

Scatter Creek Aquifer Area Septic System Management Project

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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
- ❖ Marlene Hampton

- ❖ Chanele Holbrook-Shaw
- ❖ Roger Max
- ❖ Bruce Morgan
- ❖ Maureen Pretell
- ❖ Gene Weaver



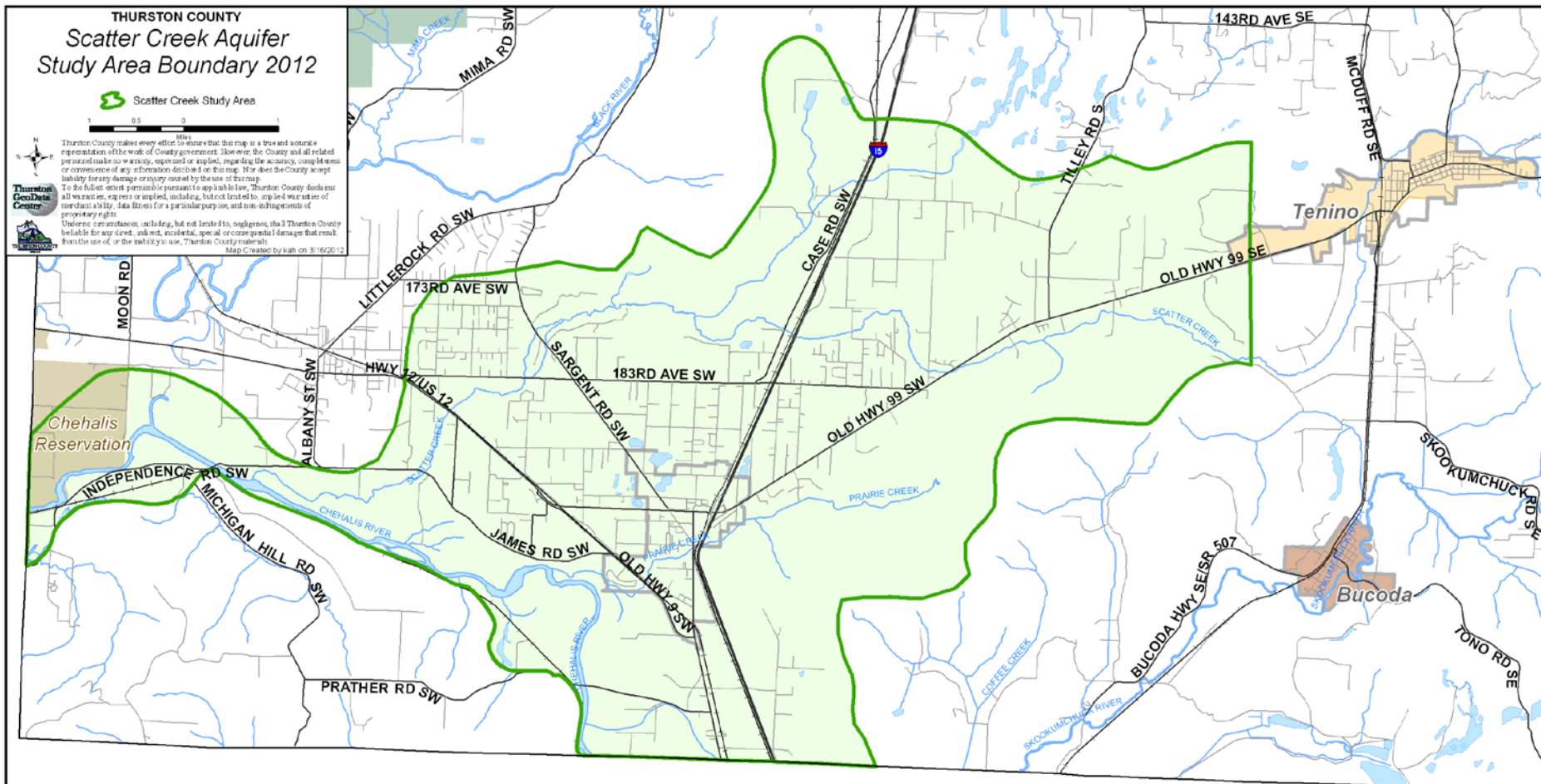
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THURSTON COUNTY Scatter Creek Aquifer Study Area Boundary 2012

Scatter Creek Study Area



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Scatter Creek Aquifer

- ❖ Extremely 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



Septic System Management

- ❖ Focus of this project is looking at the impacts of septic systems on the aquifer.
- ❖ The area is transitioning from agricultural to rural residential



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THURSTON COUNTY

Violet Prairie



1996 Aerial



2002 Aerial



2012 Aerial



2012 Parcels

0 600 1,200 2,400
Feet



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- ❖ Aquifer has been contaminated by land uses in past
- ❖ Seen improvement
- ❖ Have opportunity to examine future impacts and take action to protect safe drinking water





