



SQUAMISH RIVER WATERSHED SOCIETY

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Registered Society: S-38039
Charities registration #87365 2861 RR0001

SRWS Regular Meeting for Board, Advisors, Staff, and Affiliate Members Minutes

Date: Tuesday, February 27, 2018

Time: 6:00 pm – 8:30 pm

Location: Totem Hall – Admin Room (at the back past the gym/basketball court)

In attendance:

Chessy Knight, President

Randall Lewis, Vice-President

Shelagh Thompson, Treasurer

Jordan U, Director at Large

Kimberley Armour, Director at Large

Rhonda O'Grady, Education Coordinator

Edith Tobe, Executive Director

Lora McAuley, Blue Carbon and Communications specialist

Andrea Buckman, Assisting with Central Estuary Restoration Project

Caroline Melville, InStream Fisheries

Stephanie Lingard, InStream Fisheries

Absent with regrets: Jennifer Buchanan, Secretary

- 1) Welcome and Greetings – thank you to Randall Lewis in providing the location to meet at Totem Hall.
- 2) Overview of Cheakamus Water Use Plan. A brief history of the water use plan was provided, how the SRWS was involved since it's inception in 1998 and was engaged in the development of the various monitoring programs. This past year Hydro is looking to scale back major components of the monitoring program, primarily the rotary screw trap (RST) program in the Cheakamus River which provides estimate on juvenile salmon, the steelhead program, and the adult estimates. InStream has been hired to run several of the monitoring programs and Caroline and Stephanie provided some background on the impacts of the scale backs, what will happen if Hydro puts on hold these studies while they "review and synthesize" the past 10 years of data, and how Hydro is making unilateral decisions without any input from the Technical Committee (which includes representation from SRWS, Squamish Nation, Provincial and Federal fisheries staff, and

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the Cheakamus Centre). Hydro is planning a June meeting of the Technical Committee and the SRWS will be in attendance. The SRWS can also request that the original members of the Technical Committee be invited which included sports fishing groups, recreational user groups (rafting, kayaking, etc), provincial ENGO's, and others. If anyone would like to learn more about the monitoring programs or the WUP the information is available on the BC Hydro website:

https://www.bchydro.com/about/sustainability/conservation/water_use_planning/lower_mainland/cheakamus.html

Action Item: Edith will try to contact original Technical Committee members to notify them of the upcoming June CWUP meeting (or she will encourage BC Hydro to reach out to the original groups).

- 3) New staffing including Andrea, Alyssa, and expanding our employee base: As the SRWS has been expanding our work load has increased. This year in particular, with over 8 large scale projects underway, there has been a need to increase staffing and support. Alyssa worked with the SRWS during the summer of 2017 as part of the BCIT Ecological Restoration student support that we've been benefitting from since 2013. Instead of bringing any new students on for a summer term we have decided to offer Alyssa a full year contract to assist Rhonda and Edith with program delivery.
- As noted, a position has also been extended to Andrea Buckman, and now Palmer Environmental, the company she currently works for, to assist with project managing the Central Estuary Restoration program. The details of the contract are being developed but basically Andrea and Palmer will work initially with Edith and the Fisheries and Oceans Resource Restoration Unit - RRU (Dave Nanson and Al Jonsson) in the replacement of the Training Dike culvert(s) with clear-span bridges.
 - Lora McAuley (Lake Trail Environmental) has also been assisting with developing a communications and work plan for the Central Estuary Project. Lora is wrapping up the work on Blue Carbon but may integrate the components of the Blue Carbon Estuary Protocol project into the Central Estuary Restoration project.
- 4) Update on Central Estuary Restoration Project: In September of 2017 the SRWS received confirmation in principle that the 5-year proposal to integrate large scale restoration projects including culvert replacements along the Training Dike, realignment of the Spit to connect to Third Avenue, and install an intake structure across the CN Spur line to reconnect the Central Estuary with the Bridge Pond was approved. The budget needed to be revised based on reduced available funding for years 2 – 5 but overall the total budget amounted to \$1.6 M. The contribution agreement was signed off on in mid-December which resulted in insufficient timing to implement that original plans for year 1 funding. After a lot of discussion with DFO and the Treasury Department we received approval to move \$220K from Year 1 project funding into Year 2 which will go predominantly towards bridge replacement. Edith has been working closely with the DFO CRF team to update the budget, project outcomes, and commence preliminary studies on the Training Dike including hiring of Kerr Wood Leidal (KWL) to undertake a sediment transport study, develop a hydrologic model to determine if any upgrades would result in potential flood risk for the DOS, establish base line data on water quality and juvenile salmonid usage in

