

## SPANISH BANK STREAMKEEPERS SPRING 2012 MEETING

### AGENDA

**Date:** Tuesday, June 26<sup>th</sup>, 2012

**Time:** 1:00 p.m. – 3:30 p.m.

**Place:** Library at Aberthau, WPGCA, cnr. 2nd Ave & Trimble

1.0 Introductory Remarks (Dick)

2.0 Treasurer's Report (Maurice)

3.0 Field Reports

- a) Department of Fisheries & Oceans ( Sandie )
- b) Spanish Upper Watershed (Maurice)
- c) Spanish Lower Watershed ( Ron )
- d) Salish Watershed (Ben)

4.0 Business Arising from Spring 2011 Meeting

- a) Invertebrate count at Spanish, July 16, 2011 (Richard) *Dick for*
- b) Status of Salish Rehabilitation (Karenn)

5.0 New Business

- a) Spanish/Salish 2012 invertebrate count (Richard, Ben)
- b) Salish Storm Drain Marking with CtS August 11<sup>th</sup> (Ben)
- c) Spanish Rehabilitation with CtS August 18<sup>th</sup> (Ron)
- d) Streamkeeper Insurance (Dick)

6.0 Next Meeting

Regrets: Anje Ellermann

# Minutes of the Spanish Bank Streamkeepers (SBSk) Spring 2012 Meeting held Tuesday, June 26, at Aberthau, West 2<sup>nd</sup> and Trimble

This meeting began at 1:00pm, and lasted for approximately 2 hours.

Present: Dick and Jilian Scarth, Bob Seraphim, Ron Gruber, Maurice LeGallais, Sandie Hollick Kenyon, Scott Ducharme, Patrick Oswald, Karenn Bailey, Ben Seghers, Richard Moore. Regrets: Antje Ellermann.

Dick Scarth prepared the Agenda and Bob Seraphim chaired the meeting.

## 1.0 Introductory Remarks:

- 1.1 Dick noted the passing of Norm Walker, one of our members on December 5, 2011 in Comox, evoking sadness in us all. Norm's life-long interest in nature generally has been a welcome sustaining force for the SBSk because of the enthusiasm he imparted to everyone, and was shared with Ron during their adventures exploring B.C. Norm's legacy will continue because he has favoured SBSk with a bequest! Attached to these minutes is a pamphlet recognizing Norm's rich and fecund family life, obtained by Ron from Norm's daughter when he attended Norm's funeral in Courtney.
- 1.2 Dick welcomed two new members: Karenn Bailey and Ben Seghers:
  - Attached is Karenn's Biography, and Acadia/Salish Restoration Update which chronicles her metamorphosis from accountant to graduate with a Bachelor's Degree in Ecological Restoration from BCIT next year! Dick expressed our gratitude for her plan for fish passage, and stream and riparian restoration of Acadia Creek.
  - Ben, raised in Belgium, attended UBC for 9 years to emerge with a PhD in Zoology pertaining to tropical fish in Trinidad, and has since taught at several universities including Oxford. Ben's contributions are already self-evident in observations detailed in his report, attached hereto.

## 2.0 Treasurer's Report:

- Maurice reported that our bank balance is \$625.62. Every month our bank charges \$3.90 and credits \$3.89 to our account as a goodwill gesture intended for seniors. He has fended off the bank's protests against our group continuing to benefit from this "senior's discount". We will need decide what to do with these funds when our account closes in one year. Deferred.
- Discussion ensued of what we might do with Norm Walker's bequest, although we do not yet know how much it might be. Norm's daughter contacted Ron about an unspecified amount "intended for SBSF", so he directed her to the Pacific Salmon Foundation. Sandie offered that Diane Rammage ought to know the amount, but cautioned us that it may be difficult to earmark Norm's bequest specifically to us. Dick noted, for information, that a Society requires a treasurer and a bank account. Deferred until we know the amount of Norm's bequest, and whether we can access the funds that PSF receives. (See note concerning incorporation of a society below in 5.0 New Business d) Streamkeeper Insurance.)

