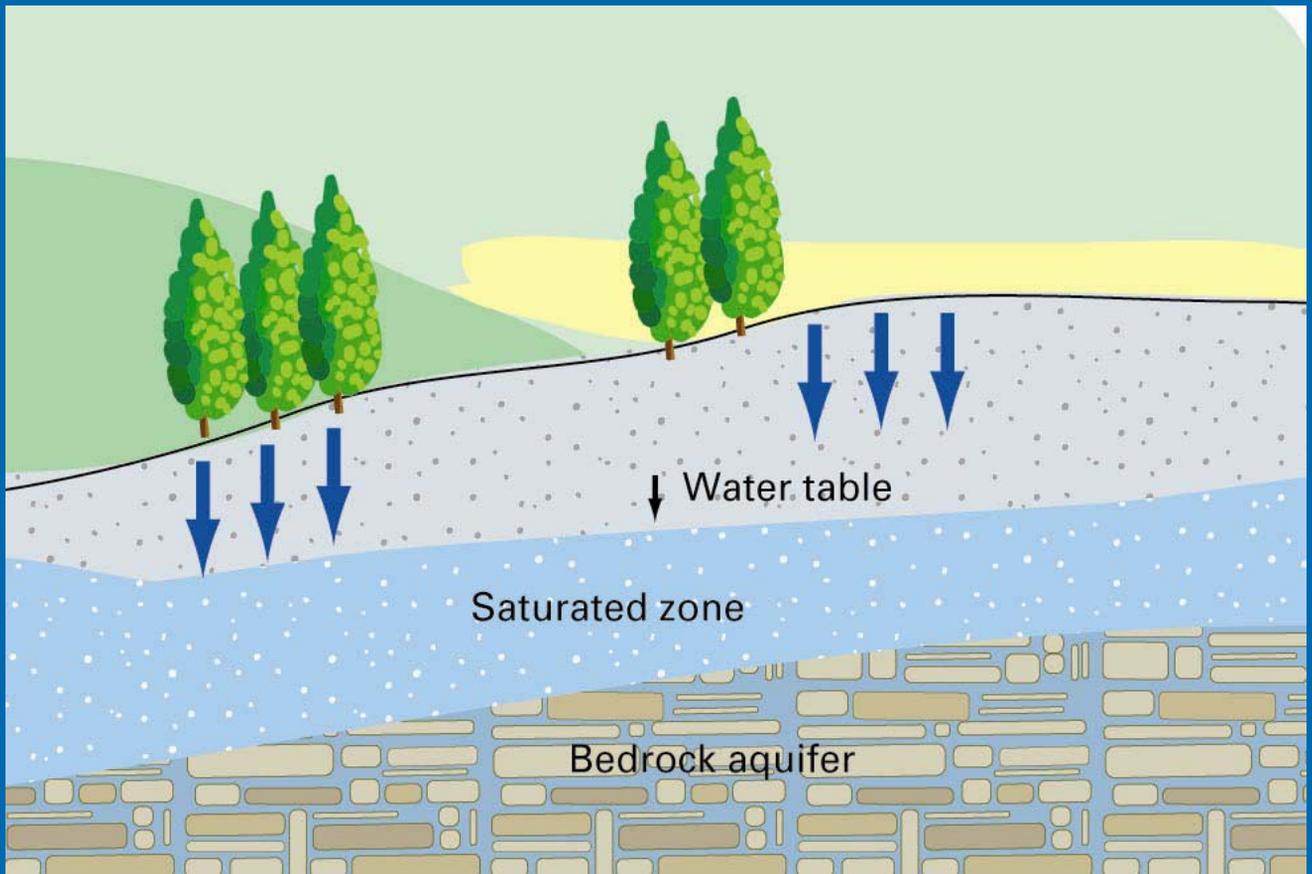


What is a WATERSHED?

