

# Wildfire Guard Rehabilitation

## A Report for Critical Works

Prepared For  
Ministry of Forest,  
Burns Lake, BC

Prepared By  
Ken Nielsen, RPR

### BACKGROUND

In July and August of 2023, the Tintagel/Sheraton wildfire burnt approximately 8000 hectares of land northeast of Burns Lake. Wildfire guards were constructed in the area. Many of these guards crossed several streams, some of which are known fish bearing streams, and were identified by the BC Ministry of Forests (MOF) as stream crossings during a field survey. These identified stream crossings provided by MOF were used to guide further field assessments by an R.P.Bio on October

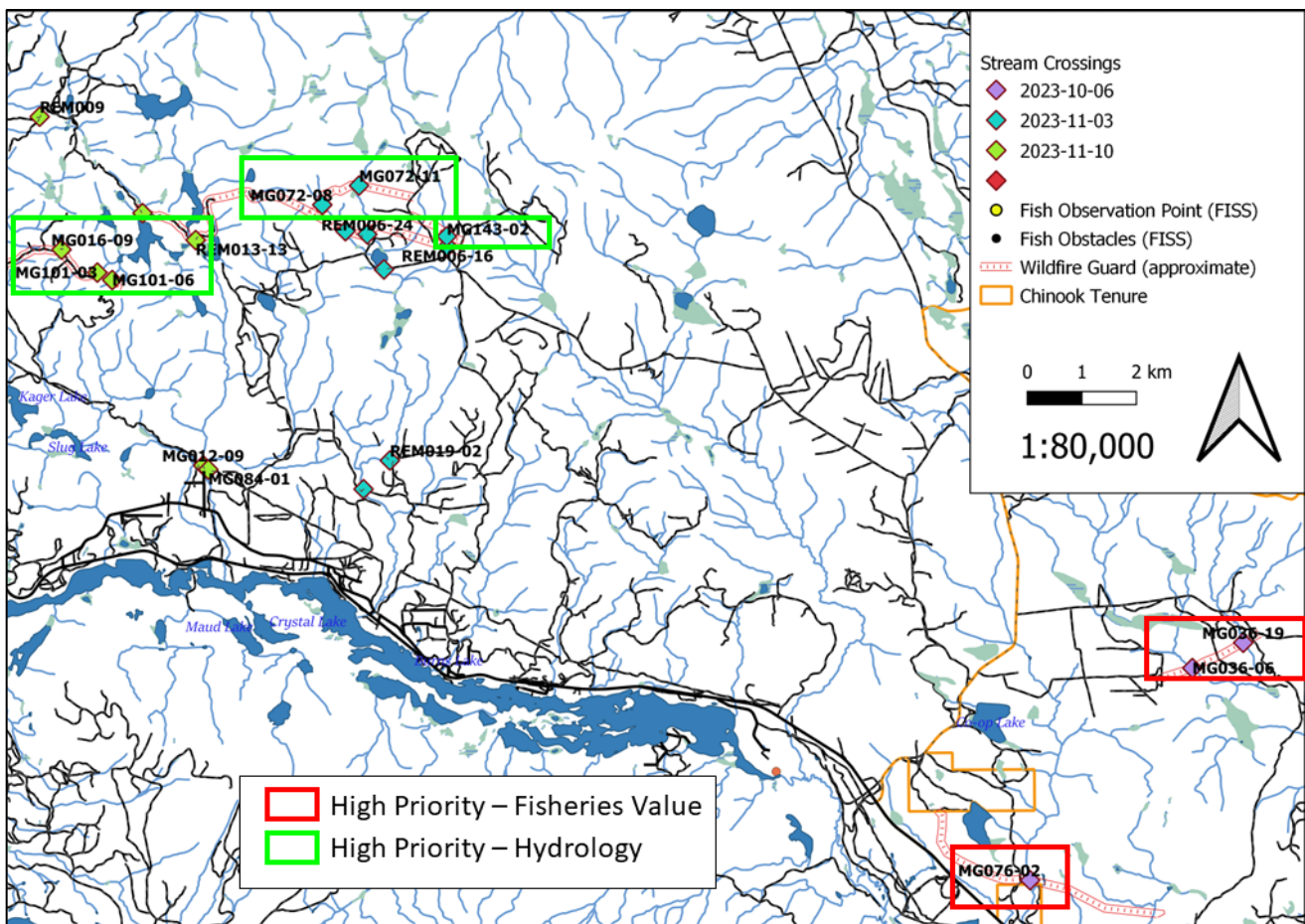


Figure 1: Overview map of stream crossings assessed during three separate field visits. Priority for rehabilitation has been assigned based on fish habitat or hydrological integrity concerns.