and around the Training Dike culverts, and meeting with stakeholders, community, and project partners to develop a detailed project outline (with input and support from Andrea and Lora). DFO's RRU team is directly involved with all aspects of this project. This project is an extension of the Feasibility Study that the SRWS secured seed funding for in 2017 to examine background information and identify which culverts would be best to replace with clear-span bridges. The Feasibility Study should be complete by mid-March.

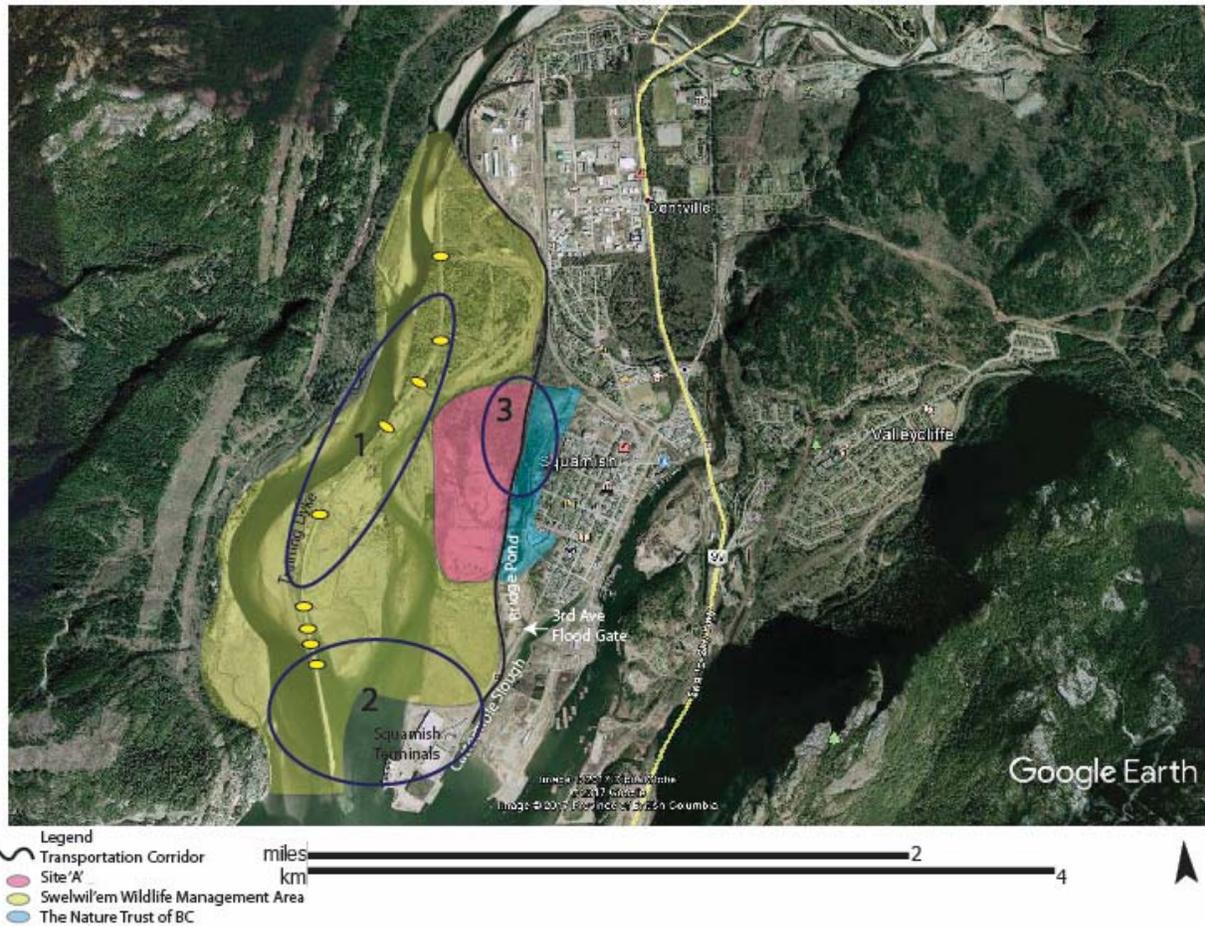


Figure 1. Central Estuary Restoration Project Map showing the three project phases: Phase 1: bridge replacement of culverts; Phase 2: realignment of Spit; Phase 3: installation of intake structure across CN Spur Line



Figure 2. Conceptual design of what a new Spit alignment could look like (by Jamie Martin):

- 5) Update on other projects (Kiwi Channel Extension, Elaho, Ashlu, Mamquam): The SRWS is well underway with restoration works on Kiwi Channel (Cheakamus Centre) which is a new channel that connects the western channels fed by the Far Point Intake, across Paradise Valley Road through twin culverts, and into Emerald Forest Creek on the east side of the road. The new channel extends from lands within School District #44 Cheakamus Centre (with land covenants with the Nature Conservancy of Canada), and Squamish Nation Cheekye Lands;