THE WATER CYCLE

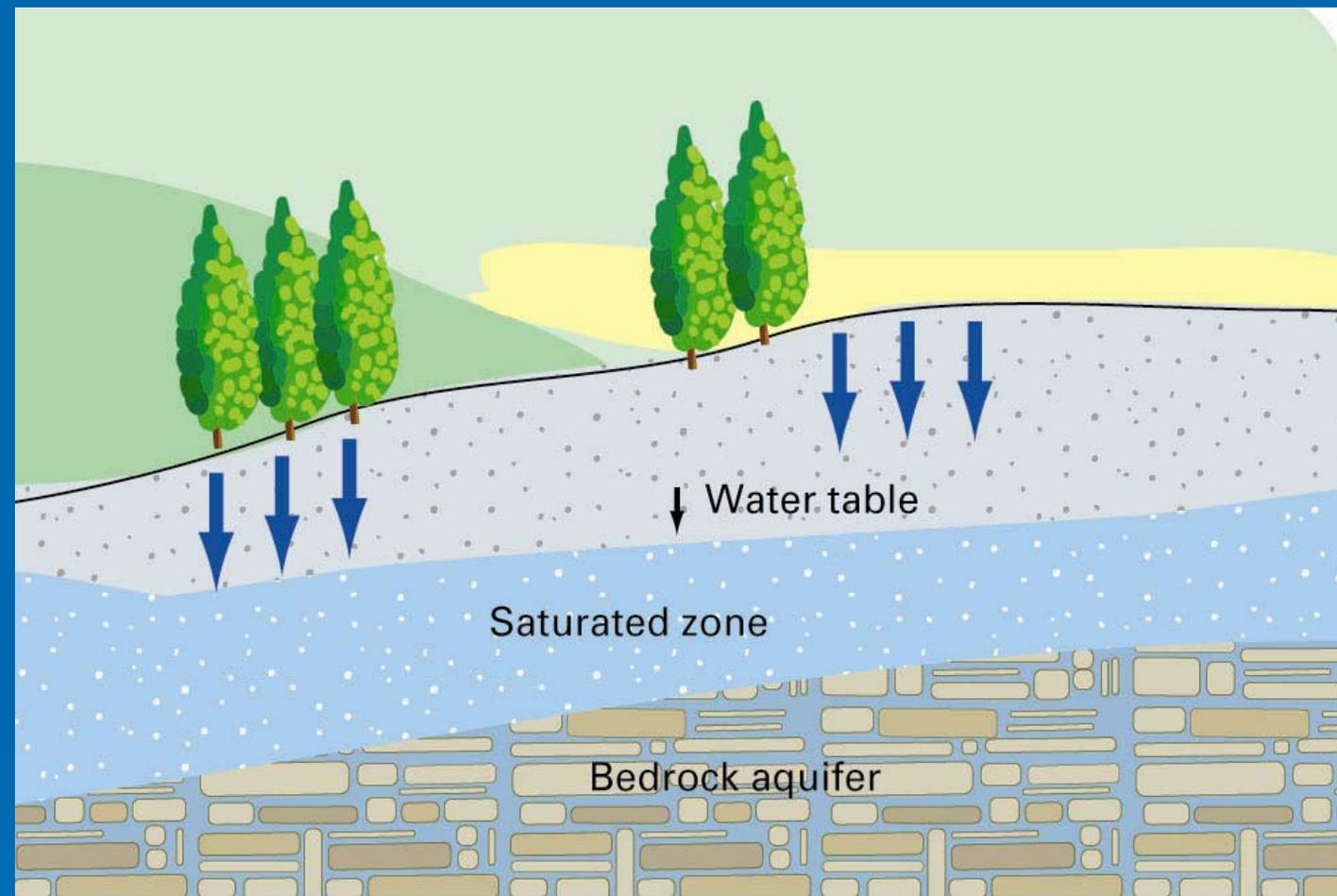


What is groundwater and where is it?

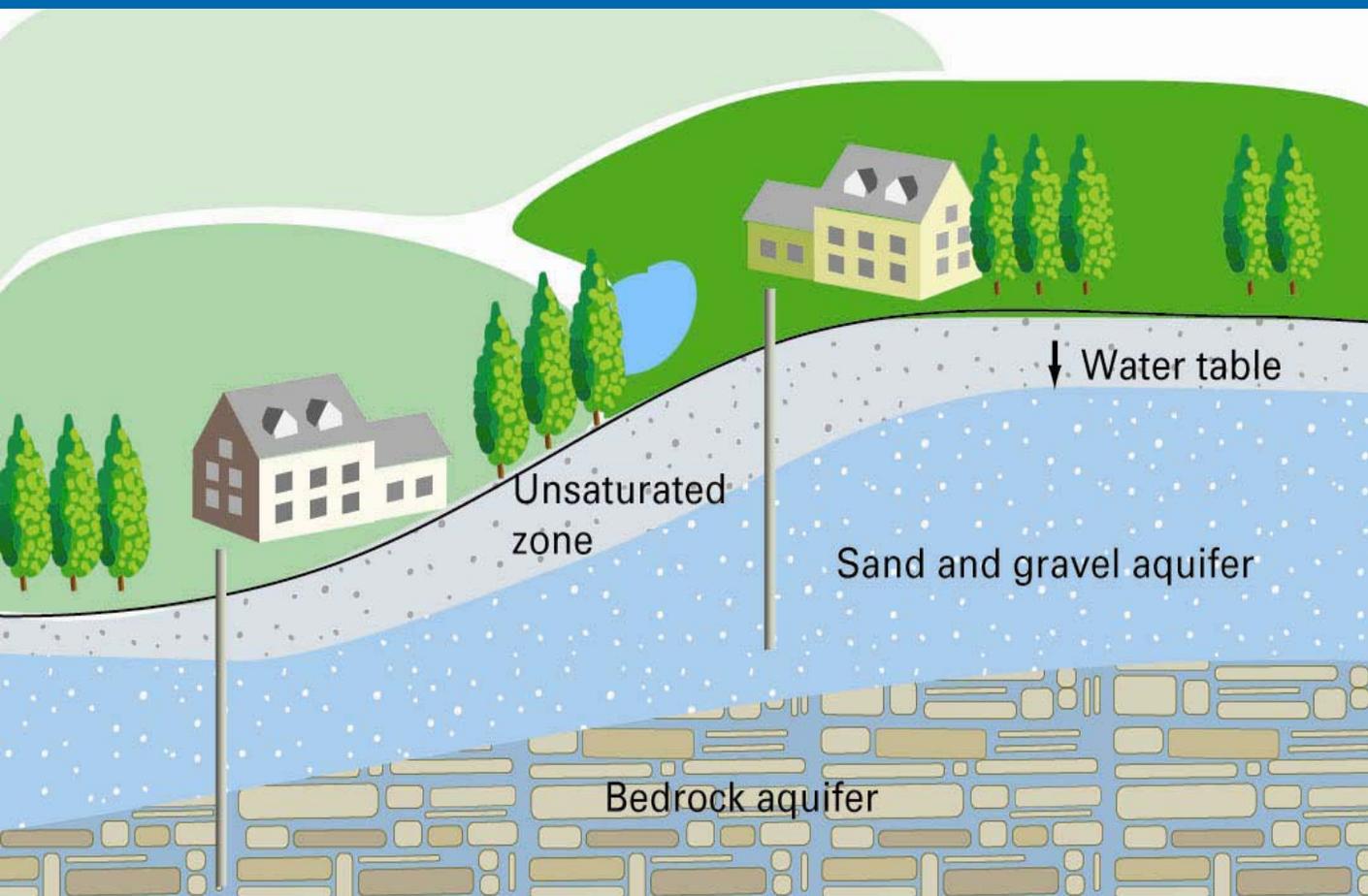


You'll find it in the saturated zone.

The water table fluctuates.

