Stoney Creek Trail Report
No. 51 - June 2023

In the **front photo** you can see a mass of foam on a Buttercup stem. It was produced by an insect called the **Meadow Froghopper** *(Philaenus spumarius)* because the adult has the ability to jump many times its body length. It is also called a Spittlebug because its nymph eats by piercing a plant and sucking the sap. The spittle is actually foamed-up plant sap. In springtime, the nymphs encase themselves in the foam as they eat. It keeps them from drying out and protects them—the foam is very unpalatable to predators.

Featured Articles:

The purpose of these reports (and the website (stoneycreektrail.ca) is to keep a "history" of the Trail by recording its natural features and events that take place on it. The **Trail Dog pages** happen to be a popular sidelight, but are not entirely relevant. Over the last two years, I have managed to feature over 70 dogs. Because they are included only when I have taken photos and received owners' descriptions of their dogs, they may not appear in every Report.

First-time volunteer **Quirien Mulder ten Kate** is learning how to remove the tiny adipose fins from Coho fry at the ARPSES clipping session on June 2nd at the Ravine Park Hatchery.

Before clipping

After clipping

ARPSES Annual Fin Clipping Event

On June 2nd and 3rd, ARPSES (the fish hatchery people) carried out their annual fin clipping program. The crew this year was made up of both trainees and experienced people. The morning I attended, 3500 fish fry were processed. Over two days, the total was about 9000. Clipping removes the adipose fin, the smaller of the two fins on the fish's back. When these "marked" fish eventually return to the home stream, along with the wild fish, it provides a way for the DFO ("Fisheries") to monitor the success of their strategies to enhance our salmon stocks.

The process began with the fish fry being put in a solution that knocked them out.

The stunned fish were then distributed to the clipping stations by the DFO supervisor.

Clipping is a delicate but quick operation using special scissors.

The clipping crew was made up of volunteers, some with previous experience.

Once the fins were removed, the fish were placed in a stream of water and flushed down a pipe to a holding tank. When recovered from the anaesthetic, they were returned to a hatchery Cap trough.

Creek Wildlife — Benthic Macroinvertebrates (1/3)

Benthic *means bottom dwelling;* ***macroinvertebrate*** *refers to a creature lacking a spinal column. Note: the insects in the photos are less than a centimetre long.*

Caddisfly larva

Adult caddisfly

Early this month, I met in the Glade with the two Nature Kindergarten classes from Dr. Thomas A. Swift Elementary and their teachers, Ms. Nicholls and Ms. Baerg. There were about 40 children and around six parent volunteers. With the enthusiastic help of the students, Ms. Nicholls and I took photos of these little insects they found underwater.

The Northern caddisfly *(Dicosmoecus gilvipes)* attaches itself to submerged rocks and grazes on minute life forms such as diatoms and algae. It has glands that produce a strong silk with which it attaches a suit of armour made of twigs, leaves and gravel.

The adult caddisfly is a medium sized insect with membranous, hairy wings, which are held in a tent-wise fashion when the insect is at rest. The antennae are fairly long and threadlike. Adults, which are not particularly strong flyers, are nocturnal and are attracted to light. They are usually short-lived, being non-feeders and equipped only to breed.

Water Striders *(Gerridae)* are small, long legged insects able to walk on water due to surface tension and the extremely tiny hairs (thousands per square millimeter) that cover their body and legs. These hairs repel water, preventing water drops from weighing down the water strider, as well as allowing it to walk on the surface. These hairs can also trap air bubbles, giving buoyancy to the water strider if it becomes submerged.

A water strider has two antennae and two short front legs with claws for puncturing prey. The other four legs, slender but strong, spread its weight over a large surface area and provide steering and propulsion.

Water striders go through an egg stage, five instar stages and then the adult stage. The nymphs are very similar to adults in behavior and diet, but are much smaller. It takes approximately 60 to 70 days for a water strider to reach adulthood, depending on the temperature of the water.

Water Strider nymph

Benthic Macroinvertebrates (2/3)

The Crane fly *(Tipula furca)* is in the ***Diptera*** order of insects which represents the only "true flies." The soft-bodied, worm-like larvae of Diptera make up a large number of species among aquatic insects. They have a fundamental role in the food webs of streams. True fly larvae remain the only aquatic insects without fully developed legs in their larval stage.

The **larva** of the crane fly (a.k.a. Daddy long legs), is valuable because it processes organic material, redistributing nutrients and thus stimulating microorganisms. It is also a food source for fish, birds and other creatures. The **pupa** is a quiet stage of development following the larval stage. Enclosed in a cocoon or protective covering, it is undergoing internal changes (metamorphosis) before emerging as an imago (adult).

