

## Cowichan River Water Quality Update – July 22, 2024

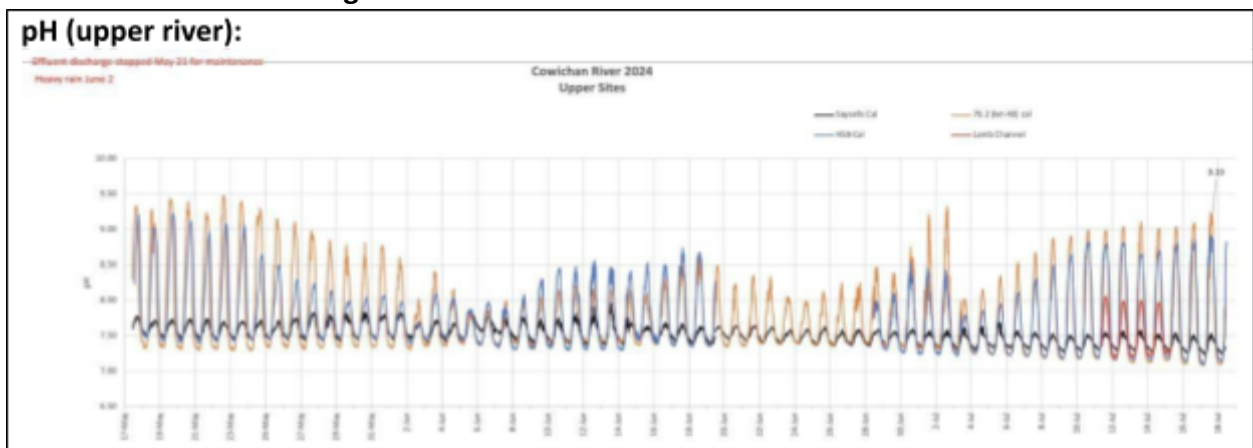
The following information summarizes water quality results for the upper and lower sections of the Cowichan River beginning May 2024. A rigorous monitoring program was put in place as part of a multi-partner plan to avoid another fish mortality event as observed in the summer of 2023. Partners include Cowichan Tribes, BC Fisheries, DFO, CVRD, Town of Lake Cowichan, Municipality of North Cowichan, and the Cowichan Watershed Board. Water quality results are used by the partners to make decisions on required responses to protect fish health and their habitat.

Continuous monitoring equipment has been installed at various locations in each of the upper and lower sections of the river to assess daily fluctuations in water temperature, pH, and dissolved oxygen. Grab samples are collected every 2 weeks at several sites along the river to assess various parameters including nutrient levels and E. coli.

### 1. Highlights for the week

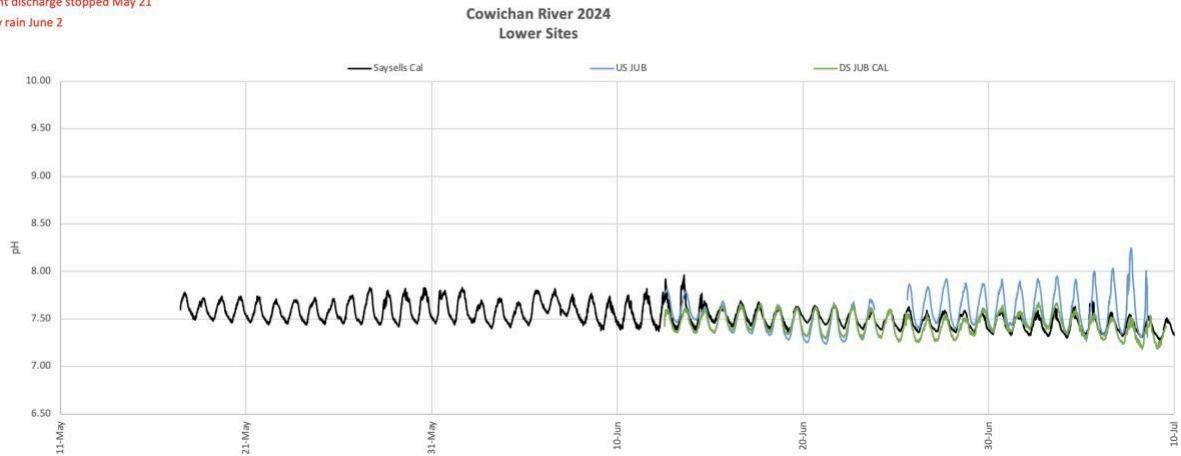
- Sunny hot weather continued to affect water quality
- Flows remain at 7 cms
- Note: Lower river results to current day are delayed and will be available next week
- Large diurnal swings in pH reaching over 9.0 during the day
- Dissolved oxygen levels increased over the previous 7 – 10 days in the upper river
- Water temperatures have increased over the previous 2 weeks, reaching 24° C during the day in upper river sites
- No fish mortality has been reported
- Monitoring temperature of known cold water refuges in the river has started