## 3.0 Field Reports:

- a) Department of Fisheries & Oceans: Sandie suggested that new information signs ought to be installed at the beach to alert passersby of the sensitivity of habitat at Spanish Bank Creek (SBCK), especially at the channel which connects to the settling pond. She will follow up with Brian Scott, a new contact at Vancouver Parks Board.
- b) Spanish Upper Watershed: Maurice had nothing to report other than retrieving a few golf balls, like other detritus as he sometimes does that he retrieves (like tiles, pottery, and other debris washed down from the fill on Chancellor Boulevard).
- c) Spanish Lower Watershed: Ron reported that 1,500 coho were introduced to SBCK today (1,000 above the cart; 500 below) and recounted his activities from July 2011 to date, detailed in the attachment. We appreciated him documenting this history not only in his handwritten notes but also in his album of photos of returning salmon and other beasties during the last 4 years. In addition to monitoring decaying carcasses and fry, he instigated Mark Hume's article describing the SBSk restoration efforts in the Globe and Mail on December 26, 2011:  
<http://www.theglobeandmail.com/news/british-columbia/the-stream-that-spawned-a-comeback/article4182186/>  
He observed that the spawners are likely wild; 100's of fry last year, but not this year; the spawn of 2011 was not as good as 2010. It was heartwarming for him and Dick to hear a young lady

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speak at a Vancouver Parks Board lunch on April 28, 2012 who, inspired by having been involved in Catching the Spirit (CtS) as a young girl digging in SBCK, is now in environmental studies at Queen's University.

- d) Salish Watershed: Ben made the following observations, among others that are contained in his report, also attached:

1. Verification of the presence of juvenile coho salmon and cutthroat trout (41-85mm);
2. Video of salmon attempting, unsuccessfully, to enter the culvert on November 23, 2011, and so was unable to spawn;
3. Observation of white opaque pollution on March 21, 2012, at the location shown in the attached map (upstream from culvert past first house).

and he discussed the attached table, "Trapping Results from Acadia (Salish) Creek, July 4/5, 2011"

### 4.0 Business Arising from Spring 2011 Meeting

- a) Invertebrate count at Spanish, July 16, 2011: Dick presented the attached table, "Spanish Bank Creek Invertebrate Surveys" which includes a survey made July 13, 2011 at Salish Creek. He contrasted the predominate taxon in SBCK (Blackflies) and Salish Creek (Mayflies).
- b) Status of Salish Rehabilitation: Karenn has completed an Introductory Stream Habitat Survey (Module 1 of the Streamkeepers Handbook) and is now completing Module 2: Advanced Stream Habitat Survey. Together they will form content to her report to be delivered to Sean Wong at MOT. It will be circulated, when complete, to provide a baseline for us to assess conditions in the future. Wood baffles to be built by students, are to be fixed within the concrete culvert to provide steps of a ladder (@~1 meter spacing) to be used by salmon to traverse its ~50 foot length for the first time since it was installed in 1947. This will prevent salmon attempting this unsuccessfully, as was aptly documented in Ben's video last November. Contact person for installation of the baffles is Dave Nansen, DFO.

Concern was expressed about a large boulder resting over the intake at the upstream end of the culvert, an issue that Karenn noted in her "Acadia/Salish Restoration Update", attached.

Dates have yet to be set for: (1) trapping in July, and (2) the next bug count.