Crane fly larva

Crane fly pupa

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The **Damselfly** *(Zygoptera)* is in the insect order ***Odonata***, and thus not a true fly. It looks like a darner (large dragonfly), except darners have huge eyes, sturdy bodies and perch with wings held out to the side. The damselfly is slender, with wings folded together back over the abdomen while at rest. Dragonflies are swift and strong fliers, while damselflies have a fluttering flight. The most common damselfly in our area is the Northern Bluet *(Enallagma cyathigerum)*.

Damselflies spend the greater part of their lives in water as nymphs. Their aquatic form is also quite distinct from that of the dragonflies. The damselfly nymphs have three leaf-like gills at the tip of their abdomens, while the bulkier dragonfly nymphs lack these.

Damselflies are predators in both the aquatic and aerial stage, capturing prey with a hinged lower lip. They consume smaller larvae and in turn are preyed upon by fish and larvae bigger than themselves.

Adult Damselfly

Damselfly nymph

Benthic Macroinvertebrates (3/3)

The insect larvae on this page were featured in the April Trail Report using photos from the Internet. The photos below are of invertebrates actually found in Stoney Creek by the kindergarten students. You can judge the size of the larvae by comparing them to the grains of gravel.

The **Mayfly** *(Stenacron candidum)* is an *indicator species*—an indicator of healthy water quality. The larva (called a nymph or a naiad) is characterized by sturdy legs and an abdomen covered in pairs of gills.

Flatheaded Mayfly nymph

Most commonly, mayfly larvae feed on decaying matter and algae growing on the creek bottom. The larger sized larvae will sometimes prey on other smaller insects that they find in their watery environment.

Like many other insects, mayflies go through several stages (instars) before reaching maturity. They spend the greater part of their lives as nymphs under water rather than as flying adults.

Adult Mayfly

When they reach the adult stage, like caddisflies, they do not feed at all, existing only to reproduce!

Above the water, the males form a large swarm into which the females fly. After mating, the females deposit the eggs on the water surface. Within hours, they all die, often forming large rafts of bodies floating on the water.

The **Stonefly** *(Pteronarcys dorsata) i*s common in Stoney Creek. When the larvae hatch, they look essentially like small adults with no wings. Each time they shed their skin they get larger and look a bit more like an adult stonefly. This is called incomplete metamorphosis.

Adult Stonefly

Like Mayflies, their presence indicates that the water is healthy. Due to their relatively large size, they are good at redistributing nutrients. The greatest numbers are found mostly in small, cool, shaded streams with high dissolved oxygen. Sound familiar?

Stonefly nymph

Changes to the Trail in a Decade

View from Bridge 5 toward the Forks

Trail Dogs

“Nala is a Whippet cross. She is 11 years old. Our son got her from the pound in Montana. She had been living in a garbage dump. She now lives with us because of our son’s job.

“She has a two-year-old brother named Jack and he is a Golden retriever.

“Nala likes to go for walks, wrestle a bit with her brother and steal and hide his toys. She also likes to sleep and cuddle.”

This is **Oakley**. He just turned six, but people often assume he’s still a puppy (and he still acts like one!). He came to us as a rescue from Texas when he was about four months old. His breed was unknown, but when we did a pet DNA test for fun it came back with a strange mix of breeds; Black and Tan Coon-hound, Yorkshire Terrier, Pug and Rat Terrier. We just call him a mixed breed!

Oakley is great at playing fetch and has been going to agility class for several years. We initially started going to build his confidence, but now we go just to have fun with his friends!

Odds and Ends

Top: up on Hemlock Hill, **Oregon grapes** and an escaped yard flower, the **Sweet Mock Orange**. Beside the Bowl, winged seeds on the **Amur Maple**.

Middle: more on Hemlock Hill: the tiny white **Cleavers** flowers and **Flower beetles** on a **Pacific ninebark** flower cluster.

