

**OSS Management Plan
Meeting Notes
February 6, 2014**

Attendance:

Committee Members			
Name and Affiliation	Present?	Name and Affiliation	Present?
Mat Buldis – Shellfish Grower	<input checked="" type="checkbox"/>	Dennis McVey – City of Rainier Council Member	<input checked="" type="checkbox"/>
Tris Carlson – Chair of Henderson-Nisqually Shellfish Committee	<input checked="" type="checkbox"/>	Greg Moe – Realtor	<input checked="" type="checkbox"/>
Evan Cusack – Designer, Installer and Maintenance Specialist	<input checked="" type="checkbox"/>	Paul Morneau – Sewage System Designer	<input checked="" type="checkbox"/>
Joshua Daily – Citizen Representative	<input checked="" type="checkbox"/>	Steve Petersen – Environmental Health	<input checked="" type="checkbox"/>
Sue Davis – Environmental Health	<input checked="" type="checkbox"/>	Lynn Schneider – Department of Health	<input checked="" type="checkbox"/>
Adam Frank – Olympia Master Builders	<input checked="" type="checkbox"/>	Dan Smith – City of Tumwater	<input checked="" type="checkbox"/>
JR Inman – OSS pumping and Maintenance	<input checked="" type="checkbox"/>	Art Starry – Environmental Health	<input checked="" type="checkbox"/>
Erica Marbet – Squaxin Tribe	Absent	Diane Utter – City of Olympia	<input checked="" type="checkbox"/>
Roger Max – Scatter Creek area resident	<input checked="" type="checkbox"/>		

Guest Speakers:

Donna Buxton, City of Olympia
Nancy Darling, Department of Health
Nadine Romero, Thurston County

Facilitator: Linda Hofstad

Note Taker: Cissy Fontenot

Linda Hofstad called the meeting to order at 3:00 pm

Approve Meeting Notes:

Meeting notes from January 9, 2014 were approved and will be posted on the website.

Contingency Plan:

Linda asked if the committee needs more time to discuss the recommendations. The committee chose to continue the meeting by 30 minutes instead of scheduling an additional meeting at a later date.

Discussion of Plan Recommendations

In order to show how Plan recommendations are written in the final plan, Linda had prepared a list of just the recommendations from the 2008 Thurston County OSS Management Plan with none of the surrounding text.(orange sheet) The recommendations are more 'broad stroke' rather than specific detail for presenting the actions to the Board of Health. When the Board accepts the recommendations, they then direct staff to develop the details and implement the actions. Therefore, the recommendations should include the *intent* of why a recommendation should be implemented.

The committee has made progress in developing recommendations for the 2014 Thurston County OSS Management Plan Update. Linda had prepared a list (the green sheet) of the preliminary recommendations that the committee has discussed up to this point. These preliminary recommendations will be reviewed in May and then be included in the Draft Plan.

Though there are many interesting issues that the committee is discussing, Linda reminded everyone that the role of this committee is to advise regarding on-site sewage management.

Reminder: All meeting agendas, Notes and Presentations are on the website:
<http://www.co.thurston.wa.us/health/ehoss/index.html>

Sensitive Areas – Groundwater

Nancy Darling, LHG, CPSS, Office of Shellfish and Water Protection for the Washington State Department of Health
 Presented on On-site Sewage Systems and impacts to groundwater:
 Link to presentation: [On-site Systems and Groundwater](#)

Nancy's presentation covered:

- How OSS pollute ground water
- Pollution types associated with septic systems
- Groundwater standards for groundwater
- How OSS density affects groundwater pollution
- How soils affect OSS performance
- Conditions that lead to good and poor OSS performance
- Conditions that lead to greater impacts on ground water resources

To protect groundwater she recommended:

- Address waste strength and density in sensitive areas
- Design drainfields for nitrate reduction

- Apply Critical Aquifer Recharge Area requirements where applicable
- Have O&M Requirements

Donna Buxton, Groundwater Protection Program, City of Olympia
Presented on Thurston County Sensitive Areas, Wellhead Protection - McAllister and Shana Park

Link to presentation: [Wellhead Protection - McAllister and Shana Park](#)

Donna's presentation covered:

- City water supplies identified in 2008 plan – McAllister Springs and Shana Park
- Water quality and monitoring requirements in state law
- Protection strategies utilized by Olympia and Thurston County for McAllister Springs area
 - Major downzone in 1990
 - Nitrate levels up to 2.86 mg/l in monitoring wells
 - Downward trend since 1990
 - May be related to downzone
- East Olympia – Shana Park
 - Residential development and two golf courses in wellhead protection area
 - Residential split between septic systems and sewer
 - Public education on lawn care practices may be reducing nitrate levels
- Summary of presentation:
Nitrate levels in groundwater are a concern
 - Sources include fertilizers and septic systems.
 - Protective strategies work – regulations and education
 - Regional issue – jurisdictions are collaborating
 The On-site Sewage System Management Plan is applicable to protection the region's groundwater resource.