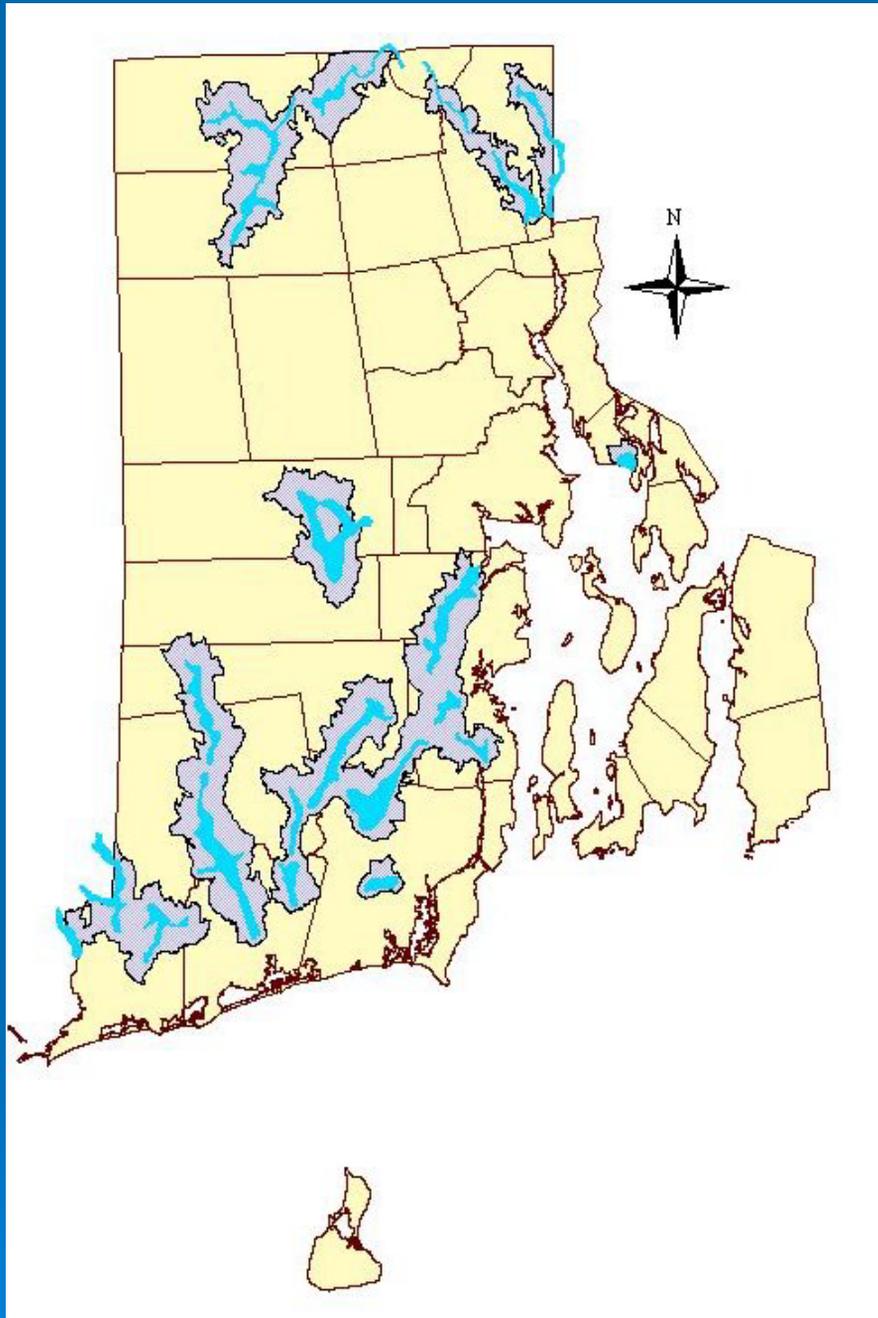


Aquifers



Groundwater aquifers are recharged from above, from areas of the land that have permeable soil.

RI's Principal Groundwater Resources



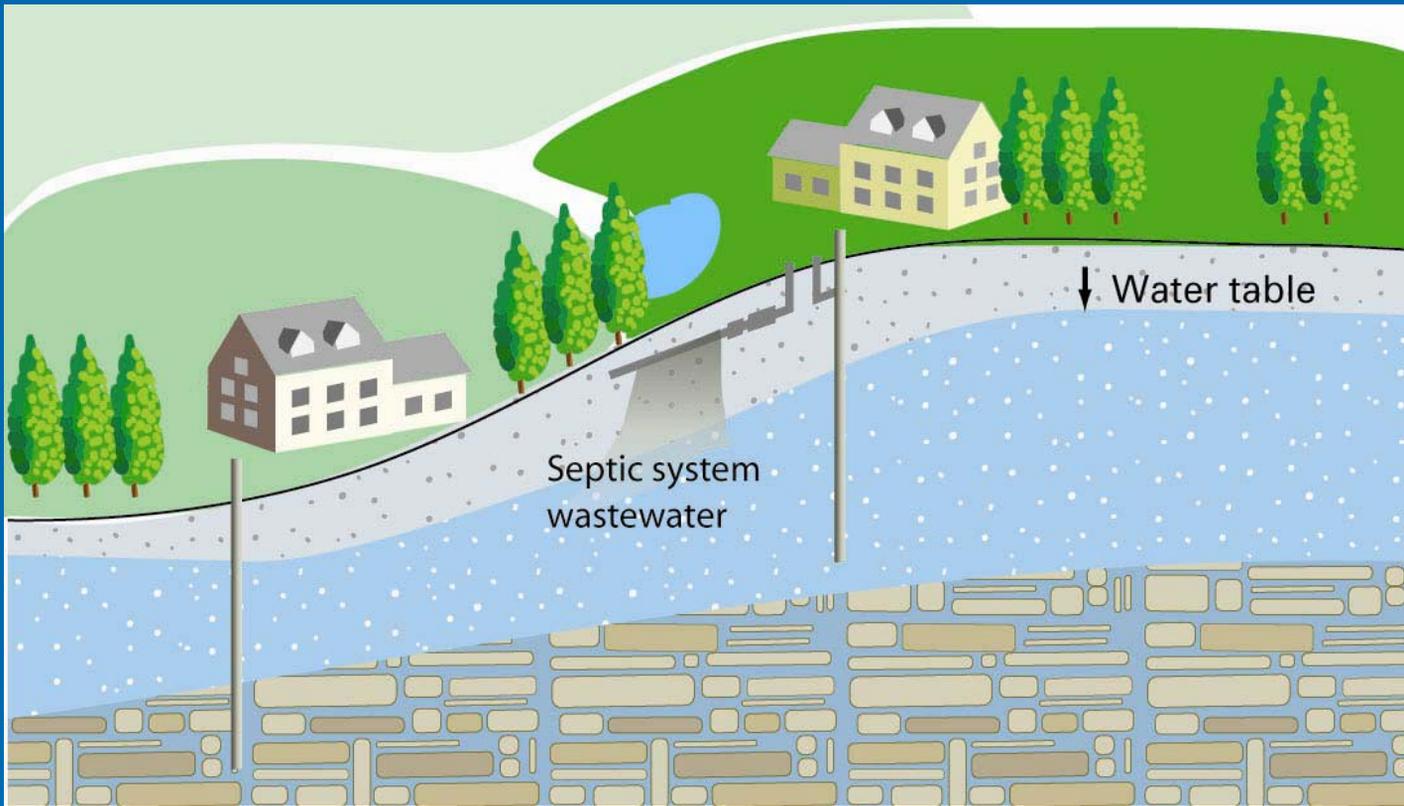
Water quality is affected by land use activities