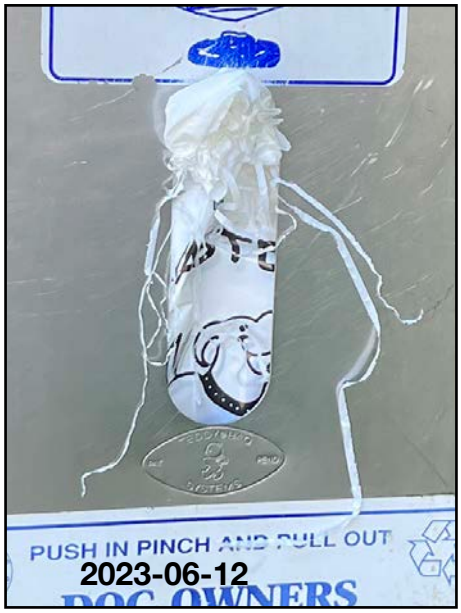
Bottom: **Reed canary grass** stands 2m tall on Hemlock Hill; **Indian plums** near Bridge 4; a ripe **Salmonberry**.

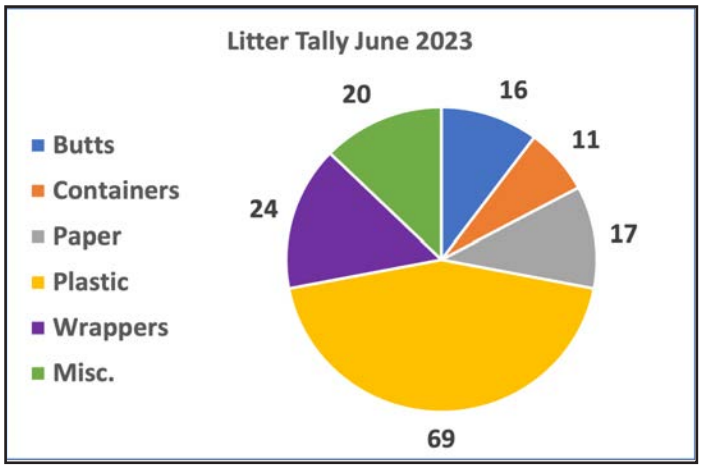
Various Items from the Last Three Months

Top: lost items at the Dog Corral: a deluxe **dog leash**; **sunglasses**; a single **sock**??

Middle: a **patio chair** in the Creek, cool!; a colourful harvest of **salmonberries** gathered along the Trail.

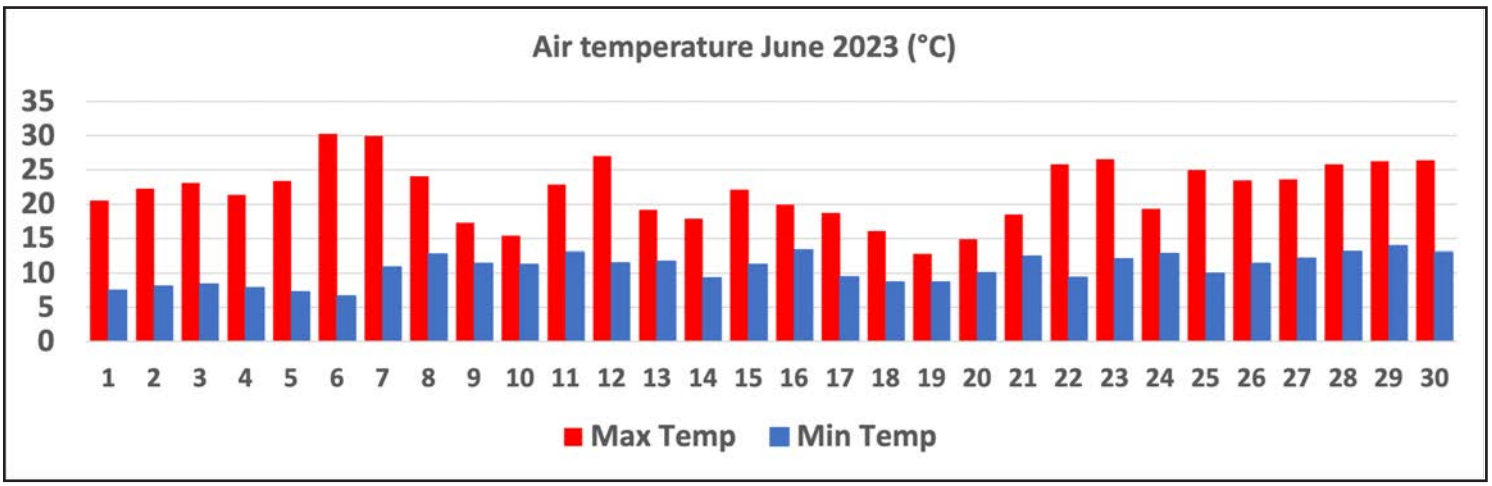
Bottom: *by far* the most common litter item now—**shreds of plastic** from the dog poo bag dispenser (see the chart on the next page); a broken **fishing rod** left near the Pond.