5<sup>th</sup>, November 3<sup>rd</sup> and November 10<sup>th</sup>, 2023, and stream rehabilitation prescriptions (**Figure 1**). This document is intended to provide detailed rehabilitation efforts for Critical Works carried out in the Chinook Community Forest tenure area. Work required to restore hydrological functioning and potential fish habitat for crossings on, and in the area of, Coop Lake and Sheraton Community. Repairing these crossings this fall is necessary to mitigate further damage to stream hydrology and downstream fish habitat and lake ecology (i.e., excessive sediment loading).

#### *PROJECT DESCRIPTION*

Critical Stream crossings referenced from the Tintagel (R11244) Map dated September 27, 2023. There are seven documented stream crossings. Two of these streams were identified as fish bearing.

The rehabilitation of the crossings on MG036-19, MG036-07 and MG076-02:

- The recommendation of management of vehicle (i.e., truck and ATV) use across an open section of stream.

The rehabilitation of all the three crossings:

- The construction of a defined channel at the road crossing to confine flow.
- The construction of cross ditches and placement of woody debris on guard approaches as they slope into and out of the stream crossing.
- Recontouring the guard within riparian areas of streams and drainage to mitigate sedimentation and ponding in low points.
- Grass seeding of bare ground within riparian area.

This work was completed fall, 2023, during low flows. No fish was observed at time of rehabilitation.

#### *OBJECTIVES*

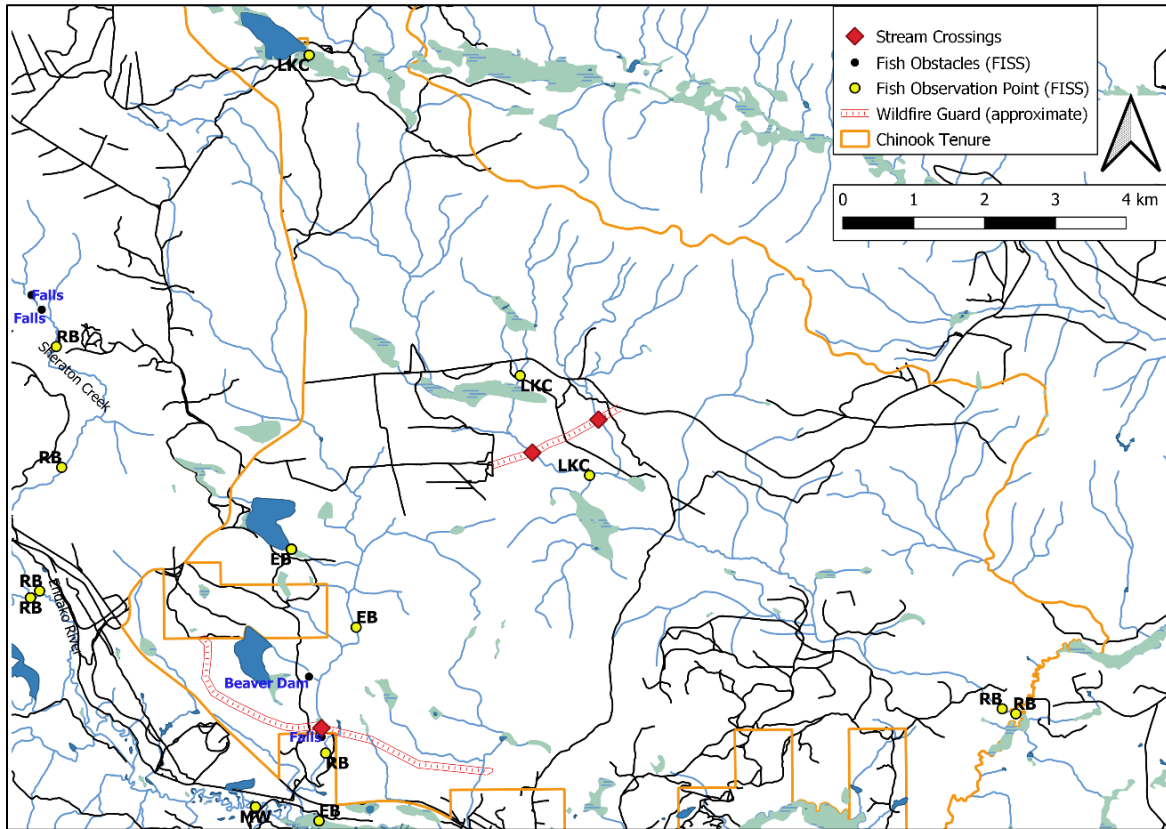
The design and construction practices were followed as per documents; prepared by Kristy Rasmus, MSc, R.P.Bio. That provided specific mitigation measures to minimize foreseeable risks to the aquatic environments.

The objectives of this document are to:

- Provide a report for Ministry of Forest
- Recommend follow up procedures

## CURRENT CONDITIONS

Figure 2: Map of Fish Observations and Obstacles (FISS spatial database)



### SITE 1: MG036-19

This crossing is located on the guard MG36 starting at 11 km on the Haney FSR and ends at COOP Lake.

