

EATON-BEATON CHANNEL RESTORATION AND ENHANCEMENT PROJECT

Presented by:

Steelhead Society of BC

Funding Application

October 24, 2013

BACKGROUND

The Steelhead Society of BC (SSBC) has undertaken fish habitat restoration and enhancement projects within the Thompson River watershed in 2012 and 2013 and plans to complete a third in 2014. The purpose of each of these projects is to improve spawning and rearing habitat for Thompson River steelhead (*Oncorhynchus mykiss*) in accordance with the SSBC's mandate and direction from the SSBC Board of Directors.

On both of the previously completed projects, the SSBC worked closely with Sean Bennett (Fisheries and Oceans Canada, Habitat Restoration) and Mike Wallis (Wallis Environmental Aquatics Ltd. to identify suitable project locations and to complete project construction in a professional and cost-effective manner (*e.g.*, limited to no engineering costs required). Recently (Fall 2013), Sean Bennett provided the SSBC with a new project for consideration. The site is the Eaton-Beaton Channel, which is confluent with the Coldwater River near Merritt, BC. The Coldwater River is one of the main spawning and rearing streams for Thompson River steelhead.

The Coldwater River has been constrained due to linear development on both sides of the river. Due to this restriction, the majority of river complexity, including side channels and off-channel habitats, has been lost. Off-channel sites create rearing and spawning opportunity for steelhead, salmon and resident fish species. Currently there are three DFO-constructed off-channel enhancement projects on the Coldwater River, including the Eaton-Beaton Channel. These sites were picked because of land owner cooperation and involvement and optimal site conditions. These sites have an excellent source of groundwater, which is preferred by steelhead and coho salmon (*O. kisutch*) juveniles for rearing habitat. These sites have been monitored for juvenile utilization and have shown to be very productive. Keeping the few off-channel sites that are already established functioning at optimal levels is crucial to Coldwater River steelhead, salmon and resident species survival. Bob Harding (DFO Community Advisor) and Sean Bennett (Senior Restoration Biologist) from Kamloops DFO are very involved and supportive of the project. Sean has considerable history with the site, as he completed his Master's thesis using data collected from the channel. Sean's research has shown that the channel was historically utilized by rearing rainbow trout/steelhead, coho salmon and bull trout (*Salvelinus confluentus*).

INTRODUCTION

The proposed Project will occur on Eaton Beaton Channel, which is known to be utilized by steelhead and salmon species. The Eaton-Beaton Channel was a historic irrigation supply ditch, which is approximately 3 kilometres (km) in length. In 1994 DFO turned the irrigation ditch in to an off-channel rearing and spawning site for salmon and steelhead. The channel receives inflow from a combination of groundwater and surface water sources and is inhabited by salmon and steelhead adults/juveniles throughout the year. At present, the channel is heavily impacted by livestock traffic and loss of instream and riparian habitat structure and complexity.

The majority of the channel was fenced with post and barb wire to exclude livestock and only covered approximately 80% of the channel length. At present, the barb wire allows access to beavers. These

beavers have built multiple dams on the channel creating access obstacles for fish. At times, during low water periods, these obstacles have causing stranding of many salmonid juveniles.

The proposed channel restoration and enhancement will be conducted by the SSBC with DFO (financial and construction expertise) and Pacific Salmon Foundation (financial) support. A description of the proposed Eaton Beaton Channel Restoration and Enhancement project (the Project) is provided below.

PROPOSED FISH HABITAT RESTORATION AND ENHANCEMENT PROJECT

A DFO restoration biologist and engineer visited the site in the fall of 2013 and identified all present fish access and habitat issues. Based on the outcome of the site visit, DFO has created a site-specific restoration and enhancement prescription, which includes solutions for setback fencing, riparian planting, barrier removal and bio-engineered bank stabilization. Barriers will be removed and crossings will be repaired and naturalized.

The proposed restoration and enhancement works will specifically include the following activities:

- Stabilization of an eroding bank near the channel intake, which will include setback fencing, bio engineering and riparian planting to enhance mainstem habitat;
- Addition of livestock exclusion fencing (*i.e.*, page wire with top strand as barbed wire, for cattle control) on both sides of the channel;
- Removal of existing, instream fish migration obstacles, including three culverts that have degraded over the past two decades; and
- Repair of stream crossings to create access for all salmonid life-stages throughout the year.

The anticipated results of the Project are described below.

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| Result #1 | Removal of three existing migrational barriers will improve fish access to approximately 3 km of the Eaton-Beaton off-channel habitat which was previously poorly utilized. |
| Result #2 | Installation of bio-engineered boulder and wood structures along the bank will provide improved and enhanced habitats for juvenile and adult salmon/steelhead in the mainstem Coldwater River as a result of channel deepening and complexing of the outside bend and reduction in seasonal sedimentation. The bank stabilization will also protect the Eaton-Beaton side-channel intake structure . |
| Result #3 | Increase public awareness by using the completed site as a demo site for SSBC and DFO habitat restoration tours. These site tours will be beneficial for providing opportunity for future collaboration, fundraising and networking. |

Photos 1 through **4** provided below show components of the Project and provides further explanation regarding the proposed restoration and enhancement activities.







CLOSURE

The Eaton-Beaton Channel project is expected to restore and enhance an existing off-channel habitat which has proven in the past to be highly utilized by juvenile steelhead and coho salmon. This channel is confluent with the Coldwater River, which is intrinsically important for Thompson River steelhead spawning and rearing.

The SSBC supports undertaking this Project and is actively soliciting funding to complete the work in 2014. A letter of support for the Project is available from DFO upon request. Also, DFO has fencing and access agreements in place with the local land owners.

Should you have any questions regarding this proposed project and funding application, please contact Trevor Welton (Vice President SSBC) at 604-866-8768 or twelton@dillon.ca.

Sincerely,

Steelhead Society of British Columbia

Brian Braidwood
President

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