Lake Whatcom Water & Sewer District

Board Meeting Access Information

Next Meeting: Wed May 8, 2024
5:30 p.m.

Meeting Access

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Attending a Meeting

Lake Whatcom Water & Sewer District's regular Board meetings take place on the second Wednesday of each month at 6:30 pm and the last Wednesday of each month at 8:00 am.

Meetings are open to the public per the Open Public Meetings Act.

All meetings are hybrid, available in person or online. If you wish to observe a meeting, but do not plan to actively participate, you may attend anonymously. Turn off your mic & camera, and change your display name to "Observation Only."

Questions?

If you have questions about attending an upcoming meeting, please contact Administrative Assistant Rachael Hope at rachael.hope@lwwsd.org or 360-734-9224.

LAKE WHATCOM WATER AND SEWER DISTRICT
1220 Lakeway Drive
Bellingham, WA 98229

WORK SESSION OF THE BOARD OF COMMISSIONERS

AGENDA

May 8, 2024
5:30 p.m. – Work Session

1. CALL TO ORDER

2. SPECIFIC ITEMS OF WORK
   A. On-site Sewage System Policy Review

3. ADJOURNMENT

WORK SESSION	**On-site Sewage System Policy Review**			
DATE SUBMITTED:	April 25, 2024	MEETING DATE:	May 8, 2024	
TO: BOARD OF COMMISSIONERS		FROM: Justin Clary, General Manager		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. Whatcom County OSS Regulation Approach Proposal 2. Draft OSS position submitted by Commissioner Ford on April 10, 2024		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☒

BACKGROUND / EXPLANATION OF IMPACT

Together with the city of Bellingham (City) and Whatcom County (County), the Lake Whatcom Water and Sewer District formed a partnership in 1992 to develop a joint management strategy for the Lake Whatcom watershed. The resulting Lake Whatcom Management Program guides actions by the three entities to protect the quality of Lake Whatcom water. The prior 2015-2019 and current 2020-2024 work plans for the Lake Whatcom Management Program include as an objective under the Monitoring & Data program area "collect and manage data to increase our understanding of water quality and pollution sources, and to guide management decisions."

In the winter/spring of 2017, Herrera Environmental Consultants, Inc. (Herrera) under contract with the District, conducted a series of monitoring events along the north shore of Lake Whatcom to assess the impact of existing on-site sewage systems (OSS; commonly referred to as septic systems) on the water quality of the lake. The findings of the assessment, which were published in a report in July 2017, indicated that OSS are likely adversely impacting water quality. However, the City and County raised several concerns regarding the monitoring approach of the assessment. To address the data gaps of the 2017 assessment identified by the City and County, and to collect additional data to better understand the impact of OSS, a scope of work for a second round of monitoring was jointly developed by the City, County, and District, and an interlocal agreement between the District and County was executed in November 2019 to share funding of the assessment.

Herrera was again selected to conduct a second round of monitoring, with the scope expanded to address City/County comments on the 2017 study. Herrera completed the monitoring effort during winter/spring 2020 and issued a findings report in September 2020. Herrera provided a presentation to the Board on the results and

conclusions of the 2020 monitoring effort during the Board's September 9, 2020 meeting, as well as to the Lake Whatcom Management Program Policy Group during its September 23, 2020 meeting. In summary, the 2020 assessment indicated that results were consistent with the 2017 study relative to the presence of target analytes in OSS-served drainages; however, the presence of human DNA biomarkers did not correlate with loadings of phosphorus or live fecal coliform bacteria (Lake Whatcom TMDL-specific contaminants). As a result, Herrera concluded phosphorus and fecal coliform bacteria are effectively removed from OSS effluent by soils before entering the lake. The study did note the presence of human DNA biomarkers in District sewer-served drainage No. 485, indicating a possible leaking sewer pipe. The District subsequently performed inspection of sewer mains in the drainage, which confirmed the integrity of the sewer system.

The Board discussed the assessment findings and the District's policy/direction regarding existing OSS during its January 27, 2021 meeting. The Board ultimately determined it infeasible to pursue sewer system expansion to remove OSS and rather to focus on OSS compliance through Whatcom County.

