



**Stoney Creek Trail Report
No. 41 - August 2022**

The Front Page photo shows the success of the large salmon run that took place last December, just days after the deluge. The unusually high water flow in the Creek, caused by the record rainfall, scoured out the creek bed and would have washed away any salmon eggs that were deposited before the Creek went on its rampage.

This is an opportunity to remind dog owners that it is important to keep your dog out of the Creek from November to March when the salmon eggs are buried in the gravel. Dislodged eggs will not survive. However, once they've hatched, salmon fry are very resilient. They quickly learn to avoid dogs as well as people and predators. These little coho will live in Stoney Creek until next spring. Then, as smolts, they will leave their home stream and swim via the Fraser River down to the Salish Sea. They will spend the following two years in the saltchuck before returning to spawn. Less than one in a thousand will make it home again.

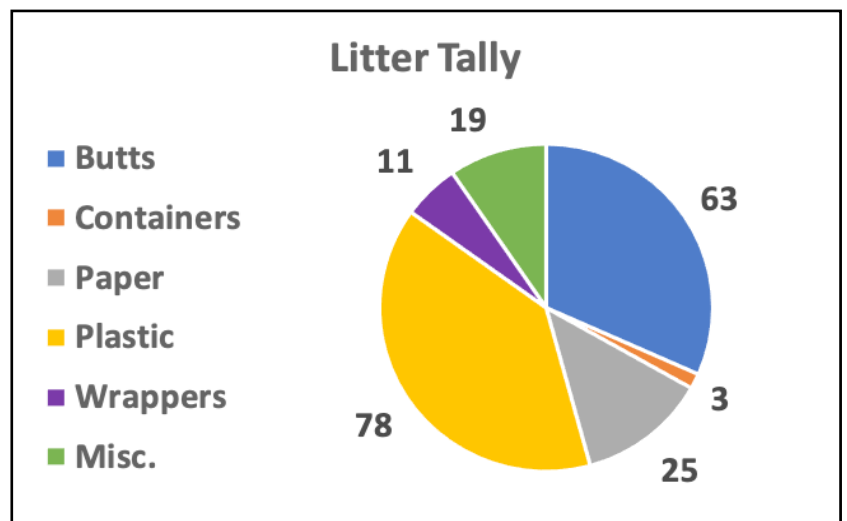
Broken Bridge news: In June, I reported that bridge engineering was underway, the “procurement phase” was about to begin and the big delay was going to be waiting for the “regulatory approval process.” I received no update from the City in July. **The latest word** is that they are “finalizing the designs for the bridges and assembling the procurement package.” I was told the delay is because “bridges of that size are complicated to install, especially in an area as environmentally sensitive as Stoney Creek and it's made doubly complicated due to the damage from the flood.” No details were shared by Parks, other than that the new bridges will have steel stringers (bridge beams). Let's hope that the new abutments (bridge foundations) will likewise be strengthened. I was assured that the Parks team is “working as hard as we can to get trails opened and repaired as quickly as possible while making sure that we are taking the time to leave our trails better than how they were before the floods.”

Other Parks activities of note: In contrast to the inexplicable pressure washing of two bridges and some fencing, a more useful post-deluge Pond excavation was carried out—see Page 5.

At long last, thanks to **Steven Marsh** and his crew at FVU, we have some scientific data on the Creek's water quality—see Page 8.

Back issues of the Trail Reports, as well as photos of Trail plants and animals are available on:

www.stoneycreektrail.ca



Miscellaneous: clothing, glass, chewing gum, balls & fragments, etc.

Wrappers: candy wrappers, foil, cellophane

Plastic: doggy poo bags & scraps, plastic bags

Paper: tissues, napkins, receipts, newspaper, cardboard, etc.

Containers: bottles, coffee cups, cans, juice boxes, bottle tops

August is the month when...

...shrubs and trees produce fruit and nuts.

...most plants have finished flowering and “go to seed.”

...birds can fatten up on seeds.

...insects have their last chance to sip nectar.

...allergy sufferers find relief, as most grasses will have stopped wafting pollen.



Mountain ash



Black hawthorn



Black chokeberry



High-bush cranberry



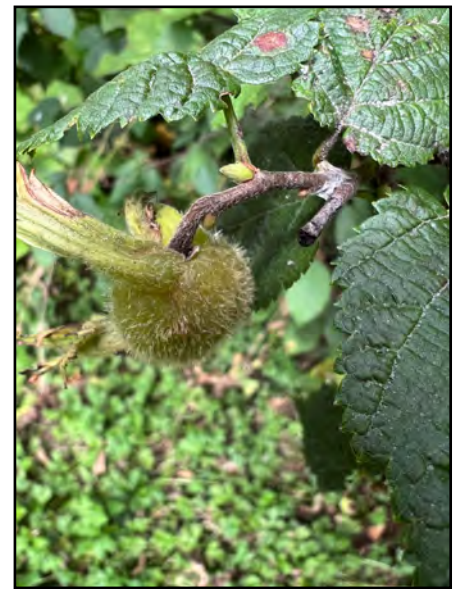
Pacific ninebark



Himalayan blackberry



Curled dock



Hazelnut

Up on Hemlock Hill:

This summer, the **Hemlock Hill path** has been a good place to see a variety of plants, several of them not found elsewhere on the Trail. The path was not mowed until the 18th, so plant growth on the edges was profuse. Several of the photos featured in recent Trail Reports and the Website were taken there.



