

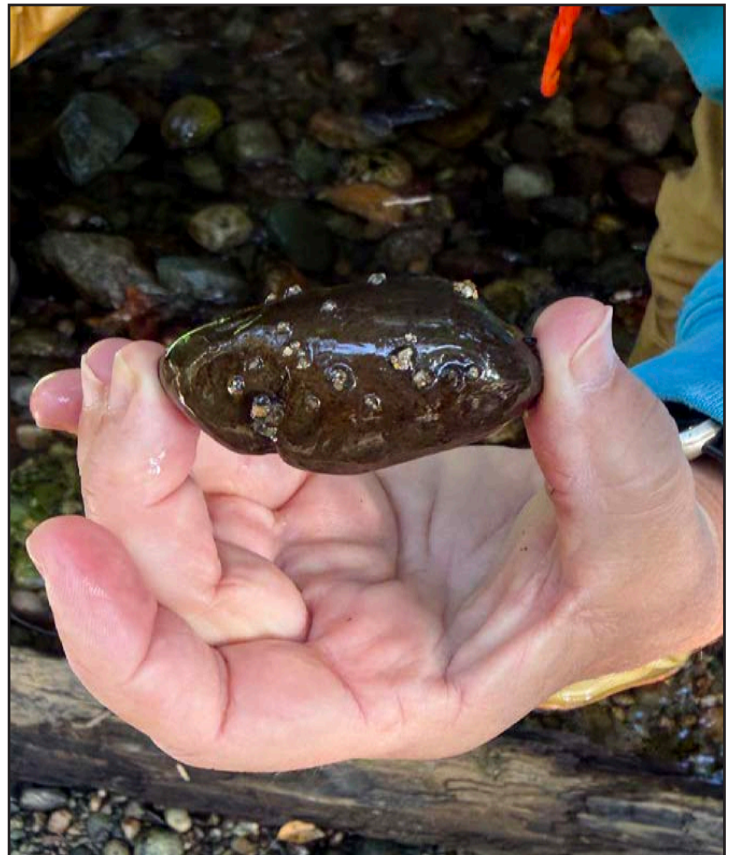
# Stoney Creek Macroinvertebrate Survey

## September 19, 2025



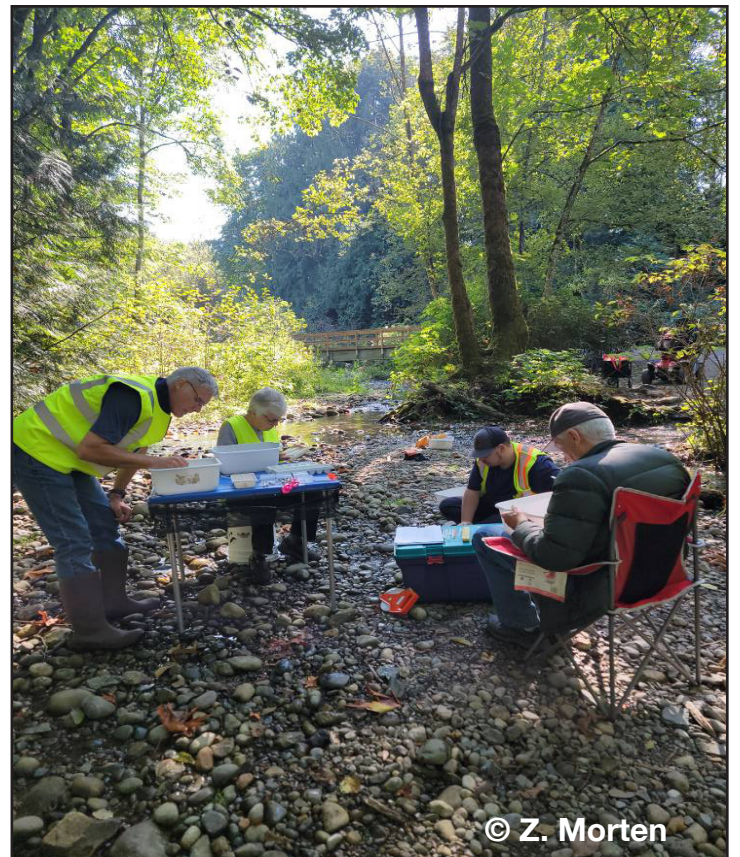


ZoAnn from Streamkeepers explained the procedure to John and Quirien, then introduced the D-net and described how to set it the creek bed. The net mouth is 30 cm wide and the sample area was a 30 cm square, measured by ruler. Quirien held the net in place while John examined the underside of a stone he had removed to make way for the net. The underside of this pebble had a number of Caddisfly larvae attached.