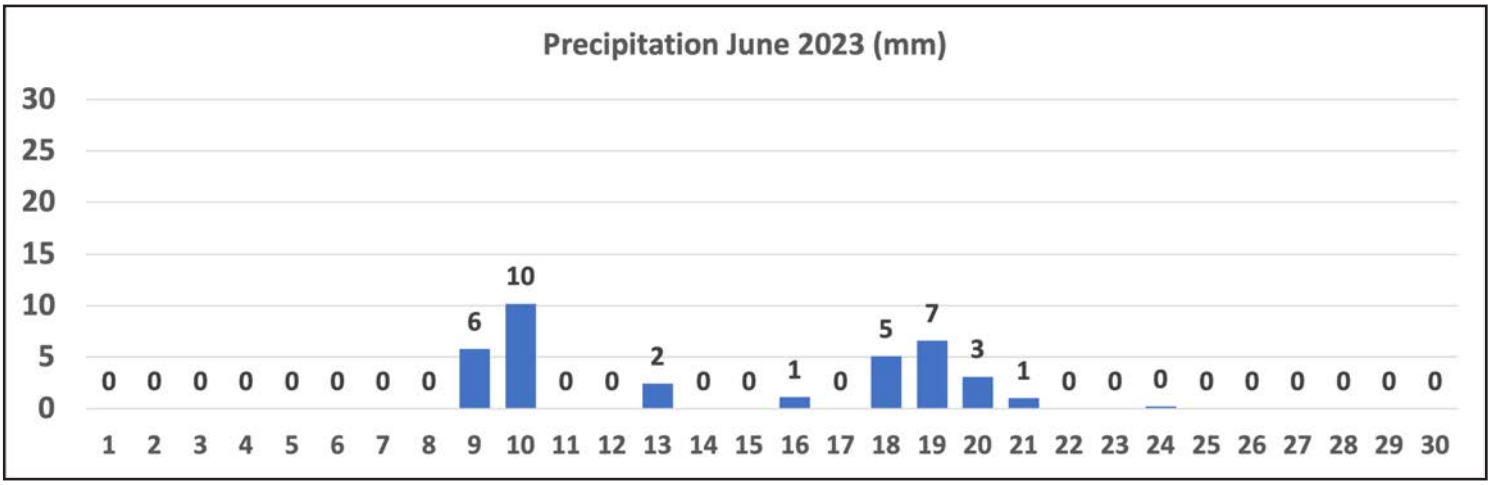


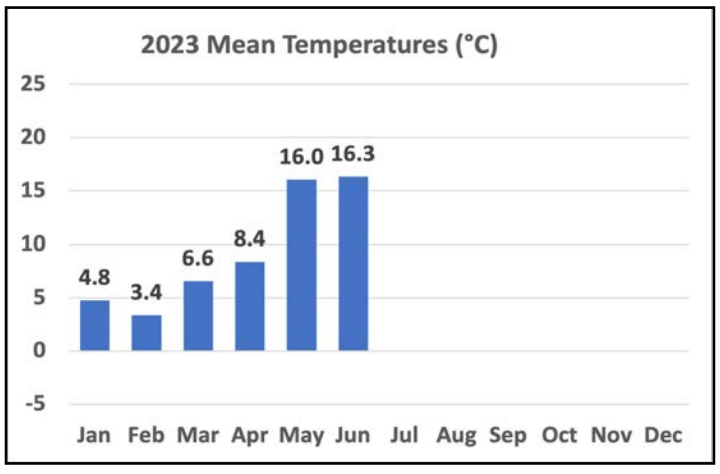


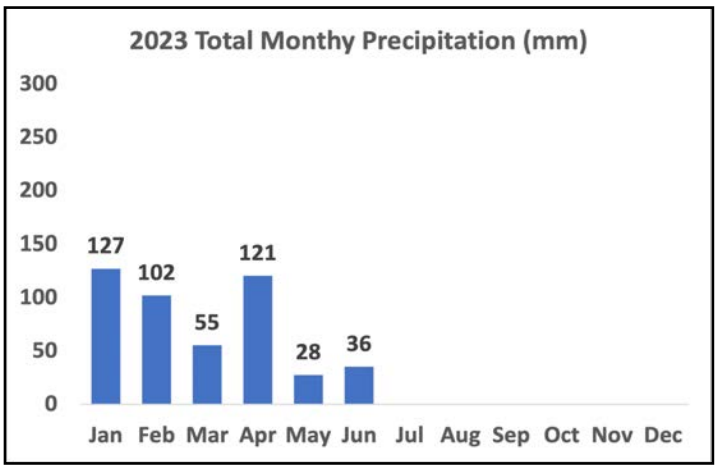
Litter items included in this report:

Containers: bottles bottle tops, cans, coffee cups, juice boxes.
Paper: tissues, napkins, receipts, newspaper, cardboard, etc.
Plastic: dog poo bags & shreds, other items made of plastic.
Wrappers: candy wrappers, foil, cellophane.
Miscellaneous: clothing, glass, chewing gum, balls & fragments, etc.