THURSTON COUNTY Scatter Creek - GPS Well Sites December 2013

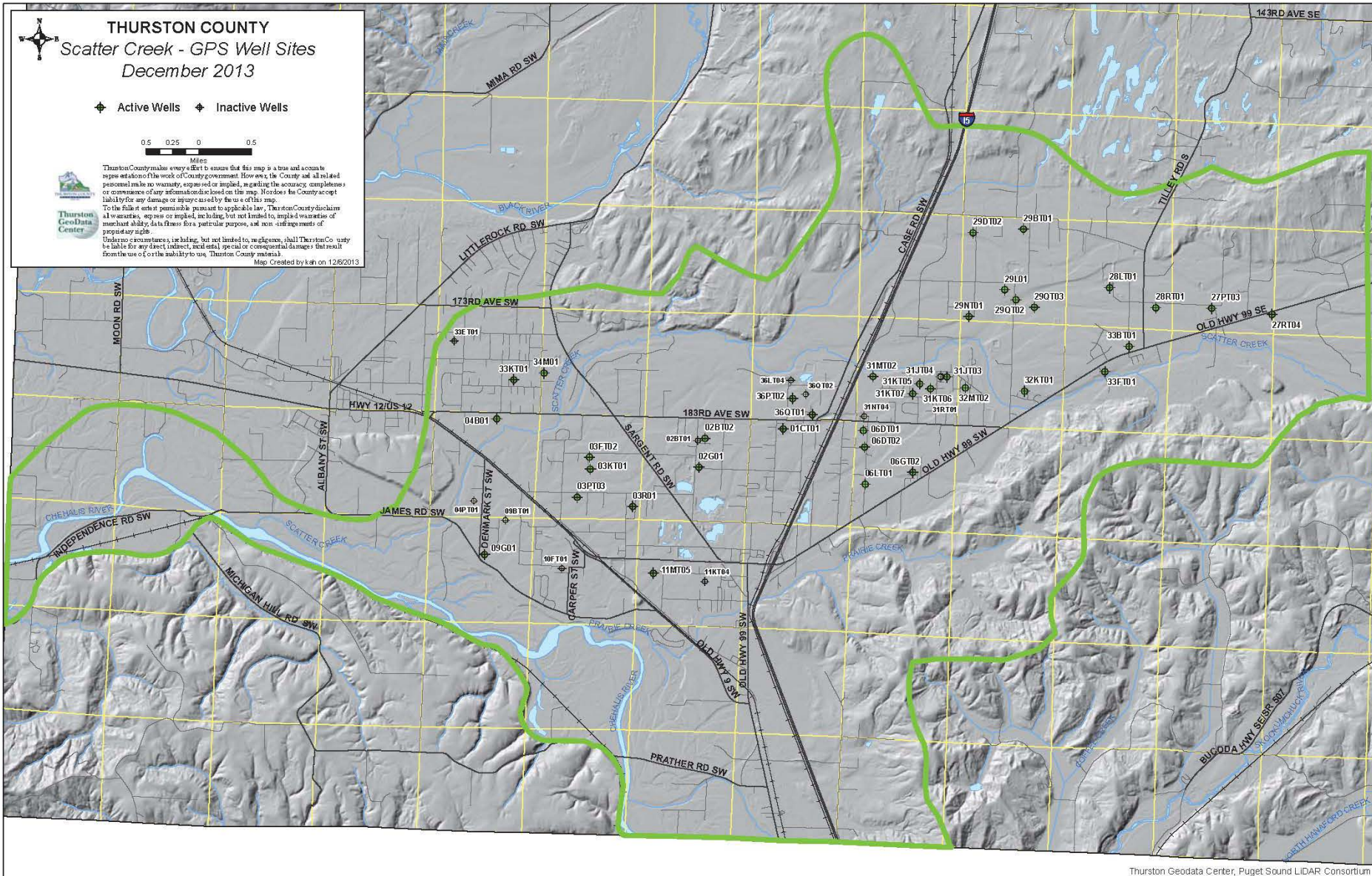
◆ Active Wells ◆ Inactive Wells

0.5 0.25 0 0.5
Miles



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Map Created by ksh on 12/6/2013



Thurston Geodata Center, Puget Sound LIDAR Consortium

Well Monitoring Network

Monitoring Results

...good news and bad news

- ❖ Since 2008 nitrate levels have dropped throughout the aquifer
- ❖ Most recent sampling (Oct 2013) saw increases in nitrates and some unsatisfactory coliform bacteria samples



