

Scatter Creek Aquifer Area Septic System Management Project

Schedule

6:30-6:45 Open House

6:45-7:30 Presentation

7:30-8:30 Comments & Questions



Public Health and Social Services Department
<http://www.co.thurston.wa.us/health>

Scatter Creek Citizen's Committee

- ❖ Sandra Adix
- ❖ Tom Budsberg
- ❖ Dave Dafoe
- ❖ Karen Deal
- ❖ Lowell Deguise,
thru 6/4/14
- ❖ Marlene Hampton
- ❖ Chanele Holbrook
- ❖ Roger Max
- ❖ Bruce Morgan
- ❖ Amanda Neice
- ❖ Maureen Pretell
- ❖ Gene Weaver



THURSTON COUNTY
Scatter Creek Aquifer
Study Area Boundary 2012

Scatter Creek Study Area



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Public Health and Social Services Department
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Scatter Creek Aquifer

- ❖ **Very vulnerable** groundwater supply
- ❖ **Sole source** of water for more than 1,000 public water systems and single family wells
- ❖ Over 18,000 people rely on the water
- ❖ **Rapidly moving** groundwater



Scatter Creek Aquifer

- ❖ Areas in the aquifer have been contaminated by land uses in past
- ❖ Policies and regulations put in place have helped protect water
- ❖ The area is transitioning from agricultural to rural residential

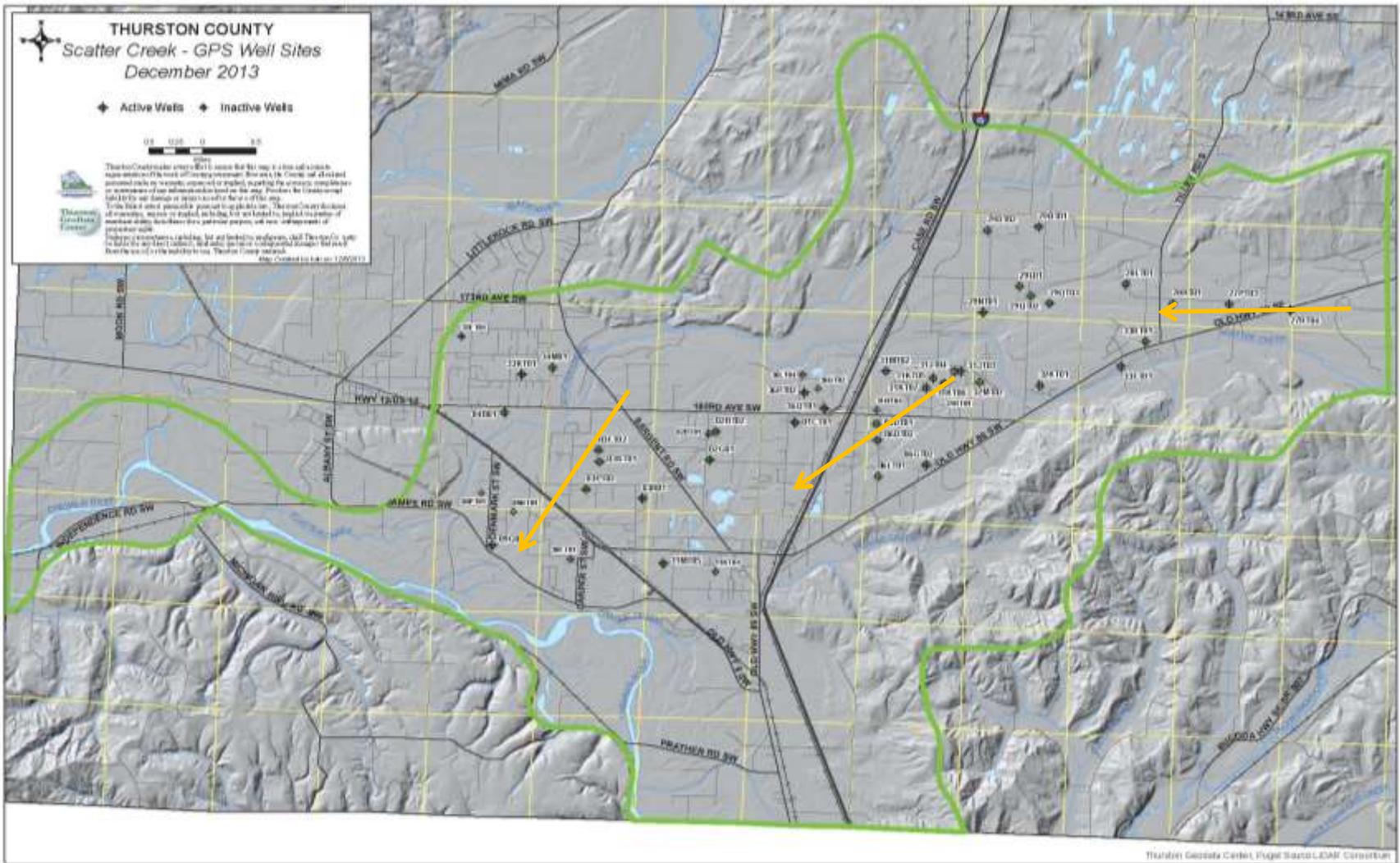


THURSTON COUNTY

Violet Prairie




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Thurston Geodata Center, Project Status: LEAF Conversion

