

SEHAB update Kevin Ryan March 2023
North Shore, Port Moody and Maple Ridge
DFO CA Brian Smith (Port Moody, Maple Ridge)
CA Malcolm Wigham (North Shore)

North Shore

Seymour Hatchery

Update for the SEHAB of the Seymour Watershed for the year 2022 -- Shaun Hollingsworth
This is a quick overview of the highlights of the activities during 2022 for the Seymour Salmonid Society in the Seymour Watershed.

- we were able to host an open house day in September (our first post COVID event)
 - we are renovating our signage and landscape area of the hatchery facility in order to be more community friendly, and to educate our visitors to the site and its activities
 - we continue to utilize gastric radio tags to track salmonids moving through the canyon rockslide area (29 adult coho were tagged)
 - we hosted a "welcome back" ceremony https://www.youtube.com/watch?v=YjjRas4_UL4 to celebrate the return of salmonids to above the canyon rockslide
 - we were unable to deliver our 'in person' education program Gently down the Seymour (GDS) due to COVID, however we delivered our Zoom in the Seymour (ZIS) program to 42 classes (934 students)
 - with the aid of DFO, and Metro Van we performed some maintenance work to the off-channel habitat at 'mid valley' and 'Junior creek' to ensure that mature salmonids could spawn, and juvenile fish could rear
 - we continued to move mature salmonids to above the dam. This year we moved 10 pair of summer run steelhead, however due to the late run of coho (low water levels), we did not move mature coho into the reservoir. We did place 40,000 clipped juvenile coho above the reservoir
- 2022 egg take, 500,000 chum eggs 60,000 coho
- we beach seined our watershed, and moved 65 pairs of coho, 29 pairs of chums, and 6 pairs of summer run steelhead to our hatchery for brood stock
 - we travelled to the Allouette River to gather 180 pairs of chums for the eggs and milt
 - we conducted a mark-recapture exercise in order to estimate our run size, however due to the late run of coho, carcasses are still being recovered at this time
 - we applied for a BCSRIF grant to continue our stewardship of the watershed. If successful, this work will include habitat restoration of the estuary, a climate change study for the watershed and salmonids, continue with our habitat restoration, including woody debris in the mainstem of the river and preventative maintenance works on our facility

Keegan Casidy North Shore Streamkeepers

3 projects

1) Lynn Creek Estuary

Conceptual Design completed 2022, Neptune Bulk Terminals DFO \$1/2 million offset project awaiting DFO approval April 2023. Placement of over 500 Boulders/Logs in Estuary for habitat improvement, kelp reef

2) Lynn Creek Ephemeral side channel work (100% funded) \$70,000

Secured 60 logs and 80 boulders to split channel to happen sometime in 2023.

3) Mosquito Creek phase 2 (fund raising stage)

\$434,000 required to place additional 100 logs and 220 boulders

Morten Creek

- 1) UBC engineers working with Morten Creek to field test a camera that will count fish AND i.d. them.

Spanish Banks

In touch with Brian and Eric on a date for trapping the coho juveniles and releasing the chum fry from Kanaka. Creek looks good, running clear and 5 C. Expecting about 25 school classes to release chum fry this year.

Port Moody

Noons Creek

2022 Spawners Chum 21 Females 21 Males. Green eggs 53,737 Current count 48,564. 90%

2022 Coho Spawners 8 Female 8 Male Green eggs 18,713 Current count 15,242 81.5%

Improving electrical capacity to incubation room for the Winter months. Partial DFO funding provided.

Side channel restoration, needs to be dug out, drained and restored with spawning gravel as it is too shallow and upper part is full of sand.

Fingerling festival May 6th 2023

Mossom Creek hatchery

Chum (Brood year 2022), harvested from Alouette River (68,000) plus Mossom Creek (18,000) all growing well, as alevin currently, 99% survival rate overall. Late arrivals of spawners and late lower levels resulted us not loading up to our permitted 100,000 Chum eggs count.

Coho current estimate alevin stage 11,700, 99% survival

No Pinks this year or for last several years.