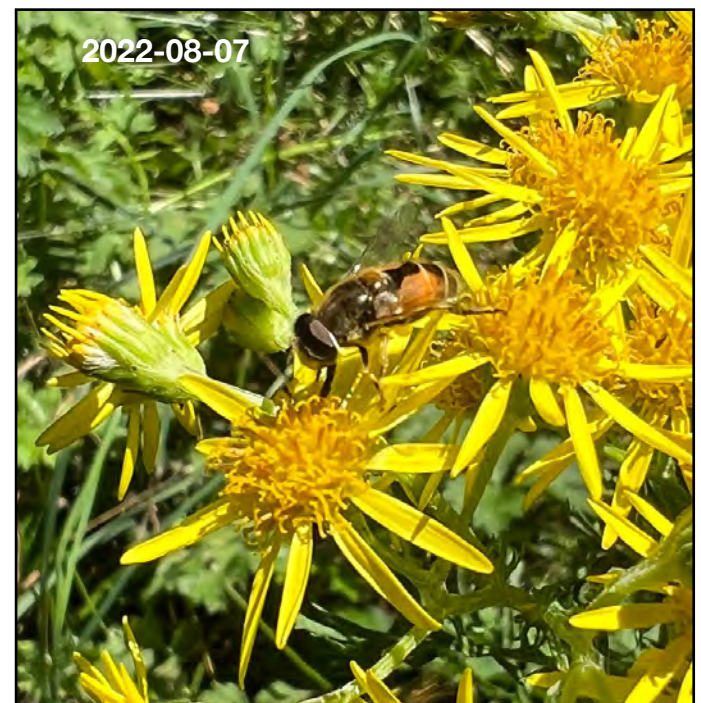
The **Tansy ragwort** (*Senecio jacobaea*) is a common, short-lived perennial in the aster family. Considered in BC to be a noxious, invasive weed, it is nevertheless a valuable source of nectar for insects and thus has significant ecological importance.

It's too bad that fewer dog walkers, school kids and other folk go up and down the Hill now because it has been cut off from the rest of the Trail by the broken bridges.



Above: the path finally got a trim.

Below: this 1cm long **Hover fly** (also called a Flower fly) is sipping nectar from a Tansy ragwort up on Hemlock Hill.



Pond Excavation:

For the second time this year, a City crew removed some of the huge quantity of gravel that had been deposited in the Pond by last November's deluge. **On the 4th**, an AquaTerra Environmental crew prepared the work area by setting up net barriers in the Creek. One was downstream, at the Bateman Road culvert. The other was upstream, under Bridge 0. Then, by "e-fishing" (electrically stunning) the salmon fry living in the pond, they were captured and moved outside the barriers, out of danger.



On the 5th, 20 truckloads of gravel were scooped out and hauled away. The clean gravel went to a nearby farmyard, while the "muck" containing leaves and silt went to the dump on Valley Road. While it was in progress, AquaTerra monitored the work, concerned with water turbidity in particular. **By the 7th**, the water had cleared sufficiently and the net barriers were removed. The Pond is now much deeper.



Trail Dogs:



Rocky is a Yellow Lab, 4 years old. He came from a breeder in North Bradner, Abbotsford. He was the last one available in the litter, and I think we got the perfect pup for us.

His favourite things are his ball, water (the Creek or a lake), truck rides and camping in our trailer. Rocky likes to sleep on the couch and his recliner, but he doesn't like going to places like PetSmart 'cause he's scared of the smooth floors (kinda weird).

Rocky loves everybody and assumes everyone he meets will play ball with him. He likes to see other dogs at the Park and his best friend is a Golden Retriever named Indie. I forgot to mention he likes his ball more than food. Except cheese, loves his cheese.

Stoney Creek Crayfish:

The **Signal crayfish** (*Pacifastacus leniusculus*) is native to the Pacific Northwest. It is a solitary species found in small streams, rivers and lakes. Its uniform brownish color and the smooth surface of its shell and claws are distinctive. These crayfish are typically 6–9 cm long, although sizes up to 16–20cm are possible. This one, found near the nursery trees, is about 16 cm long. (Thanks to **Mike Bidal** for the photo).



Crayfish, also called crawdads, are quite mobile and most active at night, especially during the summer months. Juveniles like to live where the creek bottom is cobbled, while adults prefer sandy, silty areas in deeper water. In our area, the main natural predators of crayfish are raccoons and herons.

Mating and egg laying take place in the autumn. The eggs are carried by the female on the underside of her tail until hatching in early spring. By summertime, the hatchlings are independent and begin to forage. Juveniles and young are mainly carnivorous, feeding on insects. Adult Signal crayfish are omnivorous and will eat a variety of foods, from decaying roots and leaves to meat, including smaller crayfish.

Crayfish are not just freshwater lobsters. They do have the same number of legs (10), shed their external skeletons and are likewise omnivorous, but crayfish eat insects, worms and plants rather than fish, clams and crustaceans. As well, a lobster is much larger and can live up to 100 years, a crayfish up to 10.

