



We are a not for profit stewardship organization working towards a healthy, productive, and diverse Tsolum River. Our charity works with all levels of government and the community.

2020 Newsletter, Vol 1.

Special thanks to volunteers and supporters

By Caroline Heim

As we reflect on our work in 2019, we would like to extend a warm thank you to all the volunteers who helped us throughout the year. In the spring season we relied on over 20 volunteers who helped check the Rotary Screw Trap and counting fences on the Tsolum River and in Portuguese and Finlay Creeks. Many volunteers helped with our regular outreach events throughout 2019, especially Musicfest and Comox Valley Exhibition.

In the fall 2019, volunteers helped plant 1.1ha of gravel bars along the Tsolum and a large

team helped with our fall annual fish count. Volunteers are the backbone of what we do, and we could not achieve our goals without you.

We would also like to acknowledge our private donors and members, with special thanks to Dick Bradshaw, and Judy (and Bob) Hager. Thanks also to our grant funders in 2019 including the Pacific Salmon Foundation, Habitat Conservation Trust Foundation, the Comox Valley Community Foundation, and the Pacific Institute of Climate Solutions.



River Riddles:

1. What is brown, nocturnal and eats wood?
2. We live along the river bed, protected by shells that are browny-red. We use our pincers to hunt the food we eat. Who are we?

Answers on Page 4!

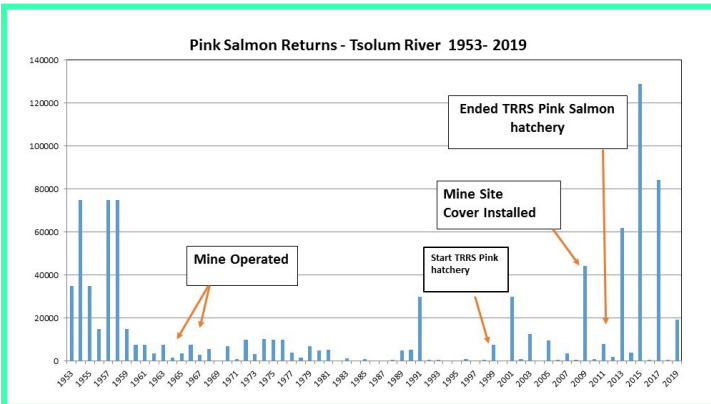
Reminder about 2020 AGM and Membership Renewal

All are invited to our upcoming AGM which is on Saturday, March 14th from 1-330pm at the Dove Creek Hall located at 3400 Burns Road. We will update you on all that happened in 2019, and let you know what we have planned for 2020. Special guest, Kate O'Neill, from SFU/BCIT, will present findings on her temperature and groundwater study conducted in summer 2019 in the Tsolum watershed. Also featured will be the short documentary film on Father Charles Brandt. Light lunch and refreshments will be provided. **Please remember to renew your membership for 2020.**

Fall Pink Salmon Count

By Caroline Heim

The day was sunny and windy when the intrepid Tsolum volunteers donned their rubber chest waders and dispersed from the mouth of the Tsolum all the way up to Merville in counting teams on a mission to count spawning pink salmon. At 10am all teams were on the river wandering along the edge of their allotted section, tallying the numbers of spawning, dead or holding fish. A drone was used experimentally on one of the sections to see if this is a sampling tool that could be used in future years. At the end of the day, numbers were tallied and a total of approximately 10,000 pink salmon were counted. Almost half of the fish counted were in Headquarters Creek! When extrapolated with sections of river further upstream beyond the counted sections the total fish count for 2019 was estimated to be approximately 19,000 fish. This number was lower than we were hoping, and significantly lower than counts in 2017 and 2015. According to DFO escapement bulletins results this year were well below the average for pinks on most southern Vancouver Island rivers.



Gravel Bar Live Staking Update

By Caroline Heim

In September 2019, 14,000-15,000 willow and cottonwood cuttings were planted over 1.1ha of barren gravel bars with the help of local volunteers and K'o-moks First Nation crews. Thank you to everyone that helped on this project. We are on track to finish planting all the large gravel bars in the Tsolum upstream of the highway by 2021. In 2018, we planted 0.3ha, in 2019 1.1ha, and in 2020 we will plant another 0.5ha. Funding for this project is provided by the Habitat Conservation Trust Foundation.

Planting of live cuttings is a proven method for stabi-



lizing river systems that have excess gravel from historical logging practices. Re-vegetating gravel bars accelerates a natural ecological successional process with the long term benefit of providing more overhanging shade cover and a more confined stream channel versus a wide braided channel that currently exists.

One goal of our willow staking projects is to reduce the movement of gravel through the lower reaches of the Tsolum River; less mobile bedload in the winter months will increase survival of incubating eggs that otherwise would be impacted from shifting gravels.

Over the longer term, shading from vegetated bars will help regulate summer water temperatures which often exceed 21°C in the Tsolum in July and August.