- Blasting was completed on the large rock boulder of the Elaho River in November of 2017 and an update on the project will be added to the SRWS website complete with video coverage and photos. Additional blasting is still needed as the major rock obstruction now needs to be addressed. SRWS is working with Squamish Nation on securing funding to achieve this goal as part of a very large scale project.
 - The SRWS has an on-going agreement with Innergex to monitor the off-channel habitat along the Ashlu River as well as a separate project that is in its second year to upgrade, clean-out, and repair previous restoration works in the upper Squamish including Brach 100 Creek, Mile 22 Creek, High Falls Creek, and the beaver issues along the Ashlu service Road. In October a regional storm hit the area and impacted the main Ashlu intake structure resulting in its failure. Over a 48 hour period no water flowed into the off-channel habitat and hundreds of spawning salmon (primarily coho and chum) were stranded and died. In partnership with Innergex and DFO, the SRWS was able to clean the intake, reestablish flows back into the channels which were also cleaned out during the dry-spell, and follow-up with monitoring.
 - The Mamquam project was intended to clean out the two intakes on the north and south side of the Mamquam River providing flows respectively to the Mashiter Channel and the Brennan Channel/Mamquam Reunion. The project was supervised by DFO RRU staff who removed the gravel from the Brennan Channel intake and restructured

part of the river in an effort to create some lower gradient areas to the river in which pink and other salmon could spawn. The SRWS also hired KWL to do a survey of the site which they have yet to complete but are planning to undertake March 8 & 9.