Water quality testing team has noted no levels of concern in dissolved oxygen, dissolved solids, conductivity, turbidity, or nasty chemicals over this and most of the past 3 years. We are very fortunate as very few domestic sources of potential pollution are within our watershed. Every weekend we test Mossom Creek above our water intake and 2-3 times monthly also an adjacent watershed stream, Schoolhouse Creek North. Turbidity spikes might occur as major atmospheric rivers clobber us but these have not appeared to have done any noticeable damage to our stock.

UBC Mossom coho tagging project

We have received final report for this project from Prof. Scott Hinch. Posted to Basecamp. We tagged 90 coho smolts released over 3 different days in May. We installed 10 receivers in Burrard inlet. 2 east of release point, 2 just past Reid Point 2 Indian Arm 2 second narrows and 2 at Lions gate bridge.

Results the coho hung around eastern part of the inlet with over 150,000 hits involving almost all 90 tagged coho over a month. They appear to hang around the area from Port Moody to Reid Point Marina for almost a month.. About 20-30 we're recorded around Indian Arm and around 15% past second narrows. Just under 10% we're recorded at Lions Gate.

Consideration will be given for a second study to validate before any firm conclusions are made. Want to discuss with DFO about possibility of barging to West Van to improve success ratio of smolts. This project cost \$40,000. UBC in kind was another \$30,000 from UBC. So very expensive study.

Maple Ridge

Alouette Hatchery (Alco)

Chris reporting: Currently rearing 458,000 Chum, 16,409 Alouette Chinook plus 127,000 from Chilliwack. 75,558 Coho. **No issues or concerns except shortage of prisoners to do the work.**

Kanaka Bell Irving Hatchery

Darin reporting: Production plan calls for 350,000 chum. 80,000 coho. Currently have 190,000 chum and 72,000 coho in alivin stage. Estimate over 15,000 volunteer hours very impressive. **Problem using the external incubation tank caused significant 30-40,000 loss of eggs.** Normal winter challenges and fall rain events. PSSI survey just completed to determine funding.

**Common complaint from community hatcheries is funding from DFO
Hopefully this will be addressed in 2023.**

Lower Mainland Road Salt project

Lower mainland stream keepers led by (Stony Creek) have secured a very impressive sizeable 5 year NSERC grant (\$500,000), to look at the impact of road salt on salmon and other aquatic life including invertebrates in a number of creeks and streams in Metro Vancouver. Several universities are now also involved UBC, SFU and BCIT project is co-ordinated by DFO. First workshop last weekend led by Nikki Kroetsch from DFO. Nikki will be coordinating activities of the various stream keepers groups along with the involved universities.

BIMES/Mossom creek hatchery has installed 2 data loggers installed in Mossom Creek. Initial results is we are well below provincial guidelines almost not registering amounts so low. Mossom creek water is one of the healthiest waterways in Metro Vancouver. This is largely due to relatively minimal impact from development and road infrastructure. Mossom creek will be used as a baseline and will be compared against other creeks in the lower mainland. The road salt team is aware of several creeks already struggling with extreme levels of road salt.

Approximately 30 data loggers will be installed in various creeks in the lower mainland. Data will be uploaded 2-3 times per year and the results will form a real time picture of how much salt is entering our creeks based on conductivity levels. This data will then be replicated in several labs. There are a number of PHD and masters students who will be studying the impact of road salt on aquatic life. These results will be published and shared with all interested parties.

The study organizers recognize the need for application of road salt for safety reasons. The road salt team will be looking for solutions that allow for the safe movement of vehicle traffic and hopefully find ways to reduce the volume of salt on our roads. This study is not limited to the use of salt on roads. The team also understands the additional impact of household salt application on driveways and sidewalks as well as in multi family dwellings. These add to the overall impact on creeks and streams. Educational efforts will form part of this study to communicate to the public the impact this material has on aquatic wildlife.

The road salt team wants to work collaboratively with all municipalities to find ways to lessen the impact of road salt. Several municipalities have even offered to pay for data loggers to widen the scope of this important project.

Kevin Ryan
March 2023