



**Stoney Creek Trail Report
No. 59 - February 2024**

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This issue of the Trail Report features **mosses**, which I've found can be very difficult to identify. I am fairly confident that the mosses on Pages 3—5 are correctly named, but the one on the front page is still a puzzle. The mosses shown in this report are most of the ones I've found on the Trail. Have a look for them. It will give you something to do while you are forest bathing! 😊



Before introducing mosses on the following page, I want to show you a kind of plant that isn't a moss, but sure looks like one from a distance: the **Liverwort**. Like mosses, liverworts are non-vascular plants, which means they don't have sap flowing in them. As well, they don't produce flowers or seeds. Instead, they reproduce with spores.

Mosses are formed of tiny, complex leaves radiating symmetrically from a "stem." Liverworts have a simpler form, with two rows of "leaves" growing ribbon-like along a stem.

Liverworts are often found in the same locations as mosses but can tolerate more diverse habitats. The one shown on the left is the **Tree-ruffle liverwort**. This is the only kind I've found on the Trail so far. If you spot another kind, please let me know.

Both of these photos were taken of the same alder tree near Sadie's bench. In the top one you may notice a bit of moss mixed in.

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News Flash! I received a report from a reliable witness that a beaver (Bucky??) was seen swimming in the Pond on the 18th. Nothing since.



Mosses 1/3



Mosses are happiest in cool and moist environments. They come in different shades of green because their gametophytes (leaves) contain chlorophyll. They vary greatly in appearance but generally have small, densely packed leaves typically arranged in spirals or rows. They often form dense mats on the ground, logs and the bark of trees. As with liverworts, they are anchored by a network of hair-like rhizoids instead of roots.

Left: Silky Wall Feather-Moss (*Homalothecium sericeum*) living at the base of a cottonwood tree.

Below left: Oregon Beaked Moss (*Kindbergia oregana*) on the horizontal branch of a hazelnut tree.

Below right: Tree-moss (*Climacium dendroides*) growing on a decaying alder log.



Mosses 2/3

Conditions along the Trail at this time of year are ideal for mosses.

Right: mosses usually form sporophyte structures (capsules on the ends of stalks) in late spring, but this **Apple moss** (*Bartramia pomiformis*), has already done so. The microscopic spores held in the capsules will be released slowly and drift off in the air. If they land in a suitable place they will germinate to produce another green mat.

Below left: Slender beaked moss (*Kinderbergia praelonga*) is good at forming mats. It grows abundantly throughout western North America.

Below right: Shingle moss (*Neckera pennata*) also forms dense mats, especially on Bigleaf maple trunks. These last two were found growing on the base of the same maple.



Mosses 3/3

Mosses are beneficial in providing habitat for various organisms. They filter and retain water, releasing it slowly into the environment. They also play an essential role in carbon sequestration and soil formation.