Well Monitoring Network

Monitoring

Coliform Bacteria

- ❖ Standard - none

Nitrates

- ❖ Standard 10 mg/l
- ❖ Precautions at 5 mg/l

Indicators

Other contaminants could be present

- ❖ Viruses
- ❖ Pharmaceuticals
- ❖ Pesticides



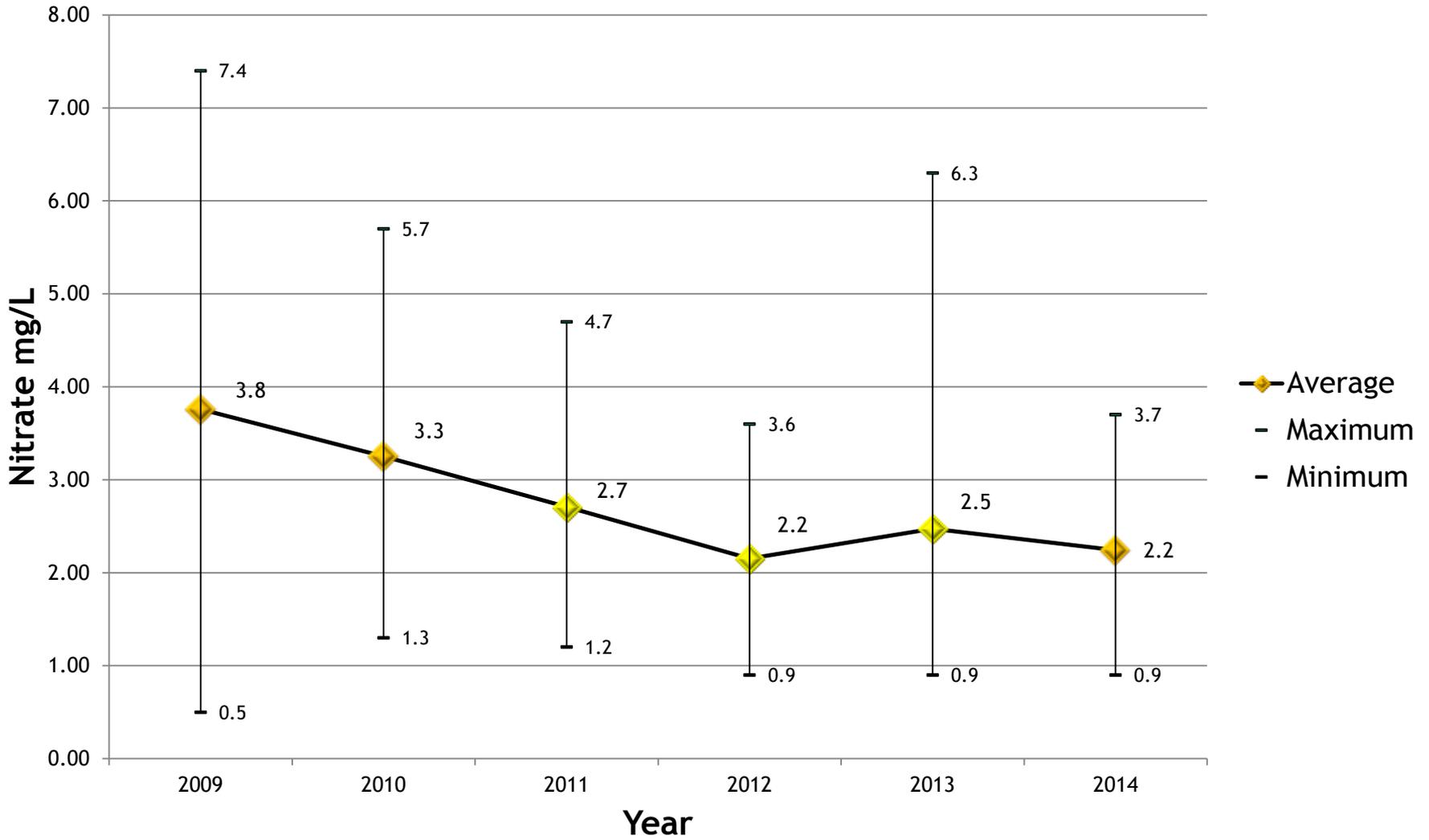
Monitoring Results

...good news, bad news, and good news

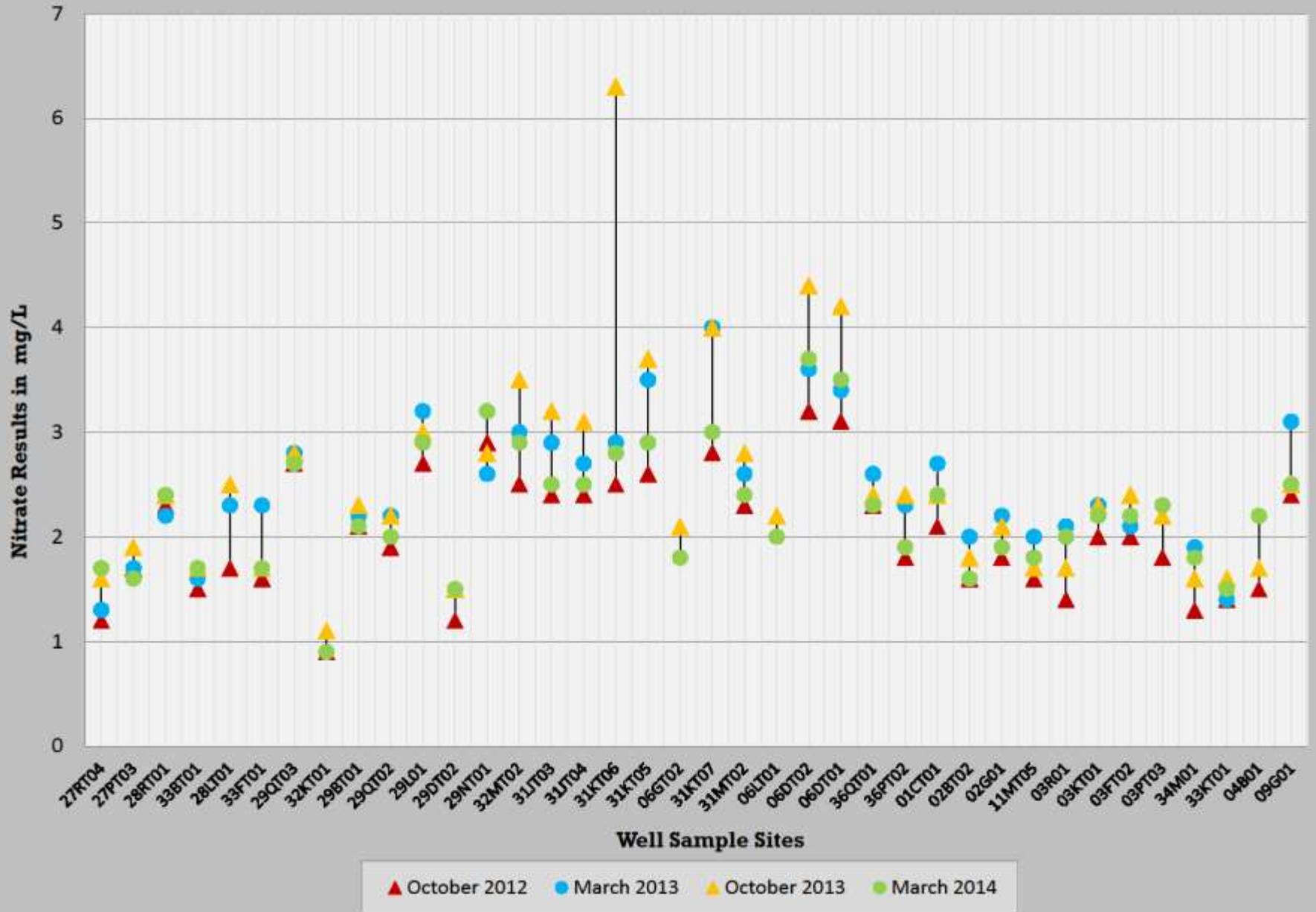
- ❖ Since 2008 nitrate levels have dropped throughout the aquifer
- ❖ Oct 2013 sampling - nitrate levels rose in many wells (one by 3mg/l) and some unsatisfactory coliform bacteria samples
- ❖ March 2014 nitrates down - Overall trend is a decrease in nitrates