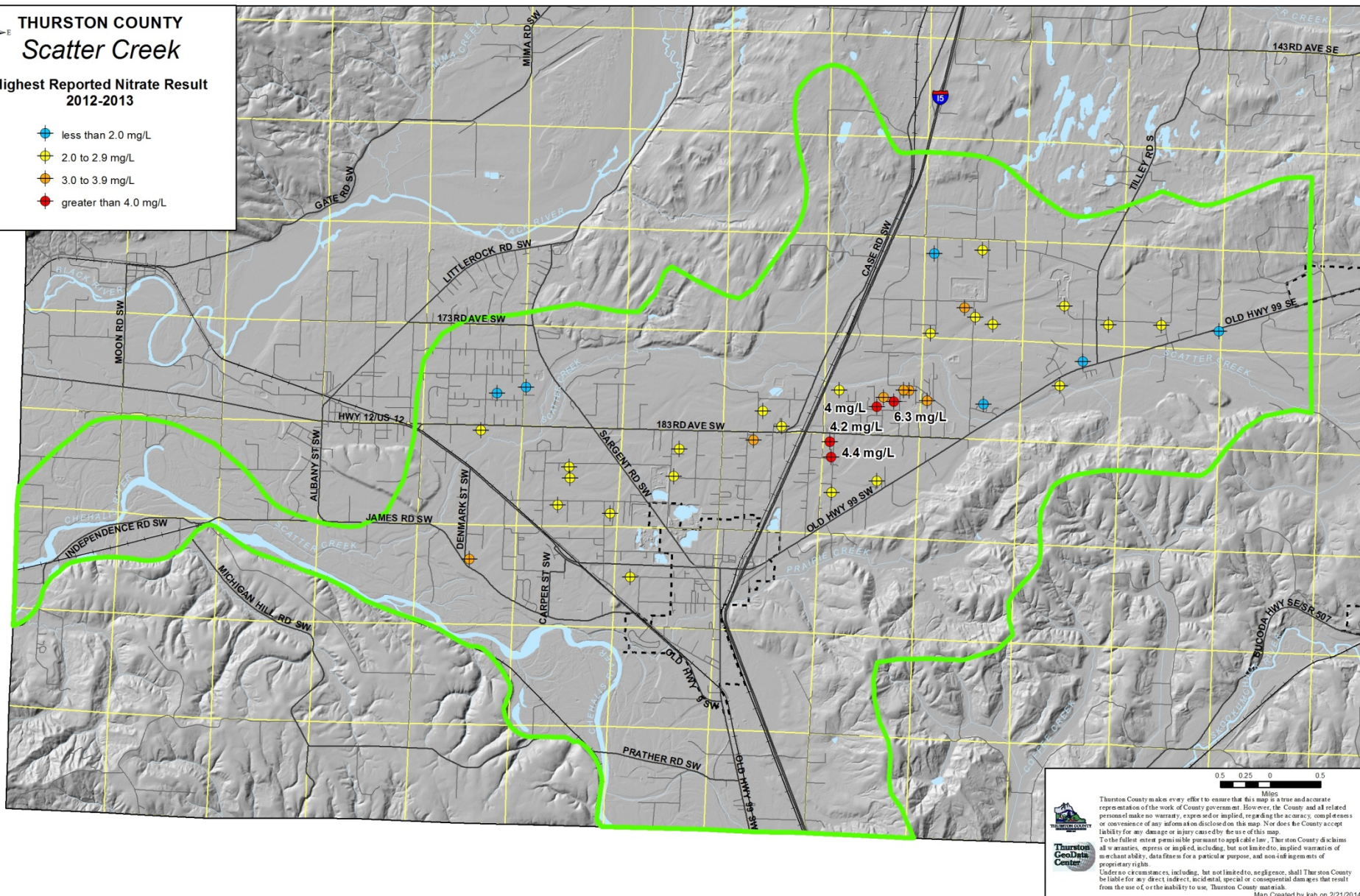




THURSTON COUNTY Scatter Creek

Highest Reported Nitrate Result
2012-2013

- less than 2.0 mg/L
- 2.0 to 2.9 mg/L
- 3.0 to 3.9 mg/L
- greater than 4.0 mg/L



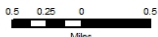
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THURSTON COUNTY Scatter Creek Sample Sites 2013

