



MINISTRY OF ENVIRONMENT,
LANDS AND PARKS

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To: District Manager, Quesnel Forest District
Small Business Forest Enterprise Program
Quesnel Forest District Major Licensees
Woodlot Licensees

**Re: Revised Timing Windows and Measures to Adequately Manage and Conserve
Aquatic Resources in the Quesnel Forest District**

Attached is *Timing Windows and Measures to Adequately Manage and Conserve Aquatic Resources in the Quesnel Forest District*. This document replaces the *Measures and Timing Windows, Quesnel Forest District, for Conservation of Aquatic Resources in Fish Streams* document of September 10, 1998 and the *Operational Latitude in Conservation Measures and Timing Windows for Fish Stream Crossings in the Quesnel Forest District* of February 23, 1999.

This document details timing windows and measures for the construction and modification of fish stream crossings, and timing windows and measures for deactivation activities on all stream crossings. Accurate stream classification information is necessary to ensure timing windows and measures are applied appropriately.

Yours truly,

Cris Guppy
Forest Ecosystem Specialist
Quesnel Forest District

pc: Rodger Stewart, MELP, Cariboo Region
Robin Hoffos, MELP, Cariboo Region
Barry Trenholm, Ministry of Forests, Cariboo Region
Department of Fisheries and Oceans, Williams Lake

Timing Windows and Measures
to
Adequately Manage and Conserve
Aquatic Resources
in the
Quesnel Forest District

Cris Guppy
Designated Environment Official
Quesnel Forest District

March 9, 2001

TIMING WINDOWS AND MEASURES TO ADEQUATELY MANAGE AND CONSERVE AQUATIC RESOURCES IN THE QUESNEL FOREST DISTRICT

1.0 BACKGROUND

The *Forest Practices Code of British Columbia Act (FPC)* authorizes the Designated Environmental Official (DEO) to provide timing windows and measures for construction, modification and deactivation activity on fish stream crossings to adequately manage and conserve aquatic resources. The FPC also authorizes the DEO to provide timing windows and measures for deactivation activity on all streams, whether or not fish bearing. The Ministry of Environment, Lands and Parks (MELP) has established Forest Ecosystem Specialists, Habitat Protection Officers, and Water Resource Specialists as Designated Environment Officials for the purposes of:

1. Forest Practices Code of British Columbia Act Section 60.2 [November 24, 2000].
2. Timber Harvesting Practices Regulation 21(3) [June 15, 1998].
3. Forest Road Regulation [March 1, 2000]
 - Part 2 Section 2.4;
 - Part 3 Section 13(1)(h);
 - Part 5 Sections 19 and 20(1)(h).
4. Woodlot License Forest Management Regulation
 - Part 4 Section 50 [February, 2001];
 - Part 4 Section 56 [March 1, 1999];
 - Part 5 Section 68 [March 1, 1999].

This document has been prepared using the best information currently available, and replaces the *Measures and Timing Windows, Quesnel Forest District, for Conservation of Aquatic Resources in Fish Streams* document of September 10, 1998 and the *Operational Latitude in Conservation Measures and Timing Windows for Fish Stream Crossings in the Quesnel Forest District* of February 23, 1999. These timing windows and measures may be further revised from time to time as new information becomes available.

2.0 OTHER LEGISLATION AND RESOURCE AGENCIES

These timing windows and measures do not authorize anyone to conduct or participate in activities that are contrary to any statute. The timing windows and measures established by the DEO are for the management and protection of aquatic resources under the legal authority of the *Forest Practices Code of British Columbia Act*. If followed, the expected result is that the risk to aquatic resources will be decreased or largely eliminated. However, no authorization to alter, disrupt, destroy, or introduce deleterious substances to fish habitat is expressed or implied, as such authorization is the exclusive purview of the Minister of the Canada Department of Fisheries and Oceans (DFO). These measures are not approvals for activities that may result in the harmful alteration, disruption or destruction of fish or fish habitat, or the introduction of deleterious substances. It is the

responsibility of the proponent to contact DFO regarding any activities that fall under the federal *Fisheries Act*.

3.0 OBJECTIVES

Some of the objectives considered necessary to adequately manage and conserve aquatic resources are:

1. to protect fish and fish habitat,
2. to provide for safe fish passage,
3. to prevent impacts to fish eggs and alevins that are present in the gravel, or on adult and juvenile fish that are migrating, overwintering or rearing,
4. to reduce the risk of sediment release and other deleterious substances during work at stream crossings.

4.0 REFERRALS

This document is a referral-screening tool. In-stream activities consistent with the timing windows and measures in this document do not require referral to the DEO unless specifically requested. In-stream works conducted under the authority of the *Forest Practices Code of British Columbia Act*, or a regulation made under that act, do not require *Water Act* referral. In-stream works that cannot be carried out within the specified timing windows and/or according to specified measures must be referred to the DEO and must outline the fisheries resource values; detail the proposed activities; identify the potential impacts on the fisheries resource; describe any mitigation strategy and include an environmental monitoring plan.

