Project Completion Abstract

Km. 39.2 Morice River FSR
Fish Passage Project

Objectives
The project objectives were:

- To eliminate the barrier to passage for rainbow trout, bull trout and other fish species. (Photo 1.)
- To eliminate the need to complete in-stream road maintenance works, i.e. clean out culverts that have been plugged by beaver activity.

FIA Investment Schedule Number, Project Number and Fiscal Year

- Investment Schedule # NOTSA202850
- Project # 2850001
- Fiscal Year 2008-2009

Recipient Name and Division/ MoF District/ MoF Region

- Tweedsmuir Forest Ltd.
- Nadina Forest District
- Northern Interior Forest Region

Names/Affiliation of Registered Professionals involved in the Project

- Jim Burbee, RPF. Association of British Columbia Forest Professionals
- Brad Major, P.Eng., Professional Engineers and Geoscientists of BC
- Jason Yarmish, RP Bio., College of Applied Biology

Author
Wayne Patterson

Watershed and Location

- Bulkley River Watershed
- Morice River Tributary
- Located at km 39.2 on the Morice River FSR
- GPS coordinates N. 54-11-42 W. 127-01-03

Introduction, Summary of the background and history
Stream crossing was identified through MOF and Canfor staff as having potential fish passage issues. The crossing was assessed by Triton Environmental to fulfill the following:

- Evaluate to what degree the crossing blocked fish passage,
- Identify the amount of available fish habitat above the crossing, and
- Rank the crossings for rehabilitation to facilitate fish access.

The Morice River FSR is a typical double lane forest resource access road constructed during the 1950s. The crossing at 39.2 km consisted of a single closed bottom 1800mm wooden stave culvert installed in the 1950s.

The original culvert was considered a full barrier to fish migration based on the vertical drop at the outlet of the culvert. (See photo # 1)

The original wooden culvert installation scored 46 based on the results of the FPCI Scoring Matrix. Based on the results the culvert was given a high priority score for replacement.

Description of Design
Replace closed bottom culvert with a clear span bridge and restore the stream channel. (Photo 2.)

An 11m long X 8.6m wide clear span concrete slab bridge was chosen to replace the existing culverts because:

- This design provides adequate channel width and opportunity for streambed restoration.
- This concrete slab bridge is most cost efficient for the chosen span.
- The clear span bridge reduces the possibility of fish passage becoming obstructed

Description of Completed Work

- Construction commenced: 2008/09/02
- Construction completed: 2008/09/14
- Removal of the existing wooden stave round culvert and restoration of the stream channel was monitored by Environmental Dynamics Inc. to ensure that the environmental management plan was followed and that the project objectives were attained.
- Completed project provides an open bottom structure that will not impede fish passage. (Photo 3.)
- It provides a stream channel that contains natural aquatic habitat as a streambed. (Photo 2.)

Cost Summary

Construction Contract	$162,000.00
Rock Drill & Blast	$ 1,501.10
Engineering	$ 13,867.50
Environmental	$ 5,055.00
Total Cost	$182,423.60

Post Construction Inspection

Formal Post Construction Inspections are not required for this project. It is expected that routine structural and maintenance inspections will suffice to detect any problems that may arise in the future.

Photographs

Photo 1. Original stream culvert.

Photo 2. View of bridge footing beyond newly restored stream channel

Photo 3. View of new bridge across restored stream channel.