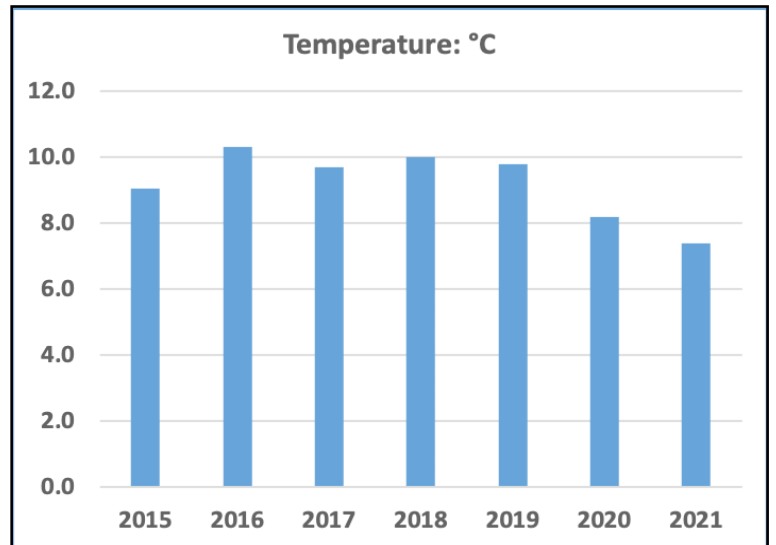
You need a license to catch crayfish. People who do so enjoy its sweet, white flesh.

Stoney Creek Water Quality Report (Part 1):

These bar graphs are based on sampling done between 2015 and 2021, and indicate the **average** water quality readings **per entire year** over a span of seven years. Thanks to **Steve Marsh** of FVU for providing the data. All the readings were taken just upstream of the culvert at Bridge 0.

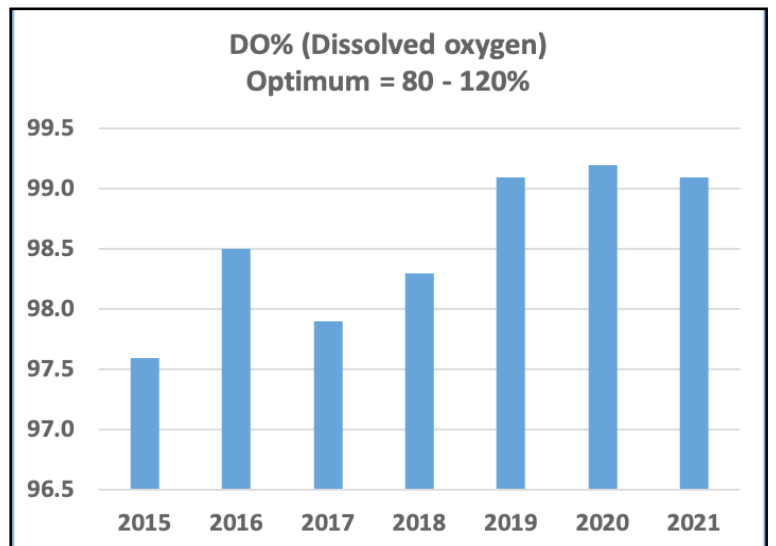
Temperature:

Water temperature is important because it can determine where certain plants and animals can live. It also influences the amount of dissolved oxygen in water. Cold water can hold more oxygen than warm water. Water temperature is influenced by water clarity. Note that **for coho fry, the optimal growth range is from 10° to 15°**.



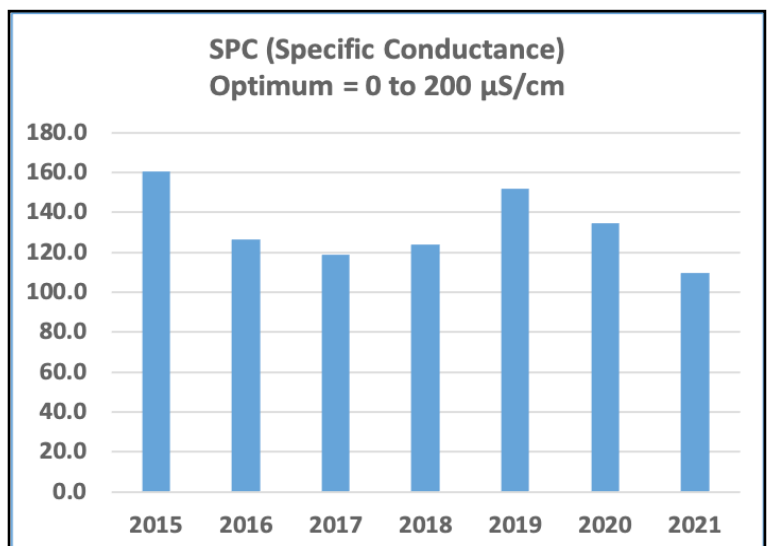
DO (Dissolved oxygen):

This is an indicator of the water's ability to support life. The burbling of water over rocks, water temperature and depth, and the number of plants such as algae will affect the oxygen content. Plants produce oxygen, while bacteria use up oxygen during decomposition of dead plants. In most cases, **Stoney Creek's levels are good**, usually near 100%.