### 5.0 New Business:

- a) Spanish/Salish 2012 invertebrate count: Zoe Ann will determine an appropriate date (3<sup>rd</sup> week of July) and the best time to trap juvenile Coho.
- b) Salish Storm Drain Marking with CtS August 11<sup>th</sup>: Ben noted, and Dick agreed, that the 24 drains south of Chancellor Blvd are too small in number to keep CtS kids occupied for the time allotted. Pulling ivy is problematic because of nudity concerns of the Wreck Beach Preservation Society. Ben agreed to locate additional drains north of University Blvd. As in previous years the CtS kids will use public transport to reach the work sites. They'll be split into two groups, and be chaperoned by Ben and Dick. Bev Bowler will provide decals.
- c) Spanish Rehabilitation with CtS August 18<sup>th</sup>: Ron will refine his plans for diverting the stream; Dick will organize delivery by Metro Vancouver of shovels, wheel barrows, and buckets; Sandie will provide a screen.
- d) Streamkeeper Insurance: Dick revisited this concern. Sandie noted that, since CtS has its own insurance for CtS kids, our concern is safety of a few dozen people (us) who voluntarily spend our time. We are each covered by our own insurance policies, or have chosen to self-insure. We were reminded that Pacific Streamkeepers Foundation has insurance that covers societies, but SBSk is not a society. Maurice and Dick fear that becoming a society requires becoming incorporated, which implies on-going reporting required by the BC Registrar. Deferred. (Richard volunteered to investigate, and has since confirmed this is true; first we must file a constitution and bylaws, names of the first directors, and a \$350 filing fee; annually we'll need to report financial statements, annual report, and maintain a register of members, bank account, etc. Richard has forwarded links to Dick and Maurice in an email containing links to the BC Corporate Registry and BC Society Act).

### 6.0 Next Meeting: To be determined, probably the Fall of 2012.

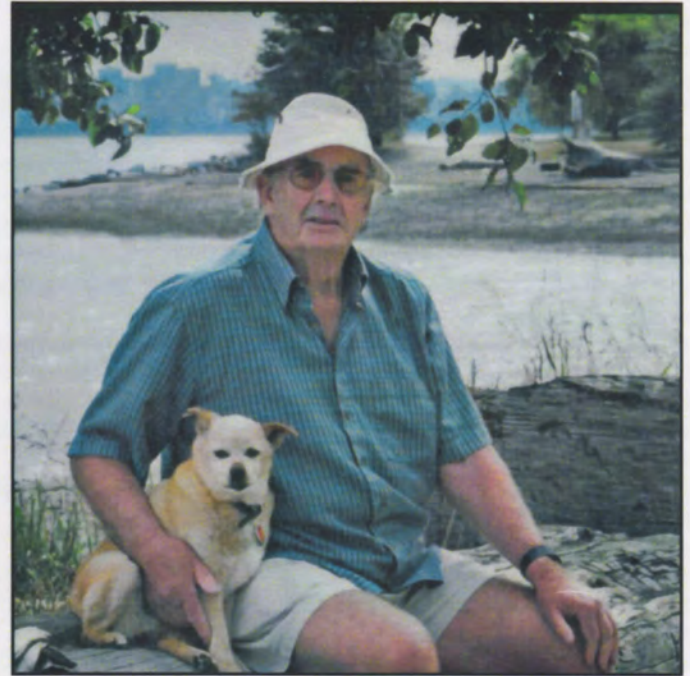
Dick thanked everyone for attending.

These minutes were prepared by Richard Moore and edited by Dick Scarth.

*In Loving Memory Of*



*I'd like to leave an echo  
Whispering softly down the way  
Of happy times and  
Laughing times and  
Bright and sunny days*



*Norman (Buster) James Walker  
December 5, 1925 ~ November 16, 2011*

Norman James (Buster) Walker  
Dec. 5th., 1925-Nov. 16th., 2011

Norman was born in Victoria and lived with his parents and siblings at Gordon Head in Saanich. He was predeceased by his mother Dorothy, 1941, his father Jack, 1977, his sister Betty Heryet, 1998, his brother Kenneth, 2000, son-in-law Kerry Pollner, 2002, son Chris, 2005, and his wife Ivy 2009.

He left behind his brother Harold, Courtenay, daughters Phyllis Hrad (Otto) Parksville, Kathleen Bradshaw (Marvin) Alert Bay, Sheila Pollner, Shawnigan Lake, sons Stephen, Burnaby and Brian, Vancouver, and daughters Diane Potter, Vancouver, Valerie Grey(Peter) Australia, and Elizabeth (Betsy) Muir (Brian) Comox; 14 Grandchildren: David, Elizabeth (Beth), Gregory, Kyle, Kory, Kurt, Ellen, Paul, Christopher, Madeleine, James, Cheryl, Marina and Natalie. 9 Great-grandchildren: Cameron, Crimson, Saffron, Anjeleigh, Jordon, Breeanna, Emily, Boston and Markus. As well as many nieces and nephews.