- Removed all organic from creek channel, reestablished creek channel.
- Full pull back of organics back onto fire guard, left rough and loose.
- LWD was placed along edge of riparian.
- Cross drainage was constructed north and south of stream.

*SITE 2: MG36 – 06*

This crossing is located on the guard MG36 starting at 11 km on the Haney FSR and ends at COOP Lake.

- Decks were removed from downstream of fire guard.
- All debris from salvage of decks was removed from down stream of guard.
- Cross drainage was constructed either side of stream crossing in the riparian.
- Full pull back of organics back onto guard either side of stream crossing.
- LWD placed on either side of stream crossing.



*Figure 1: Pictures of MG36-06*



*Figure 2: Pictures of MG36-06*

*SITE 3: MG076-02*

This crossing is located on the guard that starts at 2.5 km on the Augier FSR and runs parallel to highway 16 eastwards.

- All debris from salvage of decks was removed from down stream of guard.
- Cross drainage was constructed either side of stream crossing in the riparian.
- Full pull back of organics back onto guard either side of stream crossing.
- LWD placed on either side of stream crossing.



Figure 3: Picture of MG076-02

*SITE 4: MG082-02*

This crossing is located on the guard that starts at 2.5 km on the Augier FSR and runs parallel to highway 16 eastwards almost to the end of guard. This is where some locals got a skidder stuck over the bank.

- All debris from salvage of decks was removed from down stream of guard.
- Cross drainage was constructed either side of stream crossing in the riparian.
- Full pull back of organics back onto guard either side of stream crossing.
- LWD placed on either side of stream crossing.



Figure 4: Pictures of MG082-02



Figure 5: Pictures of MG082-02

SITE 5: REM005-17

*This site is located on the Gullwing Road, the ends of the culvert were filled in with dirt from wildfire suppression efforts.*

- All debris was removed from both ends of the culvert.
- Grass seed was applied.



Figure 6: Pictures of REM005-17

SITE 6: MG128-01

*This site is located on the guard east of coop lake and runs north. This stream crossing is spring run off only, and there was no water at time of rehab.*

- All debris from salvage of decks was removed from down stream of guard.
- Cross drainage was constructed either side of stream crossing in the riparian.
- Full pull back of organics back onto guard either side of stream crossing.
- LWD placed on either side of stream crossing.



Figure 7: Pictures of MG128-01

*SITE 7: MG034 – 06*

*This site is located north of the Haney FSR and south of the Gullwing FSR. This is a non fish bearing stream but rehabbed under critical works to address spring run off issue's.*

- Cross drainage was constructed either side of stream crossing in the riparian.
- Full pull back of organics back onto guard either side of stream crossing.
- LWD placed on either side of stream crossing.



Figure 8: Pictures of MG034-06



## REHABILITATION of FIRE GUARDS

Guards that have been fully rehab well carrying out critical works are as follows using identifying map dated September 27, 2023.

- East side of Coop Lake, guard identified as MG 129, starting from MG 129-02 to POT MG129-052 has had full pull back as per the map legend.
- Carrying on from MG 129-052 through to POT MG036 – 21, all rehab is complete as per the map legend.
  
- Starting from the Haney FSR running North, POC MG 130-04 through to POT MG 142, guard rehab completed as per the map legend.
- Carrying on North Ward from POC MG 142-02 through to POY MG 034 – 07. Guard is fully rehab as per the map legend.
- Guard south of Coop Lake off the end of an old block rd, POC MG 128 -01 through to POT MG 129 – 052. Guard fully rehab as per the map legend.
- Guard that takes off from the Augier FSR eastward to Sheraton. POC REM026 – 01 through to POT MG074. Guard fully rehab as per the map legend.

## RECOMMENDED FOLLOW SPRING of 2024

Critical works that were completed in the fall of 2023, using identifying map dated September 27, 2023. Are as follows:

- *SITE 1: MG036-19, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Resourcing local willows from the area to be cut at an angle for plugs to be placed along the stream bank and followed up with more grass seeding.*
- *SITE 2: MG36 – 06, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Resourcing local willows from the area to be cut at an angle for plugs to be placed along the stream bank and followed up with more grass seeding.*
- *SITE 3: MG076-02, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Resourcing local willows from the area to be cut at an angle for plugs to be placed along the stream bank and followed up with more grass seeding.*
- *SITE 4: MG082-02, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Resourcing local willows from the area to be cut at an angle for plugs to be placed along the stream bank and followed up with more grass seeding.*
- *SITE 5: REM005-17, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Follow up with more grass seeding.*
- *SITE 6: MG128-01, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Resourcing local willows from the area to be cut at an angle for plugs to be placed along the stream bank and followed up with more grass seeding.*
- *SITE 7: MG034 – 06, be sure water is flowing unobstructed and sediment/erosion control structures appear to be still working. Resourcing local willows from the area to be cut at an angle for plugs to be placed along the stream bank and followed up with more grass seeding.*
- *All guards rehabbed under this report should be flown and reassessed for any potential follow-up work. Identify what could have been done better.*