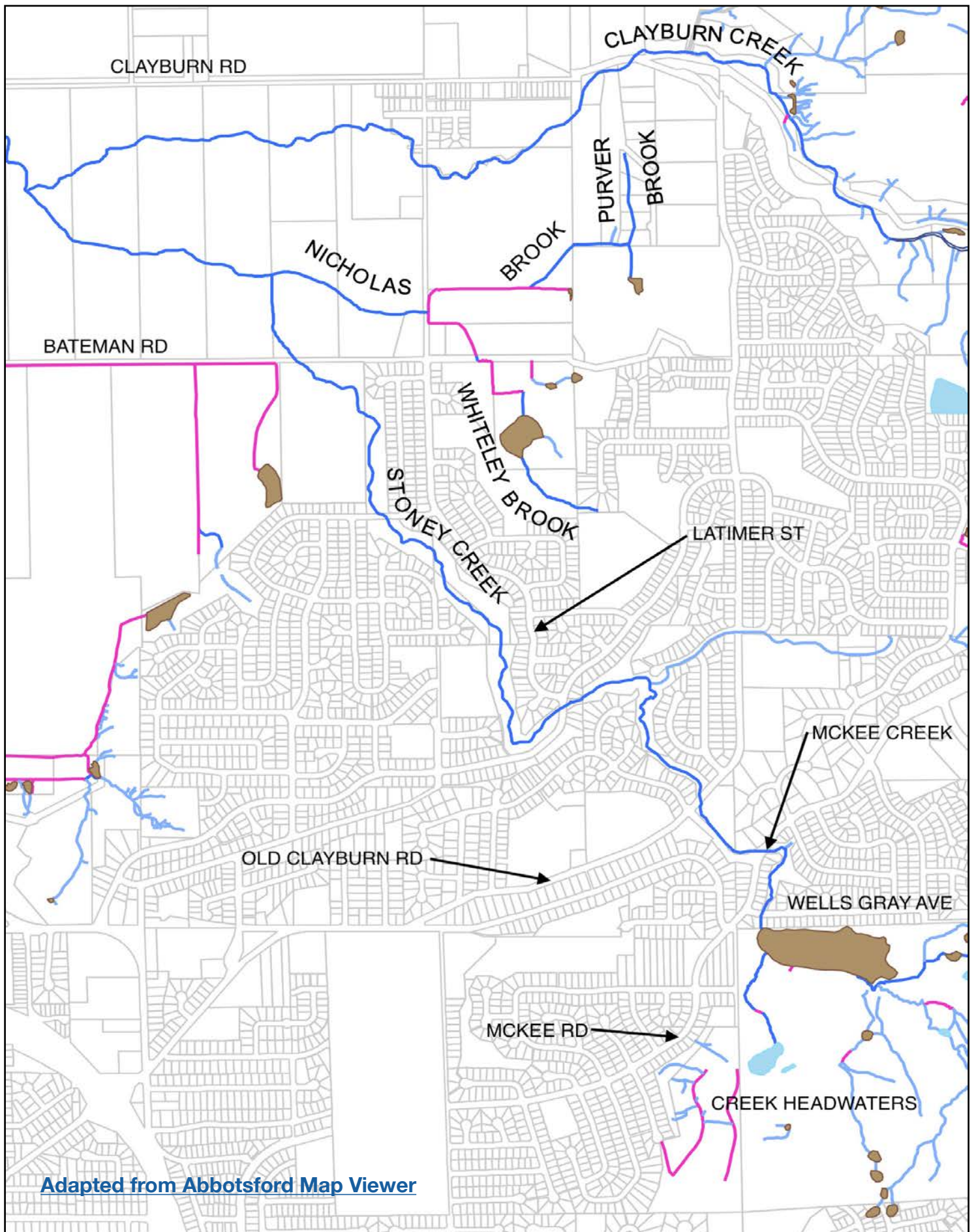
Right: this rich green **Frigile Fork moss** (*Dicranum tauricum*) is just getting established on an alder tree. Notice a bit of liverwort and “scribbles” of Common script lichen around it.

Below left: two years ago, before the cedar fence beside the Dog Corral was power-washed, this **Waxyleaf Moss** (*Dicranum polysetum*) was happily growing on the top railing.

Below right: **Shingle moss** (*Neckera pennata*) is a common West Coast moss.



Stoney Creek Watershed



Adapted from Abbotsford Map Viewer

As Stoney Creek flows...

Stoney Creek (initially McKee Creek) flows out of a small forested area up on the west side of Sumas Mountain below Whatcom Road. In winter it consists mostly of rainwater that wasn't absorbed into the ground. In summer it mainly comes from groundwater—much to our good fortune.



During a heavy rain, by the time it arrives down at the Trail, it is cloudy from carrying sediment. It will also have picked up traces of heavy metals from car tires and brake lining dust off the streets. Detergents, pesticides, herbicides and fertilizers from yards and driveways may also have been flushed into the Creek.

