



Tsolum River Restoration Society



2019

Low summer flows arrive early to Tsolum River and tributaries by Caroline Heim

We have been tracking the flows in the Tsolum River, and as of early June flows were less than 0.5 cubic metre/sec. This flow is more typical of late summer. Unless there is periodic rainfall throughout the summer, we are worried for the health of the juvenile fish that spend the summer in the Tsolum. The year started promisingly with abundant coho fry observed throughout the Tsolum River and Portuguese Creek. Low flows coupled with high air temperatures could prove lethal for this year class of coho. As water levels drop, coho fry can get stranded in isolated pools that become separated from the main flowing channel. TRRS is prepared to help people rescue these stranded fry to improve survival. DFO holds a water licence in Wolf Lake, which has a dam at the outlet. This water

is used to augment the Tsolum flows starting late July or August. We hope to be able to prolong the augmentation to make sure there is enough water added to allow for the adult Pink Salmon migration in September. Augmenting flows for fish helps their survival and with fall Pink migration into the river.



Vanier Explore students help with Towhee Creek Coho rescue

River Riddles (answers page 5)

1. *What is born in a pond from an egg and crosses the road in summer to get to the river?*

2. *I am like a porpoise but live in air, seek out the night and devour mosquitoes. What am I?*

How can you help conserve water quantity and quality?

- Be aware of what you put in storm drains, as they are connected to streams and rivers. After long drought periods, rainfall can release a flush of toxic run-off from urban areas.
- Avoid excessive walking through the river when flows are low as fish have few places to seek refuge. Consider taking your dog to the ocean to swim when the river is critically low to avoid impacting or further stressing fish.
- Conserve water if you have a licence to extract from creeks or wells. Irrigate in early morning or evenings. Consider dug outs or on site water storage.

Mid-Tsolum Live Staking Gravel Bar Stabilization by Caroline Heim



Gravel Bars that were planted in September 2018.

Access roads were built in early June to provide access to the next series of gravel bars scheduled for planting in September 2019. From past projects we have learned to do road work or preparatory work in advance of fire seasons. In early September we are looking for volunteer crews to help collect willow and cottonwood cuttings which will be soaked in the Tsolum prior to planting. We are looking for volunteers to help with this work for any commitment, large or small.

With a grant from Comox Valley Community Foundation, we were able to purchase 7 sets of high quality pruners, loppers and hand saws for the upcoming project. Edgett Excavating will provide an excavator that will assist in the planting of the 1.25m long stakes that will be cut to size just prior to planting. Our goal is to plant an area 1.1ha in size and to plant approximately 10,000-12,000 stems! If you want to be part of bio-engineering and ecological restoration, please contact us to be added to our volunteer pool. Thanks to Habitat Conservation Trust Foundation for funding this project!



Fry Salvaging

TRRS worked with various groups including the Vanier Explore Grade 11's as well as elementary school students from Queneesh to salvage or "rescue" stranded Coho smolts in Towhee Creek ponds upstream and downstream of Headquarters Road. Towhee Creek, which is a seasonal or ephemeral stream, provides important off-channel habitat during the winter months for salmon and three spined stickleback. Unfortunately with the dry spring, the fish were left stranded in pools, unable to migrate downstream and beyond to the ocean. Fish were trapped using baited minnow or G-traps and were transported in buckets to the Tsolum where they were released. In April and May approximately 400 coho smolts and 1,300 sticklebacks, and 11 coho fry were removed from the ponds and returned to the Tsolum. Close to 350 students helped with the work. Thanks to all for helping.



GP Vanier Explore Students help with fish re-location

Did you know? The largest water licence in the Tsolum River watershed is issued to Fisheries and Oceans Canada for Conservation purpose. This water is meant for use by fish and other aquatic forms of life. The water comes from Wolf Lake, where there is a dam just where it enters into Headquarters Creek (photo to left). Augmenting flows come at an important time of year when Tsolum flows are often critically low. Timing and execution of the flow augmentation is a task that has been managed by Jim Amos of the DFO Puntledge Hatchery for many years.

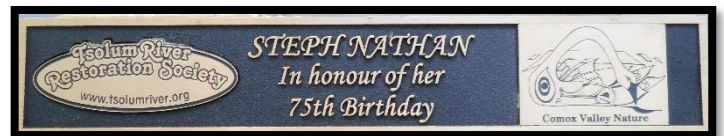
Tsolum Heroes- Steph Nathan

by Laura Ann O'Brien

When I first joined the Society 20 years ago and began to help out at outreach events every time I showed up for my shift Steph was at the booth. She was an integral part of the outreach booth at the time. Then when I started to participate in some of our restoration projects, there was Steph again - almost every time! Waders on, slogging through the river or forest, or whatever we were up to at the time.