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Contaminant Pathways



Private Well Construction Regulations

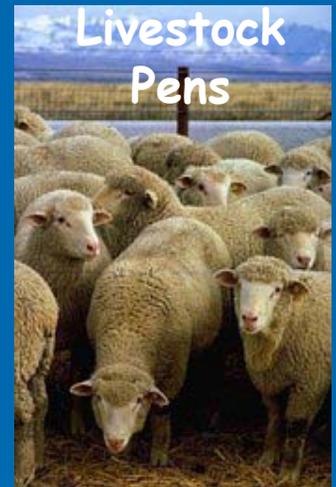
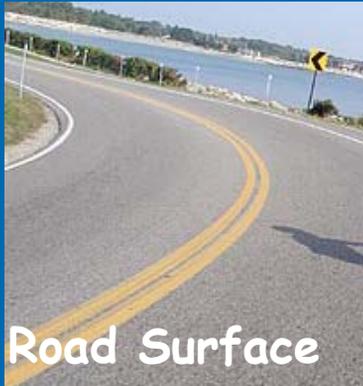


Minimum Distances from Some Potential Contamination Sources



50 feet

100 feet



75 feet



Dug Well



Driven Well



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Drilled Well



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Drilled Well Installation



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Well Log

WELL COMPLETION REPORT
 STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 Groundwater Section
 235 Promenade St., Providence, RI 02903

Address: 6 Main St., Pawtucket, RI 02861
 Other Number: _____

Name: S/A Builders
 Well ID: Lot 201 John Potter Road West Greenwich RI 02891

Rotary or Other: ROTARY OTHER _____
 Type: COMPRESSED AIR PERCUSSION
 Cable Percussion OTHER _____

Drill Bit: _____
 Diameter: _____
 Length: 37'
 Type: STEEL WOOD OTHER _____

Threaded: WELDED
 Static Water Level (ft.): 36
 Drive Shock: YES NO
 Pumping Level (ft.): _____
 Depth to Bedrock: _____
 Drawdown (ft.): 20'

Duration (hours): 1
 Yield (GPM): 1
 Diameter: _____
 Business Establishment: _____
 Test Well: _____

Material: _____
 Length: _____
 Use of Well: DOMESTIC _____ PUBLIC _____ SUPPLY _____ FARM _____ INDUSTRIAL _____ OTHER _____

When: _____
 Lab #: _____
 Lot Size: _____

Has Water Been Tested? _____
 Where? (Lab): _____

ISOS Approval Number: _____

DEPTH FROM LAND SURFACE FEET	FORMATION DESCRIPTION
0' - 20'	Sand, gravel, boulders
20' - 325'	granite

Sketch Exact Location of Well with Distances to at Least Two Permanent Landmarks, Including House if Present.

INDICATE NORTH

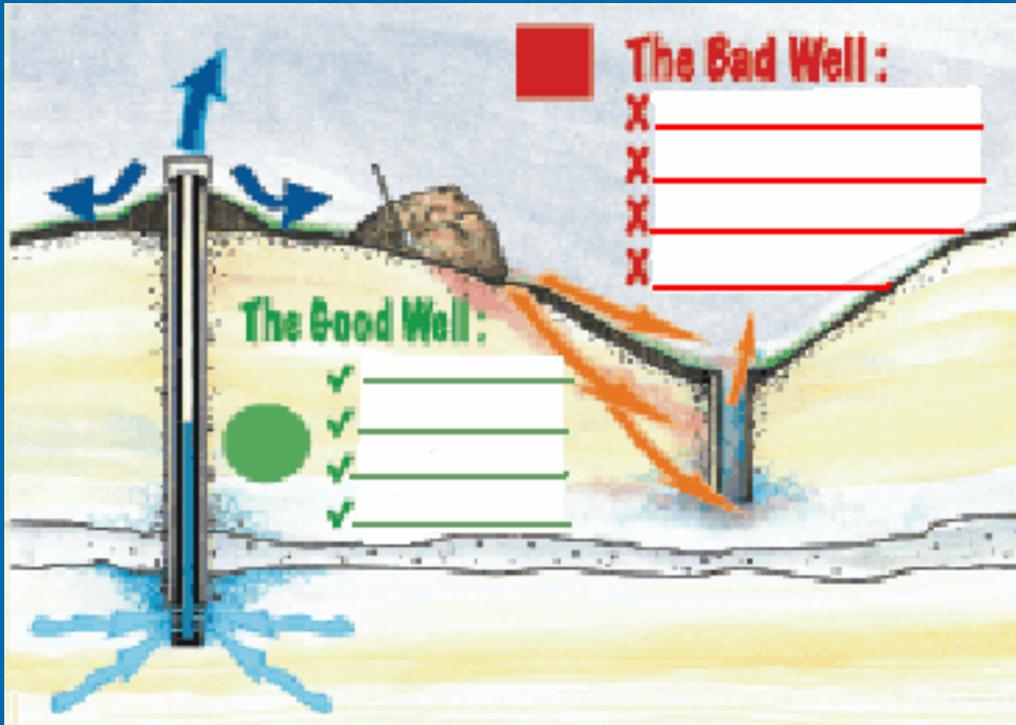
WELL 20' Garage
 HOUSE
 ROAD
 WELL 400'



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Proper siting of the well is important



How do you know that your water is safe to drink?