The D-net was turned inside-out in a bucket partially filled with creek water. The critters that had been swept into it were saved and the those still clinging to the netting were carefully picked off. The contents of the bucket were then distributed into several tubs. John, Quirien, Bruce and Dave were each given a tub for processing.



© Z. Morten



Sorting through the debris to find the critters was a challenge. Small siphons were used to carefully remove them one at a time and place them in trays. Putting each species in a separate partition would facilitate counting. Caddisflies normally encase themselves in small bits of debris, but the one below is unusual because it is free-swimming.



Results of the Survey:

In a survey that follows the [Pacific Salmonkeepers Program](#) Module 4, a site is rated 1 (poor), 2 (marginal), 3 (acceptable) or 4 (good). The Site Assessment Rating is based on these four criteria:

- a) The Abundance (total number) of organisms per square metre.
- b) The Predominant Species.
- c) The Water Quality, determined by the number of insect larvae found in these three categories:
  - 1. pollution intolerant (EPT)
  - 2. somewhat pollution tolerant
  - 3. pollution tolerant.
- d) The Diversity, based on the ratio of the above categories.

**Sample Location**, 50 m downstream from Bridge 5.

Category Results:

**In Category 1**, the predominant macroinvertebrate was the Mayfly of which there were 209, consisting of five species. There were also 22 Stoneflies in seven species, and 2 Caddisflies in two species. Thus, the total number of EPT insects was 233 and the number of species was fourteen.

**In Category 2**, there was one Cranefly larva for a total of 1 in one species.

**In Category 3**, there were 4 aquatic worms of one species, 133 blackfly larva of one species, and 1 planarian (flatworm) for a total of 138 in three species.

This came to a total of 372 insects of 18 species found within an area 30 cm square. This converts to a density of 4,133 per square metre, which is very high, much more than last time. The actual survey data is [here](#).

In summary:

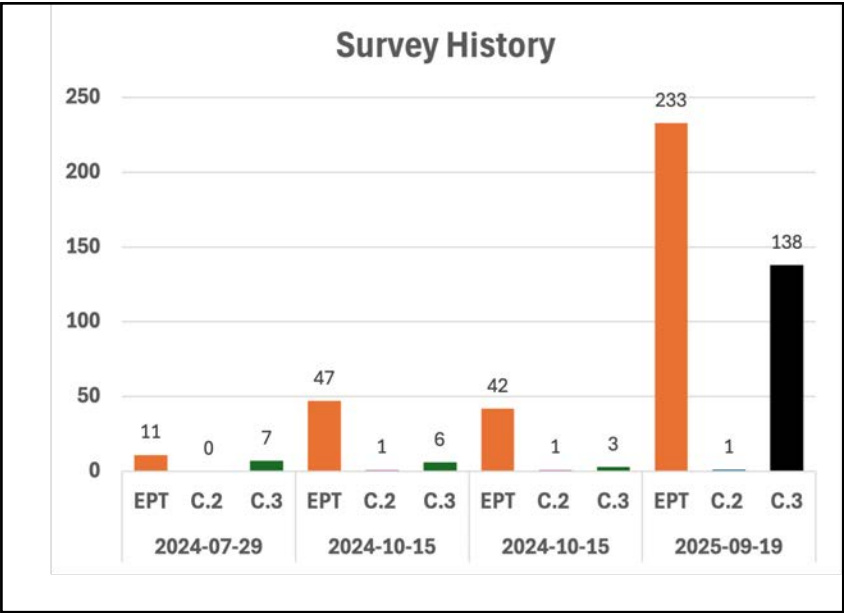
Water Quality Assessments:

Pollution Tolerance = Marginal;  
EPT Index = Good;  
EPT to Total Ratio = Acceptable.

Diversity of species = Acceptable.

Site Assessment Rating = Acceptable.

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*In general, all benthic macroinvertebrates are considered to be in one of the three categories mentioned above. The species of particular importance are the **EPT insects**: Ephemeroptera (mayflies); Plecoptera (stoneflies); and Tricoptera (caddisflies) because their presence indicates good water quality.*



Stonefly naiad  
Photo © Q. Mulder