Nitrate in mg/L



Scatter Creek Groundwater Sampling Network Nitrate Concentrations Fall 2012 - Spring 2014



Septic System Management

- ❖ Focus of this project was looking at the impacts of septic systems on the aquifer.
- ❖ Opportunity to examine future impacts and take action to protect safe drinking water



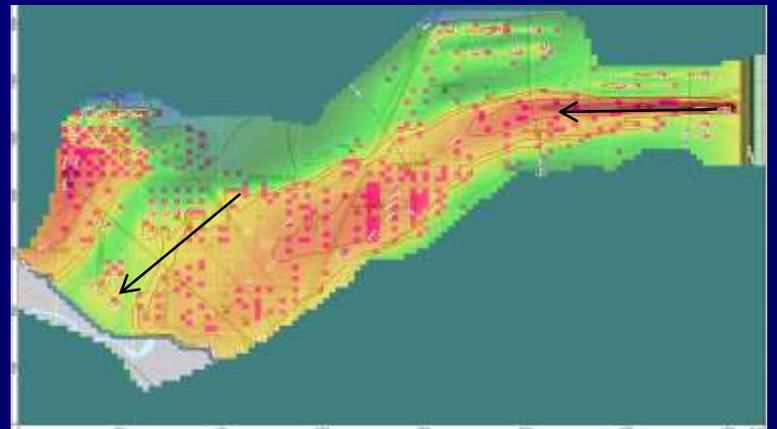
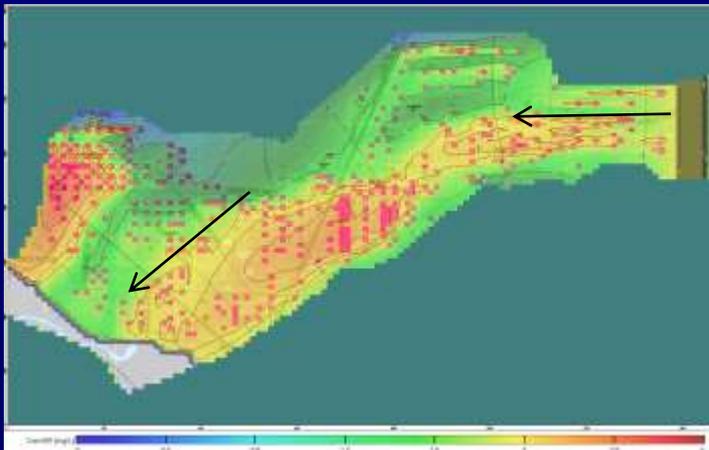
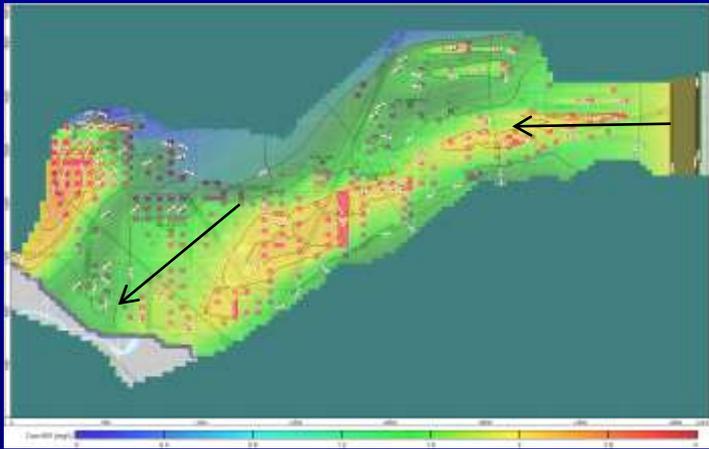
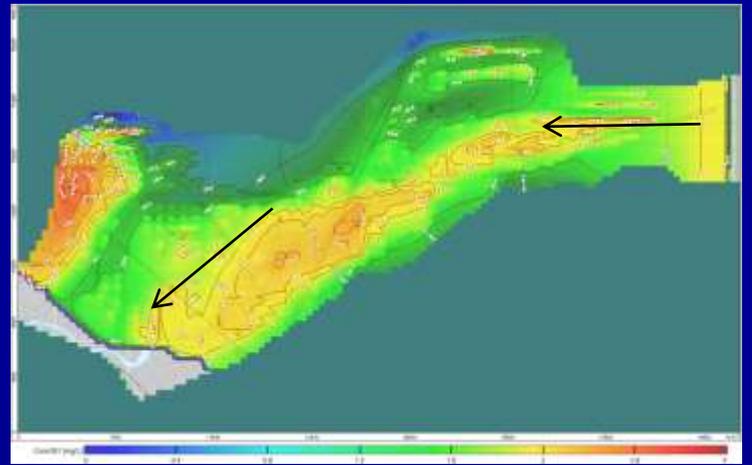
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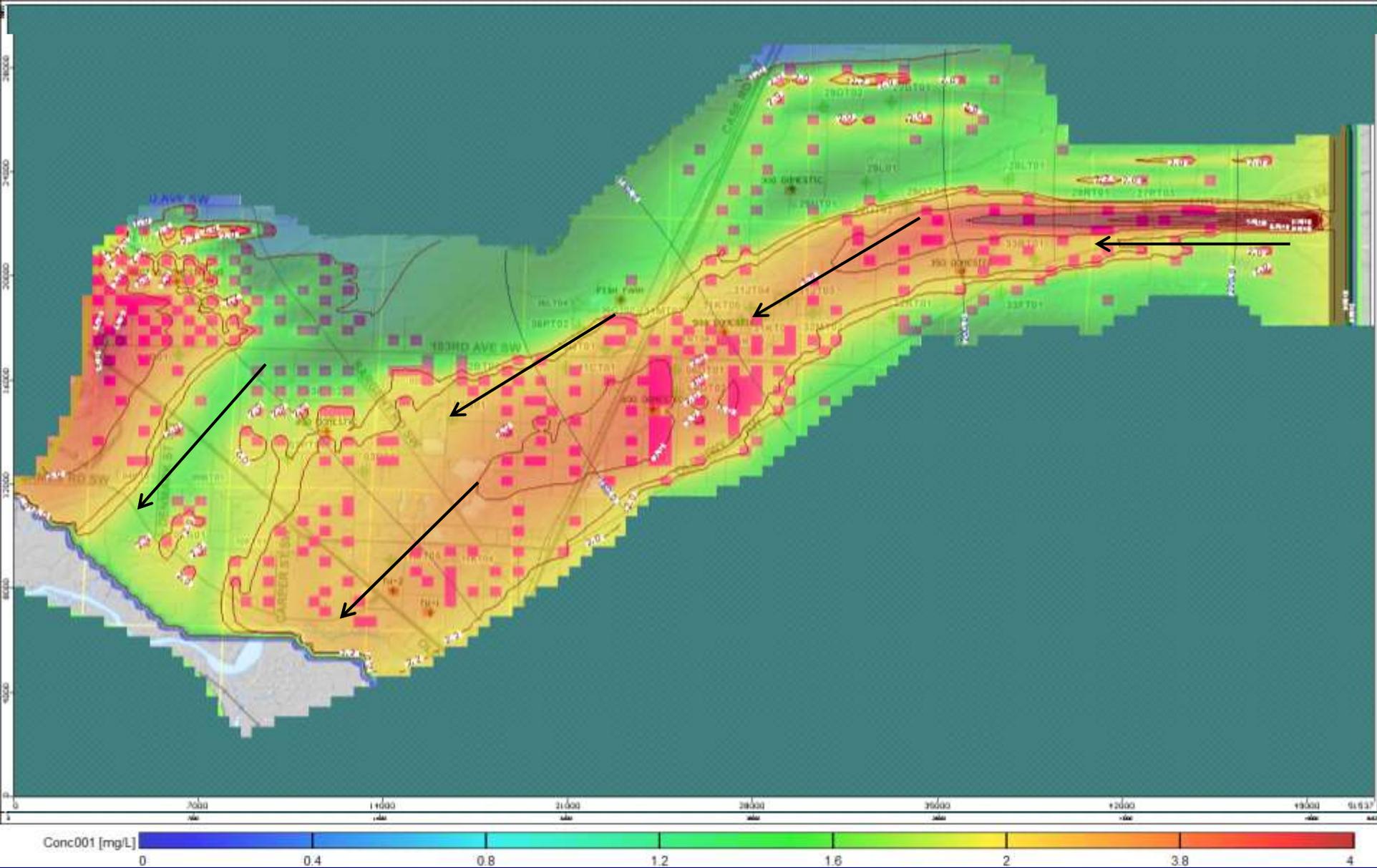
COMPUTER MODELING