SPC (Conductivity):

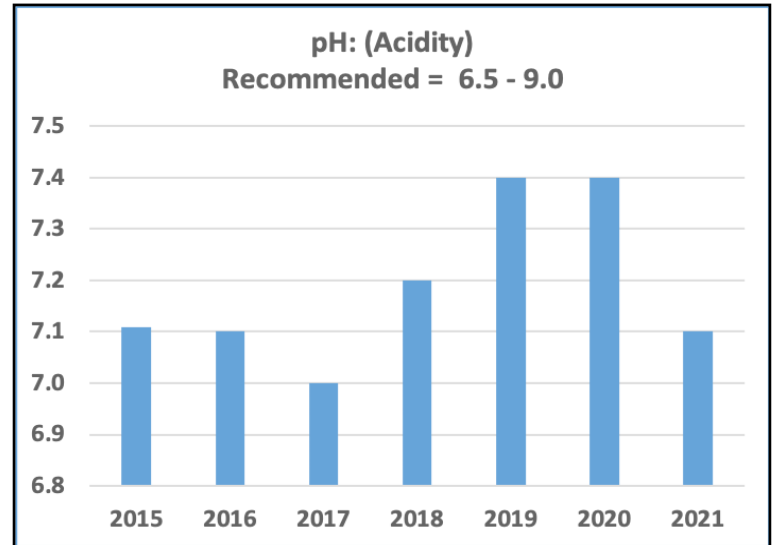
This is a measure of how easily electricity flows through the water due to dissolved salts. Pure water would have zero conductivity. Conductivity would be expected to increase in summer due to less dilution from precipitation plus greater evaporation during warm temperatures. Changes in conductivity can be used as an indicator that there is some source of pollution.



Stoney Creek Water Quality Report (Part 1, continued):

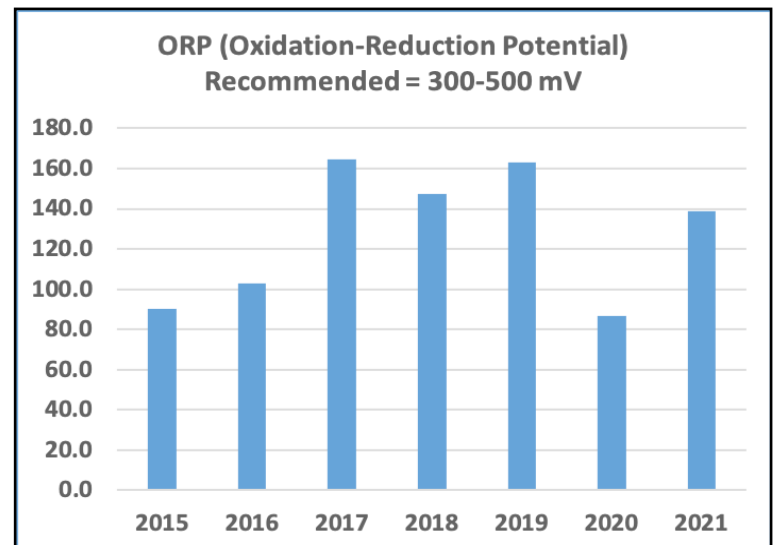
pH (acidity):

Most aquatic life functions best at a pH range of 6.5—8.5. Pure water has a pH of 7.0 (neutral). Natural causes of acidity (lower pH) can be high levels of organic compounds as well as some man-made compounds in precipitation run-off. Higher pH (alkalinity) can also come from man-made pollutants as well as dissolved minerals from bedrock and soil. **The pH level of Stoney Creek water is good.**



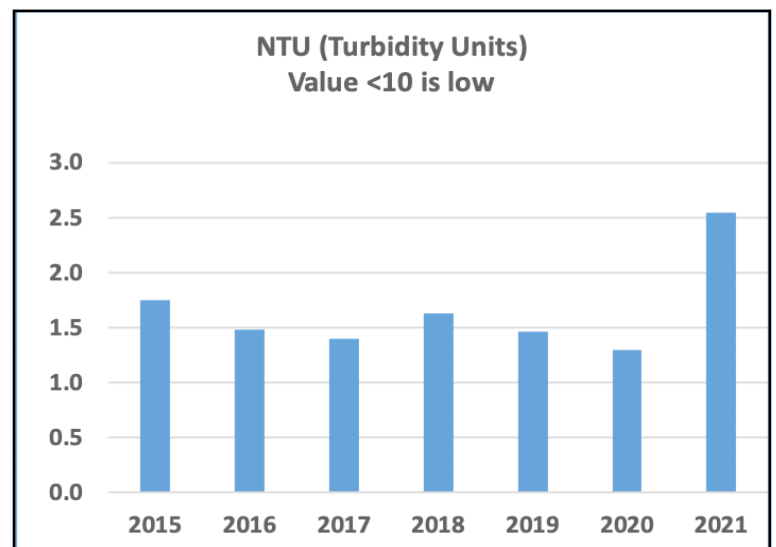
ORP (Oxidation-Reduction Potential):

ORP provides a measurement of the ability of the stream to cleanse itself by oxidizing (breaking down) contaminants coming from rainfall run-off, sewage, etc. Values around 500 mV are best, while lower values indicate impairment. **The bacteria level in Stoney Creek is a concern**, particularly in warm weather.