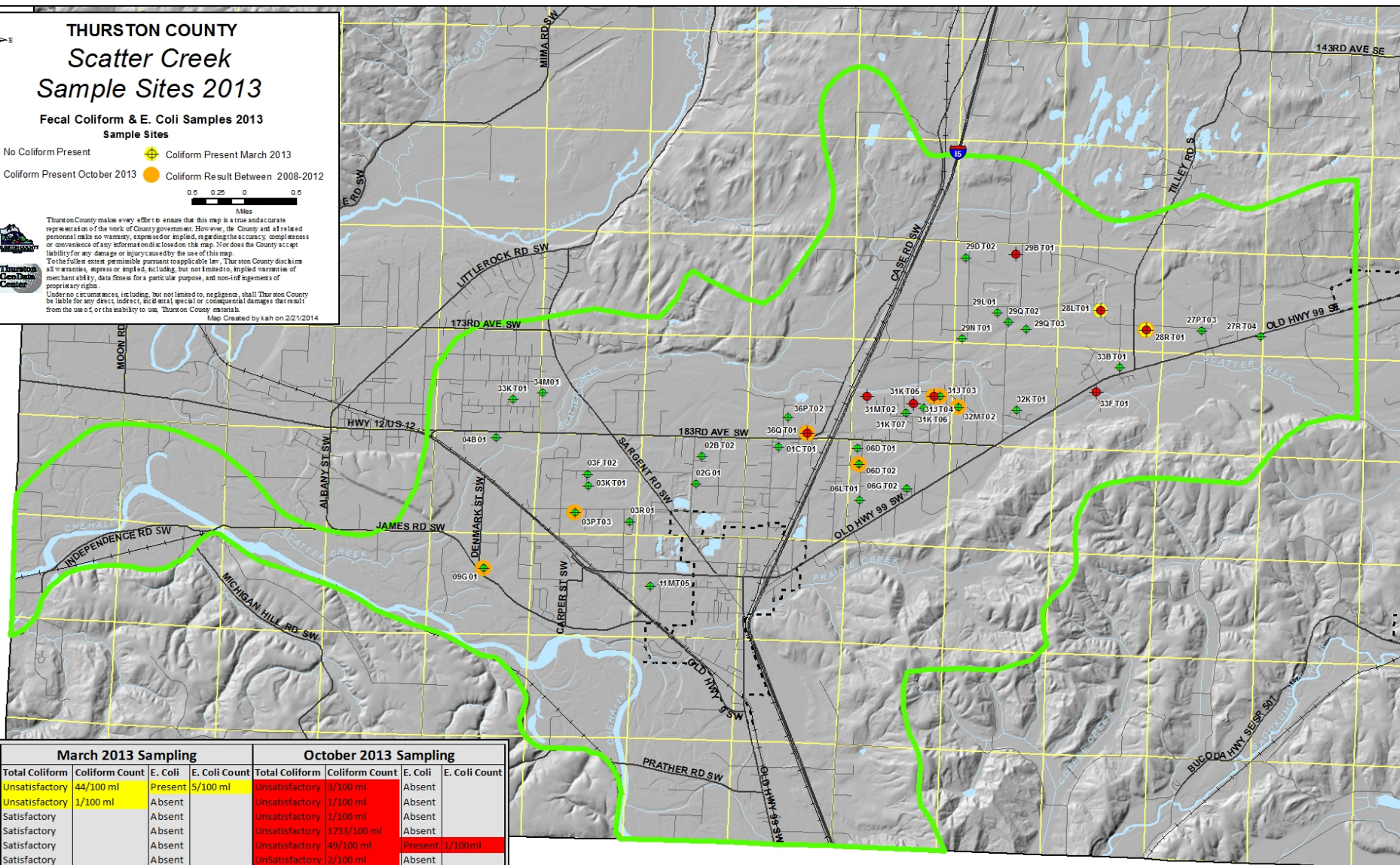
Fecal Coliform & E. Coli Samples 2013
Sample Sites

- No Coliform Present
- Coliform Present March 2013
- Coliform Present October 2013
- Coliform Result Between 2008-2012



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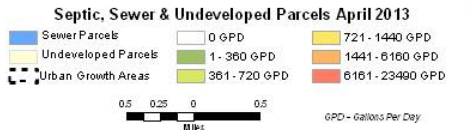


March 2013 Sampling					October 2013 Sampling				
Well ID	Total Coliform	Coliform Count	E. Coli	E. Coli Count	Total Coliform	Coliform Count	E. Coli	E. Coli Count	
28LT01	Unsatisfactory	44/100 ml	Present	5/100 ml	Unsatisfactory	3/100 ml	Absent		
28RT01	Unsatisfactory	1/100 ml	Absent		Unsatisfactory	1/100 ml	Absent		
29BT01	Satisfactory		Absent		Unsatisfactory	1/100 ml	Absent		
31JT04	Satisfactory		Absent		Unsatisfactory	1733/100 ml	Absent		
31KT05	Satisfactory		Absent		Unsatisfactory	49/100 ml	Present	1/100ml	
31MT02	Satisfactory		Absent		Unsatisfactory	2/100 ml	Absent		
33FT01	Satisfactory		Absent		Unsatisfactory	57/100 ml	Absent		
36QT01	Satisfactory		Absent		Unsatisfactory	27/100 ml	Absent		

Table does not include repeat samples.



