



[www.tsolumriver.org](http://www.tsolumriver.org)



# Winter News

**AWESOME PINK SALMON RUN LAST FALL**

MARCH 2024 NEWSLETTER

## Project Planning 2024

### *Volunteers needed*

We have a very active volunteer base involved in yearly activities, such as counting the outmigration of fish, counting the Pink salmon on their bi-annual return, protecting the Western Toad migration and controlling invasive species. Ongoing projects include planning emergency drought response, watershed health assessment, and 'citizen science' data collection through the dedicated Eyes on The River group.

We will be launching our Rotary Screw Trap (RST) in early March in order to observe the out-migration of salmon and trout. This is an important yearly activity that gives us an estimate of species populations.



### *2024 AGM*

**1 - 3 pm Saturday, April 20  
Dove Creek Hall,  
3400 Burns Road**

Open invitation to all members, future members and interested public. Regular business meeting will be held from 1-1:45. From 2-3pm we will have a speaker- Jaroslaw Szczot, R.P.Bio., P. Bio., Senior Aquatic Ecologist with the Provincial Drought Response program will lead a general discussion and update of the Drought Response Program.

Refreshments will be served.

*Hope to see you there*



## Fall 2023

# Pink Salmon Count

Pink salmon return to the Tsolum every two years. We are very pleased to report that the river hosted a record return of pink salmon last fall despite unprecedented drought conditions in the watershed. In mid-August 2023 the Province declared the Tsolum at Level 5 drought classification (the highest level) and issued a Ministerial Order restricting water use. The order was lifted on September 27 after much anticipated rainfall the previous week.

On October 7, 2023, volunteers covered roughly 15 km in one day, not including additional counts on main tributaries, Headquarters, Dove and Piercy Creeks. The summer drought coupled with sudden rain created difficult bank surveying conditions. A huge shout out to the many committed volunteers who braved the high water.

*Extrapolation of the collected data led to an estimate of roughly 300,000 pinks!*



## Emergency Drought Response

Drastic weather changes are having an increasing effect on water flow patterns in the Tsolum River. Summer lows and winter floods can have devastating effects on all species, especially fish. Isolated ponds and river reaches can be depleted of food and oxygen very quickly, as witnessed three years ago with the massive pink salmon die-off in the main stem of the Tsolum. Last fall the rains came just in time to allow the fish passage, but it was clear a plan was needed to prepare for a quick rescue response. TRRS received support from Pacific Salmon Foundation's emergency drought response fund to develop and test methods of oxygenating ponds in situ where fish may be temporarily stranded. Our current tests saw promising results but further testing is needed. We continue to develop this methodology in cooperation with DFO, and plan to have trained teams of rescuers available to rapidly respond to this year's potentially worse drought season.

# Tsolum Hero

## *Stewart "Stewie" McIntosh*

FROGMAN EXTRAORDINAIRE

By Laura O'Brien

Stewie is a long-standing volunteer who has contributed countless hours to improve conditions in the Tsolum River watershed for more than two decades and continues to do so. His early training and work experience as a certified professional arborist has been an asset for the Society in addition to his thoughtful, practical and inventive approaches to problem-solving. Over the years he has come up with unique systems that have aided in the efforts for a healthy river and ecology. He loves nature, really cares and it shows.

A few years ago, Stewie put his mind and expertise to the growing invasive bullfrog problem in the Tsolum watershed. The American species migrated to this area around 2000 and their populations exploded in the many year-round wetlands that feed the river and host a diverse variety of aquatic insects, amphibians and birds. The provincial department tracking their progress advised early on that bullfrogs are here to stay and we will never eradicate them.

They obviously don't know Stewie's talents!

The invasive amphibians adapted to our temperate climate and became entrenched as pond bullies. An adult bullfrog will eat anything that fits in their large mouth including native Western toads, Pacific Chorus (tree) frogs, Northern Red-legged frogs, salamanders, newts, baby water fowl and even introduced bunnies. They have become a real threat to local biodiversity.

Enjoying a challenge and science and instilled with a love of nature,



Stewie devoured written information on the unwanted frogs, studied existing hunting methods already undertaken by keen locals using canoes and spears and developed his own methods. He designed, constructed and experimented with a variety of traps using ordinary and inexpensive materials to develop an easier way to control them and empower others to do the same. His extensive efforts have been very successful.

About four years ago, Stewie focused his energy on removing as many bullfrogs as possible from water retention ponds on local golf courses, Mulligans and Sunnydale, as well as in Finlay Creek, Sandwich retention ponds and other wetlands in the area. After just a couple years of targeted effort, the results at the end of 2021 recorded 4,300 bullfrog adults and tadpoles removed from the ecosystem. Another board member, Hamish Murray partnered with Stewie to monitor and document successes.

Stewie willingly shares information and expertise with other interested locals some of whom have assisted him over the years.

