Homathko / Mosley Rivers Restoration

Objectives

Project objectives were to stabilize stream banks and increase riparian vegetation and stream cover of selected reaches of the Homathko River. Methods included bioengineering of stream banks, riparian vegetation planting, and placement of LED/rootwad revetments.

FRBC Region / MELP Region/MOF Region

Cariboo-Chilcotin / Cariboo / Cariboo

Author

G3 Consulting Ltd.

Proponent

Tatlayoko Woodlot Association

Watershed / Stream

Homathko River

Location

Project sites were located on private property adjacent to the Tatlayoko Lake road between Hwy. 20 and Tatlayoko Lake. FHAP Overview and Level 1 Reports (G3 Consulting Ltd. 1998, 1999) refer to this section as Reaches 1-11.

Introduction

The Homathko river watershed is a 5th order drainage whose waters flow southwestward from the Chilcotin Plateau into Bute Inlet. The study area included reaches upstream of Tatlayoko Lake only. Anadromous fish do not migrate into the study area. Resident target fish species included Rainbow and Bull trout.

The drainage area of the study area comprises approximately 950 Ha. A large percentage of the Homathko River Valley is private property and moderately to heavily developed for agriculture.

Assessments and Prescriptions

In 1997 and 1998, G3 conducted Overview and Level 1 FHAP and RAP studies within the watershed boundaries, and identified specific reaches for detailed Level 2 FHAP and RAP surveys, that were subsequently completed.

Portions of the river bank were cleared of natural riparian vegetation. Along these areas, deciduous shrubs and trees, with limited coniferous forest dominated remaining riparian vegetation. Throughout undisturbed sections of the valley floor, Douglas fir, hybrid spruce and lodgepole pine dominated riparian areas.

The Homathko river channel exhibited relatively high levels of bank instability where it passed through agricultural fields. LWD was noted to be low in abundance and poor in distribution, contributing to low levels of in stream fish habitat cover. The low gradient (~0.5%) stream channel was aggrading, with fine sediment deposition noted throughout. In filling of holding pools and blanketing of suitable spawning gravel with find sediment was noted and attributed to extensive bank erosion and lack of localized hydrological scour (normally associated with LWD complexing).

Past Rehabilitation Work

None.

Rehabilitation Work

An Environmental Youth Team (E-Team) provided labour support for bioengineering, riparian planting and structure placement. A Kubota KX91-2 rubber track excavator was used for rootwad and revetment placement. Reaches 4,5 and 11 were selected for restoration activities.

Reach4: Restoration included placing LWD / rootwad revetments at 10 sites, including bioengineering at nine sites, and two areas for riparian tree planting. In total 19 rootwads and 18 tree revetments (eight with rootwads) were placed in the river channel, approximately 170 me of stream bank was revegetated with live stakes, seven facines were installed and approximately 1,500m^2 planted with 700 tree stems.

Reach 5: Similar prescriptions to those of Reach 4 were applied to Reach 5. This resulted in placement of seven rootwads, 12 tree revetments, 110m of bank live staking, placement of 12 facines and approximately 35 m

of brush layering. In addition, a riparian area of ~1,200m^2 was planted with trees. Reach 11: This reach included hand placement of LWD and rootwad structures along a 1,000m stream section that originally only had one piece of functioning LWD. Approximately 1,200m^2 of riparian area were planted with trees, with ~ 200 m of stream bank receiving live staking and fascine placement.

Cost Summary

Item	Cost
Labour	$28,100
Equipment	$12,000
Materials	$6,500
total	**$46,600**

Outputs

54 rootwads (~120m^2 in stream cover)
30 revetments (~450 m^2 in steam cover)
2,100 trees planted in riparian areas
480 m of stream bank revegetated and stabilized through bioengineering.

Production Estimates

WRP Biostandards are not easily applied to in stream cover for resident fish, however, approximately 570m^2 of in stream cover (representing an area of approximately 23% of available area) was restored (reaches 4, 5, and 11)

Proposed Work

Work has been prescribed for approximately 13 other sites in Homathko and Mosley River drainages.

For Further Information, Contact:

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Figure 1: Installation of LWD revetement during late summer high flow, Homathko River.