With the turnover of two commissioner positions since 2021, the Board discussed the District's policy regarding OSS during a work session held on January 10, 2024. An outcome of the discussion was to invite Whatcom County Health and Community Services (Health Department) staff to a Board meeting to gain a better understanding of the County's OSS regulation program. Health Department staff provided a presentation on the program during a regularly scheduled meeting held on February 28, 2024. A result of the presentation was the Health Department's proposal (attached), which was discussed during the April 10, 2024 Board meeting, for enhanced inspection of OSS along the north shore of Lake Whatcom, as well as TMDL contaminant monitoring of certain drainages along the north shore (by the County Public Works Department). Also during the April 10 meeting, Commissioner Ford submitted a draft position on Lake Whatcom OSS (attached) for Board consideration.

The intent of the May 8 work session is to allow for Board deliberation on any proposed changes to the District's current policy (encourage County enforcement of the existing OSS regulations within the Lake Whatcom Watershed). It should be noted that the Lake Whatcom Management Program partners are currently in the process of developing the 2025-2029 work plan for the Program. One action currently under consideration for inclusion within the Monitoring and Data program area is to conduct new studies to understand the long-term health of Lake Whatcom. Whether this action will ultimately be included in the new work plan will be based upon partner agency available resources, but it is considered sufficiently broad to allow for further assessment of the environmental impacts of OSS on the lake.

Any shift from current policy at this time should be weighed against available District resources, especially should a policy change include pursuit of any form of sewer system expansion outside of the Bellingham urban growth area. Staff have identified

the following challenges that would likely require overcoming if the District were to pursue sewer system expansion at this time:

1) GMA Compliance. The Washington State Growth Management Act (GMA) prohibits expansion of urban services (including sewer) outside of designated urban growth areas (UGAs) unless "necessary to protect basic public health and safety and the environment and when such services are financially supportable at rural densities" (RCW 36.70A.110(4)).
   - Cost to collect necessary data that may demonstrate OSS impact to health/environment would be significant.
   - The term "necessary to protect health/environment" is subjective; what the District feels qualifies, the land use authority (County/State) may not. Regardless, "financially supportable at rural densities" would be extremely difficult to overcome (see No. 2 below).

2) Cost. Extension of a sewage collection and conveyance system 2.5 miles along the north shore of Lake Whatcom to connect approximately 100 properties would likely be cost prohibitive.
   - The District's current sewer capital improvement program is currently financially over-extended.
   - District rate payers would likely not be willing to subsidize sewer extension through rate increases to benefit 100 properties.
   - Property owners would likely not be willing to pay a ULID assessment of the anticipated cost magnitude split amongst 100 benefiting properties and District connections fees (and associated District legal defense expenses would likely be significant).

3) Political Support. There is currently no political support for extending the District's sewer system along the north shore of Lake Whatcom.
   - Whatcom County Planning and Development Services staff appear opposed to sewer extension.
   - Environmental groups may oppose it (despite the environmental benefit of removing OSS from watershed) because the extension could be viewed as promoting further development of the watershed.

4) Consistency of Policy Application. Extension of sewer conveyance along the north shore based upon health/environment impact concerns would not address over 100 OSS in direct proximity to the lake in the South Bay area.
   - This inconsistency would likely be used by property owners and stakeholders identified in Nos. 2 and 3 above for any discussion and/or legal action against the District in opposition to sewer extension.

FISCAL IMPACT

No fiscal impact is anticipated associated with the Board's policy discussion. Should the Board wish to proceed with additional actions, fiscal impacts would be dependent upon the action(s).

APPLICABLE EFFECTIVE UTILITY MANAGEMENT ATTRIBUTE(S)

Water Resource Sustainability

RECOMMENDED BOARD ACTION

No action is recommended.

PROPOSED MOTION

Not applicable.