THURSTON COUNTY Scatter Creek Septic Parcel Analysis 2013



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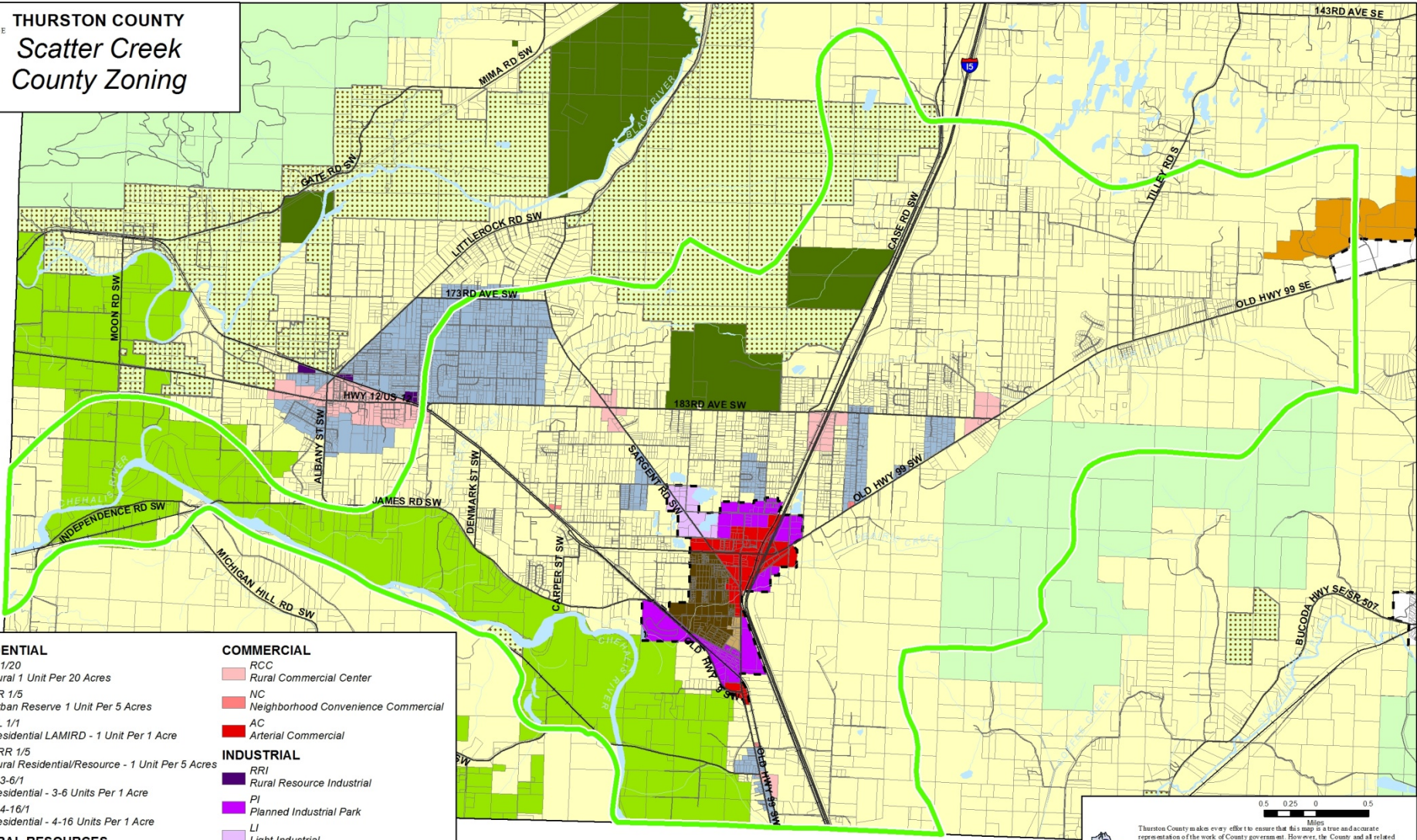
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Map Created by ksk on 6/27/2013





THURSTON COUNTY
Scatter Creek
County Zoning



- | | |
|--|---|
| RESIDENTIAL | COMMERCIAL |
| R 1/20
Rural 1 Unit Per 20 Acres | RCC
Rural Commercial Center |
| UR 1/5
Urban Reserve 1 Unit Per 5 Acres | NC
Neighborhood Convenience Commercial |
| RL 1/1
Residential LAMIRD - 1 Unit Per 1 Acre | AC
Arterial Commercial |
| RRR 1/5
Rural Residential/Resource - 1 Unit Per 5 Acres | INDUSTRIAL |
| R 3-6/1
Residential - 3-6 Units Per 1 Acre | RRI
Rural Resource Industrial |
| R 4-16/1
Residential - 4-16 Units Per 1 Acre | PI
Planned Industrial Park |
| | LI
Light Industrial |
| NATURAL RESOURCES | Other |
| LTA
Long-Term Agriculture | Urban Growth Area |
| LTF
Long-Term Forestry | Parcels |
| PP
Public Parks, Trails & Preserves | Scatter Creek Study Area |

