

# Tri Lakes Project – Presentation to Water Purveyors By Kevin Hansen, Thurston County Hydrogeologist

**Date:** Friday, April 21, 2023  
**Time:** 10:30 a.m.  
**Location:** Virtual via Zoom OR  
In-Person at Thurston PUD Headquarters (address listed below)

**Title:**  
Using Modeling and Sampling to Assess the Impacts of Septic Systems to Water Quality in the Long-Pattison-Hicks Lakes Area of Northern Thurston County

**Abstract:**  
Thurston County is finalizing the results of a recent study of water quality impacts from septic systems in the Tri Lakes area using grant funding from the Washington State Department of Health and the USEPA. The so-called 'Tri Lakes' area, comprising the region near Long, Pattison and Hicks Lakes in Northern Thurston County, saw rapid post-World-War II growth peaking in the 1980s. Most of the growth was dependent on septic systems: in-ground sewage treatment systems that now have a median age above 40 years. More than 50,000 septic systems were installed Countywide, with over 5,000 installed in the Tri Lakes area alone.

The study made use of two long-term efforts to advance understanding of groundwater quality impacts from densely clustered septic systems. First, cataloging these septic systems has been ongoing since the 2000's (many systems were installed before modern regulations). Second, groundwater flow and transport modeling has recently produced a developing capacity to predict some aspects of the potential extent of septic-related wastewater impacts.

To assess the impacts of these systems, between March and October 2022, fifty-eight water wells were sampled in the Tri-Lakes area for total coliform, E. coli bacteria and nitrate-nitrogen - as well as a screening for additional 'Chemicals of Emerging Concern' (CECs). The groundwater flow and transport predictive modeling was used to assist in the selection of sampling locations.

Results from the study indicate that septic-related wastewater has affected groundwater quality, and that new consumer products are detectable in groundwater samples. The presentation will highlight the ongoing efforts to understand these impacts. **Please review the map on the reverse side of this page.**

**Presenters:**

Kevin Hansen, LHg, LG, LEED AP - Thurston County Hydrogeologist  
(Invited) Stuart Whitford, RS, Water Quality Manager - Thurston County Health Department  
(Invited) Nikki Guillot, CPH, Source Water Protection Program Manager - Washington State Department of Health

**Attendance Information:**

As a water purveyor for a water system within Thurston County, you are invited to attend this meeting via Zoom or in-person at Thurston PUD Headquarters where light refreshments will be provided. ***In-person attendance is limited to 25 people, so please RSVP as soon as possible to Kurin Miller, Administrative Services Coordinator at Thurston PUD, via email at [kmiller@thurstonpud.org](mailto:kmiller@thurstonpud.org) or by phone at (360) 763-5839.***

<b><i>In-Person Attendance</i></b>	<b><i>Virtual Attendance</i></b>
Thurston PUD 1230 Ruddell Road SE Lacey, WA 98503 <b><i>(Parking is limited – please park across the street, see page 3)</i></b>	Login to the Zoom conferencing platform by visiting <a href="http://www.zoom.us/join">www.zoom.us/join</a> and enter the following: Meeting ID: 886 9328 2746 Passcode: 035809 <i>(To dial into the meeting, call (253) 205-0468 or (253) 215-8782)</i>



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