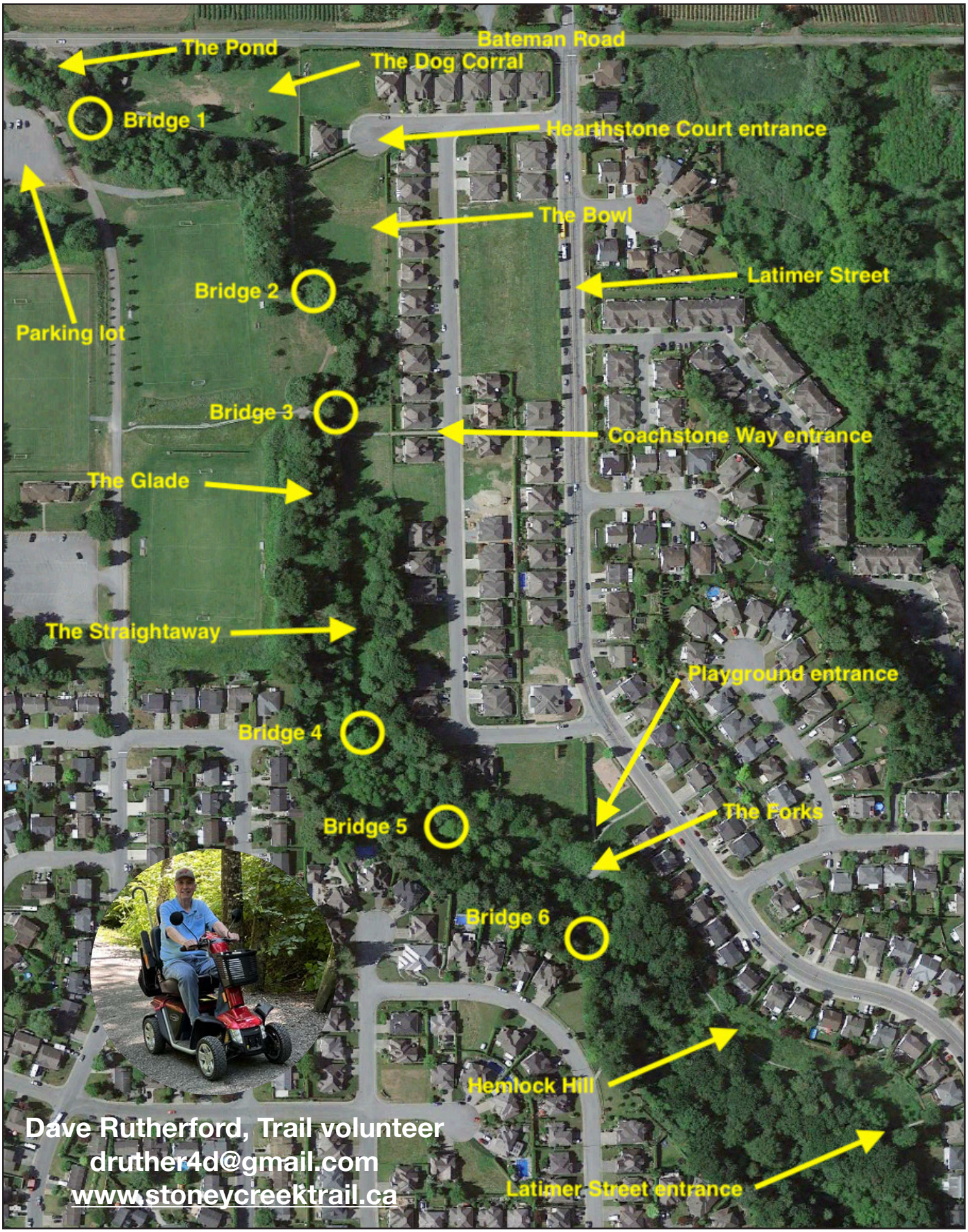








For convenience, I use these custom place-names



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