NTU (Turbidity):

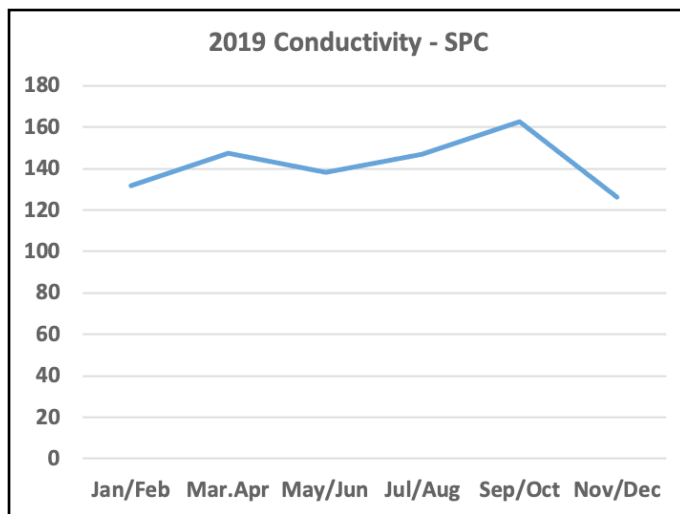
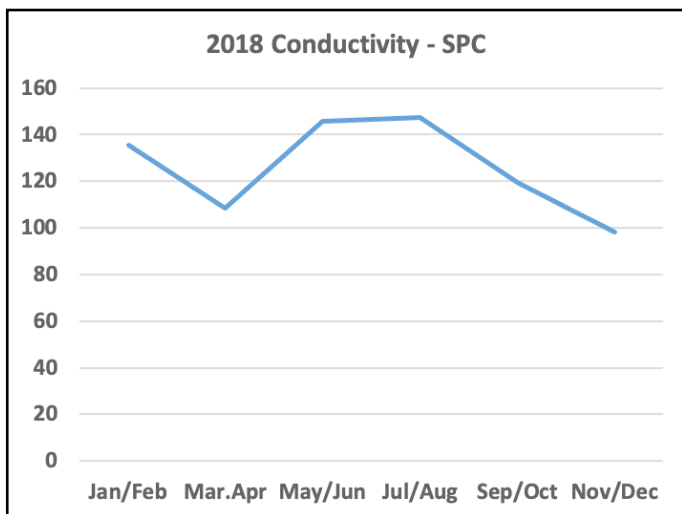
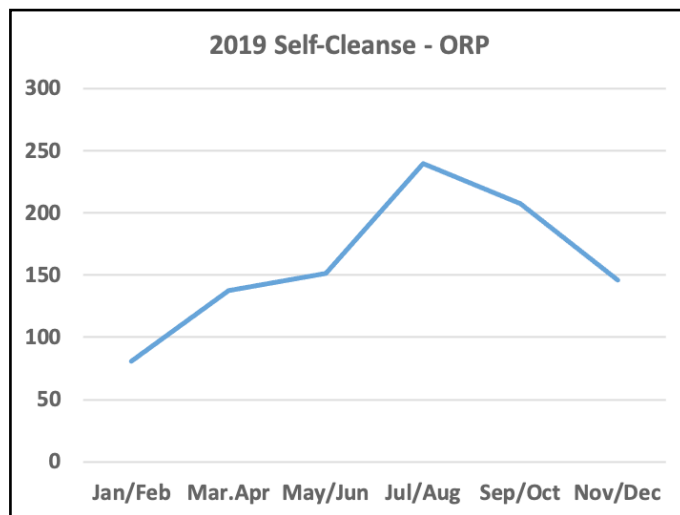
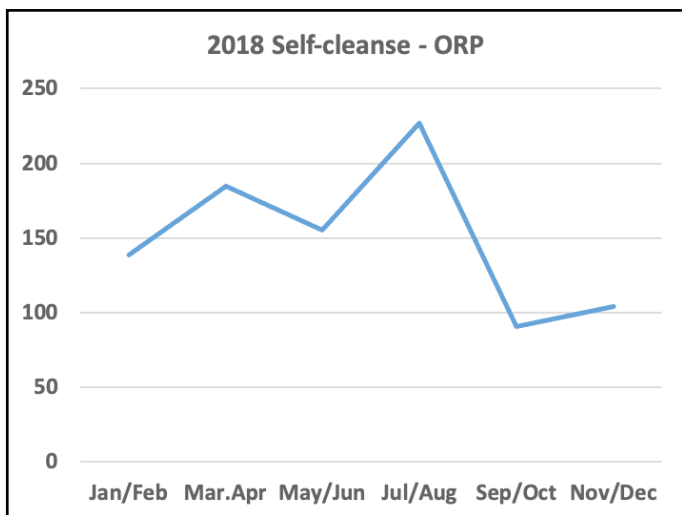
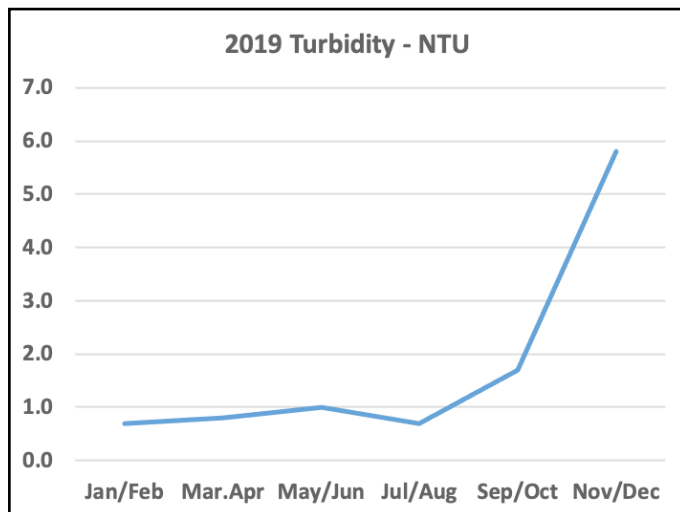
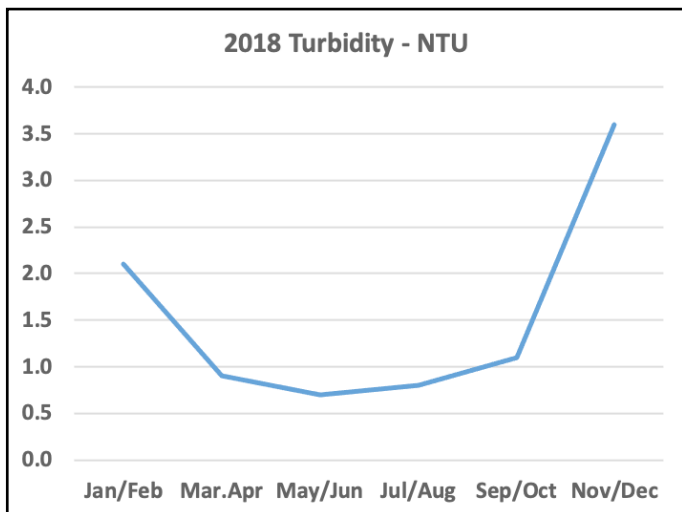
Turbidity is a measure of water clarity. It indicates the amount of light scattered or blocked by particles suspended in the water. More particles will absorb more sunlight, increasing water temperature. They will decrease the penetration of sunlight into the depths of the water, decreasing photosynthesis (oxygen production) by aquatic plants.