What to Test For



- Bacteria
- Nitrates
- Sodium/Chlorides
- Lead/Copper
- Fluoride
- Radon
- Volatile Organic Compounds (VOCs)
- pH
- Iron/Manganese
- Color & Turbidity



Bacteria – Total Coliform



Standard: Total Coliform Bacteria MCL = Absent



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Nitrates



Standard: MCL = 10 mg/L (ppm)

Sodium / Chloride

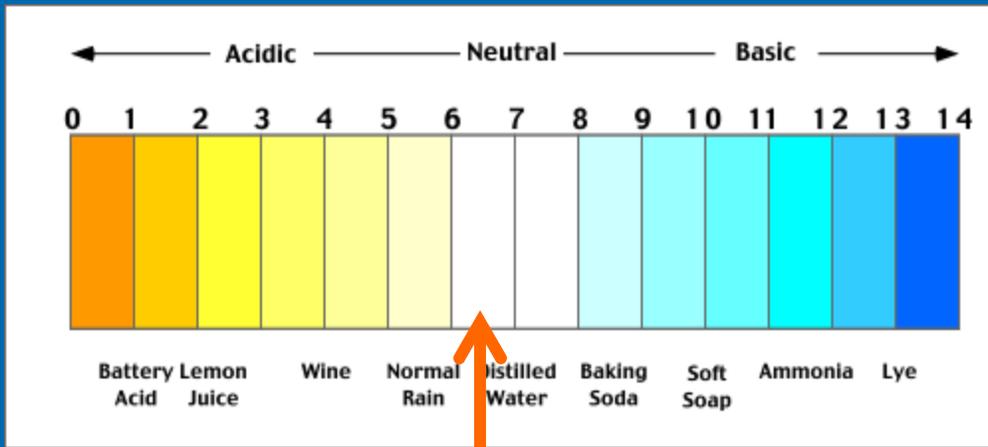


Standard:

Chloride: SMCL set at 250 mg/L (ppm);

pH

(The measurement of acidity and alkalinity of water)



RI Water is naturally acidic

Standard: SMCL = 6.5 – 8.5

Lead



Standard: Action Level = 15 ug/liter (ppb)

Copper



Standard: Action Level = 1.3 mg/L (ppm)

Fluoride



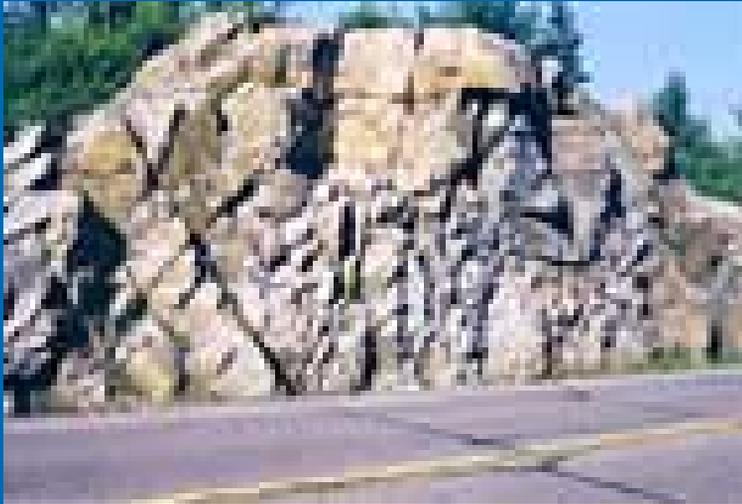
Standard: MCL = 4.0 mg/L (ppm);
SMCL = 2.0 mg/L (ppm);
Desired range = 0.7 - 1.3 mg/L (ppm)



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Iron & Manganese



← Iron Bacteria

Standard: Iron: SMCL = 0.3 mg/L;

Manganese: SMCL = 0.05 mg/L

Color & Turbidity



Radon



Standard: No drinking water standard.



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Volatile Organic Compounds (VOCs)



Standard: Varies depending on the VOC.
Check with RI HEALTH for specific information

What to Test For

Annual routine test for:

- Total Coliform Bacteria
- Nitrate
- Sodium

Test every 3-5 Years for:

- Fluoride
- Iron
- Lead
- Manganese
- Turbidity
- pH



Test every 5-10 Years for:

- VOCs
- Gross Alpha Screen

Special Circumstances:

- Children under 6 – test for lead
- Children under 12 – test for fluoride

Certified Private Labs

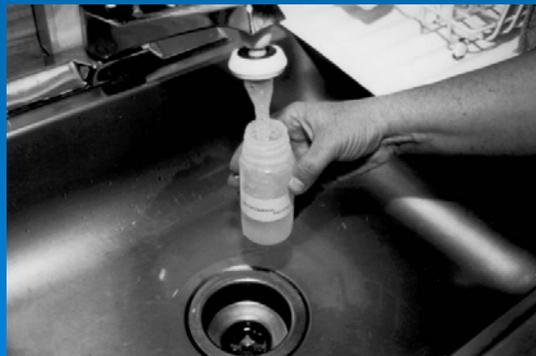
1. Call and Shop Around



2. Work with the Lab to Identify Necessary Tests



3. Carefully Follow Instructions



Estimated Testing Costs

- Baseline testing at time of property transaction / new building: \$425.00
- Annual testing, based on site conditions and family situation: \$80 - \$125.
- Compare to average annual public water bill that can range from \$200 - \$1250.

(Based on estimates from RI Water Resources Board.)