Norman enlisted in the army in 1943 and trained in Chilliwack, where he taught self defense. In 1946 he married Ivy Taylor and they had three daughters: Phyllis, Kathleen and Sheila. On the Island Norm apprenticed with O'Neill's Glass in ceramic tile setting. He received his Mate's ticket from Victoria Tug and Barge, and also worked as an orderly at the Royal Jubilee Hospital. Later, Norm married Margaret Blakemore and moved to Coquitlam where they had six children: Stephen, Diane, Chris, Valerie, Brian and Elizabeth. He worked for Canada Fish Packers, and Dairyland, from which he retired in 1990.

Norm purchased a house in Point Grey in 1964. Soon after he remarried Ivy. Together they spent many happy years in Vancouver. In the 1970's Norm built and launched a 30 foot cabin cruiser, the Time Thief, on which he and Ivy enjoyed cruising the Gulf Islands. In his retirement Norm was an active member of the Vancouver Angling and Game Association, the Spanish Banks Streamkeepers group and volunteer for Meals on Wheels.

In lieu of flowers, donations may be made to the Pacific Salmon Foundation.

*In Loving Memory Of*  
*Norman James Walker*

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*Born*

*December 5, 1925*

*Victoria, British Columbia*

*Passed Away*

*November 16, 2011*

*Comox, British Columbia*

*Celebration Of Life*

*Saturday, December 3rd, 2011 at 12:00pm*

*The Chapel Of Piercy's Funeral Home*

*Courtenay, British Columbia*

*Officiating*

*Mr. Fred Massey*

## **Biography: Karenn Bailey**

Born and raised on the North Shore of Vancouver to avid fishers, I spent much of my early youth learning to entertain myself and my sister for long periods in boats or streamside while our parents fished. Later I too would pick up a rod and add hiking, camping, skiing and sailing to family outings.

Trained in accounting and administration my first career was in both corporate Canada and small business offices in various roles. Life events provided an opportunity to switch careers mid-life and I found myself back at BCIT studying renewable resource management, completing a technician level diploma in 2010. Furthering my education in this field I will complete my last courses this fall and graduate with a bachelors of technology in Ecological Restoration in 2013.

My interest in Acadia/Salish Creek stems from inspiration provided me by streamkeepers' restoration efforts at Spanish Bank Creek (and Ben's passion in particular) while working as a Park Worker for Metro Vancouver in Pacific Spirit Park summers from 2002 to 2011. As a student project I saw an opportunity to apply my studies to Acadia Creek and completed an assessment of the stream in 2011 with recommendation for fish passage and stream and riparian restoration. This report was subsequently circulated and interested parties rallied to take steps to scope, research and design options that make an impassible 50m long culvert installed roughly 50m from the ocean fish friendly and allow anadromous fishes back into upper reached previously home to these extirpated species.

## **Acadia/Salish Restoration Update**

The Department of Fisheries and Oceans Canada are lead on this project and have done much of the footwork to evaluate options at site. I, therefore, defer to Sandie Hollick-Kenyon who will know more details, perhaps be able to provide drawings, and be more up to date regarding progress, challenges at site, design discussions, etc. I wil, however offer the following excerpt from an email authored by Ministry of Transportation Sr. Biologist Sean Wong to Metro Vancouver Parks Natural Resource Manager, Markus Merkens that Sandie and I were included on:

"Jonathan Bulcock and I had discussions where he indicated he thought a hand-installed wooden structure at the culvert outlet might be able to act as a quasi-fishway to enable the fish to enter the culvert. This would then negate the construction of a downstream Newbury style weir to backflood the culvert with advantages of no equipment disturbances to First Nations artefacts and to the Wreck Beach group's naturist beach activities on the downstream side of the road. Dave and Jonathan are investigating this option further.