### 2. Continuous Monitoring:



### pH (lower river): (No new data available since July 10<sup>th</sup>)

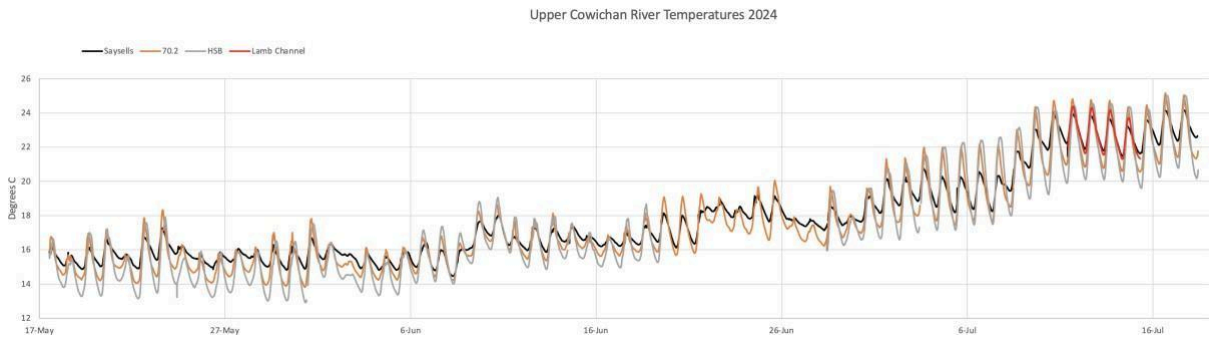
Effluent discharge stopped May 21  
Heavy rain June 2



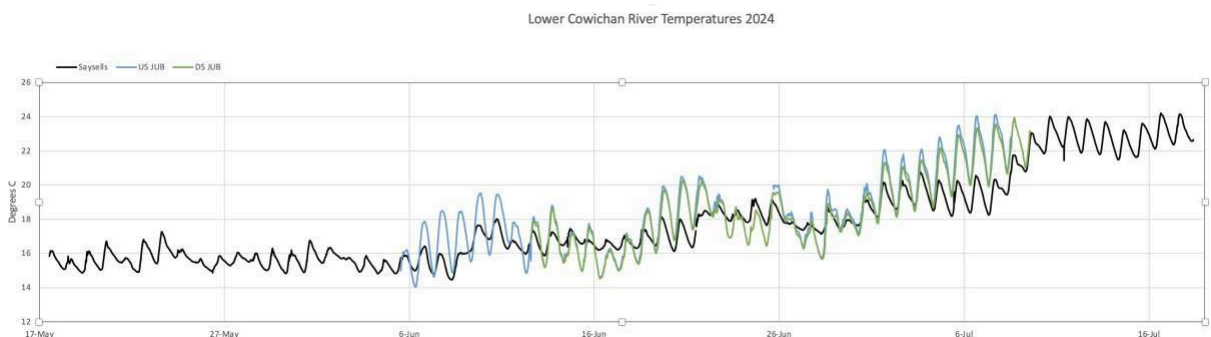
**Note:** JUB-Joint Utility Board sewage outfall. U/S-upstream. D/S-downstream. HSB-Horseshoe Bend. 70.2-70.2 Mile Trestle. Lamb – Lamb Creek side channel

Diurnal pH fluctuations result from algal respiration. The Saysell Site is located in the upper river above the Town of Lake Cowichan sewage outfall and represents preferred range in pH diurnal fluctuations. Wide diurnal fluctuations indicate excessive algal growth which is harmful and can be lethal to fish populations.