Lake Whatcom Management Program

County Follow Up Strategy for OSS on NorthShore Drive

March 2024

Background: There are approximately 600 on-site sewage systems (OSS) in the Lake Whatcom watershed. Concerns were raised about whether OSS along North Shore Drive were adequately treating sewage during heavy rain events or potentially impacting water quality in Lake Whatcom. Studies were conducted in 2017 and 2020 to evaluate water quality in surface water drainages and the lake nearshore. These studies do not indicate OSS served areas as a whole are impacting lake water quality, however, the 2020 study identified multiple drainages of concern, three of these drainages are more likely to have onsite sewage systems as a possible source of pollution contributing to high counts of e. coli and coliforms. High counts of e. coli and coliforms warrant further investigation. Due to the monitoring parameters for Lake Whatcom it is also important to note that the drainages of concern do not have a total maximum daily load (TMDL) requirement.

County Coordination: Whatcom County Public Works (WCPW) and Health and Community Services (WCHCS) staff are coordinating follow up efforts. WCHCS is the lead for OSS permits, the OSS operation and maintenance program, and evaluating public health risk for recreational use. WCPW is the lead on water quality monitoring, TMDL implementation and tracking, a septic maintenance rebate program, and broad community outreach. These departments work together to provide these services through both the Lake Whatcom Management Program and Pollution Identification and Correction (PIC) Program. Review of progress, emerging issues, and adaptive management are regular components of these programs.

Next Steps: The following steps will be implemented by each department, coordinated through regular communication, and shared with program partners and decision-makers.

WCHCS:

- Review process for homeowner OSS evaluations (Homeowner Report of System Status) in the Lake Whatcom watershed for options to enhance oversight.
    - Update Homeowner Report of System Status auditing tools and processes to incorporate the use of improved GIS data to increase sensitivity of at-risk OSS.
    - Update reported sewage concern follow-up process to refine and standardize actions and recommendations for property owners.
    - Create sewage spill notification process to improve notification process for spills and OSS failures within the Lake Whatcom watershed.
- Provide technical information and review for outreach materials created by WCPW.
- Coordinate with the PIC team with OSS of concern.

WCPW:

- Implement fecal bacteria monitoring at the three drainages of concern for a one-year period. Evaluate results in comparison to state water quality standards. Use PIC Program response thresholds to guide the need for site specific follow up with homeowners.
- Enhance community outreach to homeowners with OSS in the Lake Whatcom watershed. Include mailings and social media, particularly focusing on wet season concerns and best management practices.
- Continue the septic maintenance rebate program in the Lake Whatcom watershed. The program provides both a standard rebate and an assistance rebate for homeowners with a tax exemption for seniors and people with disabilities.

Justin Clary

From: Bruce Ford
Sent: Wednesday, April 10, 2024 5:35 PM
To: Justin Clary
Subject: Draft Position on Lake Whatcom OSS

April 10, 2024

Lake Whatcom Water and Sewer District Commissioner Bruce Ford's position regarding the existing septic tank systems (OSS) existence on the shoreline and tributaries of lake Whatcom:

Background:

TMDL (Total Maximum Daily Load) means that impaired water bodies such as Lake Whatcom have reached the point where management of natural ecological processes must be achieved to prevent further degradation. At the present time, Lake Whatcom's load of nutrients cannot be digested in the way that a healthy lake performs (anaerobic). A healthy (aerobic) lake maintains a sufficient population of animals, plants and microorganisms (ecosystem) that uptake nutrients as food. Lake Whatcom's ecosystem has been impacted by human contamination for over 100-years. As a result, the lake cannot support the current daily loading and the past buildup. The TMDL specifies that the human contribution to Lake Whatcom pollution should be brought back to pre-1985 levels. Even with that, there is a 50-year timeline before Lake Whatcom recovery becomes viable and sufficient oxygen exists in the deep basins to support fish and oxygen breathing organisms.

Points:

· Under optimum conditions, septic tanks remove about 60% of the nutrients (nitrogen and phosphorous), about 40% of the contaminants pass into the soil and groundwater and are continuously transported underground by groundwater to the lake.

