



Summary

On April 11th, 2023 seven water samples were taken from points around the Lake Padden Golf Course: 3 inflow points from surrounding areas to the golf course, 1 outflow from the golf course to Lake Padden, the pond by Hole 15, the ditch on Hole 11 and one spot from Lake Padden adjacent to the pump house. The water quality results did not show anything conclusive or alarming that would indicate the golf course was a major source of pollution, but the City of Bellingham may want to have their staff analyze the reports as well. We plan to take additional samples from these locations a few more times over the next year to establish baseline data for water quality throughout the seasons. At this time, there is no strong evidence to suggest Lake Padden Golf Course is a major source of pollution for Lake Padden or Padden Creek. However, I do have some additional recommendations for the City of Bellingham to consider.

Recommendations

1. Utilize the two historical reports since they were conducted and funded by credible and local organizations. I highlighted some small sections of the reports that may be useful for public communication or further exploration. Per the "Padden Creek Monitoring Project" (2002), there are two locations particularly worth further investigation:
 - a. Connelly Creek was noted as having a high nutrient count and a source of downstream pollution. It intersects with Padden Creek just upstream of the "daylighting" project. It could still be a source of pollution but may require updated sampling since those results are now 20 years old.
 - b. There may be a secondary outlet from Lake Padden to Padden Creek. The secondary pipe was part of water supply distribution system that once served the City of Bellingham. It drained water from the bottom of Lake Padden and was said to be a major water source for Padden Creek during dry periods. The report also noted it had a rotten egg (H₂S) smell to it. If this pipe is still draining into Padden Creek, it would be worth taking updated samples from. Lake bottoms can harbor gases and anaerobic bacteria, which could cause downstream pollution, especially if this is the main outflow during dry periods.
2. Low Nitrate levels may support cyanobacteria or blue green algae blooms. Our water quality results show lower nitrate levels. The sample from Lake Padden had the lowest nitrate levels of all seven samples. I am not an expert in pond chemistry so I won't make any assumptions, but this could be something to discuss with the Department of Ecology or another local expert.
3. A sample from one of the entry points, on Hole #8, did have elevated levels of Calcium, Magnesium, Sodium, TDS, Chloride, and Sulphur compared to the other samples. The outflow sample showed reduced levels so it is possible the golf course is filtering out some of these nutrients. We will have to wait for additional samples for more information, but this could be an important point to communicate in the future. It may also be worth investigating what is upstream of that inflow to identify sources of pollution that can be corrected.