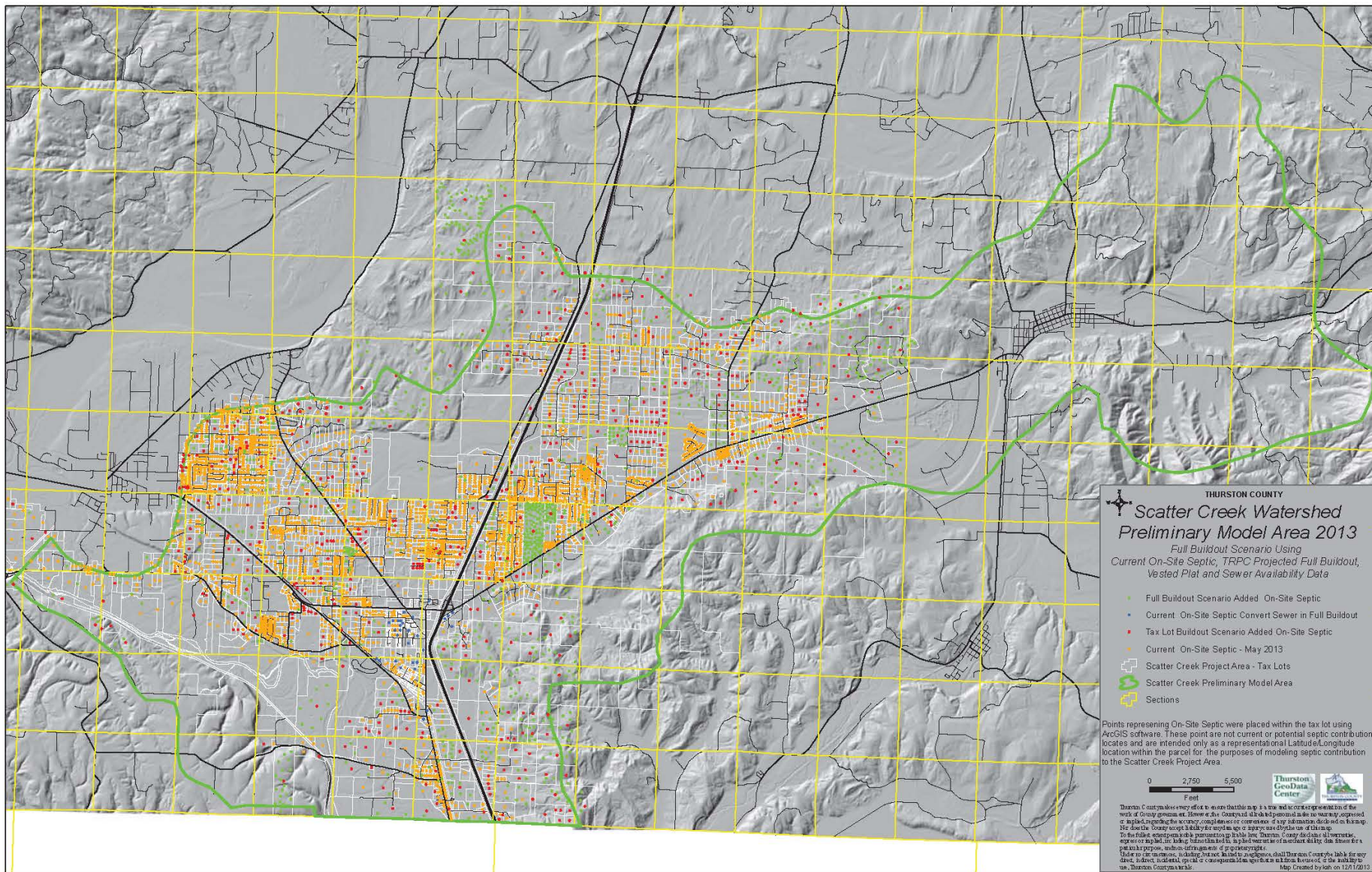
0.5 0.25 0 0.5

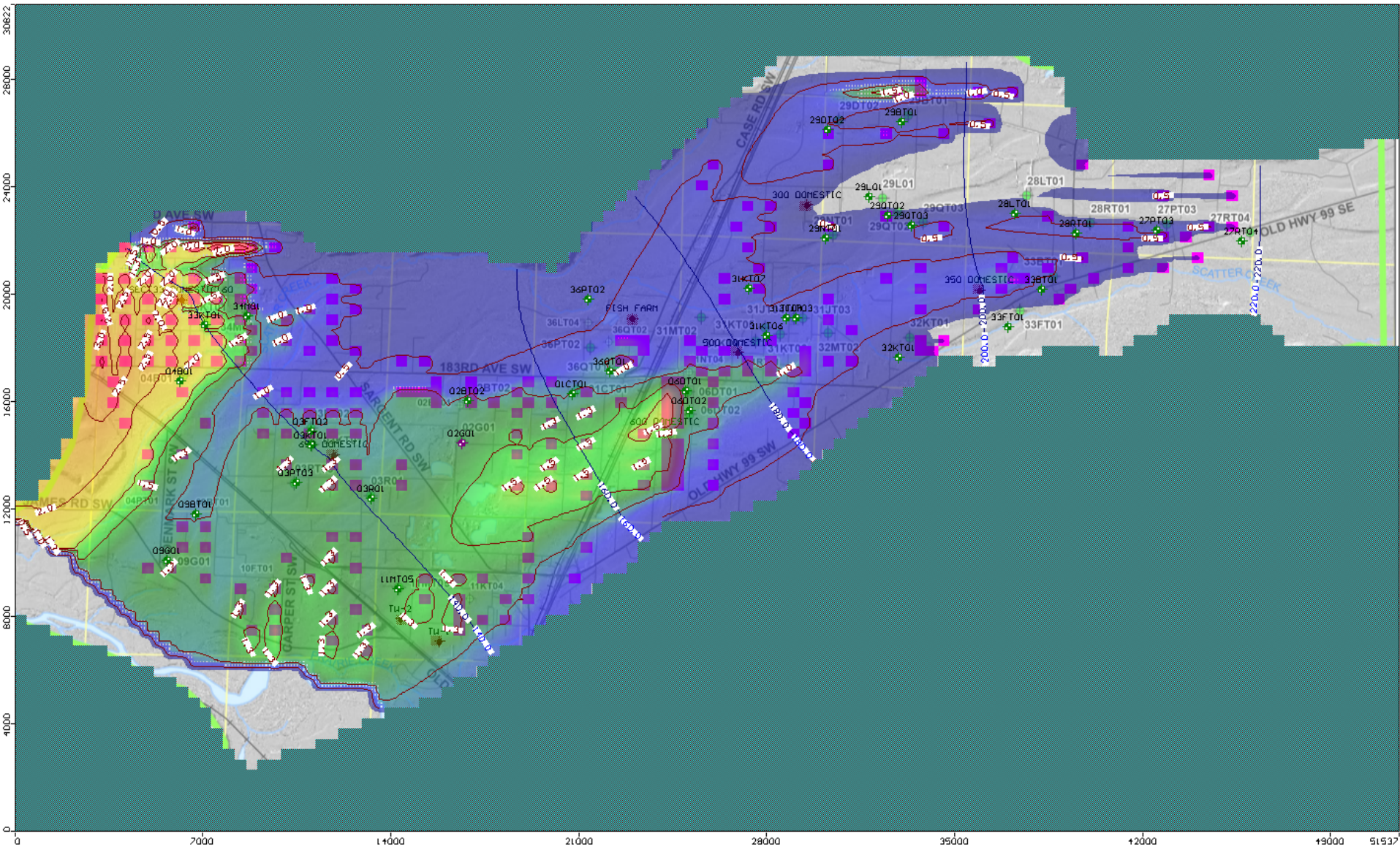