Nadine Romero, Hydrogeologist, Resource Stewardship, Thurston County
Presented on the Scatter Creek Aquifer

Link to presentation: [Scatter Creek OSS Management Project](#)

Nadine discussed the development of a 3-dimensional ground water model for the Scatter Creek area. The model is being used to evaluate the impacts of septic systems on ground water quality in that area.

Model Scenario Results: When comparing what the model predicted to the actual results of groundwater monitoring.

1. The computer model predicts ground water nitrate concentrations. Nitrate is a ground water contaminate of public health significance. Septic systems release nitrate to the environment and can produce significant levels of pollution under certain circumstances. The model evaluates the impact of septic systems by

predicting ground water nitrate concentrations under different development scenarios.

2. One scenario shows nitrogen contributions from current development on septic systems. The Environmental Health inventory shows there are approximately 3,400 septic system in the project area. Model results show that septic systems currently contribute 0.5 - 2.5 mg/l nitrate to groundwater in the region. The drinking water standard for nitrate is 10.0 mg/l. Total nitrate concentrations in our well network range from approximately 1-3 mg/l; however, levels in one well spiked to 6.3 after heavy rains in October 2013.
3. Two future development scenarios have been developed. One predicts ground water nitrate concentrations if all existing legal lots that can support septic systems are developed. Analysis indicates approximately 324 more septic systems can be built in the area (3,696 total) if all existing legal lots are developed. The model predicts these additional septic systems will raise ground water nitrate concentrations by 3-5%, or 0.1 to 0.3mg/l.
4. The third scenario predicts nitrate concentrations if property develops the maximum extent allowed by current zoning. The analysis indicates 840 more septic systems can be added to the area (4,536 total). The model predicts the additional septic systems will raise ground water nitrate concentrations by up to 0.5 mg/l (approximately 20%) and contribute up to 3.78 mg/l nitrate to on part of the study area.
5. Land use activities contribute to nitrogen levels in the area. These sources add more than 1.0 mg/l in some wells.
6. Both future model predictions assume a level of 2 mg/l nitrate entering the study area from Tenino.
7. The rain can carry contaminants from the surface and in the soil down into the aquifer. There was an increase in the presence of coliform bacteria in the aquifer in October 2013. At this time, the aquifer is monitored two times a year and may miss spikes in contaminant levels.
8. When comparing the model predictions with the real data, the model more often under predicts the nitrate levels both in frequency and in the level of difference. There are some areas where the model slightly over predicted nitrate levels, most notably at the eastern edge of the study area where water enters from Tenino.
9. The model has not accounted for nitrate contribution from fertilizer and manure. There was some discussion about the most accurate means to account for this contribution.

Preliminary Recommendation Development:

1. Recommend forming a “board” to review and plan how to address issues of
 - Cost of highly technical OSS in sensitive areas
 - Management mechanisms - long term maintainability
 - How to make it manageable for homeowners

2. Recommend support for Scatter Creek “process” and support if committee determines as a sensitive area.
3. Educate public in maintaining clean water and how person’s activities impact water quality.
4. Create the Special Area Workgroup as recommended in the current plan. The workgroup would develop criteria to evaluate data and other pertinent information to determine when new sensitive areas should be created.

OTHER Questions:

Art asked Donna if there are other areas that the City of Olympia is concerned about that the committee might want to consider as we move forward with our recommendations?

- -Allison Springs- is being monitored for nitrates and current levels are at 1-1.25 ml.
- also the density of OSS in the area is a problem.

Josh asked if there are systems that can change the nitrates to a more acceptable level?

- -There are systems but ones that are currently approved for use are expensive.
- The Department of Health is conducting a pilot project to look at public domain systems.
- Some systems have done a good job reducing nitrogen, but need further testing and evaluation.

Art asked if monitoring and maintenance make a difference in performance and level of pollution released into the groundwater?

- -The system design, site and density determine how much nitrate is released to ground water.
- Monitoring and maintenance on most systems doesn't have a significant effect on the amount of nitrogen being released.

Review Assignments/Next Meeting Items:

Please review the current status of the Thurston County Program Summary

Next meeting:

March 13, 2014

3:00 – 5:00 pm

Rooms 107 ab&c

Meeting concluded at 5:32 pm