



*Sandie and Scott, assisted by Sam Cousins of MetroVan (center) take caudal fin samples from juvenile Coho to measure the DNA, on Salish Creek, July 6th, 2016*

**Annual Report on the Streamkeeping Activities  
of the SPANISH BANK STREAMKEEPERS GROUP  
for the year 2016**

# SPANISH BANK STREAMKEEPERS GROUP 2016 ANNUAL REPORT

Prepared by Dick Scarth, President, SBSk

## Streamkeeping Activities in 2016

### 1. In-stream Chum incubation at Spanish Bank Creek (January)

On January 15th Sandie and Scott took 10,000 eyed Chum eggs from the Kanaka Creek hatchery in Maple Ridge to Spanish Bank Creek. The eggs were buried in several artificial "redds" strung out about 2 meters apart along the Creek starting near the two cedar stumps and working downstream to the inflow from the Off Channel Pond (OCP). The hope is that these fish will be more strongly imprinted by the Creek than if they were released into the Creek as fry in April. Three people from MetroVan (Sean Zavislak, Robyn Worcester, Brendon Tijman) and four streamkeepers were on hand to observe, record and assist with the redd construction. Based on historic stream temperatures, Sandie has estimated that the Chum fry will emerge from the gravel during the period April 7th to 20th. (Sk hrs: Jilian 2, Dick 3, Richard 2, James 2. Total:8 hrs)



### 2. Chum incubation at Queen Mary School: Eggs to Fry (January - April)

Dick and Jilian assisted a Grade 4/5 teacher at Queen Mary School (Maria King, a new member of SBSk) to raise Chum salmon destined for Spanish Bank Creek in April. The project is part of DFO's *Salmonids in the Classroom* program that is run by Bev Bowler. The aquarium was ready and waiting for Sandie when she took 50 eyed Chum eggs from Kanaka Creek to the school on January 22nd. Great excitement as the eggs drifted down to lie on the gravel next to the "redd". The hatch was completed by February and as the alevin consumed the food in their yolk sacks the students monitored the acid and ammonia levels of the aquarium water. (Sk hrs: Dick 15, Jilian 15. Total: 30 hrs)



### 3. Juvenile salmon trapping at Spanish Bank Creek (March)

In the afternoon on March 22nd Sandie and Scott set out 7 traps in Spanish Bank Creek, three in the OCP and four in the Creek itself from 10 m upstream of the Marine Drive culvert to 20 m upstream of the cedar stumps. On hand to assist, record and observe were Robyn from MetroVan, and Dick and Martin from SBSk. Many Coho fry (between one and two inches in length) were seen in the Creek both north and south of the Marine Drive footbridge.



Mid-morning on March 23rd Sandie, Scott and Robyn took out the traps and recorded their contents. Pictured is the 82 mm (fork length) juvenile from Trap # 2 at the cedar stumps. In total, 49 juvenile Coho were found in the traps, 38 in the pond and 11 in the mainstream. The average length of the pond juveniles was 73.6 mm compared to 79.2 mm in 2014. The average length of the mainstream juveniles was 75.2 mm compared to 85.9 mm in 2014. The trapping in 2014 was done a week later than this year which might account for some of the size difference. Streamkeepers in attendance were Martin, Richard, Dick and Jilian. Martin was documenting the event with his video camera. (Sk hrs: Martin 2, Richard 1, Dick 2, Jilian 1. Total: 6 hrs)

### 4. Chum fry release by DFO into Spanish Bank Creek (April)

Chum fry releases at Spanish Bank Creek were made by DFO on April 7th and 20th. On each day 15,000 Chum fry from the Kanaka Creek hatchery in Maple Ridge were taken to the Creek by Sandie and Scott in a tank containing cooled and aerated water. The releases were made late afternoon just before a high tide so that the fry that leave the Creek immediately do so in the dark and have sufficient water to clear the beach.



Only streamkeepers attended the first release but about 30 children and their parents (see picture) turned out for the second, the children excitedly taking pail after pail of fry to the Chum Release Platform. The adults carried fry upstream as far as possible before releasing them, so that they would stay longer in the Creek and become better imprinted. (Sk hrs: Jilian 4, Dick 4, Richard 2, Martin 4, Maria 2, Alan 2. Total: 18 hrs)

