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

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

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

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

Coliform Bacteria
- Standard - none

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

Indicators

Other contaminants could be present
- Viruses
- Pharmaceuticals
- Pesticides

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

Year

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<th>Nitrate in mg/L</th>
<th>Average</th>
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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.
Worse-Case Scenario
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 to protect the aquifer.
Public Health and Social Services Department
http://www.co.thurston.wa.us/health
Relative Size of Pathogens

Giardia Cyst
E. Coli Bacteria
Norovirus

10μm

sizes are approximate
Scatter Creek Groundwater Sampling Network Nitrate Concentrations
Fall 2012 - Spring 2014
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
Project Website:
www.co.thurston.wa.us/health/ehsc

360-867-2582