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Home Water Treatment – Questions to Ask

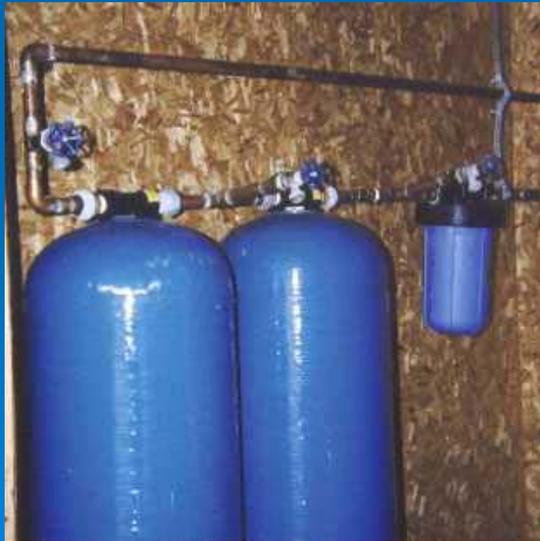


- Does the water test show a problem? What are the levels of the contaminant in the water? Are more tests needed?
- Is there a health risk or a nuisance problem?
- Do I need to treat all the water in the house do I need to treat for drinking and cooking only?
- Are there any potential secondary effects to treatment? What are the maintenance needs and costs?

Home Water Treatment Principles



Point of use



Point of Entry



HEALTH's Website

Address  <http://www.health.state.ri.us/>

 R.I. Government Agencies | P

Rhode Island Department of Health DAVID R. GIFFORD, M.D., F
DONALD L. CARCII

www.health.ri.gov 

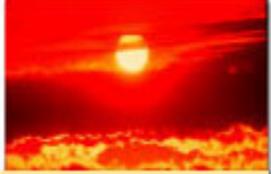
HOME	HEALTH TOPICS	NEWS	DATA	PROGRAMS	PUBLICATIONS	SITE MAP
------	---------------	------	------	----------	--------------	----------

Expand All | Collapse All

- About HEALTH**
- Birth Certificates
- Job Postings
- Lead Poisoning Prevention
- Licensee Verification
- Licensing Boards and Professions

Health Professionals License Card/Certificate Update. There has been an unforeseen delay in the printing and sending of license cards. In the interim, please refer to the [License Verification](#) webpage for current information of any license issued by HEALTH. Thank you.

Highlights



(scroll to Health Topics and click on Private Wells)



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Office of Drinking Water Quality

Private Well Testing Information

The following information pertains to private well owners only, and are recommendations set forth by the Office of Drinking Water Quality at the Rhode Island Department of Health. Testing should be done by a trained engineer to improve accuracy of results.



Regular testing is recommended once every year or any time you suspect a problem (odd taste, smell, color, etc.). There is no law that requires regular testing of private wells, so it is up to you to determine whether your water is safe to drink.

HEALTH recommends that water from private wells be tested yearly for:

- Coliform
- Nitrate

Pending regulations will require testing for the following contaminants if you purchase a home or are putting in a new well:

- Fluoride
- Iron
- Lead
- Manganese
- Nitrite
- Turbidity
- Additional testing depending on known sources of contaminants

Highlights

Lists of laboratories licensed by Rhode Island Department of Health that test potable (drinking) water.

Private Well Water Protection Factsheets from Rhode Island Home*A*Syst

Public Workshops

for Source Water Assessment, Private Wells etc.

URI Cooperative Extension Water Quality Program

PROGRAM ACTIVITIES

DWQ Homepage

Public Water Programs

PRIVATE WELLS

Regulations (pdf)

Water System Security

Web Links

OFFICE OF DRINKING WATER QUALITY

3 Capitol Hill
Room 209
Providence, RI 02908-5097
(401) 222-6867
FAX: (401) 222-6953
June Swallow, PE, Chief

Private Well Legislation



Requires testing of
new wells.

Requires well testing
upon sale of existing
homes.

Buyers are
responsible for
testing



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Private Well Legislation



Information about Known Areas of
Contamination Coming Soon



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Private Well Legislation

Law requires testing for at least 8 parameters:

- Coliform Bacteria
- Nitrate
- Nitrite
- Iron
- Manganese
- Lead
- Fluoride
- Turbidity

Town May Require More Analyses



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Protection Tips

- Test water annually
- Check for cracks in the well casing, repair promptly
- Don't let surface water pond around the well
- Keep area around the well free of debris and brush
- Properly dispose of household hazardous waste
- Do not apply fertilizer and pesticides near the well
- Install backflow prevention on outdoor faucets
- Properly seal abandoned wells
- Keep pet waste and dog runs away from the well
- Do not store or fill equipment with fuel near the well
- Maintain yard in good vegetative cover



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No thanks, I prefer well water.

Thanks for joining us today!