- 6) Update on Education Program: Rhonda is working hard on the Education Outreach program. This year the program will run from May 1 – 3 and 8 – 10 and will focus on the Mamquam Reunion / Pelkwil'em Channel. As always, Rhonda is looking for volunteers (please contact her at education@squamishwatershed.com if you would like to volunteer).
- Rhonda has been in touch with Tenderfoot Hatchery and Jordan will meet up with her to do fry releases. They are looking to do the coho fry release with Brackendale Elementary into Brackendale Creek (Cottonwood Park) on March 13 (10:00 – 11:00); Mamquam and Garibaldi Highlands to release at Coho Park (Meighan Creek) on March 15 (from 10 – noon). Jordan will also contact Randy to see about doing a chum fry release with Squamish Nation students and community into Lewis Creek sometime in April. Randy will contact Squamish Nation elders to invite them along.
 - Rhonda is also developing (or conceptual design at this stage) a wetlands program that each school can become involved with through an adopt-a-wetland program that will tailor activities from Wetlandkeepers manual and other programs. This will be something that Alyssa may be assisting with.
 - Rhonda has developed a “Bat Pack” that can be shared by the schools that contains all anyone needs to know about our flying mammals! One bat condo has been completed and is in place by Randy’s office on Stawamus, and a second bat condo is in almost completed and in place at the end of the Training Dike by the Chelem Trail. Signage will also be installed by each bat condo to provide information on how a bat condo functions. Rhonda also gave a workshop a few weeks back on building bat boxes at Sunwolf (who generously donated the space and beverages). The workshop had a tremendous registration and was presented with assistance from the South Coast Bat Association and some additional support from the Environment Society. Kimberley mentioned that in Richmond there is a bat monitoring app (which she will provide information on) and which may provide a basis for establishing a monitoring program around our bat efforts. Rhonda has been working with the Montessori School who is interested in monitoring bat activity in the Estuary bat condo. Rhonda may also want to reach out the Stawamus Elementary and see if they are interested in monitoring the bat condo by Randy’s office.



Figure 3. Bat Condo at Stawamus

- Rhonda continues to work with Valleycliffe Elementary of pollinator program and will be working with Brackendale Elementary students this spring to repair and replace the pollinator hotel in the Farmers Field that got vandalized last fall.

Action items: Jordan to contact Randy with dates for chum fry release in April

- Kimberley to provide information on bat app
- Rhonda to coordinate with Randy to see if Stawamus Elementary is interested in monitoring bat activity at the bat condo at Stawamus.

- 7) Discussion around setting up a Habitat Bank, potentially securing land base through nature conservancies, mapping and identifying important wetland, estuarine, riparian, and wildlife habitat: Chessy provided some background information on what this could mean if we explore the option of securing funds in lieu of compensation. The SRWS could develop standards and methodologies to undertake monitoring in various capacities (building on existing standards) that could include monitoring bats, monitoring the restoration activities, wildlife trees, plant growth and distribution, etc.
- 8) Round Table and Update from partners:
- Lora is continuing to work on the Blue Carbon project (which she is finalizing a report for); working on the a communications and work plan for the Central Estuary project; teaching at VIU as part of a 5-week environmental technology certification program (ETCP) with an upcoming delivery in Squamish (April 16-May 18, 2018) for First Nations and other students interesting in learning environmental monitoring techniques; Lora and several others are in the early stages of forming a new non-profit called the Subsea Society of Howe Sound that will focus on underwater exploration, research and conservation in Howe Sound.
 - Kimberley continues to work on her research project that she hopes to apply towards obtaining her RPBio status. The research project is studying the growth of Lyngbyei sedge in the newly restored West Wind site and compare growth of the sedge at different elevations and on disturbed and established areas.
 - Jordan has been promoted to Operations Manager at Tenderfoot Hatchery. A report from Tenderfoot Creek Hatchery has been appended to these minutes which highlight some of the activities at the hatchery. Of note is the poor return on pink, coho, and chum salmon. There is potential to start a new Elaho coho and Chinook program to complement the work being done on the Elaho obstruction. Brian K is retiring in April and being replaced by Josh R.
 - Randy would like an updated report on the eelgrass monitoring that he can submit to Squamish Nation. When the dive team that worked with Randy last year last dove by the eelgrass beds in front of his office they found for the first time geoducks!
- 9) Follow-up on Action Items from AGM including revising Constitution and by-laws for new BC Societies Act regs; policy around receiving funding donations; and policy around conflict of interest: Edith will follow-up on these and work on policies in the summer.
- 10) Next meeting will be planned for some time in May.