One year our volunteers removed a section of the old fish barrier in the River at the CV Exhibition grounds. Due to low late summer flows the old wooden structure was spooking the pink salmon who return in the latter half of August and September to spawn, often when the River is at her lowest. Every second year is a significantly-sized run. The pinks travel together, like sheep, en masse. The leader would cross the boards and turn around to show the others that it was passable and try to coax them across. But if a larger fish tried and panicked when his belly or fin came into contact with the fish barrier they would dart back to the waiting crowd and likely contradict the brave one's positive signals. When I wandered down to help out that day there was Steph and another volunteer deep in the woods putting together sandwiches and setting out other goodies to feed the hungry crew. Although she may have enjoyed splashing in the River more she did whatever needed to be done. This project was timely in hindsight considering the increase in odd year returns since the abandoned minesite on Mt. Washington was remediated in 2009/2010 combined with recurring drought-like conditions over the last few years which are likely to continue into the future.

When we have our Annual General Meetings in the winter Steph is often there. When we promoted Father Charles Brandt's artwork there was Steph purchasing a swan art print and numerous art cards. When I attend community stewardship events with other local streamkeeper and environmental groups there is Steph often donating many hours to these groups and lending her support in other ways. When I volunteered the Pacific Salmon Foundation's annual Comox Valley gala there was Steph volunteering her time for salmon and their habitat again...and again...and again!!!



Last year when we did our first of many live staking gravel bar projects there was Steph energetically cutting willow stakes near Dove Creek and the next week streamside at the project site at the north end of Constitution Hill, sharing her time and effort to help ensure the project's success. Her energy level belies her advanced age. So, if you need something done on or near a river, stream or the ocean just call on Steph and if she can make it, she'll be there ready, willing and able to work...for free! For salmon.

Steph wanted to celebrate and commemorate her milestone birthday so engaged the CVRD and local trades students to make and place a picnic bench that will stand the test of time and river flooding. The River flows by the location as countless generations will enjoy the bench on the priceless CVEG trails, and watch the salmon return in the fall. Again, even in doing something for herself she has managed to contribute to our community and leave a legacy. The Society and CV Nature contributed the plaque in honour of her mighty volunteer efforts to our non-profit organizations. At the recent celebration and unveiling many other local stewardship groups were represented including Project Watershed, Morrison Creek Streamkeepers, and Millard Piercy Watershed Stewards.

This woman is an amazing, selfless individual who gives willingly of her free time and funds. She is an incredible inspiration to other volunteers. When I found out last year that she would be 75 this June I couldn't believe it! Happy birthday Steph!!!! On behalf of the directors of the Tsolum River Restoration Society we thank you for your constant contributions to the restoration of the Tsolum watershed and the protection and enhancement of wild Pacific salmon in our Valley. You are a star(fish) !!

Temperature/flow study in Tsolum with BCIT/SFU student

by Kate O'Neill and Caroline Heim



Kate O'Neill, Masters student at BCIT/SFU has started her summer temperature and groundwater study in the Tsolum River and main tributaries. TRRS was successful in applying for funding from the Pacific Salmon Foundation (PSF) and the Pacific Institute of Climate Solutions (PICS) to help assist with this research. Summer temperatures in the Tsolum often exceed 20°C, and may even reach lethal temperatures for the proper function, health, and survival of salmonids (24-25°C). High summer temperatures coupled with low flows are major concerns for the Tsolum in summer 2019 and future summers. Kate is installing temperature monitoring stations throughout the river, with the goal of identifying inputs/sources of groundwater that flow into the Tsolum. Groundwater is usually 10-11°C in this region, and Kate is hoping to identify areas where groundwater may be entering the Tsolum. Kate is focusing on the lower 18 km of the Tsolum River where there is agricultural and residential development, and groundwater/surface water extraction. Kate says "I am identifying areas with the potential for groundwater input based on geology, topography, vegetation, and historical information, as well as conducting investigative temperature measurements with a handheld thermometer to find cooler water. Once I identify a promising location, I install a Tidbit v2 temperature logger at the streambed."

The tidbits are installed in protective white PVC housings to prevent the effects of direct solar radiation, and these housings are attached at the streambed to rebar pounded into the substrate. Kate will continue to install temperature loggers as she identifies areas that may have groundwater input by conducting snorkel swims and temperature assessments.

