

## Final Report

### Squamish Education and Outreach Project

December 11, 2008

#### Project Overview



The Project was implemented by the Squamish River Watershed Society. The aim of the 2008 project was to increase the number of Stewardship group members, Regional, District, First Nations, and teachers/students/parents participating in two school programs (*Squamish Rivers School Program* and *Squamish Estuary School Program*). Additionally, the aim was to develop an evaluation framework so that the program's success may be documented (a summative evaluation in addition to the formative evaluation currently in place) to increase potential for other applications for programs of this type in other areas of the province. Finally, a legacy strategy was developed so that the program may continue after the funding beyond this year.

#### Project Objectives achieved:

Objective #1: by December 2008, the Outreach and Education coordinator will continue her work with the Squamish stewardship community to participate in community outreach and education activities.

#### Tasks completed:

- Meetings with Squamish Nation Parent Advisory Council, Squamish Nation Education Department & First Nations Support Workers (School District #48), District of Squamish staff, Fisheries and Oceans Canada, Squamish River Watershed Society, Squamish Parks and Recreation, and other community organizations to increase participation in our project work.

Objective #2: by December 2008, the coordinator will update and deliver the (grade K-3) Squamish/Cheakamus Rivers and the (grade 4-7) Squamish Estuary program to interested schools in Squamish.

#### Tasks completed:

- Teacher training and workshops for the Estuary Program (February - May 2008)
- Updated the in-class activity guide for the Estuary Program
- Teacher support, newsletters, and communication (Estuary, Beach, and Rivers Program)
- Coordination and delivery Estuary field days (May 22, 23, 2008)
- Program formative evaluation (teacher de-brief meeting for Estuary Program on June 23, 2008 and teacher de-brief for Rivers Program on December 10, 2008)
- Beach Field days held at Porteau Cove for participating 2007/2008 classes to culminate our 'watershed to sea' program focus. We had originally scheduled three days (12 classes) of field days at the beach but due to overwhelming response (these spots were

filled within 12 hours of program availability), we added one additional field day. We still were unable to accommodate three classes due to budget limitations.

- Two teacher training workshops were held in August and September for K-3 teachers who would like to participate in the Fall Rivers Program.
- Participation totals include:
  - Estuary Program: five Grade 4 and 5 classes from Garibaldi Highlands, Mamquam, and Squamish Elementary Schools (approximately 140 students); each class did a minimum of four in-class activities – most did more – plus a 2 hour field session at the Estuary;
  - Beach Days at Porteau Cove: this expanded program was offered to all teachers whose classes participated in either the Fall Rivers Program or Spring Estuary Program. We had a total of 16 classes from Grades Kindergarten to Grade 5 from Mamquam, Valleycliffe, Brackendale, and Squamish Elementary Schools (approximately 450 students and 60 parent volunteers) participate in the two hour session. The focus was on understanding the marine environment in context to what students learned in the upper watershed through hands-on activities. Each student then received a *Watershed to Sea Certificate of Achievement*.
  - The Rivers program consisted of 18 classes returning/ or joining to the program for 2008. Schools participating included Mamquam, Brackendale, Squamish, Valleycliffe, and Garibaldi Highlands Elementary Schools. This number was up from 16 classes last year. Field days were held for 5 days in October (Oct. 15,16, 17, and Oct 21 and 23) with both morning and afternoon sessions at the new channel at Brennan Park. Both Rob Bell-Irving (DFO) and Doug Swanston (Seacology) joined us along with volunteers from the Squamish Conservation Society, Squamish River Watershed Society, Squamish Streamkeepers, Quest University, Terasen Gas, District of Squamish, and parents from the five schools. The students participated in activities at four stations (watershed model; invertebrates; habitat planting; and salmon life cycle (aquarium/ game).

Objective #3: by December 2008 the project coordinator will design and implement a Summative Evaluation of the Squamish Rivers School Program (year 3) to identify program successes and challenges.

Tasks completed:

- This objective was modified to complete the formative evaluation of both programs only as a result of the objective #4 (project legacy strategy). Budget previously allocated to the summative evaluation was used to increase our Beach Days (as above).

Objective #4: By December 2008, the project coordinator will develop and begin implementation of a legacy program for this project.

Tasks completed:

- Discussions with School District Administrators, teachers, District of Squamish staff and others as to program strengths and weakness and program direction.
- The District of Squamish has agreed to “host” the program (subject to funding) and as such should increase accessibility of the project materials across the Valley in both the school system and community.
- A list of tasks and funding sources has been developed for the next three years. The legacy strategy aims at obtaining funding from multiple sources that can be combined to provide a stable source of funding for the professional aspects of this project. Funders that have been identified include Terasen Gas, Bridge Coastal Restoration, CN Rail, and the Pacific Salmon Foundation (Squamish Strategic Salmon Recovery) for various aspects of the program. The legacy strategy includes continued in-kind support (without this support the project could not exist) from the District of Squamish, School District #48, Fisheries and Oceans Canada, Squamish Streamkeepers, Squamish Conservation Society, Quest University, and others. Key tasks to the project include: updating program materials especially in the areas of Squamish First Nation content and science (includes teacher material and a website for the general public); teacher training, volunteer training, community workshops and general public outreach, field days at project sites, project evaluation, and project coordination. Funding applications for 2009 have been submitted to all the above organizations for support in 2009.