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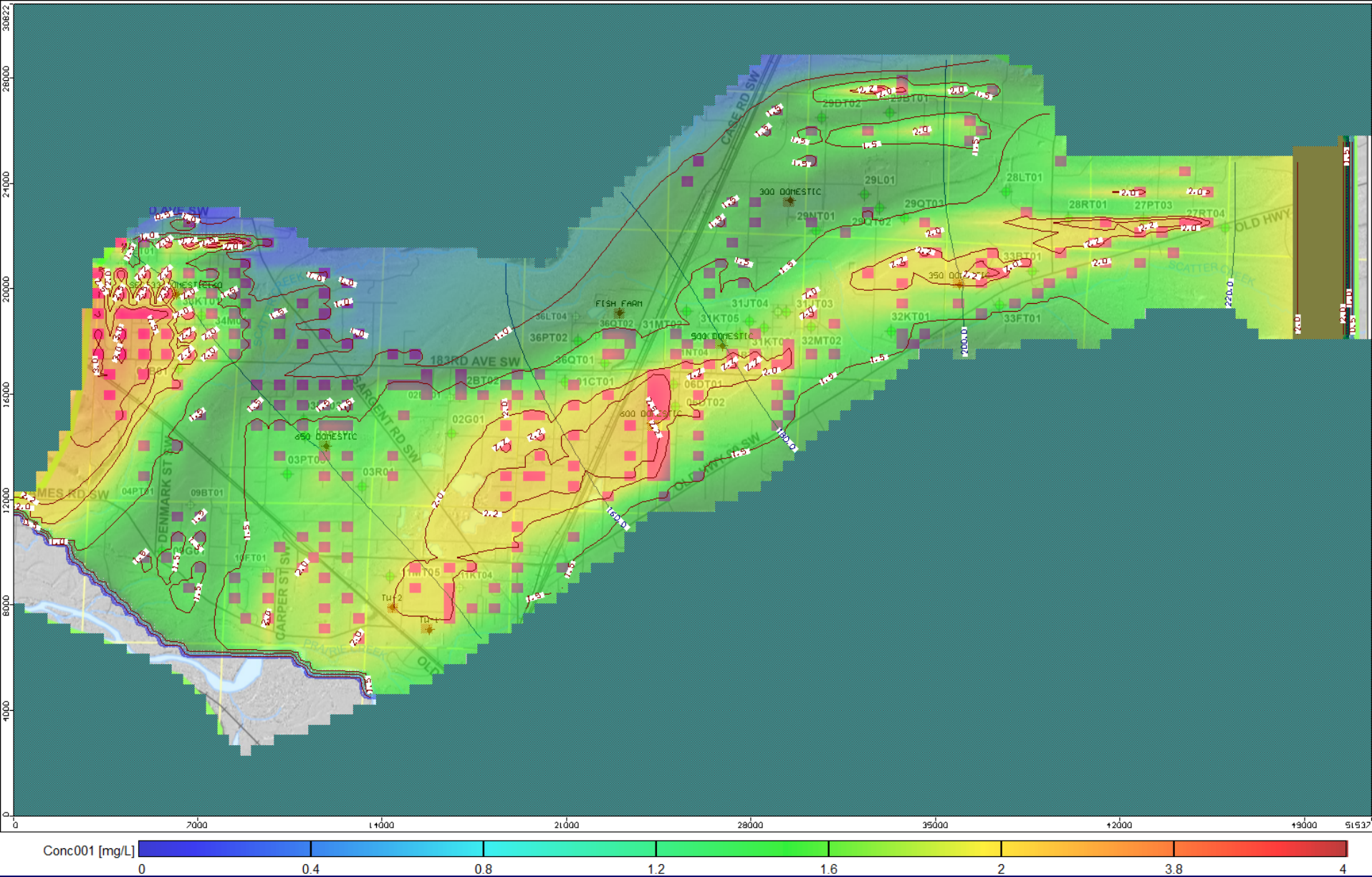
Map Created by kah on 2/21/2014





