



Shovelnose Creek Side-Channel Development Project

In December of 2014, the Steelhead Society of BC initiated a fish habitat restoration project on the upper Squamish River that proposes to enhance a 1.0 km long remnant side channel originating from the upper Shovelnose Creek. This project proposes to provide stable, off-channel rearing habitat for juvenile salmonids, particularly Steelhead and Coho.

In the past, significant restorative works have been undertaken to create extensions to the bottom end of Shovelnose Creek. In recent years, the Squamish River mainstem has shifted to the east and eroded large sections of the lower end of these extension channels. To mitigate for these losses of valuable juvenile habitat, the proposed side channel is situated away from the influence of the Squamish River. This project will supplement the preliminary designs completed in 2005-06 by Pat Slaney and Rheel Finnegan.

Project collaborators at this point include the BCIT Rivers Institute, BC Ministry of Forests, Lands and Natural Resource Operations, Department of Fisheries and Oceans, Pat Slaney and Rheel Finnegan and will expand to include the Squamish Nation and Squamish River Watershed Society as well as other interested parties.

The site was visited in December by the SSBC, BCIT, DFO, MFLNRO and an engineer to assess the feasibility and determine the next steps to move the project forward. Based on field observations, this project was deemed to be of high value and technically feasible. A remnant channel already exists and is frequently inundated with water from the Shovelnose during peak flow periods. During the site visit, this remnant channel had wetted portions from ground water upwelling to the surface and run-off from the adjacent mountainside. Based on the observations during this trip, a conceptual plan has been proposed that includes a pipe intake from Shovelnose Creek where the slope begins to flatten out (approx. 5% grade) at the foot of Mount Cayley. The channel will run approx. 1.0 km long, consisting of a greater slope in the upper half (Steelhead habitat) and lower slope in the bottom portion (Coho habitat) that can be further enhanced by creating alcoves and installing large woody debris and rock habitat.

In order to establish a channel elevation that will not go dry when the Shovelnose is running low, we plan to augment the intake flows with ground water as well as capturing water flowing off the adjacent mountainside. To move to a design phase (2016), we need to install several ground water monitoring wells and monitoring them for one year, particularly through the low summer flow periods.

Once the ground water elevations have been evaluated, the project will move to the next phase where a 12" flexible pipe will be installed to add water to the channel. Adding this amount of water will allow further assessment of the flow regime and will direct the remaining development of the channel including adding additional water (another intake pipe), increasing channel sinuosity (use up the steeper gradient in the upper portion), complexing with wood and rock (cover habitat for fish), riparian zone restoration (channel stability), a new culvert under the Squamish Forestry Service Road (improved fish access to upper reaches), and alcoves excavated adjacent to and connected to the side channel (increased Coho habitat in the lower reaches).

This spring we are looking for volunteers to assist in the installation of the ground water monitoring wells. This will involve building the wells (using PVC piping) and manually digging holes to put the wells into. If you would like to assist us in installing these wells or if you have any questions, please contact Matt or Dave.

Sincerely,

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