Conclusion:

It was an exciting year for the project with a substantial increase in participation by teachers, students, parents, community volunteers, and the general public in project outreach and education activities about the Squamish River watershed. We can see that the legacy strategy will open up opportunities to fully develop local activities and lesson plans that can be shared electronically and via the world-wide - web. We think that the students in Ms. Mah’s grade 2/3 class say is well in their animated video about their visit to the Mamquam River on a field day: “It’s a cycle of life and we are all connected.”

(Go to <http://www.r2rfestival.org/category/2/2> and click on “Our Field Trip to the Mamquam River” to see this short 2 minute video.)

We would like to thank CN Rail and the Cheakamus River Restoration Technical Committee very much for their support in 2008. All program participants are very excited about the work that was completed in 2008 and we look forward to continuing to work with the project in the future.

Prepared by,

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October 10, 2008

### Special Dates to Remember:

- October 15-17, 21,23 Field Days
- End of November Rivers Program De-brief



- Jan/Feb 2009— Estuary Program Pro-D training and logistical meeting (pending funding)

Thank You to all our Project Sponsors and Volunteers!

- Field Trip parent leaders
- Quest University
- Squamish Stream-keepers
- District of Squamish Environmental Department
- Squamish River Watershed Society
- Fisheries and Oceans Canada
- CN Rail
- Cheakamus Ecosystem Restoration Technical Committee



# Squamish Rivers & Estuary School Program

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October 2008

## 2008 Squamish Rivers Field Day Update



*Squamish Rivers program teachers from five Squamish area elementary schools gathered at the field site to learn about field day activities. We are looking forward*

*Rivers Field day please help students to set some standards for their own behavior. Encourage students to brainstorm ways to stay safe while protecting sensitive riparian habitat. What might the consequences be of certain actions? Come up with rules that ensure students enjoy their visit but protect habitat at the same time.*

### Field Days at Brennan Park

It's back to riparian and channel habitat as we continue to explore the project sites of the multi-year Mamquam Reunion project. The 2008 field day site is the third project site that local students have visited to learn about the restored habitat of the Mamquam floodplain.

*to five great days at the site!*

### Preparing Your Students to Visit River and Stream Habitat:

We've got a great program lined up with watershed modeling, the salmon life cycle, invertebrate study and habitat planting as our four stations.

Before students participate in the

### Bring to the Field Day:

Weather appropriate clothing  
Gumboots or shoes that can get wet.



## Riparian Habitat and Aquatic Critters

Riparian habitat is the sensitive area adjacent to any body of water. It is important habitat for many reasons: it provides shade and nutrients to salmon streams, nesting, resting, and food for animals, it often functions as a "greenway" for animals to get from one area to another. We will be planting four types of plants nearby the new channel, including

willow species and native berries.

The new channel is being colonized by aquatic invertebrates. We may not see the diversity of aquatic invertebrates as we saw last year at the Mamquam River. We are hoping to see some of the following creatures:

Mayfly



Stonefly



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salmon eggs, fis

# Watershed to Sea

## *Certificate of Achievement*

For your participation in the Squamish Rivers,  
Estuary, and/or Beach program

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June 2008

JENNIFER STONE

# *Watershed to Sea: Easy tips for keeping our watersheds, rivers, streams, and ocean clean*

- Find some alternative ways to control pests inside and outside your home, without toxic chemical pesticides. If you do use pesticides, use them sparingly and according to the directions specified on the container. Do not use outside if rain is forecast within 24 hours.
- If you change your own oil, recycle the waste oil. Regularly maintain your car to avoid leaks of auto fluids. Never pour oil or other automotive fluids into a storm drain or onto the ground.
- Clean up trash outside your home. Pick up leaves and yard clippings and recycle as green waste. If you see litter, pick it up and put it in a trash can.
- Wash your car on an unpaved area and or better yet, take it to a commercial car wash.
- Pick up your pet droppings and dispose of them in the trash or in your toilet.
- Use kitty litter or other absorbant material but not your hose to clean up spills and leaks on paved surfaces. Remember to clean up and properly dispose of any used absorbant material.
- Rinse latex paint brushes, pans and rollers in the sink. Filter and reuse oil-based paint thinner or brush cleaners. Take leftover latex and oil-based paints and solvents to a hazardous waste collection event. Never pour paint or solvents into a storm drain, sink or onto the ground.

*Protecting our water is essential to maintain the health and well being of all living things  
- both now and in the future!*

*Thank you to the following project sponsors for their support:* District of Squamish Environmental Department, Squamish River Watershed Society

Fisheries and Oceans Canada, and CN Rail.