

## Information on Algal Bloom

14 August 2020

Algal bloom is a result of several factors including phosphorus, sunlight, and calm shallow waters

The Shuswap Watershed Council (SWC) is providing an updated explanation on the large algal bloom occurring in Salmon Arm Bay. Just last week, the SWC released the [2019 Shuswap Water Quality Report](#).

“The large bloom this year is a result of several factors, all working together in a ‘perfect storm’ scenario,” says Erin Vieira, program manager for the SWC.

Algae are a natural part of an aquatic ecosystem, and they are always present in Shuswap Lake. An algal bloom occurs when the number of algae rapidly increases, due to a change in environmental conditions that algae favour, such as an influx of nutrients or increased sunlight.

“It’s not unusual to see small blooms in Shuswap Lake and other lakes in the region in the spring and summer, when the amount of sunlight increases and a fresh supply of nutrients enters the lakes from creeks and rivers during spring run-off,” Vieira adds.

A recent report from the SWC, [Understanding Nutrients and Water Quality in the Shuswap River and Salmon River](#), explains that the two rivers are the largest contributors of nutrients to the lakes. The rivers acquire nutrients as they flow from the mountains to the lakes, the majority of which come from the valley bottoms where there are impacts from agriculture, housing, and commercial development.

“This has been a very wet year. The Salmon River has been running higher than usual for the past few months. The soil in the valley bottom has been saturated, and nutrients are being flushed out of it. More water in the river means more nutrients being carried to Salmon Arm Bay, and more nutrients - particularly phosphorus - will often increase the number of algae,” Vieira explains.

“Other creeks flowing into Salmon Arm Bay are likely experiencing the same effect, such as Tappen Creek and White Creek.”

Some of the phosphorus in question could be ‘Legacy Phosphorus’, a term given to the nutrient if it’s been stored in the soil for years or decades as a legacy of by-gone methods of farming. The heavy rains this year could be helping to release some of the legacy phosphorus and move it downstream.



Vieira says septic systems near the lake and the Salmon Arm wastewater treatment plant effluent are also contributing nutrients to the bay, although past water quality monitoring has shown that these are a smaller source than the Salmon River.

The depth of Salmon Arm Bay is also a factor. The bay is a relatively shallow region of Shuswap Lake, and consequently it warms up more than other parts of the lake. These conditions are favourable to some species of algae. Furthermore, if the water doesn't mix for a period of time - something that would be caused by currents or a windstorm - that would also favour algal growth.

"We have a perfect storm of conditions in Salmon Arm Bay right now: a higher influx of nutrients than usual due to the rains, and relatively shallow warm water," Vieira summarizes.

Vieira re-iterated that the algal bloom is being continuously monitored by authorities to ensure it doesn't pose a safety risk to people swimming and beach-going, due to the fact that some types of blue-green algae can produce toxins. "If water quality is unsafe due to the bloom, notices will be posted at the affected sites," she said.

The algal bloom underscores the importance of good nutrient management on farms and in homes.

"Farmers should be familiar with and adhering to the new provincial *Agricultural Environmental Management Code of Practice* that the BC Ministry of Environment and Climate Change Strategy launched in February 2019. Homeowners on septic systems ought to be maintaining their systems properly. And, all residents should be mindful of what they flush down toilets and drains because it all eventually goes to the lake," says Vieira.

"We all have a part to play in this. Nobody wants these blooms to increase."

Both water quality reports cited in this release can be found on the SWC website, [www.shuswapwater.ca](http://www.shuswapwater.ca).

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About: The Shuswap Watershed Council is a watershed-based partnership organization that works on water quality and safe recreation in the Shuswap.

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