Target fish species that will benefit from this project include Coho, Pink, Chinook and Chum Salmon, Cutthroat Trout, and Rainbow Trout. The willow plantings will also provide forage for resident herds of Roosevelt Elk particularly in the winter months when forage food is more limited.

Inaugural Tsolum Course at NIC Eldercollege

By Laura Ann O'Brien

A couple of summers ago while wandering the Comox Valley Farmers' Market I stopped by the community table where that particular week a couple of volunteers from the Comox Valley Eldercollege (CVEC) had a display. Having just turned 55 – the minimum age to join CVEC - and always interested in education, my curiosity was peaked. The women at the table were enthusiastic, answered all my questions and directed me to two sign-up sheets – one to suggest course topics and the other to offer to teach a course. I chose to write my name down on the latter sheet to present a course on the Tsolum River. I have learned so much in the last 20+ years about the unassuming River that runs through my home I feel compelled to share with others the local knowledge I have acquired. And the inaugural course: "The Tsolum River: A River in Recovery" was offered during the 2019 Fall session of the CVEC at North Island College.

The class averaged 24 mature, keen students per week. We explored the history of the Tsolum stewards including Charles Brandt and other concerned community members who encouraged all levels of government to determine the cause of the collapse of the significant Tsolum fish stocks, including the historic, abundant and well-known steelhead run. The Tsolum steelhead salmon were of significant size despite the relatively narrow River, memories of which live on in Island fly fisher lore.

We reviewed the work of the Tsolum River Task Force who undertook some of the preliminary monitoring and science

that catalogued current conditions. The Tsolum River Restoration Society was formed when the Mt. Washington mine site pollution (acid rock drainage) was singled out as the key factor hindering the River's recovery from zealous land clearing and ditching, spawning gravel removal for the air base runways, and decades of logging, often right up to watercourses.

We learned detailed history of the mine site operations, its negative legacy, the remediation undertaken in 2009/2010 and ongoing monitoring from director Wayne White. We also enjoyed an awesome interactive presentation on local salmonids and insects by director Allan Chamberlain and program Coordinator Caroline Heim. We even went on a field trip which serendipitously coincided with some monitoring/trapping in Towhee Creek after a large storm, and we saw up close and personal over 100 healthy coho fry/smolt overwintering in the River and its tributaries. Very exciting for all!

I learned a lot about the Tsolum River while conducting research for the course curriculum, how to teach an adult course and from the diverse backgrounds of the students. I think the most significant positive outcome from this experience is that there are now 24 local people out there who know a little bit more about the Tsolum story and will hopefully share their new knowledge with family and friends, and who will be more aware about Tsolum issues in the future. We'll do it all again in Fall 2020!

Riparian Planting

In fall of 2019, 900 conifer seedlings were planted in the riparian zone adjacent to the gravel bar live staking areas. The riparian zone in this area is dominated by mature alder and has very few coniferous trees. Enhancing the understory will help provide future large woody debris and shade cover for the river when the alders reach the end of their lifespan. In 2020 we hope to expand our riparian enhancement and tree planting efforts into Portuguese Creek. **If you are a riparian landowner, with a river or stream on your property, we can plant trees for you. Just contact us and we can help you. 250.897.4670**



Check us out on Youtube!

New videos were produced by our young videographer, Cam Hautcouer-Boyer. Check out the Western Toad video and the Temperature and Groundwater study video at <https://www.youtube.com/channel/UCdE4871Zx8EWZ4MDJZ9WFbw/videos>

Outreach Education Update

By Caroline Heim

The watershed model has been presented to over 4,500 school kids since we started touring schools in 2016. We are proud to say we have been to every elementary school in the Comox Valley. In 2019 we developed and offered field trips with a focus on aquatic macroinvertebrates (AKA bugs!), and we will continue this through



2020. With funding from Comox Valley Community Foundation, we were able to purchase viewing scopes and hand lenses which allow the



kids to sort and examine the biodiversity of stream insects up close. Most kids are captivated by the strange and wonderful creatures that can be found in the Tsolum River. We have continued to develop connections with GP Vanier secondary school and students are helping us with our fish overwintering assessment of Towhee Creek which is the small stream that flows between the Comox Valley Sports Centre and Vanier. We have willing teachers and students lined up to help with a spring fish salvage if coho become stranded in the Towhee Creek ponds like they did in spring 2019. We are hoping decent rains in May or June help the salmon exit these ponds without our assistance.

Would you like to get involved?

Our upcoming fry outmigration season is coming up starting in March 2020. We will install our Rotary Screw Trap into the Tsolum and we will need volunteers to check the trap box daily to count, identify, record and release the fish. We will provide training on fish identification and proper handling techniques. This is fun work for young and old, so contact Caroline at 250-897-4670 or trrs.educationoutreach@gmail.com if you are interested in helping one morning a week from March till the end of May. If you are only available occasionally, we can accommodate you as well.



River Riddles Answers:

- 1. Beaver.** Look for freshly stripped branches along the Tsolum that indicate beaver activity. The beaver in the Tsolum live in the clay banks versus free standing beaver lodges.
- 2. Crayfish.** Small lobster like creatures who are abundant in the Tsolum River and hide under rocks. They eat leaves and aquatic insects.