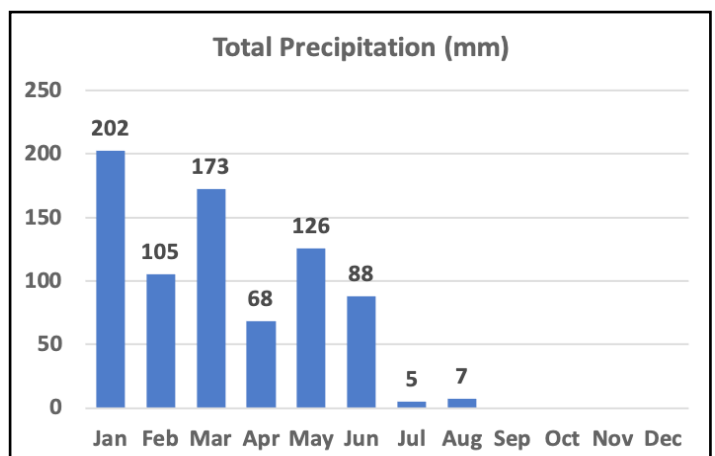
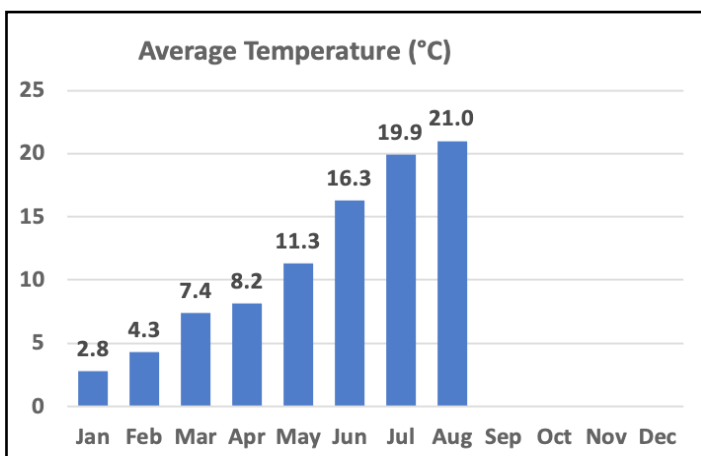
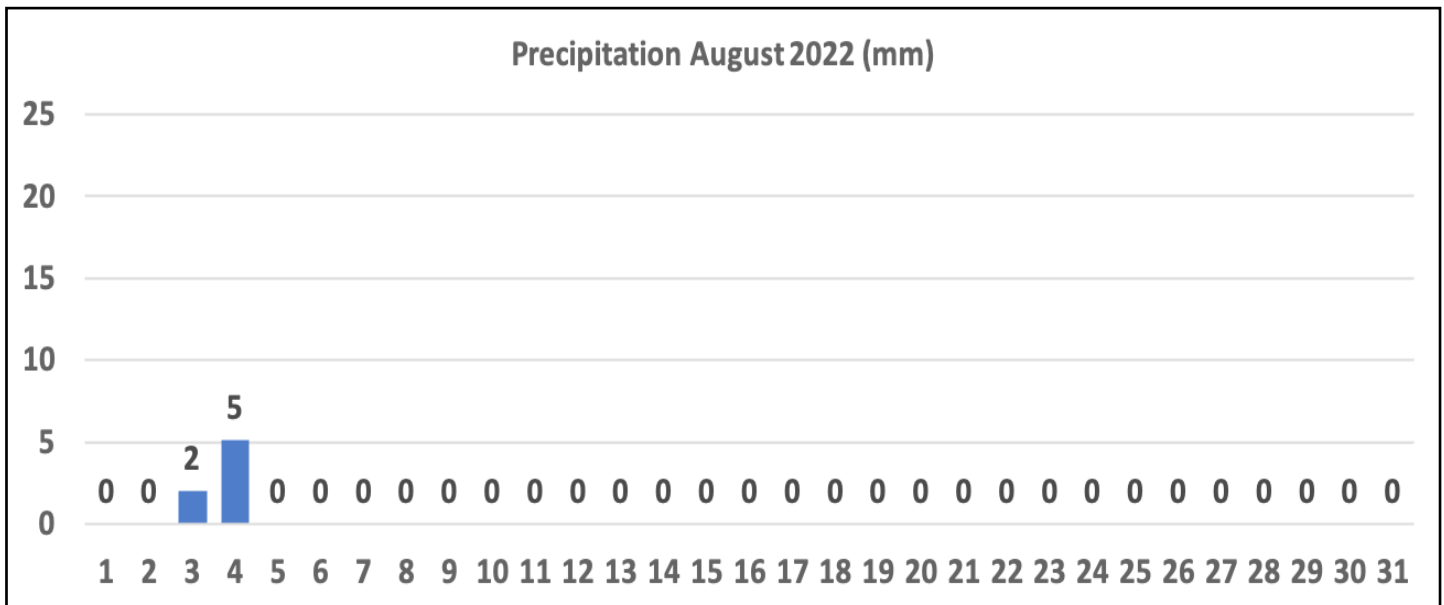
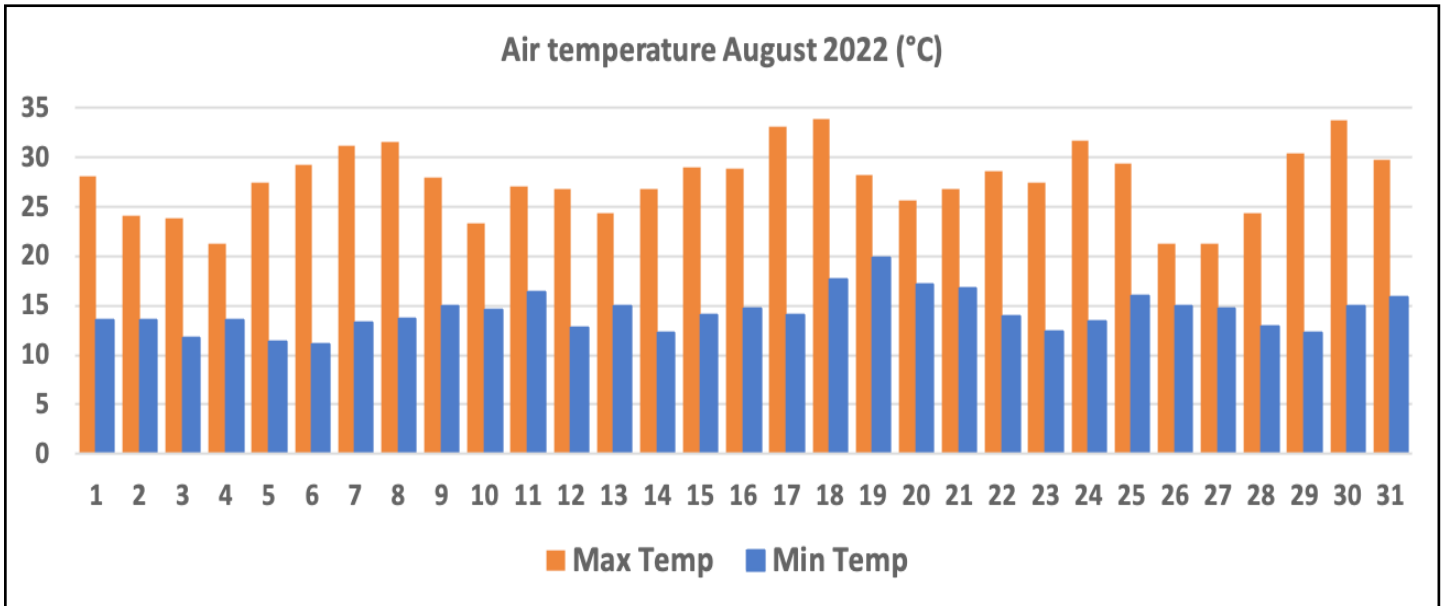
Turbidity values less than 10 NTU are considered low, 50 NTU would be considered moderate, and very high turbidity values can be more than 100 NTU. The graph shows that **Stoney Creek water normally has low turbidity.**