Worse- Case Scenario



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6th Model Scenario

Full build-out, lawn fertilizer, Tenino full capacity

Citizen's Committee Conclusions

- ❖ The aquifer is vulnerable to contamination from septic systems and land use activities.
- ❖ Nitrogen levels in the aquifer have decreased over time and seem to be trending lower.
- ❖ Current aquifer conditions and worse-case predictions do not warrant taking regulatory action at this time. The groundwater model predicts that average nitrate concentrations in even the most vulnerable part of the study area will be less than half the maximum contaminant level of 10 mg/l.



Citizen's Committee Conclusions

- ❖ The committee wants to be cautious and monitor water quality so, if needed, we can take action before it is too late.
- ❖ Ideally monitoring should: evaluate trends, the accuracy of the computer model, water quality in the deeper aquifer, the extent and duration of water quality spikes, chemicals of emerging concern, and pathogens such as viruses.



Citizen's Committee Conclusions

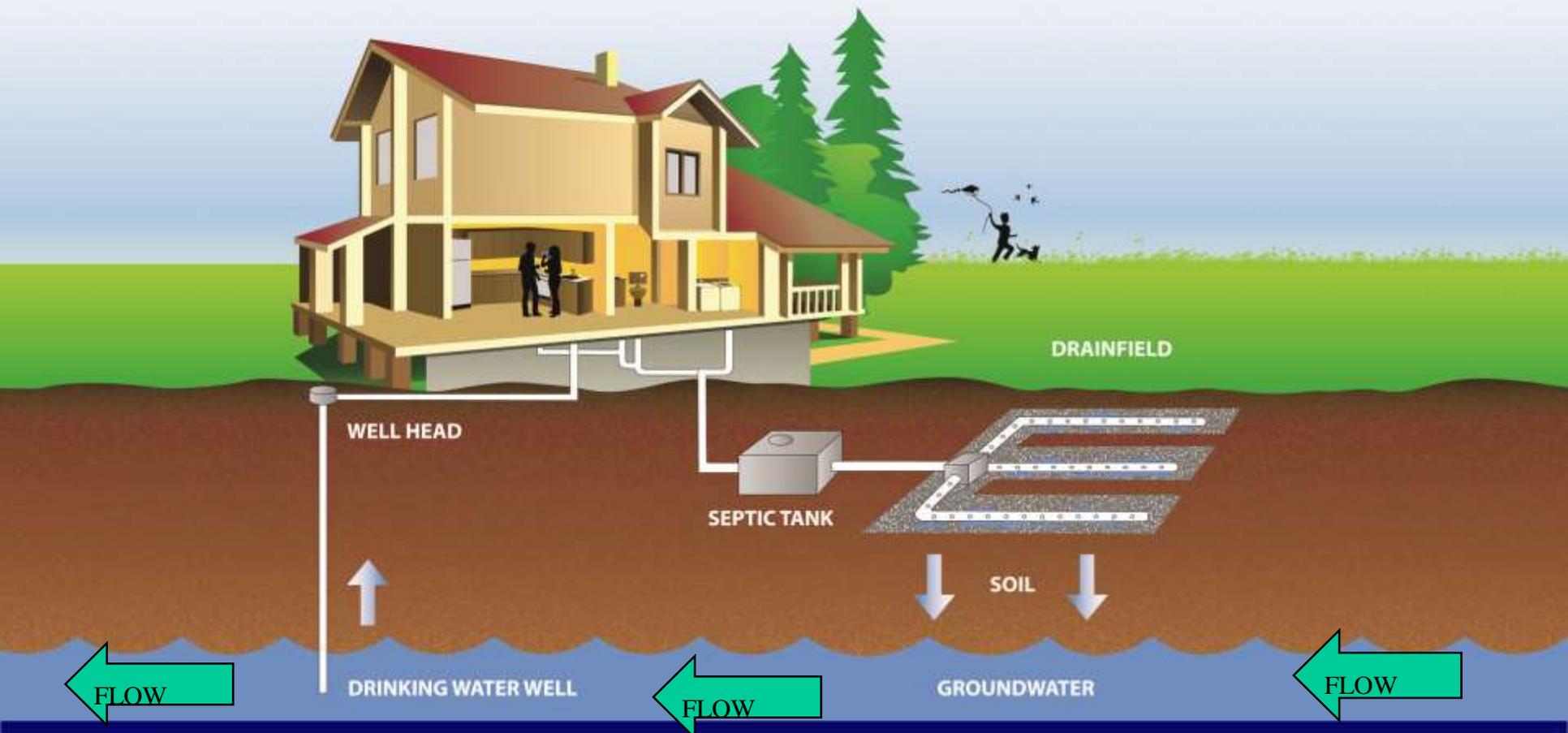
- ❖ In general, zoning, land use and health regulations have protected the aquifer from nitrate and many other contaminants. However, health and land use regulations can be strengthened to help assure the optimal placement of new septic systems and wells to minimize the potential for contaminating drinking water supplies.
- ❖ The committee believes that with proper information, education, and incentives, area residents will be good stewards and take action protect the aquifer.



