

- Following reports of dead fish in the Cowichan River, Fisheries and Oceans Canada (DFO) sampled dying fish from below Skutz Falls and submitted them to the DFO Fish Pathology Laboratory. Diagnostic testing of ten fish from the sample area, collected on July 13, has now been completed.
- Investigations of fish kills do not typically identify a single independent “cause.”
- Each of the eight fish examined by histopathology had at least one microscopic lesion that is associated with stressful conditions. The temperature was ideal for the bacterium *Flavobacterium columnare*, and was the suspected cause of death for 2 of 8 fish. However, the density of fish in the wild is sufficiently low that an epizootic outbreak would not be expected.
- Based on the variety of stress-associated lesions between fish, and only 2 of 8 where there are lesions consistent with columnaris disease, DFO Fish Health staff have concluded that mortality in this sample is more likely to have been a result of stressful environmental conditions than a specific cause.
- In this case, stressful conditions are related to low dissolved oxygen and a high pH. This can potentially be caused by the decay of algal growth which appears to be more prevalent than usual this year. Excess algal growth is often related to a combination of low flows, hot dry weather and availability of nutrients such as nitrogen and phosphorus. The combination of stressful environmental factors can also make the fish more susceptible to infectious disease.
- This sampling was a snapshot within one period of high mortality rate and in one section of the river. Collection of continuous water quality data is ongoing and will help provide a better understanding of the extent of these stressful conditions.

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