

VINER RIVER

Objectives

Restoration works completed in reaches one and two of Viner River are intended to be part of an ongoing program to restore salmonid habitat to Viner River Watershed. To achieve this goal, LWD structures were built to increase the amount and complexity of stream habitat, provide bank protection and increase channel stability.

FRBC Region / MELP Region

Pacific / Vancouver Island

Author(s)

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Proponent(s)

Partnership includes Interfor, Broughton Archipelago Stewardship Alliance (BASA) the Central Westcoast Forest Society (CWFS), and members from the community of Echo Bay.

Watershed / Stream

Viner Watershed / Viner River.

Location

Viner River is located on Gilford Island and flows predominantly westwards to Viner Sound and then the Pacific Ocean. It is approximately 35 km west-northwest of Port McNeill, a town on the northeastern coast of Vancouver Island.

Introduction

Viner River has a basin area of 22km² and has approximately 4.5 kilometers of anadromous habitat along its mainstem channel and an unknown length of tributary channel that supports Coho, Chum, Pink, Sockeye and Steelhead Salmon as well as Cutthroat and Rainbow Trout.

In its two lower reaches, where the instream work has been completed, Viner River flows on an average gradient of less than 2% with an average channel width of 20 meters.

The channel has experienced a low recruitment of LWD and an increase in sediment load resulting from both natural and harvesting related hillslope failures. This in turn has led to a decrease in channel complexity and stability.

Increases in sediment input also resulted in poor spawning habitat.

Assessments and Prescriptions

An Inventory and Restoration Plan was completed in 2001 (Clough and Warttig, 2001) that examined the riparian zones, the stream morphology and fish habitat. The report identified signs of habitat degradation to both the instream and riparian zones from historic slides and logging.

Following the recommendations of this Restoration Plan, it was the intent of the 2002 works to increase channel stability, instream complexity, and available fish habitat through the installation of LWD structures.

On-site visits were made in the summer of 2002 by various parties to examine the success of the structures built in the previous year and to develop new prescriptions for 2002.

Past Rehabilitation Work

Rehabilitation in 2001 consisted of both instream and riparian works (Ebell, 2002). Instream work was concentrated in reach two and consisted of seven structures, five taking the form of double A-frames that were intended to provide bank protection and habitat. The remaining two were the addition of LWD to an existing jam and the placement of LWD on a bar surface.

Approximately 4.7 ha of riparian area were treated, including the brushing, thinning and girdling of alder and the replanting of 3500 cedar predominantly in reach two and four.

Rehabilitation Work

The following is a summary of the 2002 works completed on Viner River. For a more detailed discussion see the 2002 As-Built Report (Paige, 2003).

During the 2002 construction season, six new structures were built, two existing structures were upgraded and smaller maintenance works completed including removal of select LWD pieces from an existing log jam.

The completed structures were LWD spurs whose purpose was to provide bank protection,

increase channel stability and increase available instream habitat.

Similar to the instream works completed in 2001, a B2 A-Star helicopter was used to transport LWD and ballast to each site. On average each structure was composed of 4 LWD pieces and 7 pieces of ballast. The structures were secured using 5/8" steel cable.

The 2002 Viner River restoration project employed a local field crew of three and a geoscientist for a period of four weeks.

Cost Summary

The table below includes all construction and reporting costs for the project.

Labour:	\$29,160
Helicopter:	15,750
Equipment, materials & misc.:	7,006
<hr/> Total:	<hr/> \$51,916

Outputs

Restoration works included the installation of six separate structures over 400 meters of mainstem stream channel.

Production Estimates

The fisheries benefits solely from this project are expected to be moderate, but combined with both previous and future works, the benefits will accumulate and are anticipated to be high.

An average of a two fold increase in production is predicted for both anadromous stream rearing adult and fry salmonids and an eight old increase for non-stream rearing adult and fry salmonids (Konning and Keeley, 1997).

Proposed Work

Additional watershed restoration activities are planned for summer 2003 that will further enhance stream habitat.

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UTM Coordinates

Zone: 9
Northing: 5629575
Easting: 686700

References

- Clough, D. and Warttig, W., 2001. *Viner River: Inventory and Restoration Plan*. For: Combined North Island Fisheries Centre. 35pp.
- Ebell, J., 2002. *Viner River Instream Restoration Project: As-Built*. For: International Forest Products Limited. 18pp.
- Koning, W. and Keeley, E., 1997. *Watershed Restoration Technical Circular No. 9*. Chapter 3.
- Paige, A., 2003. *Viner River: Stream Habitat Construction Report*. For: International Forest Products Limited.

Figures

Typical constructed LWD spur during low flow.



Typical constructed LWD spur during high flow.

