



## Lake Whatcom Policy Group February 5, 2018 Meeting Brief Digest of Presentations and Discussion

**Policy Group members in attendance:** Todd Donovan, Tim Ballew (Whatcom County Council); Gene Knutson (Bellingham City Council); Bruce Ford (Lake Whatcom Water and Sewer District); Larry Brown (Sudden Valley). Other Council or Board members present: Todd Citron (Lake Whatcom Water and Sewer District Board).

### 1. Review of 2018 meeting schedule and future meeting topics

Future 2018 Policy Group meetings will be held on the following dates at 3:00 PM in the Fireplace Room in the Municipal Court Building, 625 Halleck Street, Bellingham:

- Monday May 14
- Monday July 16
- Monday September 17
- Monday October 29

Topics identified for the remaining meetings of the year include:

- 2018 watershed resident survey – overview of intent and process
- Additional discussion of aeration proposal
- Short-term rentals status update
- County stormwater district funding
- Review of stormwater capital projects
- Updates, as needed:
  - TMDL
  - AIS tributary and lake monitoring
  - Land management: Forestry, acquisition, parks
- AIS Annual Program Review
- Review of the 2018 Homeowner Incentive Program (HIP)

### 2. Identify and discuss agenda items for this year's Lake Whatcom Joint Councils and Commission meeting

The annual meeting will be held on March 28 in the City Council Chambers starting at 6:30 PM. There will be a staff open house preceding the meeting from 6:00 to 6:30. The following topics are proposed for the annual meeting:

1. Lake Whatcom Monitoring Program Annual Report
2. Total Maximum Daily Load (TMDL) Process Update

3. Presentation of the Lake Whatcom Management Program 2017 Progress Report, and 2018 activities:
  - a. Capital projects
  - b. Homeowner Incentive Program (HIP)
  - c. Aquatic Invasive Species (AIS) Prevention Program
  - d. Land Acquisition and Management
  - e. Education and Public Engagement
4. Presentation on County parks: completed and planned development
5. Watershed stormwater funding district update

### **3. Proposal to use aeration for phosphorus mitigation**

Staff discussed a proposal from some Lake Whatcom residents with engineering expertise to use aeration technology in Basins 1 and 2 to mitigate some of the effects of phosphorus in the lake, including the legacy buildup of phosphorus already in the lake. The technology would create water mixing and prevent the stratification that is one cause of anaerobic algal growth, potentially helping to stabilize the phosphorus already in the lake. A company called Clean-Flo provides the proprietary technology. Another alternative would be to pump water from the deeper Basin 3 of the lake into the other basins. The staff data team has reviewed information received on the proposal, and a memo was distributed at the meeting summarizing staff response to the information received to date. This aeration technique has been used in a few instances elsewhere, but usually in cases where a water body has significantly deteriorated, with extensive buildup of organic materials.

The technique would cause the lake to deviate from natural temperature conditions, with uncertain effects on the biological activity of algae and other microorganisms. Biological growth thus stimulated could result in clarity and drinking water treatment issues. Current state regulations require that human activity not result in a deviation of more than 0.3 degrees centigrade from natural conditions. The cost of the technique is not insubstantial, with a pilot project costing in the range of \$1 million, and full implementation just under \$20 million. While this is substantially below the projected cleanup costs under current strategies of \$100 million, the flow technique is unproven in a large water body and may not meet with regulatory approval of state authorities. The current plan entails restoring the lake to natural conditions by controlling new inputs of phosphorus into the water column. This approach has been approved by the Department of Ecology as embodied in the approved Total Maximum Daily Load (TMDL) action plan.

Staff are still receiving information about the idea and analyzing available information. Staff are also updating the lake phosphorus loading and response model, to include analysis of the patterns of water flows within the lake. The new information from this analysis could be used to evaluate the impacts of this or other proposals. After additional information is received and more analysis is completed, the item will be brought back for further discussion at the May Policy Group meeting.

#### 4. Lake Whatcom Water and Sewer District North Shore Fecal Coliform Study -- Results and Status

The Lake Whatcom Water and Sewer District commissioned a study by Herrera Engineering on the impacts of existing septic systems in the Northshore portion of Lake Whatcom. Analysis occurred in the area between Smith and Olson Creeks where existing septic systems were within 300 or 400 feet of the lake shore. There are approximately 100 properties with existing septic systems in this area. Sampling occurred in early 2017 at outflows of water (e.g. stormwater and road drainage pipes) and in areas with significant surface water flow. The sampling was used to test for indicators of failing septic systems, including the presence of optical brighteners from household detergents, and the presence of e. coli associated with human effluent. Risk factors for septic issues include: old systems; those close to the lake; high rainfall; and shallow soils. These conditions were all present in a number of instances. About 50 percent of the septic systems had been built before regulations were changed in the 1990s requiring more stringent design specifications. About 40 of the systems had not been inspected in the last 3 years, and 20 were found to be in need of maintenance.

Sampling results indicated the presence of materials at levels higher than ambient conditions elsewhere in the lake, including optical brighteners, E. Coli, and phosphorus. The presence of optical brighteners were an indicator of the presence of E. Coli and phosphorus, although correlations were somewhat weak. Microbial source tracking analysis, including digital methods, were used to verify whether any bacteria found were from human origins. Optical brighteners were twice ambient levels at surface water flow areas, and 4 times ambient levels at discharge points. One-third of the sampled sites showed the presence of human fecal contamination.

The district has been examining whether to extend water and sewer into this area, although there are no current plans to do so. The Whatcom County Health Department has responded to the septic issues by conducting additional inspections of existing septic systems. Future work will include die testing to ensure proper septic operation and detect any leakage. If a septic system is failing, a new design, and repairs, would be required. The water district will conduct additional sampling in the future to determine if these measures have resulted in reduced leakage from existing systems.

#### **Upcoming Meetings (2018):**

**Annual Lake Whatcom Joint Councils and Commission meeting:** 6:30 PM, March 28, Bellingham City Council Chambers, 210 Lottie Street.

**Lake Whatcom Policy Group** meetings will occur on Monday May 14; Monday July 16; Monday Sept. 17; and Monday October 29, at 3:00 PM in the Fireplace Room, 625 Halleck Street.