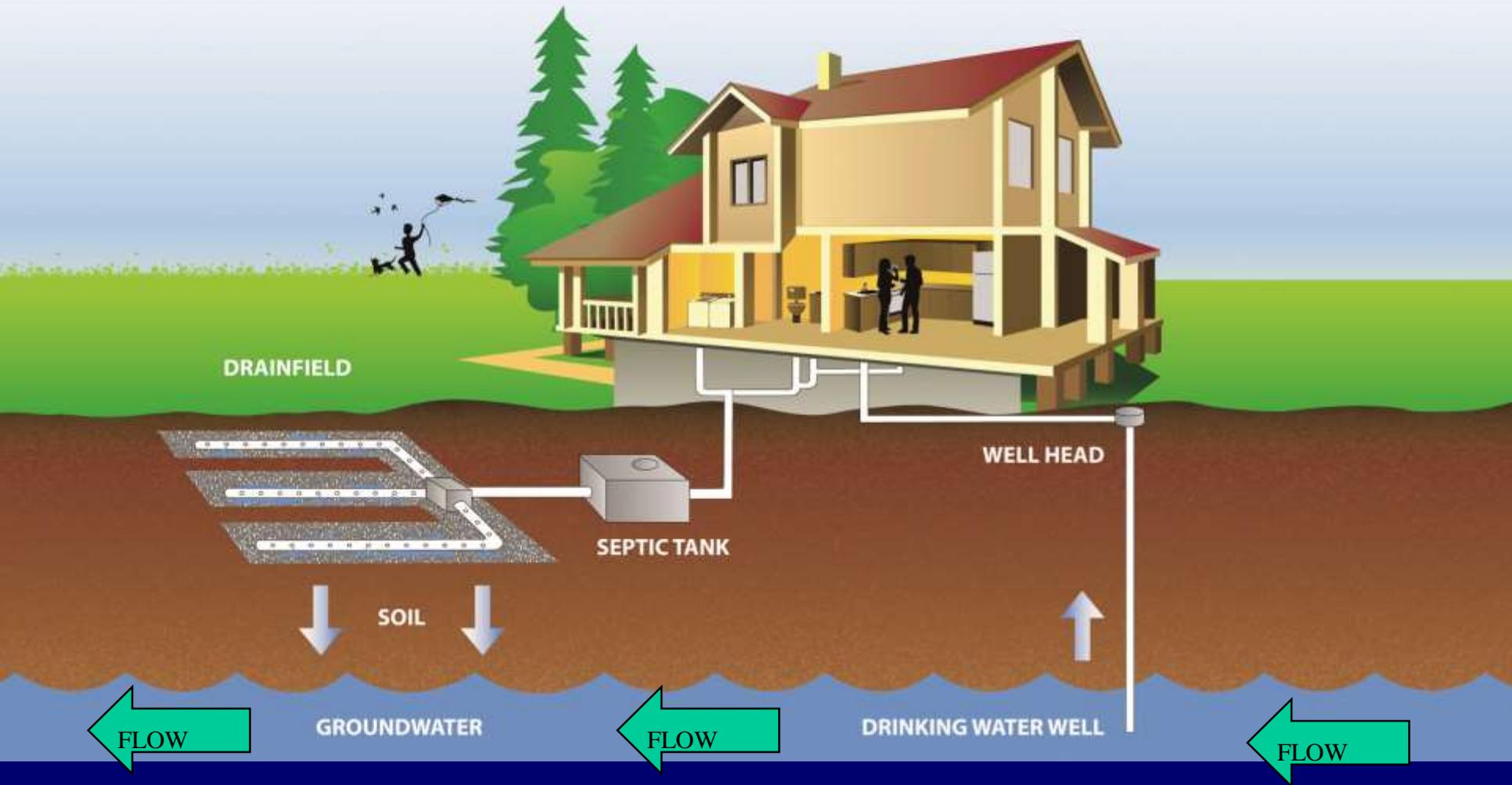
Recommendations



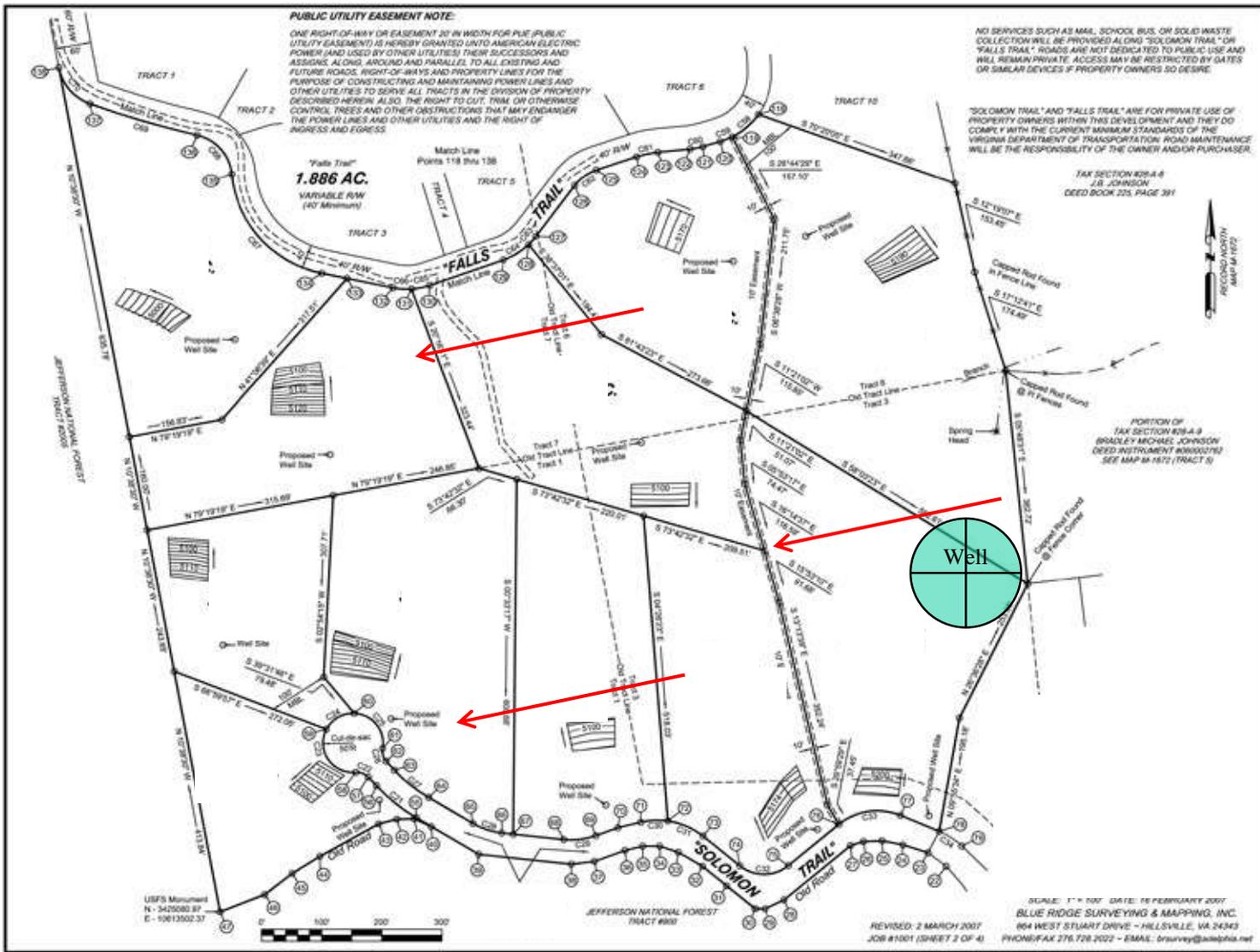
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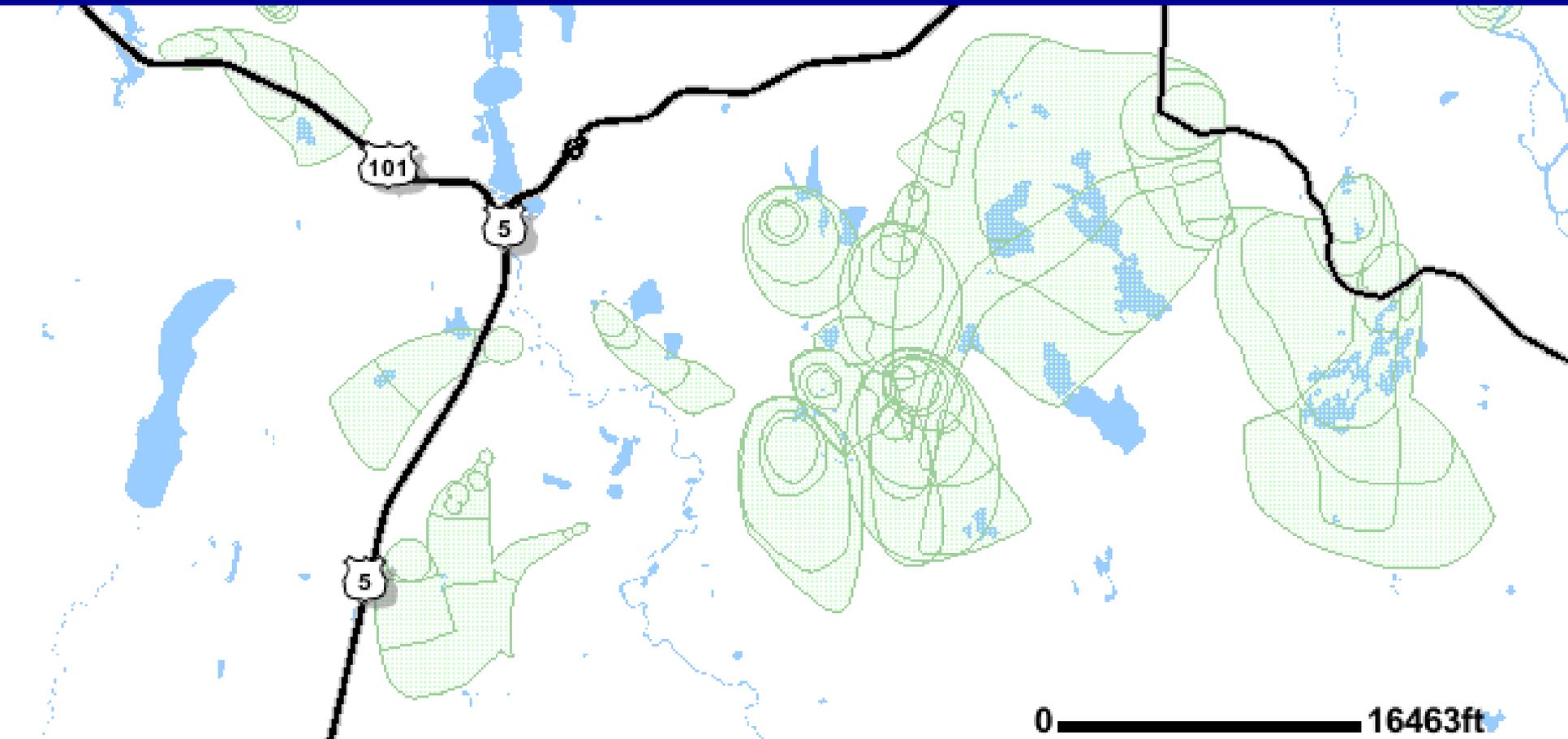
