



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.

Summer 2018 Newsletter

BOX 488 MERVILLE BC VOR 2MO

Summer Projects Caroline Heim

Construction of the Dove Creek boulder/sediment trap project is going ahead in mid July 2018. Originally scheduled for summer 2017, extreme fire risk prevented us from working on the project. The trap is designed to intercept over 1,500 cubic meters of bed material in upper Dove Creek that would otherwise move downstream during high flows. Upper Dove Creek has excessive bedload entering the creek from historical slope instability/failures linked to logging, road building, and weather events. This project was made possible thanks to funding from the HCTF (Habitat Conservation Trust Fund), PSF (Pacific Salmon Foundation) and with financial contributions from our Society. Thanks to TimberWest for their support in these projects.

The mid-Tsolum live staking gravel bar stabilization project will start up in early September 2018 (funded by RFCPP (Recreational Fisheries Conservation Partnerships Program)) with financial assistance from our society. This project is part of a plan to mimic and accelerate natural ecological processes by planting colonizing trees on the excessively large gravel bars along the Tsolum. Planting gravel bars with high densities of willow/poplar cuttings encourages trapping of sediments, and in turn causes a gradual increase in the elevation of the gravel bars. Vegetated elevated gravel bars lead to a more concentrated flow of the river through established main channels, improving quality and stability of the habitat.

This fall we are going to plant one of the bars, which is almost 0.5ha in size with willow and cottonwood cuttings. Dave Polster, bioengineering guru, will be on site to help with the methodology in collecting and planting the cuttings.

Events

Comox Valley Exhibition (CVEX)
August 24 to 26

Guided Walk with Interpreter at CV Fairgrounds Wed. August 22 10am
\$5.00 per person, \$15.00 for family, free for members.

Black Creek Fall Fair - Saturday, September 8

BC River's Day - Sunday, September 23

Volunteers Needed!

Starting September 4 we are looking for volunteers to help with the collecting and planting of willow/cottonwood cuttings. Dave Polster will provide instruction and an excavator will assist with the planting of cuttings. If you are interested in actively participating in bioengineering field work please contact us at tsolumriver@shaw.ca.

Like us on Facebook!
facebook.com/tsolum.restoration



Wetlands - Wonders Worth Saving

By Caroline Heim

Did you know that 18% of the ecosystem type in the Comox Valley is classified as wetland? However, almost a third of wetlands recorded by the Sensitive Ecosystem Inventory (SEI) in 1992 were lost or impacted by human activity between 1992 and 2012.

The major cause attributed to the loss to wetland in this period of monitoring is development including rural use, roads, agriculture, and urban use (Comox Valley Sensitive Ecosystems Inventory Disturbance Assessment Summary Report, 2012).

Globally, wetlands make up just 6% of the earth's surface, yet they provide "free" ecological services to us such as, water storage, flood mitigation, water quality protection, groundwater replenishing, and storm water interception. They host a myriad of plant and animal species and provide critical habitat for birds, fish, and small mammals

Wetlands can be classified into many sub-categories. The underlying characteristic that defines a wetland is flat, poorly drained land where water collects (from precipitation or run-off) long enough for the surface to be submerged or saturated much or all of the time. This habitat supports typical wetland vegetation. Wetlands do not exist exclusively in depressions in the landscape; they can be fed by seepages from hillsides and can start at the point where hillside shallow water tables meet the surface. Typical wetland vegetation includes sedges (distinguished from grasses by their sharp edges) cattails, bulrushes, and willows.



The best thing landowners can do for wetlands on their property is to leave them intact with a buffer around them. Wetland buffers help to:

- Maintain water quality by filtering out sediment, fertilizers and other toxic materials before they enter the wetland
- Regulate flood impacts and protect downstream property by storing water during storm events
- Improve human health by removing bacteria and other disease causing organisms
- Prevent soil erosion by stabilizing banks
- Provide habitat including wildlife corridors, shade, food and protection for fish and wildlife, including endangered species; Enhance viewscapes and aesthetics

Welcomes and Farewells...

Celesta Buchanan is joining us for her 2nd year as our capable summer student (Canada Summer Jobs Program) for July and August. We are lucky to have her- welcome back Celesta.

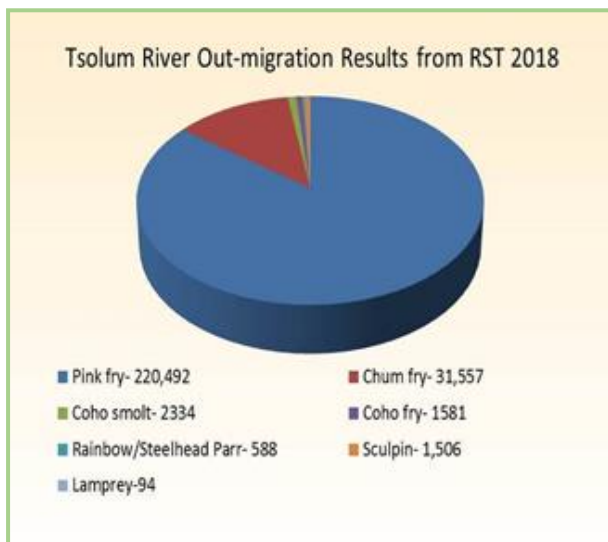
Angela Spooner, Project Coordinator with TRRS, is shifting to other ventures including instructing at North Island College and consulting. Angela was the author of the Recovery Plan, which is the document that guides us in our restoration efforts and planning, and helped keep both annual projects and major initiatives going while at the helm. Thanks for all your contributions, and see you on the river!