### Temperature (upper river):

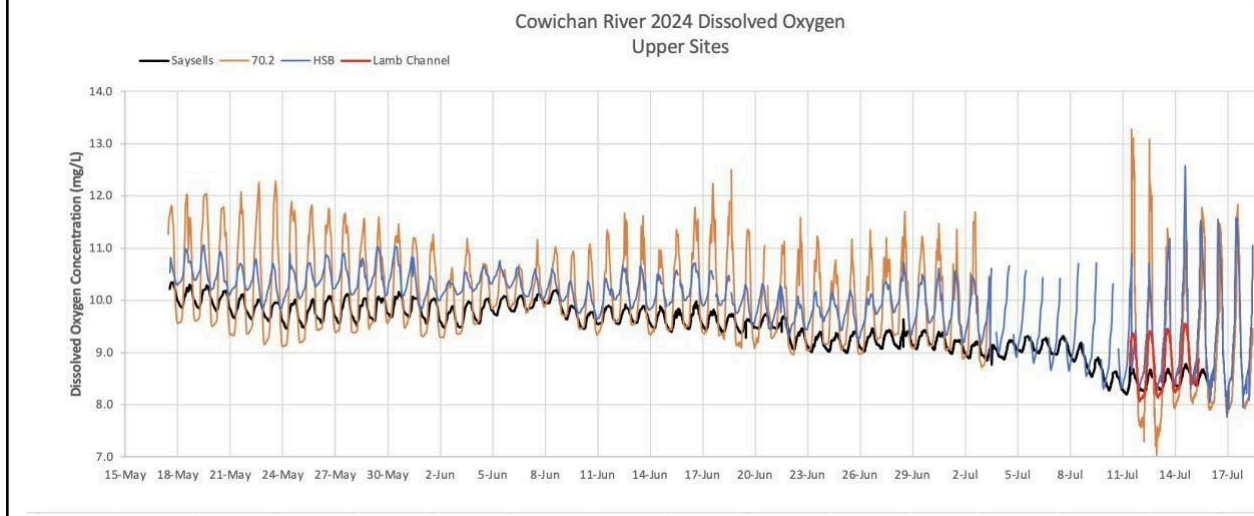


### Temperature (lower river): (No new data available since July 10<sup>th</sup>)

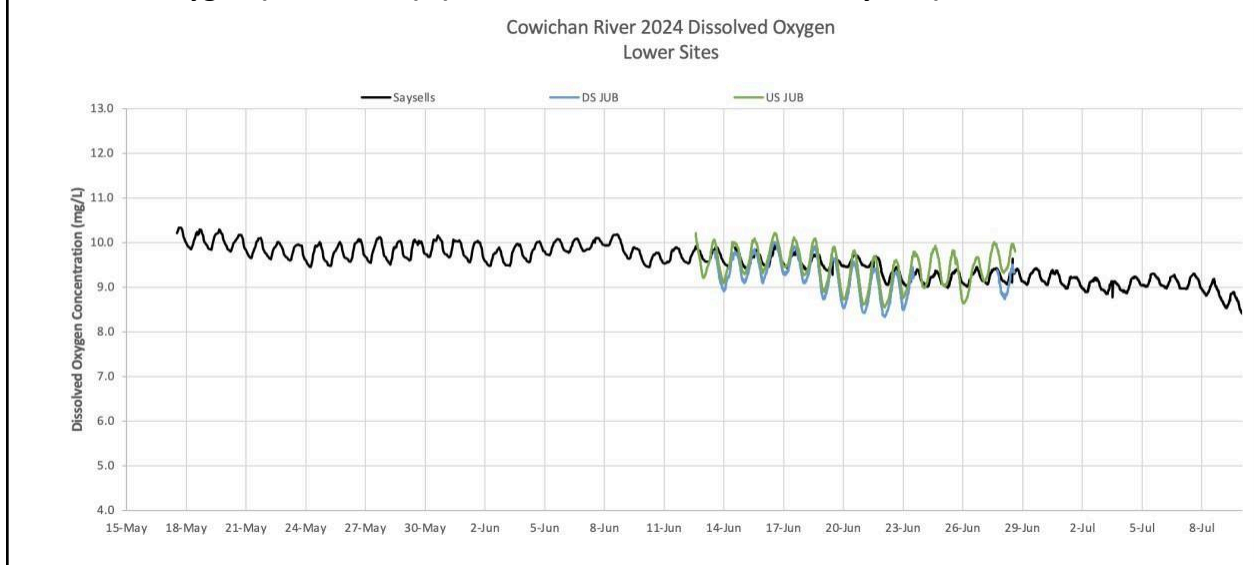


**Note:** Water temperatures above 16° C are stressful to salmon and trout. Temperatures above 20° C are extremely stressful and temperatures approaching 24° C can be lethal. Note: Data from Saysell's site from upper river added for comparison.

### Dissolved Oxygen (upper river):



### Dissolved oxygen (lower river): (No new data available since July 10<sup>th</sup>)



**Note:** Diurnal DO fluctuations result from algal respiration. The Saysell Site is located in the upper river above the sewage outfall and represents preferred range in DO diurnal fluctuations. Wide diurnal fluctuations indicate excessive algal growth which can be stressful and in extreme cases lethal to fish populations.

### 3. Fish Health:

- No reported observations of fish mortality in upper or lower river sections.

**Note:** Observations of dead fish are to be reported to:

- RAPP: 1-877-952-RAPP (7277)
- DFO: 1-800-465-4336
- CWB: [admin@cowichanwatershedboard.com](mailto:admin@cowichanwatershedboard.com)