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Contact Information

URI Cooperative Extension

Home*A*Syst, (401) 874-5398

www.uri.edu/ce/wq

Maps on the web: www.edc.uri.edu/riatlas

RI HEALTH

Office of Drinking Water Quality, (401) 222-6867

www.health.ri.gov/environment/dwq/index.php

Private Well Testing Information

www.health.ri.gov/environment/dwq/privatewell.php

National Sanitation Foundation

(800) 673-6275

www.nsf.org

EPA Safe Drinking Water

www.epa.gov/safewater

New publication - *Drinking Water From Household Wells:*

http://www.epa.gov/safewater/consumer/wells/household_wells.pdf

Water Systems Council

(800) 673-6275

www.watersystemscouncil.org



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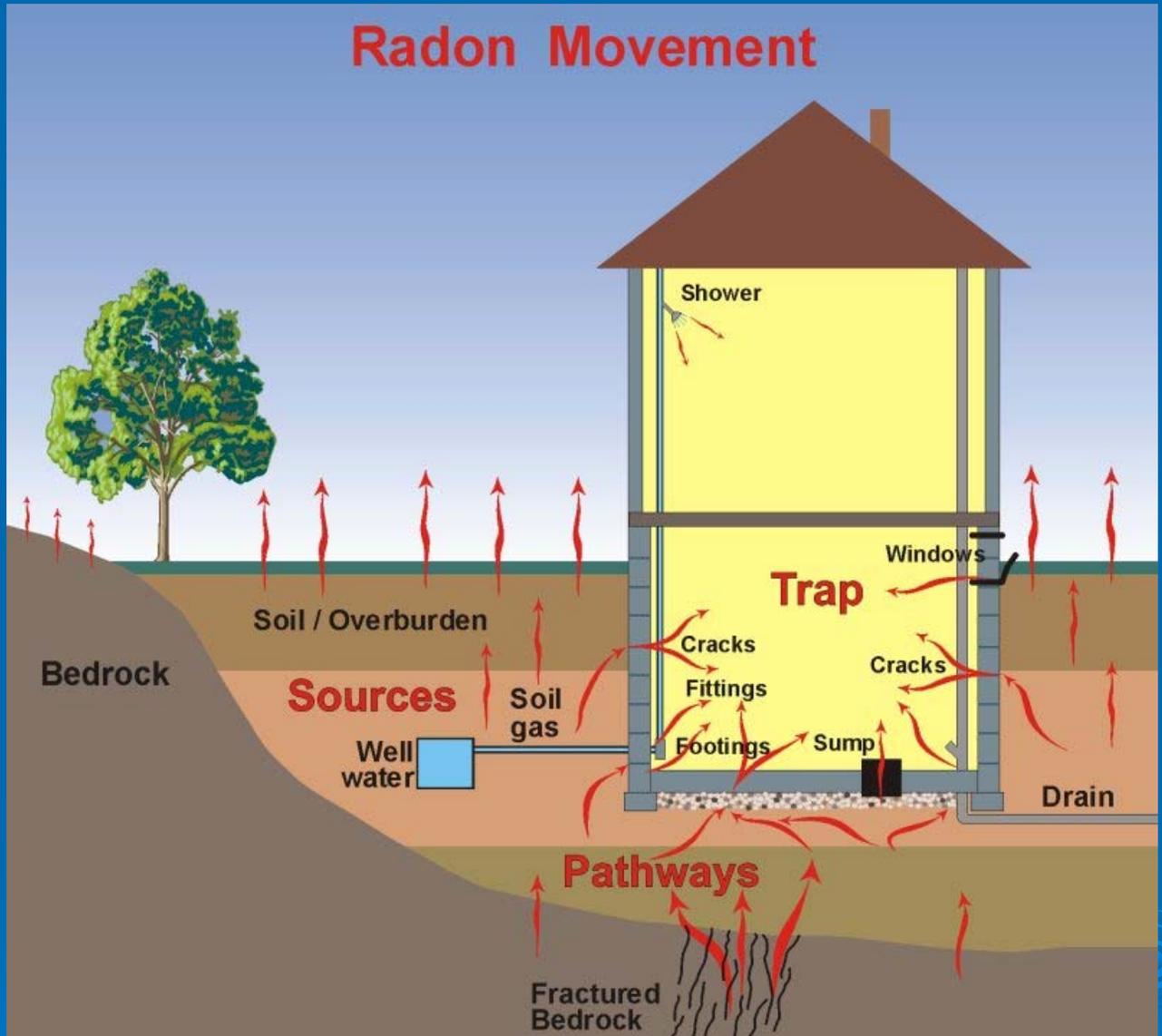




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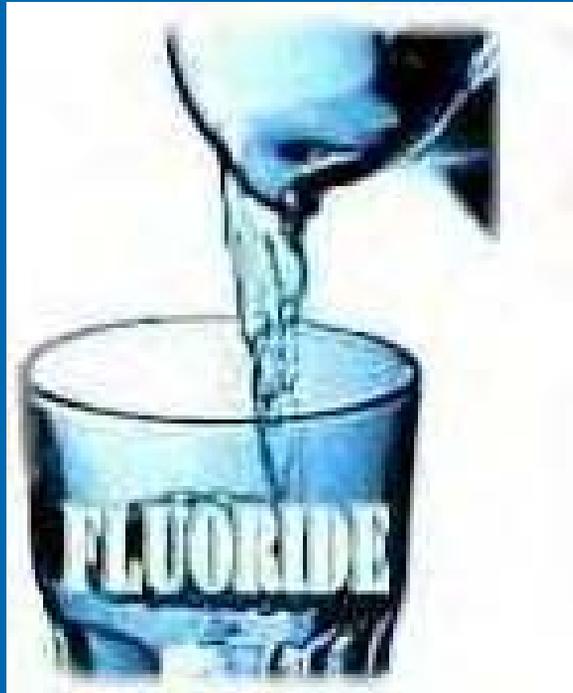


Radon



Standard: No drinking water standard.

Fluoride



Standard: MCL = 4.0 mg/L (ppm);
SMCL = 2.0 mg/L (ppm);
Desired range = 0.7 - 1.3 mg/L (ppm)

Water quality is affected by what we do on land.