Tsolum Hero– Sally Gellard

By Laura Ann O'Brien



After moving to my Tsolum neighbourhood in 2000, we attended many community potluck feasts and local celebrations including the annual Merville Solstice play at the Tsolum Commons, and Sally quickly became a familiar, friendly figure at these events. She has been involved with all things Tsolum for decades. She harbours an adventurous spirit and is a veteran river lover and tree hugger! Check out her chapter in the local book "Dancing in Gumboots, Women of the Comox Valley". Sally is a tireless volunteer not only for the Tsolum watershed but also for the Merville Grand Mothers, a local group supporting the Stephen Lewis Foundation, and supports other important community and environmental initiatives. Sally is a truly engaged and caring individual.

This Lower Merville pioneer was one of the community members to demand loudly that the decline of the Tsolum River be investigated and mitigated. She helped form and volunteered with the Tsolum River Watershed Protection Society and was involved with the first community and Tsolum River Task Force meetings, the voices of the River before the formation of the current Society. She helped raise awareness of the River's plight, the detrimental effect on the fish, birds and animals who call the River home and lobbied for a resolution to the decades-long industrial pollution damaging the local ecology.

Sally and her land partner, Cheri Lamb, another tireless Tsolum volunteer, live on a large wetland. Wetlands are very important to the health of a watershed helping to hold water during wet seasons reducing flash flooding and allowing for slow run off during the dry season, and providing refuge for fish, amphibians, bugs, bats and birds, and homes for numerous species of small mammals. Upon hearing the first deep, unusual, guttural mating calls of American bullfrogs (*Lithobates Catesbeianus*) in their local

pond, these two active stewards sought out information on the impending invasion of the migrants who threatened the ecological balance of BC wetlands. The pond bullies' diet includes dragonfly nymphs, salamanders, toads, local frogs, crayfish, ducklings and pretty much anything that fits in their enormous mouths! Sally and Cheri attended meetings in other small local communities where the uninvited creatures were already well-established and picked the brain of Purnima Govindarajulu, a BC reptile and amphibian expert.

Without any natural predators upon first arrival the large, jumpy bullfrogs enjoyed free reign to terrorize local wetlands. Sally and Cheri trained their friends, family and neighbours to hunt the invaders who threatened the large established Western Toad population, the beloved Pacific Chorus tree Frogs, and other native creatures. Access and canoes were made available to anyone who wanted to give it a try along with specialized equipment including nets and homemade spears. The war was on. Public education was undertaken by the Society with these gals leading the way and blazing the trail. An annual Froggy fest hunt and BBQ was established in our neighbourhood with the bullfrogs providing the appetizers and Purnima providing the latest news on the invasive species. Over time the population has stabilized in our area thanks to the heroic efforts of Sally and Cheri and many others, and the evolution of bullfrog predators including herons, garter snakes, domestic felines and humans.

Sally and Cheri also monitor the annual Western Toad migration out of the local wetlands, observing, recording, assisting where necessary, advising locals and erecting signage the years the tiny toadlets decide to cross the road. Check out this video on our website about the annual toad migration from these Railway wetlands at <https://www.tsolumriver.org/videos.html>

Sally rarely misses the Society's Annual General meeting to keep current with the status of the Tsolum. She volunteers at our outreach booth for bullfrog awareness at the Farmers' Market and VI Musicfest, is part of the dedicated crew who collect our annual spring fish out-migration data and lends a hand whenever she can. Sally is an exemplary example of an environmental activist who uses her voice to inspire, her body to take action and leads with her heart.

Thank you Sally!



Membership for 1 year: Family: \$15 Individual: \$10

Please complete form and either:

- Pay online using Paypal or credit card at www.tsolumriver.org
- mail form and cheque to: PO Box 488, Merville, B.C.V0R 2M0
- email form to: tsolumriver@shaw.ca - then please mail cheque to address above
- go to www.canadahelps.ca to pay by credit card through an online secure system for membership, lump sum, or monthly online donations. Second monthly option using VOID cheque is at bottom of form.
- drop off form and cheque to 2356 Rosewall Crescent, Courtenay (between 10-2 Tuesday – Friday)

Name(s): _____

Mailing Address (street, city, postal code) : _____

Email Address: _____ Phone: _____

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

Volunteer interests:

- Outmigration – rotary screw trap – March to June
- Water Quality Monitoring
- Tree Planting
- Projects and Assessments – habitat, riparian etc.
- Events (Earth Day, VI Musicfest, CVEX, Rivers Day, etc.)
- Projects – mainstem and tributaries
- Education – school programming or field trips
- Fall Salmon Counting
- Social media or Fundraising
- Water Flow monitoring
- Media/Website/Photography
- Gravel Bar Live Staking

If you wish to set up monthly Pre-Authorized Donation Payments Using VOID cheque:

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.

Payment Method _____