A little more research and field study on the tadpoles revealed that they are the only amphibian who doesn't mature to their adult form in

their birth year. The large juvenile offspring remain in the freshwater for up to four years before metamorphosing into adult frogs. This is one of the reasons they are so prolific in addition to adult females being capable of laying up to 20,000 eggs per year. Stewie modified traps and with his team targeted tadpoles almost year-round in the study ponds while adult numbers sharply declined. The results have been phenomenal – to date 7,700 adults and tadpoles have been captured by Stewie and friends!



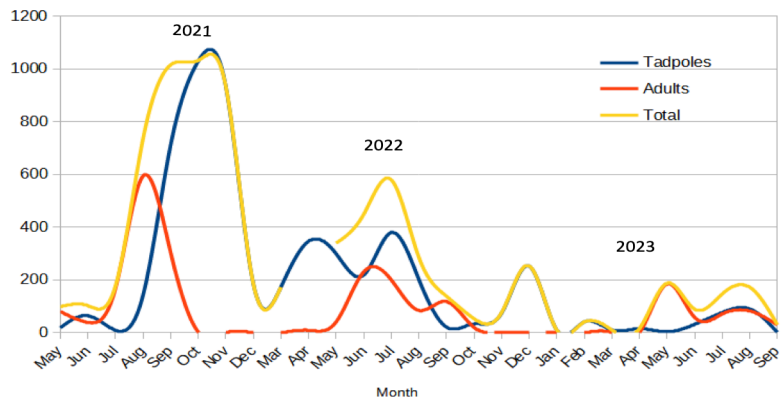
This thoughtful man also finds time to sit on the board of directors, attend and contribute to watershed protection committee meetings, plant and care for trees, lead trap building sessions, raise bullfrog awareness at outreach events and even create and carve a unique tribute to a past director, (another Stewart). All this in addition to his many other talents and interests some of which include being an expert gardener, grape grower and inventor. He is naturally inquisitive and takes the time to do his research and a great job no matter what he is working on.

## Invasive species control

Bullfrogs and Pumpkinseed Fish are the two species we have been working on eradicating. The following graph illustrates the success of three years of bullfrog and tadpole capture.

*Numbers are from hunting and trapping at Sunnydale GC, Mulligan's GC, Sandwich ponds, and Courtenay Country Market pond. The breaks in the lines are months when the program was shutdown.*

Bullfrog Summary May 2021 - Sep 2023



In collaboration with the CVRD, TRRS captured about 4000 pumpkinseeds in 2023 from Wildwood swamp and tributaries, using a fish fence and gee-trapping. We also hosted hamper trap building workshops to teach community members to make their own traps to help control invasive species. The hamper traps work for both pumpkinseed fish and bullfrog tadpoles.



We truly appreciate all he does for the Tsoolum watershed. Thank you Stewie for your time, talents and creativeness.



*Lepomis gibbosus* (Pumpkinseed Fish)



## 2023 Projects Review

### **Outmigration**

One of our regular activities includes monitoring of fry outmigration with the Rotary Screw Trap (RST). Numbers counted in the trap are extrapolated to estimate total fry outmigration. In 2023 the RST was launched March 8<sup>th</sup> for about three months. The final count (excluding 3-spine stickleback) was 50 Pink, 221 Chum, 431 Coho fry, 668 Coho smolt, 41 Chinook, 67 Rainbow trout, 2 Cutthroat trout, 94 Sculpin and 38 Lamprey. The collection of this information is very important for the documentation of fish population trends.

### **Eyes on the River**

Allan Chamberlain ([allanjohnchamberlain@gmail.com](mailto:allanjohnchamberlain@gmail.com)) completed the 2<sup>nd</sup> year of leading the “citizen science” monitoring program (publication will be available soon on our website). Allan received an award from Fisheries and Oceans Canada-Pacific Salmon Strategy Initiative *“in recognition of your contribution to the collective response to the unprecedented drought condition in BC 2023”*

Congratulations Allan and EOTR!



### **Outreach programs**

Last year we visited several elementary schools with our Watershed Model, and also conducted Aquatic Insect field trips. In the fall we ran field trips to the Tsolum for over 600 students, where they learned about salmon life cycles and habitat. We also attended Farmer’s Market days, Musicfest, Black Creek Fair, River’s Day and Cvex Fall Fair.

*Allan at Headquarters Creek*



### **TWIG**

Tsolum Wetland Interest Group (Sally Gellard is the contact [sallygel2@gmail.com](mailto:sallygel2@gmail.com)) is another project directed by volunteers. TWIG monitors the Western Toad migration to ensure the safe crossing of roadways (volunteers always needed), helps in bullfrog control and documents activity in the vital wetlands of the Tsolum River.

### **Watershed Health Assessment**

Volunteers have been working hard collecting data such as riparian, fish-crossing and water quality assessments. These, along with land use studies help evaluate the overall health of the Tsolum watershed.