Out migration Results

After some setbacks due to high spring rains, we have completed monitoring the outmigration of fish from the Tsolum, Portuguese and Finlay Creeks. Thanks to all the dedicated volunteers who helped this season.

Out-migration of fish from the Tsolum River is measured by using a rotary screw trap that captures fry and smolts as they head down the river to the ocean. The pie chart below shows numbers of fish that out-migrated in spring 2018.

These numbers are conservative since the trap had to be temporarily pulled out of the river between April 7-17 due to high rains and flows. Fish out-migrating during that 10-day peak period were not counted.



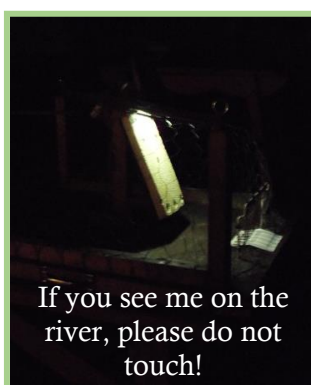
This year we also set up counting fences in Portuguese Creek and Finlay Creek to help us to understand to what degree these smaller streams contribute to overall watershed productivity.



This is the fourth year we have monitored outmigration from these smaller tributaries. We captured 910 coho smolts from Finlay Creek between April 23 and May 20. In Portuguese Creek we captured 2,712 Coho smolts, 224 Coho fry and 40 Rainbow smolts. These high numbers indicate that these smaller tributaries are very productive and important overwintering and spawning habitat. The fences were installed later than planned in both creeks due to high flows, so actual numbers are higher than our monitoring indicates.

Unfortunately, almost 2,500 bullfrog tadpoles were also captured in our Finlay Creek trap. It is a mystery as to why the tadpoles were moving downstream. Their movement is worrying since it could mean they are migrating to new habitat. The bullfrog is a highly invasive species. They eat anything that can fit in their mouths including songbirds, ducklings, fish and other amphibians. With the ability to produce up to 20,000 eggs that hatch after five days their increasing numbers in our valley is a substantial problem.

Check out this experimental bullfrog trap our director Stew McIntosh built and is now testing



School Outreach Season

By Caroline Heim



We were successful in receiving funding from the Comox Valley Community Foundation (CVCF), which we have put towards building a new school outreach program. The theme of the school program explores the aquatic macroinvertebrates that live in our local streams. With the grant money, we were able to purchase an assortment of bug sampling and sorting equipment, as well as viewing equipment including hand lenses, waterproof bug viewers, and field microscopes.

The program was piloted at Huband Elementary school (photo above) in partnership with WildBC (the education component of Habitat Conservation Trust Fund). A total of 16 classes and over 300 kids participated.

Kids gathered at a forest station along the edge of Finlay Creek just steps away from the school entrance. Here a series of aquariums and buckets were displayed with an array of aquatic life. Alan Chamberlain, who is a new board member with TRRS and a retired fish health biologist who enjoys creating a spark with kids, helped run the three day event. The cool insects that could be magnified and viewed from different angles wowed kids. They were given the chance to look at and get up close to salmon fry, bullfrog tadpoles, crayfish, stickleback, sculpins and mayfly, stonefly and caddisfly larva. The program highlighted the importance of aquatic insects as “bio-indicators” of stream health, as food for other critters in the food chain (like fish!), and the value of headwater ephemeral streams, riparian areas, and clean, cool, oxygenated water for healthy streams.

Our plan is to develop an aquatic macroinvertebrate resource package for K-7 so that kids can further their learning before and after a hands on experiential learning activity, we hope to continue with the program in the fall of 2018

**Thanks to Comox Valley
Community Foundation for
funding for our school outreach
program and public engagement.**



If you enjoy working with children in an outdoor setting please let us know by contacting us through our website, expressing your specific interest in school outreach. We would love to hear from you.

Tsolum Heroes

By Laura Ann O'Brien

Small birds dash through the tree limbs, raptors soar high above, Douglas squirrels chatter from branches at passersby or bold birds, the sun sneaks some rays into the forest and the river rushes over the rocks. If you have ever walked the short but beautiful riverside trail between Farnham and Fitzgerald Roads in Merville then you have founding member and long-time Tsolum volunteer, Jackie Sandiford to thank for the extra depth and diversity on the large second growth conifer-lined trail.

