2010/11 FINAL REPORT

FSWP File Number*	07350-35/FSWP 10 D 47 HWRS

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

1. Project Information

1.1. Project Title

Groundwater Habitat Interactions for Interior Fraser Coho

1.2. Proponent's Legal Name

Nicola Tribal Association (NTA)

1.3. Project Location

Nicola & Coldwater Rivers (Merritt, BC); Deadman River and Louis Creek (Kamloops, BC)

1.4. Contact for this report

Name: Tracy Sampson	Phone: (250) 378-4235	Email: tracy.sampson@nwsfa.org

1.5 Funding Amount

Original Approved Grant Amount:	Total FSWP Expenditures:	Final Invoice Amount:	Final Non-FSWP leveraging, including cash and in-kind:
$59,241.00	$5,004.44	$0.00	$1,604.00

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.

The four systems (Nicola, Coldwater, Deadman, Louis) being studied have a long history of critically high temperature regimes and low flows during the summer months. Results from past study years have established a foundational understanding of the importance of groundwater upwelling areas as thermal refugia habitat for Endangered (COSEWIC) juvenile Interior Fraser (IFR) coho during times of lethal peak mainstem temperatures. In 2010 the focus of the study moved to determining characteristics of our confirmed groundwater upwelling areas. Identifying these areas will contribute to the maintenance of their functionality, and efforts to maintain this critical habitat. Developing more information about groundwater upwelling areas (rates of contribution, temperature, dissolved oxygen, depth/direction of flow) will contribute to the improvement of groundwater management and, as a result, IFR coho conservation. The Conservation Strategy for Coho Salmon *(Oncorhynchus kisutch)*, Interior Fraser River Populations[1] identifies a number of knowledge gaps. This study is addressing two of those: (1) determining what constitutes as important habitats for IFR coho populations, and (2) the relationship between, and importance of, groundwater and surface water sources. Objectives for 2010 were:

1. To quantify and define characteristics of groundwater infiltration into confirmed groundwater upwelling

areas.
2. To identify land status use of land associated with groundwater upwelling areas, and their potential vulnerabilities.
3. Attempt to describe possible sources of confirmed groundwater upwelling areas.
4. To identify particular site(s) for protection/enhancement measures.

After all equipment was ordered and some was received, and just prior to implementation of the study (field work), the Secwepemc Fisheries Commission (SFC) informed the NTA they would not be able to participate in the 2010 study. During installation of the piezometers unexpected/unknown geological characteristics of the study site prevented installation of the piezometers. Therefore the study was not conducted in 2010.

[1]**Interior Fraser Coho Recovery Team. 2006. Conservation Strategy for coho salmon *(Oncorhynchus kisutch),* interior Fraser River populations. Fisheries and Oceans Canada.**

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

N/A

3. Final Project Results and Effectiveness

3.1 Please copy THE EXPECTED DELIVERABLES from your detailed proposal and insert into this table. Add additional rows as needed. Then describe the FINAL DELIVERABLES (the tangible end products resulting from this work) associated with each expected Deliverable.

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

EXPECTED DELIVERABLES	FINAL DELIVERABLES
1. Final report which will contribute to the Nicola WUMP and DFO's Conservation Strategy for Coho Salmon *(Oncorhynchus kisutch)*, Interior Fraser River Populations.	Not completed. Refer to Project Summary.
2. Map documenting confirmed groundwater upwelling areas in the four systems being studied.	Not completed. Refer to Project Summary.
3.	
4.	

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

The objectives for the 2010 study were not achieved due to study design/implementation problems. The piezometers (2.5 inch diameter steel pipes; 2.5m and 3m long) were not able to be installed at the required depths necessary for the study because of subsurface geology for both the river and the riparian area. The river substrate and bank substrate were too compacted. The study was not implemented in 2010.