· Septic tanks fail sometimes and release nutrients to the lake. A properly operating septic tank reduces a family's wastewater concentration of contaminants by less than 60%.

· About 100 homes on Northshore Lake Whatcom use septic tanks. More septic tanks are located on tributaries and Northeastern shorelines.

· Whatcom County allows homeowners on the lake shore to inspect their own septic tanks. The inspection rules for lakeside homes are lenient and not strictly enforced.

· The first TMDL report for the City/County was by Brown and Caldwell consulting engineers. They reported that septic tanks were the major source of lake contamination.

· The city estimates that it costs them more than $50,000 to remove a pound of Phosphorous from stormwater using their stormwater treatment systems.

· The city stormwater treatment systems cannot treat high flows during periods of heavy rainfall and discharge untreated stormwater directly to the lake. These large flushing rainfalls scour pet waste from the ground and flood shallow leach fields causing a large volume of phosphorous into the lake.

· The city/county focuses on phosphorous to a much lesser degree on to the TMDL mandate for coliform bacteria contamination in lake Whatcom. Coliform bacteria are an indicator of fecal contamination that affects our drinking water supply. Coliform bacteria is also an important indicator that pathogenic organisms may be present.

· Lake Whatcom can be potentially affected by algae blooms due to lake nutrients and bacteria. Bellingham's water treatment plant is prepared for this possibility by having modified their treatment plant to

remove algae by dissolved air flotation. We are not prepared to remove algae in our Sudden Valley water treatment plant.

· Many homes on Lake Whatcom take their drinking water directly from Lake Whatcom. Their neighbors may have a an older, poorly operating treatment plant discharging near their potable water intake.

· There are alternatives to removing lakeside septic tanks and extending our sewer pipeline. Relocating septage leach fields to suitable locations further from the lake could be a cheaper solution. Leachate holding tanks serving multiple homes could be routinely pumped or transported to a treatment plant or pump station.

· Bellingham and Whatcom County Public Works and Heath departments are lenient in their management of Lake Whatcom TMDL response and cleanup. Goals are not set or documented, key performance indicators are not tracked to reveal schedule or system performance. Failures and stormwater treatment limitations are not disclosed to the public.

Situation:

It appears that the County policy regarding septic tanks along the Lake Whatcom shoreline allows for a large percentage them to continue to pollute the lake. Many existing septic tanks along the Lake Whatcom shoreline are undersized and originally built before environmental standards were required. These "grandfathered" obsolete systems result in significant contaminant releases during heavy rainfall when the leachate floods the shallow ground surfaces and flows directly into the lake through surface collection trenches and pipes. This is in addition to new home developments along the shoreline of Lake Whatcom are still being installed with septic tanks. These should be prohibited within an acceptable distance from the shoreline or tributary. Considering the poor response to the County's septic tank questionnaire, enforcement is non-existent.

Septic tanks are popular because with low initial cost and low maintenance, household waste can typically be absorbed by the natural environment. We tend to forget that septic tanks have their limitations. There will come a time when Lake Whatcom recognizes what the "daily load" in TMDL means. This septic vs lake scenario is not unusual. People living in developments around lakes all over the US have had to deal with what happened to their retirement home on the lake. Algae blooms, fish kills caused by lack of oxygen and their byproducts when they collect in large blooms or contamination areas.

The district has undertaken significant efforts to address the ongoing contamination of our drinking water source by septic tanks. We have commissioned studies which have proven that the septic tanks on the North Shore of Lake Whatcom are highly polluting. The district has worked with City and County management to perform an additional septic shoreline study. The septic tank studies performed by the district documented saturated soil conditions. The later joint study did not encounter a significant stormwater event and therefore could not sample during saturated soil conditions where groundwater and leachate discharges through pipes into the lake. Since the inconclusive, failed study, the City and County management have generally ignored the septic tank lake impacts and no further testing is planned. Serious lake contamination occurs when the groundwater floods the shoreline areas. The system of ditches and pipes in these areas should be defined as point sources, individually permitted and managed as such.

Bruce Ford
LWWSD Commissioner