Stoney Creek Water Quality Report (Part 2):

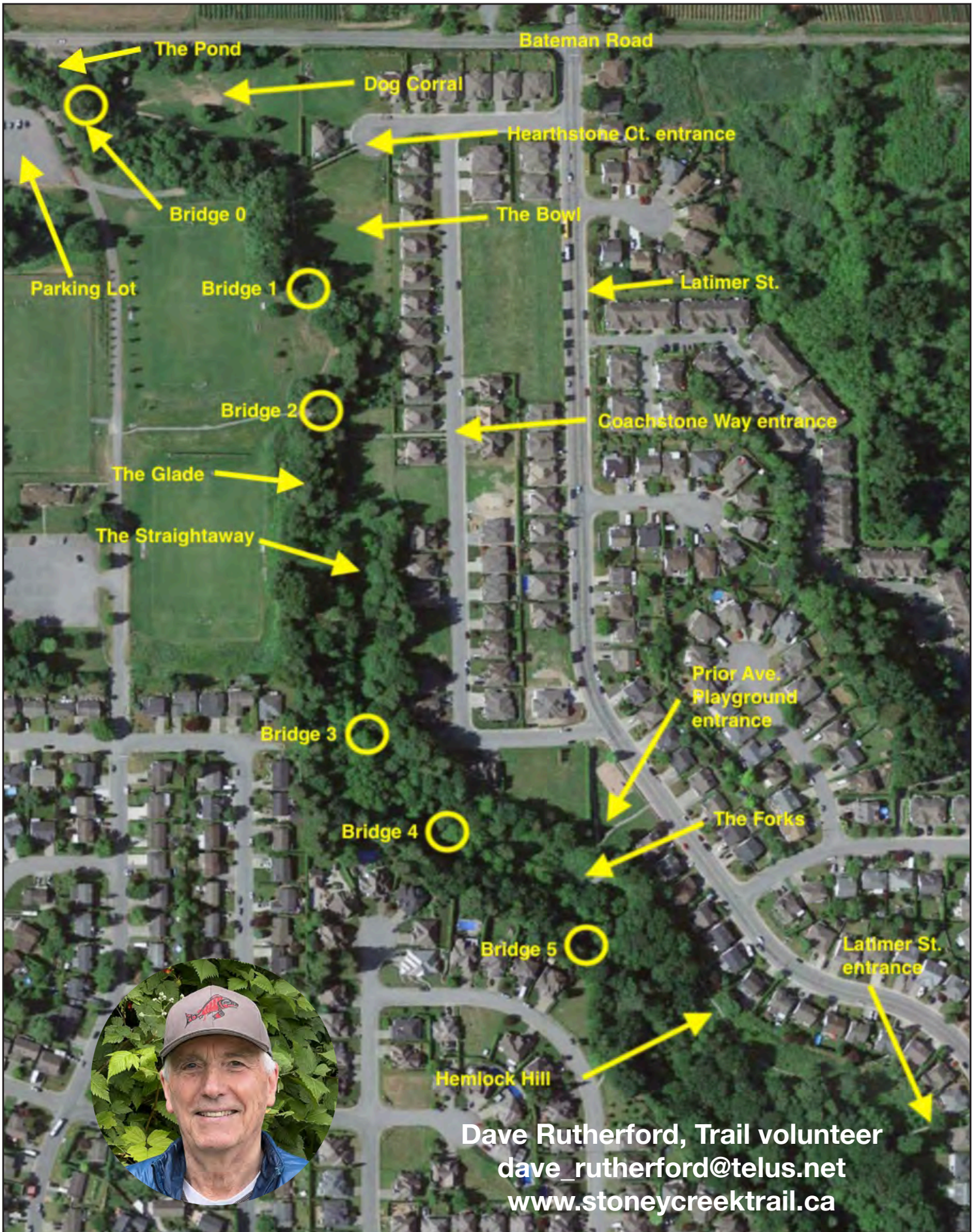
Water sampling began in 2015, but the frequency has varied widely due in part to the COVID-19 pandemic (47 tests were carried out in 2018, 45 in 2019, but only 22 in 2020 and 11 in 2021). These graphs display bimonthly averages and are meant to show that **values vary with the seasons** (warm vs. cold; dry vs. wet). Fall and winter precipitation events greatly affect turbidity (NTU) and salinity (SPC).



Average August daytime temperatures were 23.9° in 2020, 19.2° in 2021, and 20.8° this year. On the other hand, August rainfall totals were 43.7mm, 16.3mm, and 7.1mm respectively. Continuing dry and hot conditions have prompted the BC Government to declare Drought Level 3 on Vancouver Island and Haida Gwaii, with adverse **impacts possible**. We are only in **Drought Level 2**, with adverse **impacts unlikely**, but restrictions on outdoor fires on private and public land are at maximum.



For convenience, I use these custom place-names:



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