The wood structure may not be as a robust or effective treatment, but after installation it does not function as intended, the site could be revisited and the Newbury weir option pursued for construction in 2013."

And also:

"This face of gravel, cobble and boulders at the inlet is acting as a vertical barrier to upstream fish passage so requires removal." , and "Dave, as you indicate, if the baffles are ready to go, best to install them when you and Jon are available and when it works best with your schedule."

To review issues around the project as I know them:

- safety with the large boulder resting over the intake at the upstream end of the culvert
- First Nations concerns and authorities/permits required for work near midden material
- Wreck Beach visitors' concerns about work undertaken in the area and their privacy
- costs associated with larger scale options



Pictured above: Newbury weir created in stream restoration in Coquitlam

(A)

# Annual Report by Ron Cruber on Spanish Lower Watershed.

## Spanish Bank Creek - July 2011 - June 2012

Our Coho plant of fingerlings for 6/2011 was limited to 500 as our observations during the Spring of 2011 indicated we had as many as 12-1500 naturally spawned Fry from the return of 20+ adult coho in December of 2010 -

We had our usual Invertebrate count in July of 2011 - Zoe-Anne July 13<sup>th</sup>

CTS Kids marked Storm Drains @ Salish Creek - Yellow Fish Beach. Aug 13<sup>th</sup>/2011

Aug 20<sup>th</sup>/11 had 21 Kids CTS Digging @ OCH Pond connector - & at the South End of OCH Pond -  
Dug Silt out of Creek @ the mouth of Marine Drive Culvert. - I re-dug 1<sup>st</sup> week of Oct. after Heavy Rain  
Oct 24/2011 Had our 1<sup>st</sup> Chum return 5 lb ♀ under log below Culvert.

Two Chum carcass' appeared Oct 28/11 - washed downstream or thrown in from Beach !!??

Oct 29<sup>th</sup> - 2nd live Chum seen below Chum release platform - saw what appeared to be a Redd - (above Culvert)



(B)

Nov. 15/11 - Had meeting @ Salish Creek to discuss attempts to rehab - + construct Baffles in Culvert to allow adult Coho + ? to ascend -

attended - DFO - Metro Van - Dept Hwys + Streamkeepers -  
July 5<sup>th</sup> Karenn + Fisheries + Oceans Trapped several Coho fingerlings + a Cutthroat in Salish Creek + below the Culvert

Nov. 18<sup>th</sup>/2011 1st Returning adult Coho seen - 6 lb ♀ with 2 Jacks above falls @ OCH Pond connector. Same fish seen for several days Digging a Redd.

Nov. 24<sup>th</sup> Saw large Male Coho heading upstream below 3 cedar Stumps

Nov 25<sup>th</sup> - Saw 4 large Coho - 2 small jacks in same pool - 1 above 3 cedar Stumps 10 metres -

Large Alder collapsed on Safeway Cart - impeding passage of Adults cleared some debris (Maurice + I)

Nov. 20<sup>th</sup>

©

Dec. 1<sup>st</sup>/2011 Watched 15 inch Jack  
coming up from Ocean - seen  
above 3 cedar Stumps 2 days later  
Black - in colour - - found spawned (?) eggs  
above cataraet.

Dec 6/2011 Found carcass - silver jack  
took scale samples - last fish seen  
- Total Cohos seen for 2011  
5 large ♀ (1 female killed before)  
4 large ♂ spawning with ice intact  
4 Jacks

13

Dumped 3 salmon carcass' in OCH Pond  
Dec 3<sup>rd</sup>/2011 - Attended Memorial  
in Courtenay for Norm Walker

Oct. 18<sup>th</sup> Screening at Aberthau -  
Spanish Bank Creek - interview  
with Brian Lye + R Gruben  
"Celebration Screening" Stills + Sound  
recorded @ Creek

Dec 27<sup>th</sup> Article in Globe Mark Hume  
Globe + mail after Mark given a  
Tour of our returning Coho in Nov./11

①

March 21/2012 Trapped Lower stream  
+ OCH Pond - for Coho psmolts  
See Sandies # 8 - locations

March 27<sup>th</sup>/12 Saw 1st emerg Coho fry  
in Spanish Bank Creek

April 3<sup>rd</sup>/12 Saw 2 dark fry @ Bridge  
30 Coho fry (emerg) above OCH  
Pond plank Bridge

April 20 - Planted 20,000 + Chum 7:00 P.M.