Pet waste carrying harmful pathogens such as bacteria and viruses is also a risk.

In spite of this, Stoney Creek almost miraculously runs clear within a day or so and apparently remains safe for fish fry and other critters. Why?



To begin with, clean water from upstream dilutes the concentration of contaminants. As the water flows, it passes through layers of soil which act as natural filters. Because it is flowing over rocks and pebbles, the water is aerated, thus purifying it with oxygen. Aquatic plants such as algae also add oxygen through photosyntheses, as well as metabolizing (breaking down) some of the pollutants.



As for remediation, few measures have been taken. Signage possibly discourages some pollution and disturbance of the creek. Government regulations disallow removal of vegetation or mechanical disturbance of the creek bed (except by permit) because it is a fish-bearing stream.

Downstream water sources such as Willband Creek and Clayburn Creek will mix with Stoney Creek on the way to the Fraser River, but the absence of wildland on Matsqui Prairie means that there are fewer natural cleansing processes to reduce the effects of effluent from the extensive agricultural activities.

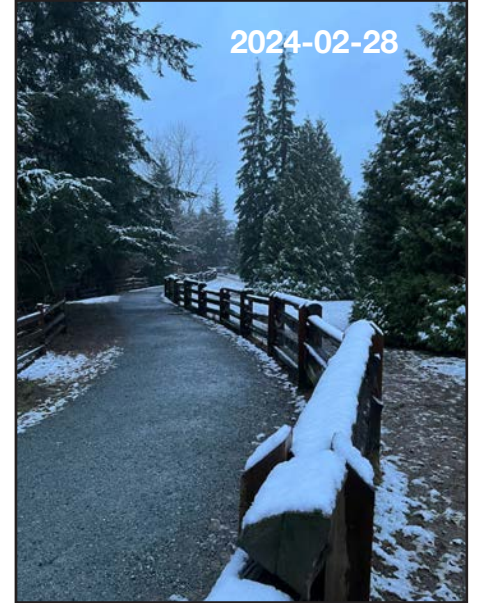
Odds and Ends



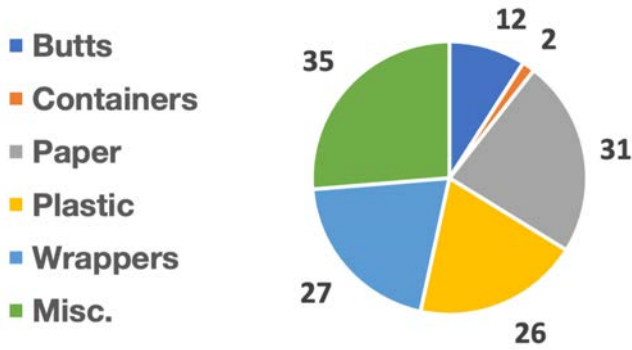
Top: a sodden teddy bear rescued from the Creek near the Nursery Tree, a lost brown hoodie at Bridge 1 and an unfortunate bit of artless graffiti on Sadie's bench.

Middle: a camouflage hat near Bridge 3 and a bit of wet snow that fell overnight at the end of the month.

Bottom: the trailside on the Hill appears desolate now, but a closer look reveals signs that spring is coming.