8:30 p.m. – meeting adjourned

Addendum:

- Correspondence from Chessy to Pamela Goldsmith-Jones regarding proposed amendments to the Fisheries Act
- Tenderfoot Creek Hatchery Update from Jordan

Interesting links: Ocean Watch Report: <http://oceanwatch.ca/>

E-mail correspondence from Chessy to Pamela Goldsmith-Jones regarding the proposed amendments Fisheries Act (Feb 8, 2018):

1. S. 14(1) Fees for providing regulatory services

This is important because development proponents used to complain about how long it could take to get an authorization (under the old pre-Harper section 35 that provided habitat protections). Staff could sometimes spend several months to several years on project reviews, which often involved review of many technical documents to support the project application, lots of meetings with the proponents, etc. But DFO could not charge any fees for these regulatory duties of staff. And because DFO could not charge any fees, DFO couldn't hire more regulatory biologists, which would have reduced wait times. The Conservatives' answer to this problem was to impose maximum time limits on reviews and authorizations, although these review timelines offered fairly turn-around times. The result? Shorter waits for proponents, but poorer quality of work from DFO staff...you get it.

2. S. 35(1): Harmful alteration, disruption or destruction of fish habitat

It is so great to see this provision back in the Act! The HADD is prohibited without DFO authorization. On an interesting side note that I did NOT see with respect to authorizations: under the pre-Harper FA, if a project required an authorization under S. 35 (2), this automatically triggered an Environmental Assessment under the Canadian Environmental Assessment Act. As I have not seen the Liberal proposal for changes to CEAA, I don't know if this trigger will be included in the new CEAA. We should keep watch for this. Sometimes the EA was a relatively simple desk-top exercise, but for some projects, it was a significant and important part of the project review and permitting process.

3. S. 42.02(1) Arrangements respecting fish habitat banks

Under the old Act, projects that required an HADD authorization usually had a requirement to provide fish habitat compensation. Some of these compensation projects were successful, but many were not. Designing successful habitat compensation projects is a technical challenge, and there was a range in the technical capability across the environmental consulting community to design and construct compensation projects.

The concept of habitat banking has been around for a long time, but not used so much in Canada. The idea is that large areas are protected, and fishery habitat enhancement and restoration work takes place in these areas. Proponents who have a habitat compensation obligation would then "buy" credits in the habitat bank, which would allow the protected area to get larger, or would allow for the purchase of additional lands for new habitat banks. Some folks will be against this, but I am in favour of it, and always have been. I think groups like the Watershed Society, in partnership with and with the technical support of DFO Resource Restoration Biologists (and provincial biologists) are much better qualified to create and manage habitat banks. Habitat banking allows for a longer-term vision of habitat restoration within a watershed, allowing successful restoration projects to be built and added to over time, enabling the purchase of environmentally sensitive lands, etc. I think you get the idea.

4. S. 42.2 Public Registry

The Minister shall establish a public registry for the habitat protection provisions of the Act (S. 34 to 42.1). This is fantastic! The new Act makes the distinction between information that is obligatory for the registry, and information that is optional. The list of obligatory information is pretty good, and the Public Registry will allow the public access to information that previously could only be obtained through an ATIP (Access to Information and Privacy). Working on an ATIP previously took up a great deal of staff time, and much of the information that was released was redacted anyway.

5. Fishery inspectors and fishery guardians

The old Act (pre-Harper) designated all habitat biologists as fishery inspectors or guardians. These staff had the power to inspect sites for potential violations of the Act or of the conditions of an Authorization, and take legal action to halt works until the violation had been remediated. We used to issue what was called an Inspector's Direction... this document would spell out the violation and what needed to be done to fix the problem. Works on the site had to cease until the conditions of the Inspector's Direction were satisfied. The Harper FA stripped habitat biologists of these powers and left habitat violations entirely with the Fishery Officers. Investigating a site for habitat violations is not always easy, and many Fishery Officers were not trained to do so, or did not have the time or interest to investigate habitat violations. Thus, habitat staff

had to site on the sidelines, watching violations occur but having no power to stop them. The new FA appears to re-instate the powers of fishery inspectors and guardians... a very good thing!