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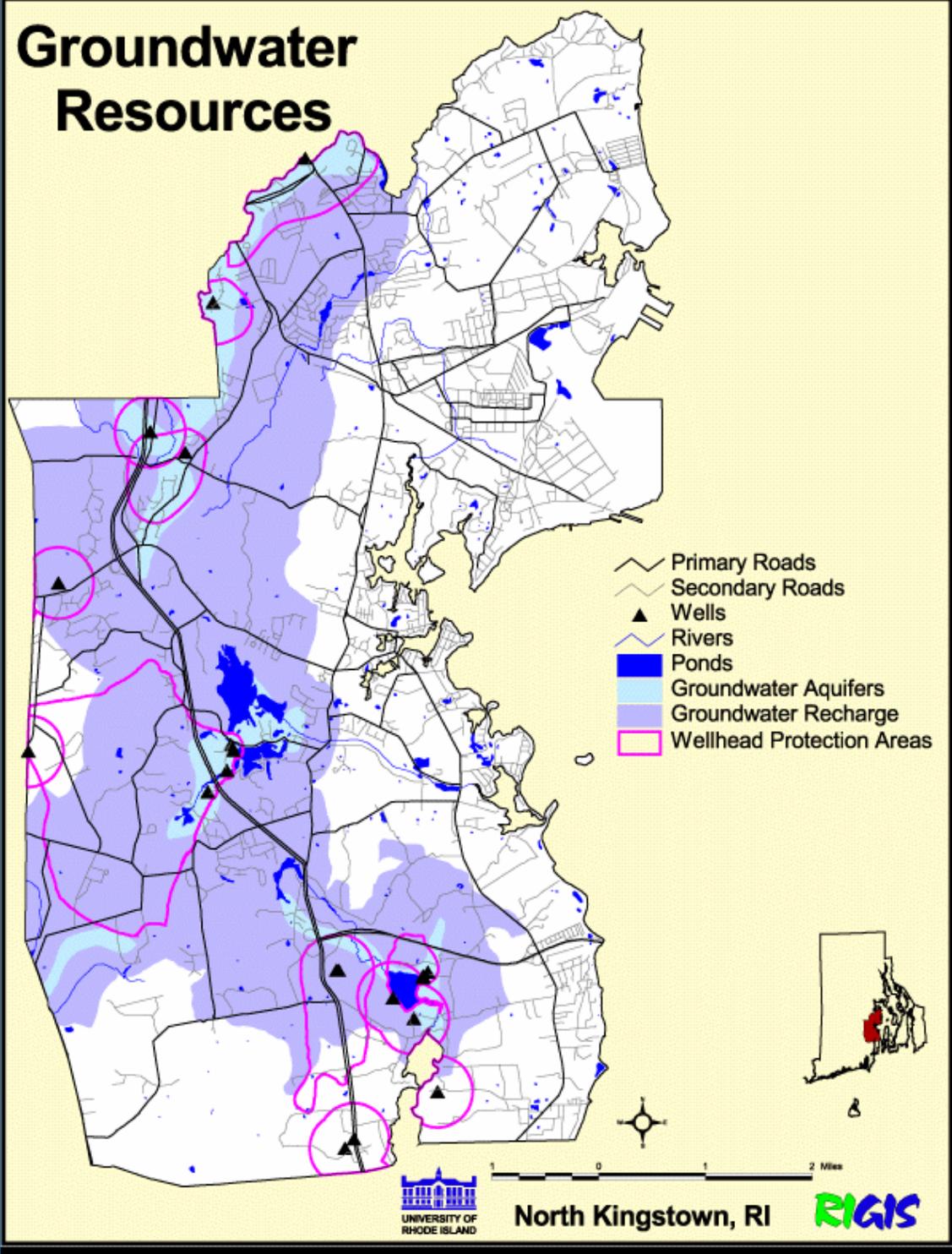
Drilled Well



Presented by the RI Department of Health and the University of Rhode Island Home*A*Syst Program



Groundwater Resources



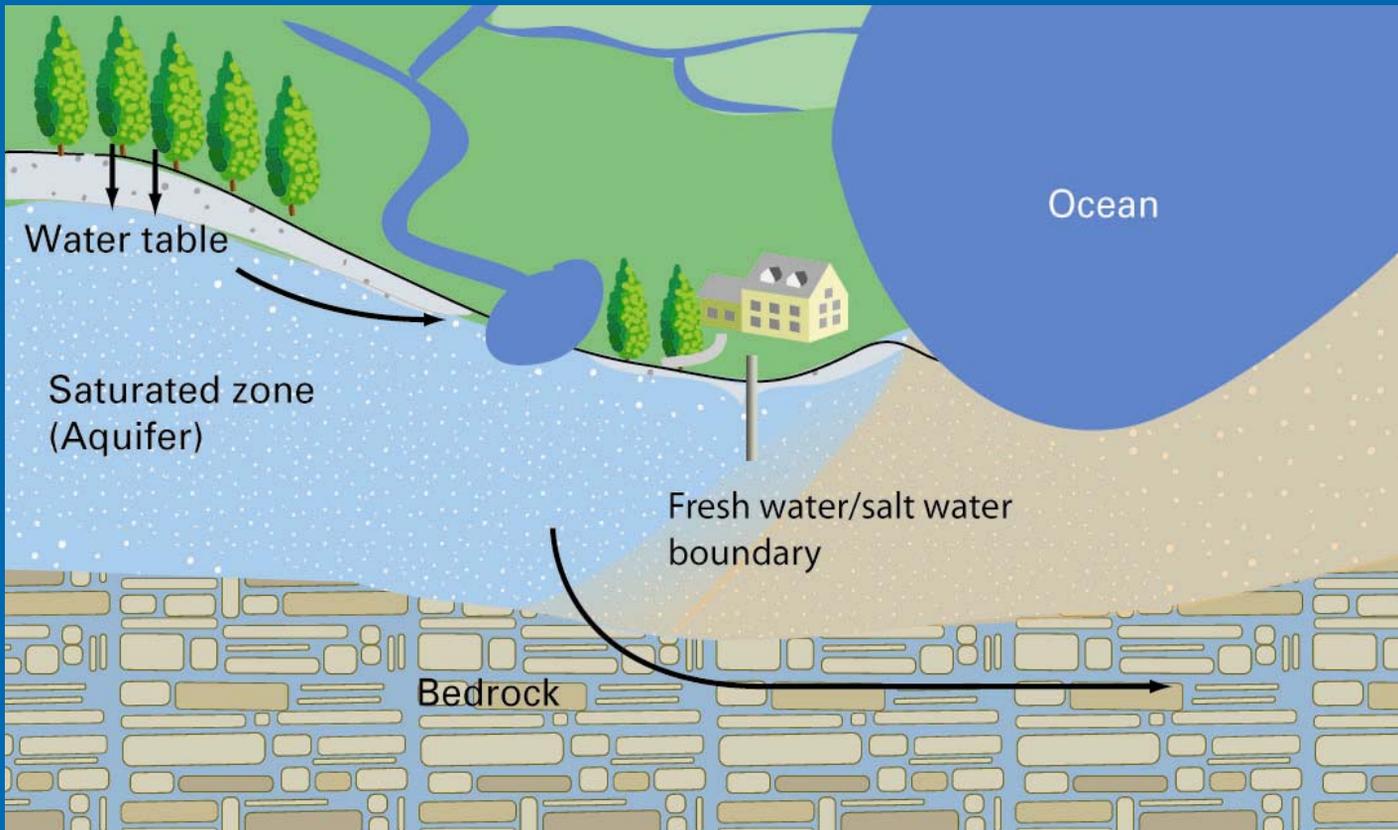
<http://www.edc.uri.edu/riatlas/>



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Salt Water Intrusion





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