A total of 44 tidbits will be installed mainly downstream of Highway 19, and they will stay in the river until late September. All of the stations will be removed before the fall rains. If you notice rebar sticking out the river with bright orange caps and labels (photo below), please do not disturb the site as this is one of Kate's monitoring stations.

You can help: If you are a regular swimmer in the Tsolum, we would like to know if you ever encounter cold spots while swimming. These indicate groundwater sources which could be a haven for fish. Please call 250.897.4670 if you have any information, or email Kate at kate_oneill@sfu.ca



Upcoming events: CVEX Fall Fair August 24th and 25th, Guided walk August 29th at Comox Exhibition Grounds, BC and World River's Day on Sunday, September 22nd, Gravel Bar willow live staking project early September, and BIG fall Pink Salmon returns expected September.

In May we offered bug and fish exploration field trips to over 350 kids from Kindergarten to grade 7 from Queneesh Elementary School. Kids travelled to the shore of the Tsolum River and had the opportunity to collect, view, identify and sort the cool aquatic insects that live in the river. The abundance and diversity of insects is such a positive development, and a “bio-indication” that the Tsolum is healthy. In addition to looking at the bugs through waterproof viewing scopes, we also had a fish station with portable aquariums containing an assortment of species found in the Tsolum, including two life phases of Coho; smolts and newly emerged fry. To top off this hands on learning, each class had the chance to help with a “fish rescue”. Over this past dry spring, coho smolts had become stranded in isolated ponds in Towhee Creek. These fish moved into Towhee Creek in the past winter to rear in the protected upstream deep pools. However, when water levels dropped after early April, the channels connecting the creek to the Tsolum dried up, effectively trapping the fish upstream. These fish are ready to go to the ocean. The kids enjoyed participating in helping to retrieve the fish from minnow traps, and carried them to the river in buckets to be lovingly released, one by one. These small actions give the children a sense of hope and empowerment that they can do something as individuals to help nature and living creatures.



Consider renewing your membership or make a donation to support our work.
If you return bottles to Courtenay Return It Centre, donate to our account #252.

If you are in Comox, the account number is #338

Like our page on Facebook

River Riddle Answers from Page 1:

1. Western Toad: This species of special concern crosses Railway Ave in Merville and other valley locations in July in huge numbers. Please stop to let them pass.



2. Bat- We have 9 species on Vancouver Island. The little brown myotis is threatened.





MEMBERSHIP FORM

Membership for 1 year (Circle one) :
Individual: \$10 Family: \$15

Paid by: Cash Cheque Online at tsolumriver.org (Paypal/Credit Card...

Please complete form and either:

- mail form and cheque to: PO Box 488, Merville, B.C.V0R 2M0
- email to: tsolumriver@shaw.ca - please mail cheque
- drop off form and cheque to 2356 Rosewall Crescent, Courtenay, BC (please call 250 897-4670 first)
- or go to www.canadahelps.ca to pay by credit card through an online secure system for membership, lump sum, or monthly online donations. Other monthly option is at bottom of form.

Name(s): _____

Mailing Address: _____ Postal Code _____

Email Address: _____ Phone: _____

Do you live in the Tsolum River watershed? If yes, which tributary? _____

Volunteer interests: _____

- Outmigration – rotary screw trap/ counting fences – (March to June)
- In-migration – salmon counting – (Sept to Oct)
- Monitoring – water quality, flow, temperature, turbidity
- Assessments – habitat, riparian, steelhead, etc.
- Gravel Bar Willow staking/Tree Planting (Sept/Oct)
- Projects – mainstem and tributaries
- Events/ Help at information booth at Earth Day, Musicfest, CVEX, Rivers Day, etc.
- Education – watershed, primary schools, field trips, bullfrog
- Committees – outreach or watershed protection
- Social media – website, Facebook, etc.
- Fundraising – government, corporate and individual
- Videography/ photography

Monthly Pre-Authorized Donation Payments Using VOID cheque (you can also sign up easily and securely through our website)

I want to become a monthly donor of the Tsolum River Restoration Society ("TRRS"), PO Box 488, Merville, BC V0R 2M0 – Canada Revenue Agency Charitable Tax No. 89402 6921 BC0001

I wish to gift \$ _____ per month (includes membership)I, the undersigned, hereby authorize my banking institution to charge my account on the 15th day of each month and pay the TRRS the sum noted above. This authorization shall be the same as if I personally signed a cheque to the TRRS. I may terminate my participation in this program at any time upon written or email notification to the TRRS.

Signed: _____ Print Name: _____

Date: _____ Please sign, print your name and return this form with a VOID cheque by mail or in person. For further information please call 250 897-4670. An annual tax receipt will be issued and mailed to you.