Over 15 years ago, Jackie almost single-handedly was instrumental in saving a lot of these mature trees from the corporate foresters' saw. She walked the trail with the company's representatives and stood before each healthy fir, hemlock, cedar and other species of any great size and bargained for their survival, tree by tree. The upland trees were fair game for removal at the edge of a large acreage to be logged. Jackie somehow made an exceptional case for their salvation and preservation of their lives so future generations would benefit from a larger buffer zone than contemplated by the private land forest guidelines drafted by the industry itself. The result is a healthy forest trail with impressive canopy and habitat.

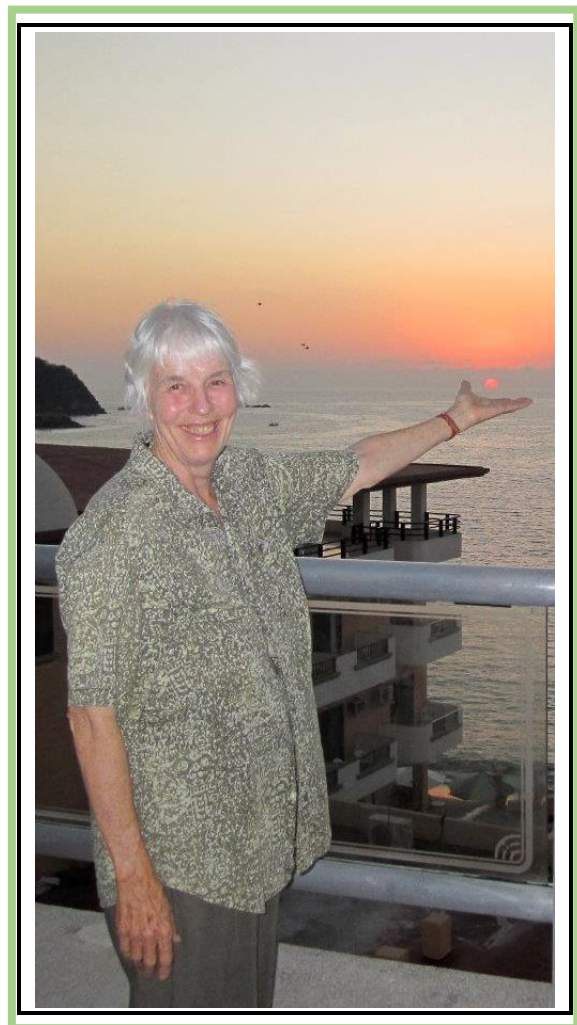
Trees that were straight, branchless in their lower regions and 80 years old or so made the foresters' eyes grow wide with visions of dollar signs dancing in their heads. There's gold in them there trees. These large healthy trees literally represent cash for the company's ever-thirsty bottom line and shareholders. Jackie was firm and insistent in her pursuit of preservation of this area. She held her ground and then some when certain exceptional trees on the riverside of the trail were sized up and salivated over for their lumber quality and timber value. The trees survive thanks to Jackie.

Through her work with the Tsolum Jackie educated about the importance of riparian zones, verbally and by her actions. She advocated for the clean-up of the abandoned Mt. Washington mine site which was causing serious damage to the River and the dwindling fish stocks. She and a handful of other concerned citizens began meeting and became active in raising awareness of the Tsolum's unique issues and challenges. They mentored others in the history of the Tsolum and its serious problem, and engaged with government departments to keep the pressure on for action and remediation.

She stepped out of the spotlight early preferring to stand back and observe, with quiet pride, the snowball effect she helped create. Through her efforts, and those of many others, the mine site was fully covered in 2010 and the negative legacy of toxic pollution in the Tsolum watershed ceased. She continues to occasionally volunteer her time to Tsolum issues but leaves the planning and meetings to others who she knows will carry on caring for the Tsolum watershed.

Like late director, Stewart Duncan, the Tsolum is a very integral part of Jackie's being. She's lived on the River for over 40 years at the old Hermitage site in Merville. Her garden shed is one of the original surviving living cells of the Jesuit priests who created a retreat there in the 1960's. She swims and floats the river, lives off-grid and practices tai-chi on the Tsolum's banks. She is leaving a small footprint but a large legacy. She exemplifies the Tsolum spirit.

Thank you Jackie!





MEMBERSHIP FORM

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

Please complete form and:

- mail form and cheque to: PO Box 488, Merville, BC V0R 2M0
- email form to tsolumriver@shaw.ca, and pay online through our website at www.tsolumriver.org
- drop off form and cheque to 2356 Rosewall Crescent, Courtenay, BC between 9-12pm, Monday to Friday (please call 250 897-4670 first)

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 – March to June
- In-migration – salmon counting – Sep to Oct
- Monitoring – water quality, flow, temperature, turbidity
- Assessments – habitat, riparian, steelhead, etc.
- Tree Planting
- Projects – mainstem and tributaries
- Projects – your neighbourhood
- Events – Earth Day, VI Musicfest, CVEX, Rivers Day, etc.
- Education – watershed, schools, field trips, bullfrog
- Committees – outreach or watershed protection
- Social media – website, Facebook, etc.
- Fundraising – government, corporate and individual

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.