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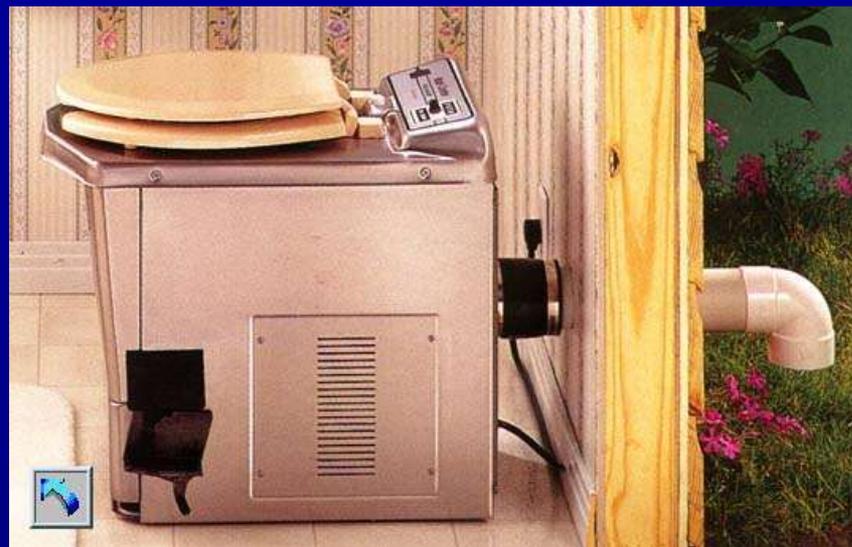
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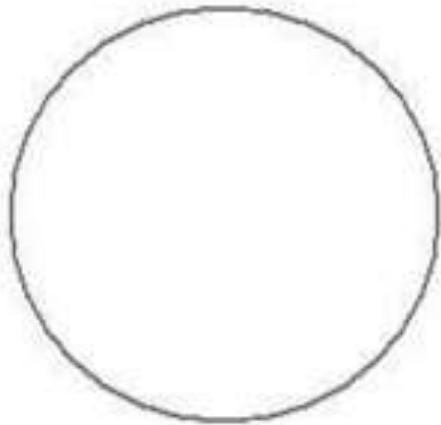