April 28/12 Dick Seath & I Gave a  
Tour of our Stream to a #  
of Metro Van Parks Board  
+ Attended a lunch @ Museum

May 3<sup>rd</sup> DFO plant of 20,000 Chum  
fry 6:00 P.M.

May 15 - 27<sup>th</sup> observed Calichean being  
trapped by falling Tide at Spanish  
Bank

June 4<sup>th</sup> Call from UEL - - Bett  
flushing Hydrants @ Little Australia  
should be done by June 21/12

June 11<sup>th</sup> 1<sup>st</sup> visible flush in our  
Creek - water up 2-3 inches  
murky - Rust slightly coloured

A Greuber

Spanish Bank Streamkeepers Spring 2012 Meeting

Salish Creek Watershed Field Report

June 26, 2012

Ben Seghers

Three major observations were made in the past year:

1. Discovery (by trapping and netting) on July 5, 2011 that juvenile coho salmon and cutthroat trout ranging in size from 41 - 85 mm in length were present in the section of the stream below N.W. Marine Drive.
2. Observation on November 23, 2011 (captured on video and circulated to all interested parties) of a female coho salmon attempting to enter the culvert at N.W. Marine Drive (see attached email for a detailed description). A few more jumps were noted the following day. Unfortunately she was unable to spawn (no other adult fish were seen) and I recovered her body on November 28. She weighed 3.50 kg and was 69.5 cm in length. She had 3140 eggs which is about average for a coho of this size. A DNA sample was taken on December 2, 2011 and the carcass was then returned to the stream to provide nutrition for the juvenile fish for at least another 2 months.
3. Observation of a pollution event in a tributary of Salish Creek on March 21, 2012 where the water suddenly turned opaque white for approximately 30 minutes. To date the source of this pollution (possibly latex paint) has not been established. A copy of the email sent to Metro Parks and the University Endowment Lands is attached. Richard Wallis is investigating and will report to the UEL.

Other observations and notes:

1. The water level gauge installed below the Marine Drive culvert does not appear to be useful for measuring variation in the volume of stream flow although it does measure the depth of the pool which does not appear to fluctuate much although we have yet to gather data in all seasons.
2. The water pipe located near the UEL Recycling Facility continues to deliver a steady supply of clean water at approximately 11 C. The source of this water remains to be determined. During some low-water periods above the confluence of this "Pipe Creek" and the main stem of Salish Creek I estimated that up to one-third of the total stream flow came from the pipe. This may have biological consequences as it would keep the lower 700 metres (approx) of Salish Creek warmer in winter and cooler in summer, i.e. provide a temperature stabilizing effect.
3. In the autumn it is necessary to periodically remove the leaf debris blocking the grating on the culvert (south end) at Chancellor Blvd. If this is not done the water backs up to the main beaver dam and if this large volume of water is suddenly released it sends a "tsunami" downstream (takes about 1 hour to reach the sea) which could be detrimental (anoxic, turbid and possibly much warmer water) to the stream biota, including salmonids.
4. Looking to the future we should be aware that Block F, formerly part of Pacific Spirit Regional Park, is now the property of the Musqueam First Nation and is earmarked for a condominium development. During the wet seasons water originating from this region may contribute up to 10% (to be measured more accurately in the future) of the total stream flow. If and when development occurs it will be important to monitor any potential impacts further downstream on water volume and quality.