Litter Tally February 2024



Total litter items = 133

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

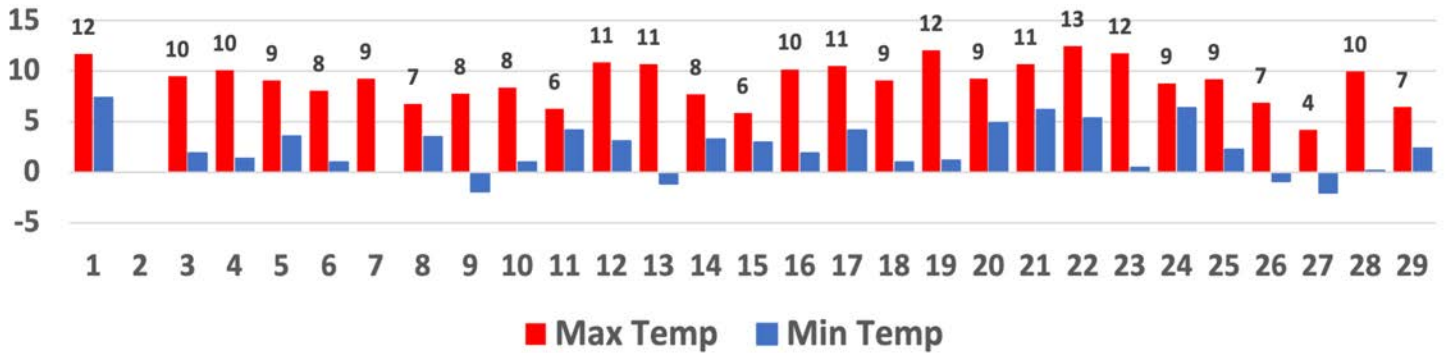
Paper: tissues, napkins, posters, newspaper, receipts, cardboard, etc.

Plastic: dog waste bags & shreds, baggies, other items made of plastic.

Wrappers: candy wrappers, foil, cellophane.

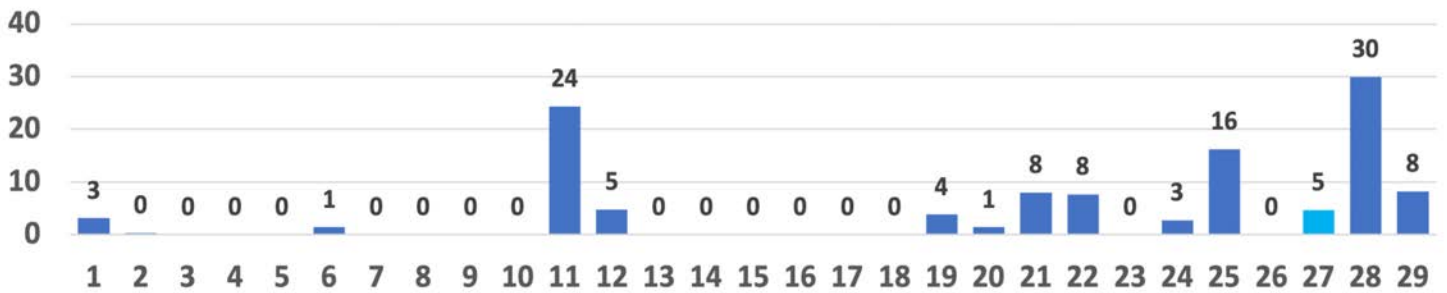
Miscellaneous: clothing, glass, chewing gum, dog balls & fragments, etc.

Air temperature YXX February 2024 (°C)

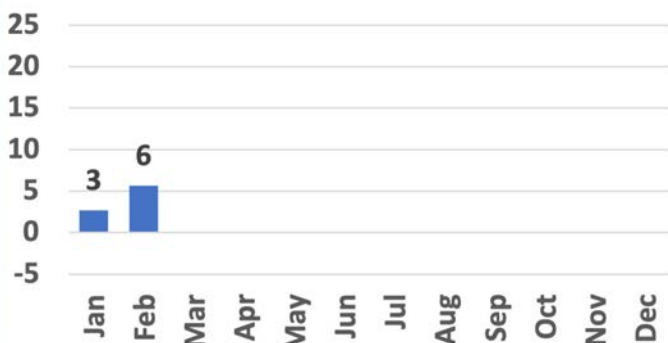


Precipitation YXX February 2024 (mm)

Rain vs. Snow



2024 Mean Temperatures (°C)



2024 Total Monthly Precipitation (mm)



For convenience, I use these custom place-names