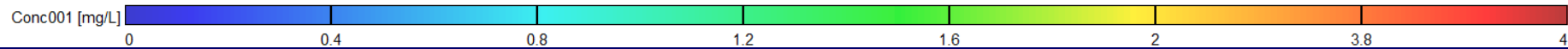
1st Model Scenario

Current septic systems only



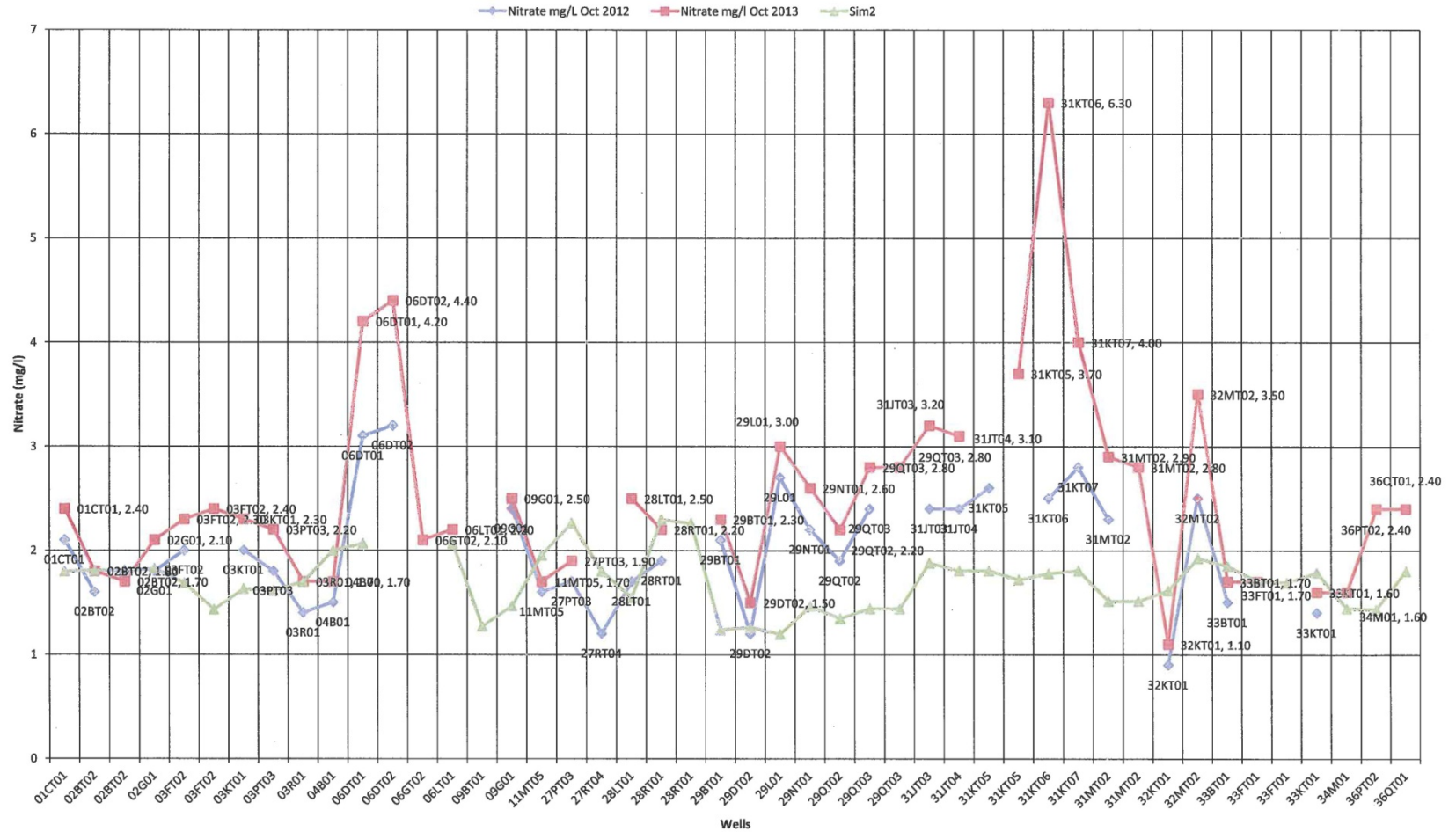
2nd Model Scenario

Adds all current legal lots + 2 mg/l nitrate from Tenino



Assumes full build-out + 2 mg/l nitrate from Tenino

Nitrate GW Concentrations Comparison: October 2012 vs October 2013 vs Simulation 2



Next Steps

- ❖ Calibrating model
- ❖ Evaluating nitrate contribution from other sources such as
 - Fertilizer
 - Wastewater treatment plant
- ❖ Citizen's Committee works on recommendations



Decision Making Process

Citizens Committee works with Health Department

- ❖ Discusses results of modeling and monitoring
- ❖ Suggested scenarios to model
- ❖ Develops range of options to protect drinking water quality in aquifer
- ❖ Seek community input

Community Input

- ❖ Help us be sure we have considered all options
- ❖ Help us understand how each option will affect people
- ❖ Help us identify who else we need to include in the process

So that we can make the best responsible decision to protect drinking water.

Coming Up

- ❖ Newsletter: review?
- ❖ Wednesday, April 23 is the next community workshop: role?
- ❖ Another anticipated in September
- ❖ Expect committee recommendations by Nov/Dec.



Board Input to Protect Scatter Creek Aquifer

- ❖ Comments?
- ❖ Questions?
- ❖ Direction to staff?
- ❖ Direction to citizen's committee?



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

Project Website:

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

Many thanks to:

The Scatter Creek Aquifer Project Citizen's Committee

Kelly Alfaro Haugen, GIS wizard extraordinaire

Nicky Upson, the webmaster



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