

Fraser Salmon & Watersheds Program



Fraser Basin Council



2009/10 FINAL REPORT

| | |
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| FSWP File Number* | FSWP 09 103 |
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* Please use the FSWP File Number provided in previous FSWP project correspondence.

1. Project Information

1.1. Project Title

Apple Springs Salmon Habitat Restoration Project for the Lower Bridge River

1.2. Proponent's Legal Name

Xwisten (Bridge River Indian Band)

1.3. Project Location

Lower Bridge River

1.4. Contact for this report

Name: Gerald Michell

Phone: (250) 256-7423

Email: fisheries@xwisten.ca

1.5 Funding Amount

| Original Approved Grant Amount: | Total FSWP Expenditures: | Final Invoice Amount: | Final Non-FSWP leveraging, including cash and in-kind: |
|---------------------------------|--------------------------|-----------------------|--|
| \$60,000.00 | \$60,000.00 | \$12,000.00 | \$61,255.05 |

2. Project Summary

Please provide a single paragraph describing your project, its objectives, and the results. As this summary may be used in program communications, clearly state the issue(s) that were addressed and avoid overly technical descriptions. Maximum 300 words.

This 2-yr duration project constructed an off-channel salmon spawning and rearing channel in the Lower Bridge River. The project addressed the **Habitat and Water Restoration and Stewardship** priority activity of the FSWP. It was designed to mitigate some of the hydro impacts on St'át'imc fisheries resources. Bridge River salmon populations have been severely affected by the construction of the Terzaghi Dam and the operation of Carpenter Reservoir. The Terzaghi Dam blocked upstream salmon migrations and a number of populations were extirpated. This project, located in the Bridge River below the dam, may effectively mitigate some of the historic and present impacts. Several agencies including DFO, Xwisten and BC Hydro have investigated fish habitats and mitigation strategies in the Lower Bridge River. Feasibility studies have identified a number of habitat development projects in the Bridge River, including Applespring which has been rated as a good project. The project is designed to benefit Coho salmon primarily. During 2008, rearing ponds and a 400 m fish channel were excavated. A prefabricated Steel Baffles & Wing Type River Intake was installed with a flow control valve and 136 meter long by 400 millimeter diameter poly pipe in October 14, 2009 at the upstream end of the channel structure. . An infiltration gallery was installed beside the pipeline to capture groundwater seepage to augment the surface water inflow into this complex. The

newly excavated channel was connected to the water intake and the channel became functional thereafter. Some shrubbery and tree cuttings were planted on the stream bank and Fall rye seed was planted and straw was placed along the banks of the channel for erosion control purposes and as mulch for the seeding. The straw will also provide a source of organic matter which will enter the channel via precipitation run-off. The aquatic community in the channel will equilibrate after several years of steady flow and input of organic matter.

OPTIONAL Please give a short statement (up to 100 words) of the most compelling activity or outcome from your project.

3. Final Project Results and Effectiveness

3.1 Copy EXPECTED OUTCOMES from your detailed proposal and insert into this section. Add additional rows as needed. Then please list the FINAL OUTCOMES (the tangible end products resulting from this work) associated with expected outcome.

If FINAL OUTCOMES differ from the original EXPECTED OUTCOMES please describe why, and the implications for the project.

| EXPECTED OUTCOMES | FINAL OUTCOMES |
|--|---|
| 1. Functional fish channel and rearing ponds | Functional fish channel and rearing ponds |
| 2. | |
| 3. | |
| 4. | |

3.2 Please evaluate the EFFECTIVENESS of your project in achieving Project Objectives. Please identify the indicators you have used to measure the effectiveness of your project. Please include any notable successes or challenges.

The construction component of the project was relatively simple involving the excavation of the channel and rearing ponds during 2008, and the installation of the flow control structure during 2009. The attachments to the report provide photo-documentation of all project activities undertaken in 2008 and 2009. From a construction standpoint, the project is viewed as a success. The project effectiveness insofar as it relates to provision of spawning and rearing habitat will need to be evaluated once the channel reaches biological equilibrium, anticipated in 3-5 years from now. We expect to apply to FSWP and/or BCRP to undertake this effectiveness monitoring.

3.3 Please attach all DOCUMENTATION of Final Outcomes, and LIST attachments here. These may include technical reports, maps, photos, evidence of communications, lists of meeting participants, etc.

FSWP 1 Site Sketch
FSWP 2 Site Sketch
FSWP 3 Site Sketch
FSWP 4 Applespring Before
FSWP 5 Point Channel Intake and Supply Line
FSWP 6 Arc 24
FSWP 7 Boss 2000 Pipe Specs
FSWP 8 Intake
FSWP 9 Pipe
FSWP 10 Pond
FSWP 11 Pipe
FSWP 12 Collage
FSWP 13 Erosion Control

3.4 Please describe how the benefits of this project will be sustained and/or be built upon into the future. What are the planned next steps, or recommendations for further work, if applicable?

The project is self-sustaining and requires very little maintenance. Xwisten will periodically inspect the channel and the intake to ensure that it continues to function as designed.

3.5 What are the top three lessons learned from this project that could be useful to communicate to others doing similar work in the Basin?

1. Partnership between DFO Kamloops and Xwisten was very effective and combined excellent engineering expertise from DFO with enthusiastic workers from Xwisten – a win-win scenario.
2. Keep timelines “loose” to permit flexibility in project scheduling and keep on top of the books!
3. Keep in close touch with the FSWP Project Managers.