### **Flow Monitoring**

Volunteers have been conducting flow measurements in partnership with the Community Flow Monitoring Network since 2021. Using this data we are learning about the factors that contribute to low flow within the Tsolum, such as human influences and climate change.

### **6-PPD Quinone Monitoring Program**

We are participating in an on-going study with DFO and BC Conservation Foundation. This chemical is a residue from tires and can contaminate streams through highway run-off. It is known to be deadly to adult Coho.



## *Charles Brandt's Lasting Legacy*

By Laura O'Brien

I first met Father Charles Brandt around the Tsolum River Restoration Society (TRRS) boardroom table in the late 1990's. I had heard of him and his love of steelhead salmon and efforts to push for remediation of the Mt. Washington mine site that operated from 1964-67. The pollution leaching from the abandoned open pit was killing off Charles' beloved steelhead and everything else in the Tsolum River. Never one for organized religion, the "Father" in his name led to incorrect assumptions on my part. It quickly became clear that Charles and I connected deeply with our mutual love of the natural world.

The usually quiet and contemplative Catholic Jesuit priest and hermit-monk who communed with nature off the beaten path in the Comox Valley was one of many dedicated and unwavering supporters of the Tsolum and her fish species. Despite occasionally practicing a vow of silence, he was very vocal about the dying river and disappearing species and engaged people at all levels of government and community on a regular basis.

Charles wrote a short very pointed letter in the mid-1980's when he was president of the Steelhead Society of BC claiming the Tsolum dead and asking what was going to be done about it. His quiet brilliance lay in the fact that he copied the letter to more than 100 government agencies, community groups and individuals far and wide to highlight the issue. People listened. Community meetings were held by all stakeholders including representatives from DFO (now Fisheries and Oceans Canada), Environment Canada and the BC Ministry of Environment. Those meetings facilitated a larger movement and momentum to determine why the fish and aquatic life were disappearing and why the once beautiful and abundant river that flowed from alpine to ocean was declared a dead waterway. The Tsolum River Task Force furthered the research and data collection and the TRRS was born to advocate for the river, mine site remediation and a healthy local environment.



Charles not only attended meetings and called politicians, he was always the first to check local bridges and river beaches for salmon and steelhead. He was also involved with the Oyster River Enhancement Society, residing on that river for decades.



He died in October 2020 at the age of 97. This gentle spirit left living and enduring legacies for our small part of the universe. The TRRS is a beneficiary under his Will and is to receive a sizeable share of his estate. Who knew an unassuming, nature-loving hermit priest would have any material assets to share but his lifetime work as a gifted antique art and book conservationist is widely renowned and apparently lucrative. We are so grateful he decided to share a part of his estate with us.



## What can we do to keep the Tsolum Watershed healthy?

- be mindful of eggs (Sep to May) and juveniles (year round, but especially in summer) while walking in the river (including pets)
- avoid the release of chemicals from soaps, sunscreens, fuels, fertilizers and pesticides into the water
- rescue stranded juvenile Coho and trout from off channel habitat in the spring
- plant native trees and vegetation along the river/tributaries
- remove invasive plants and bullfrogs
- protect wetlands, ephemeral streams and ponds.

## Volunteering Opportunities - Consider joining us!

- Join our Board of Directors to help guide the stewardship of the Tsolum River and watershed
- Join a crew of dedicated volunteers gathering spring outmigration data with the rotary screw trap
- Volunteer in spring/summer for salmon rescue and drought response team
- Join a hands-on, in stream salmon counting crew in the Fall
- Join monitoring crews for water quality, flows and other provincial parameters
- Join our outreach or watershed committees to assist with planning and action

**If you'd like to learn more about how you can help the Tsolum River,**

**please visit [tsolumriver.org](http://tsolumriver.org) or call 250.897.4670**

## Please support our fundraising efforts by:

- Considering a lump sum or monthly donation
- Donating your bottle return money to Account #252 at the Courtenay Return-It Center
- Purchasing beautiful art cards and art prints by Father Charles Brandt and Anne Louise Davies



**A HUGE THANK -YOU to all the Donors and Volunteers.**

***We appreciate your support!***

**MEMBERSHIP FORM**



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

**Please complete form and either:**

- Pay by cheque, etransfer, PayPal, or credit card
- email: [tsolumriver@shaw.ca](mailto:tsolumriver@shaw.ca)
- mail: to PO Box 488, Merville, B.C.V0R 2M0
- in-person: 2356 Rosewall Crescent, Courtenay
- to pay by credit card go to [www.canadahelps.ca](http://www.canadahelps.ca) through an online secure system for membership, lump sum, or monthly online donations. Second monthly option using VOID cheque is at bottom of form.

**Name(s):** \_\_\_\_\_

**Mailing Address:** \_\_\_\_\_

**Email Address:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

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

Check your 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, species, etc.
- Tree Planting
- Projects – main stem and tributaries
- Projects – your neighbourhood
- Outreach Events – Earth Day, VI 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, 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 15<sup>th</sup> 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.