## 5. **The Homing Game at Spanish Bank Creek** (May)

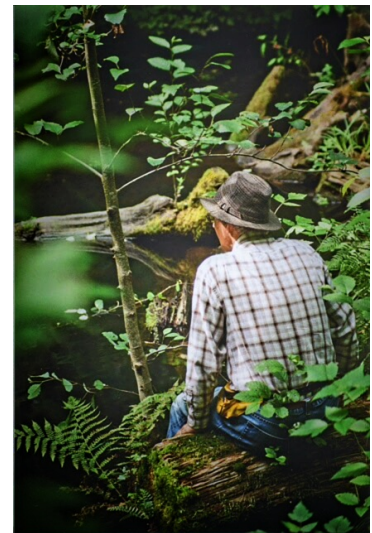
May 2nd was the big day for Maria King's Grade 4/5 class at Queen Mary School; the Chum fry in the school aquarium were to be released to Spanish Bank Creek. After a presentation by Martin on the synergism between salmon and the environment, the students set off on foot each carrying a small compass to find their way to the Creek, mimicking the way that adult salmon return from the Pacific to English Bay. The school fry were transported to the Creek by car in a plastic pail containing the aquarium water. One by one the students descended the steps of the CRP to receive a fry which they then released by letting it swim out of their cup into the Creek. An exciting moment to see their fish setting out on its long journey after 3 months in the aquarium.

After the fry were released the students played the Homing Game. One by one they were "imprinted" by smelling one of three strong spices: cinnamon, garlic or curry. They were then led to a large air photo of Spanish Banks showing the three creeks that flow north into English Bay - Spanish Bank, Canyon and Salish. A small bag of one of the spices was attached to the photo where each creek flowed into English Bay and the object of the Homing Game was that each student had to locate the creek on which they were imprinted by sniffing at the creek outlet. Great excitement as each student sniffed along the shore of English Bay to find "their" creek. (Sk hrs: Jilian 4, Dick 12, Martin 6. Total: 22 hrs)

## 6. **Maurice LeGallais, Spanish Bank Streamkeeper** (May)

Maurice joined the Spanish Bank Streamkeepers Group in 2001, about a year after it had been set up to rehabilitate Spanish Bank Creek. In addition to becoming its Treasurer, Maurice took on the job of streamkeeping in the upper watershed of the Creek. By that time Ron Gruber was well established in the lower watershed (from Chancellor Blvd north to tidewater). Maurice's first job was to map the upper watershed. He then arranged for the storm drains to be marked with fish decals in the two residential areas that lay inside the watershed. And finally he contacted the University Golf Course to make them aware that chemicals applied to the golf course could wash into the Creek and harm the resident salmon.

Eventually Maurice and Ron began exploring the lower reaches of the Creek together. Ron shared his knowledge with school children when they released Chum fry to the Creek, and with UBC students, and with a large group of followers who used the footpath along North West Marine Drive. Maurice on the other hand learned to use a video camera and sat for countless hours recording life in and around the Creek. His knowledge of the Creek will be passed on through his videos, a wonderful and



lasting legacy. Maurice Edward LeGallais of Vancouver died on May 8th, 2016 at the age of 83. (Sk hrs: Dick 7. Total: 7 hrs)

#### **7. Coho fry release by DFO at Spanish Bank Creek (June)**

Sandie and Scott released 500 Coho fry from the Capilano hatchery into Spanish Bank Creek off the west end of Belmont Avenue in the morning of June 30th. They were assisted by Sam Cousins of MetroVan in carrying pails of fry down the steep east bank of the Creek on a rope. (When not in use the rope is being stored by Sandie.) The Streamkeepers at the release were Jilian, Martin and Dick. Martin went down the hill with his video camera to record the event. Sandie reported that Coho juveniles were seen in the Creek. (Sk hrs: Jilian 2, Dick 2, Martin 4. Total: 8 hrs)

#### **8. Juvenile salmon trapping at Salish Creek (July)**

On July 5 at 2 pm, assisted by Sam Cousins of MetroVan, Sandie and Scott put 7 traps into Salish Creek: 2 downstream of the foot-bridge over the Creek, 2 in the splash pond downstream of the culvert under Marine Drive, and 3 upstream of the culvert spaced at 10 meter intervals. The following morning the 4 traps downstream of the culvert were found to contain 20 juvenile Coho salmon and 4 Sculpin. Streamkeepers Dick, Jilian and Martin were on hand to observe and record the recovery of the traps.

Unfortunately the 3 upstream traps were found to be empty, unlike the previous year when 2 upstream traps were found to contain 3 juvenile Coho. The length of each Coho juvenile was measured and a caudal fin sample was taken to measure the DNA (see cover page photo). The DNA sample was taken from the upper lobe of the caudal fin. The average length of the 20 Coho juveniles was 77mm or 3.0 inches. (Sk hrs: Dick 3, Jilian 3, Martin 2. Total: 8 hrs)

#### **9. Invertebrate count at Spanish Bank Creek and Salish Creek (July)**

Every summer aquatic invertebrates (called "bugs") are collected from the stream beds of the two creeks, classified, counted and used to determine water quality and insect diversity. This year the bug count was held at 10 a.m. on July 23 at Marine Drive near



the foot-bridge over Spanish Bank Creek. Bug classification was done by 19 red-shirted teens from the PSPS Catching the Spirit programme, co-ordinated by Bob Gunn, and 5 Young Naturalists from U Hill, brought by Connie Chen and Nancy Brown. Zo Ann (PSKF) supervised the count and assisted with bug identification. The CtS group, including peer leaders Ami, Emma, Emily and Monique, and supervisors Peter and Allison had over-nighted at Camosun Bog and in the morning had walked to the Creek. The Young Naturalists were Frazier, Patricia, Moeka, Valerie and Crystal.

