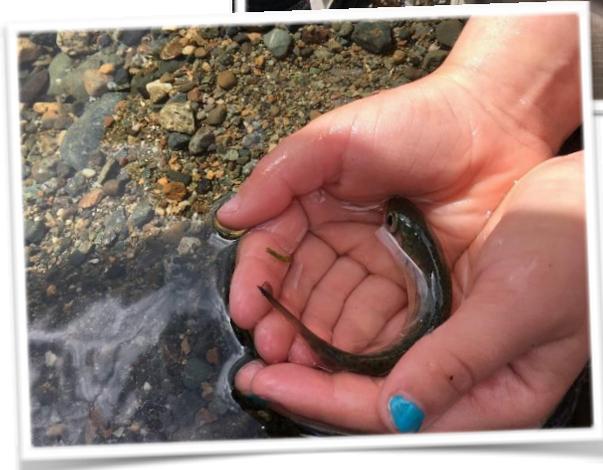


October 15, 2019

Allan Chamberlain

Super Salmon of Towhee Creek

Will they Survive?



In spring 2019 the Tsolum River Restoration Society (TRRS) volunteers had a big surprise when they Gee (minnow) trapped the isolated stagnant pools along Towhee Creek near Courtenay, British Columbia. They caught juvenile coho salmon smolts that were two to three times bigger than the average size of smolts seen in the flowing tributaries of the Tsolum River.

At first, trapping was done in the pools in Towhee Creek where it flows through the Comox Valley Regional District (CVRD) Fairgrounds, where up to 15 fish per trap (24 hour set) were caught. When catches tapered off, TRRS volunteers followed the creek channel upstream and trapped more pools on the Vanier School property. And again, they were rewarded with more super salmon in the traps! These fish were “stuck” in these pools because there was not enough water flow to connect the creek channels to the Tsolum River.

Excitement with these catches started to build and of course it generated many questions:

“How many of these amazing fish are in these pools?”

“How come they look so healthy and big?”

“What environment conditions are they living in now there is no flow?”

Will they be able survive and how will they get to the ocean to have the opportunity to grow to adults?”

As we searched upstream for more pools to trap we discovered “party central”, a large shallow pool in the lowland shrubs only a 5 minute walk from Vanier School. The banks of this pool were surrounded by old chairs and an assortment of trash was in the water. Obviously it was a local hang-out place for “out of class activities”. Environmentally it was a sad sight but to our pleasant surprise we got our highest catches there. This prompted us to start measuring the water quality in these pools and we discovered the dissolved oxygen (D.O.) was getting low.

With no rain in sight, and realizing it would take major down-pours to reconnect Towhee Creek to the Tsolum River, we decided to organize a “fish catch and transfer” operation with the local school students. Some biologists like to use the term “fish salvage” for these operations but we thought “fish rescue” would be more appealing to the students.

In late spring, 48 Vanier high school students in the Explore Program assisted with the first trap and transfer. These mature, highly motivated young adults took on this task with enthusiasm and care. After the initial training, they took over the project, and the TRRS volunteers became the happy assistants! Unfortunately the Vanier High schools students, being in their final grades, were very busy and could only help for a few transfers.

As the weeks went by, we carried on trapping and the fish catches remained high but sadly the D.O. dropped closer to acute levels. This prompted us to contact Queneesh School to see if their junior grades could help with the “fish rescues”. They responded enthusiastically and each class came down to Towhee creek. They collected, identified and practiced handling aquatic insects and fish. Then, at the end of each day, they removed the salmon that were caught in the traps in Towhee Creek and transferred them to the Tsolum River. This exercise was a resounding success! The children and teachers had fun and came away with a satisfying feeling of accomplishment that they passed on to their parents and teachers.

Unfortunately, as spring moved closer to summer, the rains never came and the dissolved oxygen eventually dropped to lethal levels. Fortunately, thanks to all students, we managed to trap and transfer over 400 salmon smolts before the waters became anoxic (not enough oxygen in the water for the fish to survive). It was truly an amazing discovery that so many big healthy fish grew and survived in this small creek. Unfortunately, we never found out how many fish were left in the ponds because stressed fish get quickly eaten by birds, mink and raccoons.

Wow what would have happened if we had not done that test trapping in those pools in the early spring? Thanks to Dave Morwood, our TRRS vice president we did not have to answer the question, and we know for sure at least some of the beautiful salmon smolts now have been given chance to reach the ocean.

The next big question is how many of these hidden intermittent (ephemeral) creeks are there in the Tsolum River watershed? Or for that matter, how many are there in the watersheds of Vancouver Island? Do we have any idea of the recruitment potential or lost from these creeks? Also is it possible or sustainable to protect and enhance these amazing micro ecosystems?

In the Western US over 65% of the total length of all streams are intermittent (ephemeral). Studies have shown they are critical for coho survival. During flood conditions, when high stream flows can physically displace or fatally injure fish, these smolts can escape to the low flow refuge areas in the ephemeral creeks.. They also found in western US streams , that juvenile coho are larger in intermittent streams than perennial streams.

<https://www.fs.usda.gov/pnw/node/26764>

We at the TRRS hope that the super salmon of Towhee Creek will spark more awareness of the value of these little ephemeral creeks, and be used as an educational tool show the phenomenal economic and environmental potential we often have right in our back yard!

Remember the Joni Mitchell’s song: “You don't know what you got till it’s gone” Well we can’t say that for super salmon of Towhee Creek; not yet that is, but we could be close?

Maybe a good news song will be written someday about Towhee Creek:)

“Roll back the parking lot a little

and let trees bring life again to the head water streams

Removed buried culverts

and let the water breath air again! ”



Students setting up the G-Traps (minnow traps).