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THURSTON COUNTY
WASHINGTON
SINCE 1852

Relative Size of Pathogens



Giardia Cyst



E. Coli Bacteria



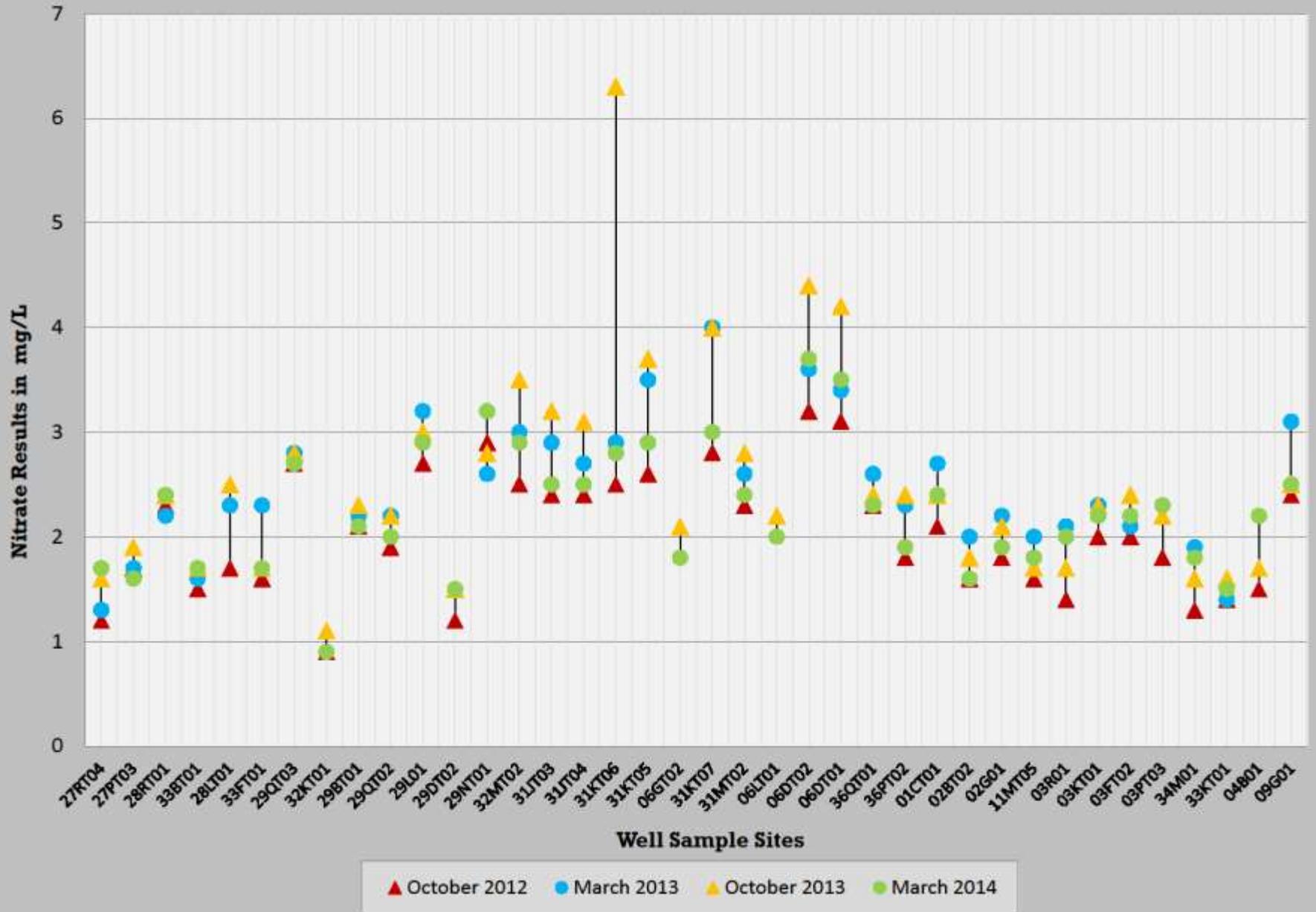
Norovirus

10 μ m

sizes are approximate



Scatter Creek Groundwater Sampling Network Nitrate Concentrations Fall 2012 - Spring 2014







Thurston County
Water Resources Monitoring Report
2009-2010 Water Year
2010-2011 Water Year



Report Includes:

*Water Quality of
Streams and Lakes
In Thurston County*

August 2012

Prepared by:
Thurston County Public Health and Social Services Department,
Environmental Health Division and Thurston County Resource
Stewardship Department, Water Resources Division

In Cooperation With:
City of Olympia Public Works, Water Resources Program
City of Lacey Public Works, Water Resources Program
City of Tumwater Public Works Department



Public Health and Social Services Department
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PROTECT YOUR INVESTMENT

INSPECT YOUR SEPTIC TANK EACH YEAR

- Pump when needed
- Repair any problems while they are small

PROTECT THE DRAINFIELD

- Keep cars and livestock off
- Grow grass or other shallow-rooted plants
- Don't build or pave over the drainfield

LEARN MORE:

Pick up a brochure, visit our website, attend a workshop, or give us a call.



SEPTIC SYSTEM CARE BEGINS WITH YOU

- WHERE IS YOUR SEPTIC SYSTEM?
- HOW DO YOU TAKE CARE OF IT?
- ARE YOU PROTECTING YOUR FAMILY'S HEALTH?
- IS IT COSTING YOU EXTRA MONEY?



EXTEND THE LIFE OF YOUR SEPTIC SYSTEM

USE LESS WATER

- Excessive water use is a main cause of system failure
- Avoid more than 2 loads of laundry a day
- Fix faucet and toilet leaks promptly

LEARN MORE:

Pick up a brochure, visit our website, attend a workshop, or give us a call.



SEPTIC SYSTEM CARE BEGINS WITH YOU

SEPTIC HELP LINE:
360-867-2669



LEARN MORE.

Pick up a brochure, visit our website, attend a workshop, or give us a call.

Septic Help Line: **360-867-2669**



SEPTIC SYSTEM CARE BEGINS WITH YOU

SEPTIC HELP LINE:
360-867-2669



High, Dry, and Secure

is how old paint, auto supplies, pesticides, and fertilizers are best stored.



How are your household products stored? Are they:

...up with the floor, out of reach of possible floods?

...inside a bucket, dish rack, or other container that could hold the contents in case of leaks or spills? Check stored materials occasionally for leaks or corrosion.

...in a locked, secure area inaccessible to children and pets? No topcoats! - Consider lockboxes.

...rusted away from your wall? Beware! In case of flood flow or earthquakes, even carefully stored products can get washed down the wall casing and contaminate drinking water.

Are there some items you would rather just get rid of? Unwanted household hazardous materials need to be taken, free of charge, to HazardZone at the Thurston County Waste and Recovery Center. Call the Waste Line (360) 754-4346 for hours, directions and products accepted.

Take time to complete these projects now, before winter rains and floods. You will prevent not only a mess, but also drinking water contamination.

B

well owner

Join our workshop and...

- Find potential pollution sources in and around your well before they find you.
- Learn how to test your well water for contaminants.
- Find out if your well is constructed safely.
- Take home free information on keeping your well water clean and healthy.

**When: Thursday, October 21st
7 p.m. to 9 p.m.**

**Where: Tenino High School
(the commons)
500 W 2nd Street**

Please register by calling (360) 754-4333 or send e-mail to sew@co.thurston.wa.us
TDD line: (360) 754-2933

Customers with disabilities requiring special accommodation at the workshop should request assistance when registering.

workshop



Thurston County Public Health and Social Services Department
Environmental Health Division



keeping your well well



Funding Strategy



1. Seek grants where appropriate
2. Use existing stormwater fees
3. Seek funding from partners
4. Use septic fees



Coming Up

- ❖ Tomorrow night - committee meeting
- ❖ Final Recommendations presented to Board of Health



Public Health and Social Services Department
<http://www.co.thurston.wa.us/health>

Project Website:

www.co.thurston.wa.us/health/ehsc

360-867-2582



Public Health and Social Services Department
<http://www.co.thurston.wa.us/health>