6. Traditional Knowledge of Indigenous Peoples of Canada

You are probably already aware of this, but the Act makes mention throughout of the value of traditional fisheries knowledge of Indigenous peoples, and use of that knowledge in the Minister's decision-making. This is a great step forward.

There are some other aspects of the Act that make me a little nervous, but I think it's best to focus on the positives for now and support you and your colleagues in getting adoption of this bill. The new Act is definitely on the right track, good work!

Chessy

Tenderfoot Creek Hatchery Report Feb 2018

Tenderfoot Creek Summer Chinook 2016

Release/Marking Plans for Chinook Fry

CK – 80 K CWT and AD, Released 3g in June 2017 with upper and lower river releases.

CK – 40 K CWT and AD, S1 smolt for release May 2018.

MA – 30 K CWT and AD, S1 smolt for release May 2018.

SQ – 15 K CWT and AD, S1 smolt for release May 2018.

AS – 15 K CWT and AD, S1 smolt for release May 2018.

Currently all smolts are 15-17g (1g smaller than last year) and are all in our new 20ft tubs.

Surplus unfed fry releases (unmarked):

Mamquam river-	24,639	side channel habitat
Cheakamus river-	5,200	side channel habitat
Shovelnose creek-	12,782	

Tenderfoot Creek Summer Chinook 2017

Stock	Collection dates	M	F	J	Total	Egg inventory	% surv
CK	July 14 –Aug 18	50	33	32		150,044	89.2 %
MA	July 30 –Aug 22	19	10	8	35 Ad jimmies	44,000	92.7 %
SH	Aug 01 –Aug 27	6	3	1		16,500	98.8%
AS	July 31 –Aug 24	4	6	2	209 (including jimmies)	33,000	97.9%

Cheakamus – 80 K CWT and AD, Released 3g in June 2018 with upper and lower river releases.

Cheakamus – 40 K CWT and AD, S1 smolt for release May 2019.

Mamquam – 30 K CWT and AD, S1 smolt for release May 2019.

Shovelnose – 15 K CWT and AD, S1 smolt for release May 2019.

Ashlu – 15 K CWT and AD, S1 smolt for release May 2019.

* First year to have three year old hatchery adults in Cheakamus.

Chum 2017

Approximately 3969 Chum adults have passed through the Tenderfoot trap in 2017. Falling short of the 6-7,000 average return. A planned 1.7 million eggs were taken for Tenderfoot brood, an estuary net pen, and the urban stream conservation program (Judd, Little Stawamus, Stawamus, Meighan, Kiwi channel, Dryden). This program is a mix of conservation efforts, brood production, and production to support First Nations, commercial, and Recreational fisheries.

Tenderfoot Creek, Mamquam Coho 2016

Currently rearing 100,000 Ad clipped Tenderfoot Coho and 50,000 Ad clipped Mamquam Coho @ 15 grams. Release May 2018 to support First Nations, Commercial, and Recreational fisheries.

Tenderfoot Creek, Mamquam Coho 2017

A total of 973 Tenderfoot Coho adults returned to the trap. The long term average is approx. 2500 returning adults from November- February. This year, 100,000 eggs will be kept for our S1 program, and the surplus will be released as fed fry in Brohm creek and other urban streams.

Mamquam brood collection was difficult this year due to low survivals and high water events for the planned 50,000 Ad clipped S1 smolt program.

Pink 2017

Not as strong of a return as past cycles. Out of a planned 1.7 million egg target to support an urban stream conservation program, only 503,000 eggs were collected. Tenderfoot staff handled a total of 1101 pinks adults through the Paradise fish trap compared to 17,020 in 2015.

Maintenance/Infrastructure/Staffing:

- Air lift technology implemented
- Scott Melville, and Brian Klassen have moved on. Jordan Uittenbogaard has taken the Operations manager position and Josh Retallick has filled a technician position.

Upcoming/ future programs:

- Elaho Coho stocking program- potentially for 2018
- Elaho Chinook stocking program- potentially for 2018