## Trapping Results from Acadia (Salish) Creek, Pacific Spirit Regional Park, Vancouver BC July 4/5 2011

Trap #/Site Description	GPS Site Mark	Water Temp pm July 4	Water Temp am July 5	Time trap set July 4	Time trap removed July 5	Captures	Fish fork length salamander total length	DNA taken
Scour pool @ tide line	24	13.5° C	11.5° C	no trap set, fry caught with a dip net July 5 am	9:30	4 Coho	51mm 46 mm 52 mm 41 mm	Y: vial 17 Y: vial 20 Y: vial 39 Y: vial 54
#1 NWM Dr. culvert outflow pool	29	13.5° C	13.0° C	14:40	9:47	7 Coho      1 Trout	85 mm 76 mm 78 mm 70 mm 84 mm 79 mm 78 mm 79 mm	Y: vial 40 Y: vial 65 N N N N N N
#2 aprox. 35 m south of NWM Dr. culvert entrance	Close to 32	13.0° C	13.0° C	15:00	10:30	None	-	-
#3 NW side of Chancellor Blvd.	53	18.5° C	16° C	15:45	10:50	1 Caddisfly	-	-
#4 SE side of Chancellor Blvd.	55	21.0° C	16° C	15:55	11:15	4 salamander larva sp.  1 diving beetle	63 mm  56 mm 62 mm  39 mm -	-
#5 stream mainstem @ freshwater pipe input	48	13.5° C	14° C	16:35	11:45	None	-	-

From: BenSeghers seghers@interchange.ubc.ca

Subject: **Adult coho at Salish Creek today!**

Date: November 23, 2011 7:55:06 PM PST

To: RichardScarth rjscarth@telus.net

1 Attachment, 2.4 MB (video)

Hi Dick,

Good news from Salish Creek! I've been monitoring the creek around high tide for the past 3 afternoons and today (23 November 2011) at 3 pm I saw a coho jump up on the ledge by the culvert and then get swept back down into the pool.

This occurred 7 times at intervals of about 5 - 8 minutes. Watched for another hour but no more action and went home at dusk.

Six of the 7 jumps cleared the ledge and got as far as the culvert entrance but then the fish was swept back into the pool (see video of several attempts attached here, with sound). It was not possible to see anything in the pool itself because of the surface foam, turbulence and poor lighting. I assume it was the same individual making these jumps but will have to examine my videos more closely.

My observations should help answer the question about the origin of the juvenile coho in the creek and also suggest that modification of the culvert flow is likely to be successful as we now know that adult fish are attempting to go further upstream. I'll continue to monitor things in the coming days.

cheers, Ben

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From: BenSeghers<seghers@interchange.ubc.ca>

Subject: **WaterpollutioninSalishCreek(PacificSpiritPark,UEL)on21March2012**

Date: March 22, 2012 4:11:38 PM PDT

To: "PatriciaCSCD:EXKereiff"<Patricia.Kereiff@gov.bc.ca>,RichardWallis<Richard.Wallis@metrovancover.org>

4 Attachments, 2.3 MB

To: Administration, University Endowment Lands To: Metro Vancouver Parks West Area Office

To whom it may concern - for your information:

On Wednesday, 21 March 2012 at 1245 pm I noticed that a small tributary of Salish Creek had turned completely white, as if a milk truck had spilled its load upstream. This short tributary joins Salish Creek just above the foot bridge at the east boundary of Wreck Beach, i.e. very close to the mouth of Salish Creek. It originates from an ancient wooden stave pipe perched on the west rim of the ravine near the edge of the meadow. This pipe then disappears underground in the direction of NW Marine Drive and I do not know the "plumbing" situation beyond this point.

The tributary was crystal clear at 1230 pm when I crossed it to make some measurements upstream at the pool below the culvert under Marine Drive, therefore, this pinpoints the pollution as occurring between 1230 pm and 1245 pm. The opaque white water mixed with the clear Salish water and caused some cloudiness further downstream. The tributary began to clear up within about 30 minutes at which time I walked around the neighbourhood above to see if I could determine the source of the pollution. I saw nothing obvious around the storm drains in the vicinity.