The invertebrate count at Spanish Bank Creek showed that both water quality and insect diversity were at an all time high. On a scale of 1 to 4 (where 1 is poor and 4 is good) water quality was over 3 and insect diversity was 4. Part of the reason for this favorable result was that Mayflies, which are indicators of good water quality, were found to have replaced Blackflies as the predominant taxon.

The aquatic invertebrates collected at Salish Creek were very thoroughly classified by the U Hill team and several new members of SBSk. Unfortunately, the sample was compromised before being counted so no final interpretation was done. The bugs that were found included: Caddisfly (2 kinds), Mayfly (1 kind and all very small), Sow bug, Blackfly, and worms. This is the third year that the Mayfly larvae collected at Salish Creek have been found to be very small. An in-stream investigation into this problem is planned, including water quality measurements and more frequent invertebrate sampling. (Sk hrs: Jilian 4, Dick 6, Ken 4, Mary Ann 4, Liv 4, Krista 4, Chaymann 4, Total: 30 hrs)

#### **10. Fall meeting of SBSk Group (September)**

The Fall meeting of SBSk was held after noon at Aberthau on September 21st with Bob Seraphim in the chair. The early part of the meeting was spent in remembering Maurice LeGallais who had died in the Spring. A more detailed account of Maurice's contribution to streamkeeping during his 15 years as a member of SBSk is given in Section 6 of this report. Richard reported on an investigation into the source of the water that flows into Salish Creek from the box weir located near the intersection of Acadia and Chancellor. The water is groundwater that is coming from Regent College where it has been used to cool College buildings during the summer. Nine Streamkeepers participated in the meeting. (Sk hrs: Ken 11, Bob 3, Earle 3, Richard 3, Dick 9, Martin 3, Jilian 3, Krista 3, Mary Ann 3. Total: 41 hrs)

#### **12. Salmonid spawning in Spanish Bank Creek & Salish Creek (Oct. to Dec.)**

For the first year since spawning began at SBCK in 2001 there were no reports of spawning activity by Chum or Coho. Eight Streamkeepers spent a total of 41 hours, mainly at Spanish Bank Creek, looking for evidence of returning salmon. It is quite likely that Coho accessed the upper reaches of SBCK to spawn but this will not be confirmed until the fry appear in March, 2017. In early November a pair of mature Bald Eagles took up station on a tree next to the Creek (south of Marine Drive) after circling low over the parking lot several times. They appeared to be staking territory in anticipation of a Chum run perhaps having spotted returning Chum offshore. (Sk hrs: Ken 6, Richard 4, Martin 2, Dick 3, Jilian 6, Nick 5, Krista 3, James 12. Total: 41 hrs)

#### **Streamkeeper involvement in 2016**

Sixteen members of the SBSk Group volunteered a total of 245 hours on the twelve streamkeeping activities described above.

### **SBSk Members (2016)**

Bob Seraphim (Chairman), Dick Scarth (President), Ken Fowler (Secretary), Richard Moore (Treasurer), Ben Seghers, Antje Ellermann, Jilian Scarth (Archivist), Karenn Bailey, Patrick Oswald, Alan Beesley, Dave Harding, Isabel Nanton, Earle Sinkie, Kris Gruber, Wes Gruber, Olga Lansdorp, Michael Volker, Andrea Colbe, Daniel Brouwer, Graham Nicholas, Mark Johannes, James Reynolds, Martin Roland (Communications), Pascal Gignac-duguay, Mary Ann Fowler, Krista Voth\*, Liv Brooke\*, Semyon Chaymann\*, Holly MacHenry\*, August Whelan\*, Laurie Kerr\*, Maria King\*, Nick Demco\*, Robyn Hanson\*, Rob Andrews\*, Peter McGinn\*, Donald Gordon\*, Julia McQueen\*. (\*denotes member added during year)

Former Members: Norm Walker, (Founding Member d. December, 2011), Ron Gruber (Founding Member d. December, 2014), Maurice LeGallais (d. May, 2016).

### **Department of Fisheries & Oceans**

Sandie Hollick Kenyon, Scott Ducharme

### **MetroVan**

Jennifer Swanston, Robyn Worcester