There appeared to be some outdoor maintenance activity ongoing at 5580 NW Marine Drive: gates open, white commercial van, loud sound of pumps? some spray or steam? in an area that might have been the swimming pool on this property. Of course this could have been just a coincidence although my guess is that the source of the pollution was nearby and probably involved something like water soluble paint. The white water had no odour and was not viscous. When I returned to the site today (22 hrs later) the stream was clear and I could find no trace of white pigment, including inside a section of the stave pipe itself.

Although this appears to be a relatively minor event it is worrying because coho salmon (juveniles and 1 ripe adult female) have been found in this part of Salish Creek in 2011 and an important salmonid enhancement project is planned for this year involving DFO, Metro Parks, and Spanish Bank Streamkeepers.

Photo attachments show the polluted stream; the area of mixing with the main stem of Salish Creek; the stave pipe (broken end) and seepage run-off. The pipe was photographed the following day.

yours sincerely, Ben

Ben H. Seghers Volunteer with Spanish Bank Streamkeepers 102 - 5450 University Blvd Vancouver V6T 1K4  
604 221-2252  
[seghers@interchange.ubc.ca](mailto:seghers@interchange.ubc.ca)

Salish Creek Pollution  
21 March 2012



100 Meters



SPANISH BANK CREEK INVERTEBRATE SURVEYS

Sampling Date	19/07/01	25/07/02	13/07/05	25/07/06	25/07/07	31/07/08	23/07/09	16/07/10	SALISH 13/07/11	13/07/11
Air Temperature (deg. C.)	18	N.A.	25	17	17	17	15	20	16	16
Water Temperature (deg. C.)	13	N.A.	14.5	15	13	11	12.5	11.5	14	10
Sampling Location	C.D.P.	C.D.P.	C.D.P.	C.D.P.	C.D.P.	C.D.P.	C.D.P.	C.D.P.	C18m	C.D.P.
Area Sampled (# samples X 0.09 sq. m.)	0.09	0.27	0.18	0.27	0.18	0.27	0.27	0.27	0.18	0.18
Total no. organisms counted (Col. B)	54	204	934	891	1073	615	587	172	246	349
Invertebrate density/ sq.m.	600	756	5189	3300	5961	2278	2174	637	1367	1939
Predominant Taxon (from Col. B)	Mayfly	Blackfly	Blackfly	Blackfly	Blackfly	Blackfly	Blackfly	Blackfly	Mayfly	Blackfly
# of different types of Cat.1 Invertebrates	2	4	4	3	3	3	4	4	3	9
# of different types of Cat.2 Invertebrates	1	3	2	2	2	3	1	2	2	2
# of different types of Cat.3 Invertebrates	2	5	4	5	5	6	5	5	5	5
Pollution Tolerant Index	10	23	20	18	18	21	19	21	18	36
Total no. EPT taxa (Col. C)	3	11	11	9	8	12	9	8	3	8
EPT Index	3	11	11	9	8	12	9	8	3	8
Total no. EPT organisms (Col. B)	46	85	200	96	46	98	218	71	151	50
EPT to Total Ratio	0.85	0.42	0.21	0.11	0.04	0.16	0.37	0.41	0.61	0.14
Total no. of Taxa (Col. C)	6	27	23	21	17	24	16	17	10	16
No. of organisms in predominant taxon	45	62	638	599	989	451	269	61	129	287
Predominant Taxon Ratio	0.83	0.3	0.68	0.67	0.92	0.73	0.46	0.35	0.52	0.82

SITE ASSESSMENT RATING

Pollution Tolerance Index	1	4	3	3	3	3	3	3	3	4
EPT Index	2	4	4	4	3	4	4	3	2	3
EPT to Total Ratio	4	2	1	1	1	1	2	2	3	1
Predominant Taxon Ratio	1	4	2	2	1	2	3	4	3	1
<b>Average site assessment rating</b>	2	3.5	2.5	2.5	2	2.5	3	3	2.75	2.25

GENERAL SITE ASSESSMENT

Where:

1=Poor, 2=Marginal, 3=Acceptable, 4=Good

Lotus: SBCK INVERTEBRATE SURVEY.123

Revised: July 16, 2010