Proponents should plan to conduct all in-stream works within the specified in-stream work timing windows described in section 7 of this document. However, a January 1 to December 31 timing window will apply to the construction, modification, and deactivation of stream crossings during forest practices if any of the following conditions are met:

1. the structure does not encroach onto the stream channel, no work is proposed within the stream channel of a fish stream, and actions will be taken to prevent the delivery of sediments into fish habitat;
2. work is in a non-fish stream and actions will be taken to prevent the delivery of sediments into downstream fish habitat;
3. during installation, modification or deactivation activity there is no running water at the crossing;
4. the stream in question will not deliver sediment to a fish stream, or is a hillside channel which flows down onto an alluvial fan on the valley floor where the flow dissipates into the ground with no direct channel connection to a fish stream.

5.0 MEASURES

The following measures apply to all construction and modification of fish stream crossings; and deactivation activities for all stream crossings, whether or not fish-bearing, except as specified in sections 2.0 and 4.0 of this document.

Crossing Structures

- 5.1 Crossing structures for fish streams are limited to clear-span bridges or other bottomless structures. The span of the structure must be sufficient to accommodate water flowing in both the channel and the floodplain without resulting in current speeds that impede fish passage during annual peak flows
- 5.2 Foundations and/or cross-struts of bottomless arches must be embedded to prevent habitat loss.

Highly Active Streams

- 5.3 Crossing sites on fish streams must be avoided in areas where streams are meandering, braided, or located on alluvial fans.

Stream Width and Stability

- 5.4 Crossing structures, bridge abutments, or associated riprap must not constrict the stream channel width at the crossing location.
- 5.5 During bridge installation over a fish stream streambed and channel stability must be maintained by avoiding damage to stream banks.

Sediment Control

- 5.6 In a fish stream the work area must be isolated from the stream flow, and works completed in the de-watered channel, including but not limited to
 - (a) When the channel of a fish stream is de-watered to isolate the work area from the stream flow, fish must be salvaged from the de-watered area and returned to the stream. Fish salvaging requires a collection permit from the appropriate MELP (Fisheries) region.
 - (b) Silt-laden water from the work site must not be discharged to the stream channel during the course of the works and prior to re-establishing streamflow.
- 5.7 Any materials, such as riprap or gabion rock, placed within or adjacent to the stream channel must be free of silt, overburden, or other substances deleterious to aquatic life. Rock used as riprap must be suitably sized to resist movement by stream flows.
- 5.8 To prevent sediment delivery to a stream, the road grade should be elevated to ensure the grade falls away from the crossing for a minimum of ten metres in either direction, where topography permits.
- 5.9 Disturbance to the stream channel, banks, and riparian vegetation in the vicinity of the work area must be minimized. Retain all vegetation associated with the stream crossing not impeding line-of-sight or compromising safety. Disturbance that

occurs to the channel and/or banks must be stabilized to prevent sediment delivery to the stream.

- 5.10 For re-vegetation purposes associated with the stream crossing, a seed mix that is relatively less palatable to livestock and is ecologically suitable should be used.
- 5.11 During periods of heavy or persistent precipitation, work that could result in sediment delivery to the stream must stop. Measures must be taken to minimize the risk of sediment delivery to the stream during the shutdown period.
- 5.12 Minimize road material and gravel on a bridge deck from entering the stream.
- 5.13 Upon completion of the stream crossing structure or deactivation activity, all material that has the potential to harm fish or fish habitat and is no longer being utilized, must be removed and/or placed in a location where it will not re-enter the stream.
- 5.14 For the purposes of constructing stream crossings, and where there are no other practicable methods, one round-trip crossing (over and back) of a fish stream within the in-stream work timing window is permitted. If, however, the stream bed and banks are erodible (e.g., dominated by organic materials, silts, silt loams, etc.) and erosion and stream sedimentation or bank or stream channel degradation will result from heavy equipment crossings, a temporary crossing structure must be used to protect the stream bed and banks. If no downstream sedimentation will result, and if no spawning habitat is present, this crossing may be made outside the in-stream work timing window.

Other Deleterious Substances

- 5.15 All machinery used on site must be in good repair and free from excessive grease, oil, and fluid leaks.
- 5.16 Wood preservatives that are toxic to fish must be prevented from entering the stream.
- 5.17 All cast-in-place concrete and grouting must be completely separated from fish-bearing waters for a minimum of 48 hours if ambient air temperature is greater than 0 degrees Celsius or for 72 hours if ambient air temperature is less than 0 degrees Celsius.
- 5.18 Tracks or wheels of equipment must not be within the wetted perimeter of the stream, except as specified in section 5.14, unless authorized by the DEO.

Protection of Redds

- 5.19 If redds (locations where fish eggs have been laid) are present in or downstream of the in-stream work area, work activities must not commence or must be suspended and the DEO notified.

Deactivation/Modification of Stream Crossings

- 5.20 During deactivation/modification, the stream substrate, channel, banks, and other affected areas at the crossing site must be restored to their approximate original configuration and composition. Any fill material that has been added to the stream

channel and floodplain must be removed and placed in a location where it will not re-enter the stream.

- 5.21 During deactivation, the crib of a wooden culvert or bridge must be left if is stable, and over time has been integrated into the channel and now contributes to fish habitat complexity in the channel. If the upper portion of the crib will decay and fail in time, resulting in sedimentation, then it should be removed and only the lower portion left in place.
- 5.22 When a crossing structure is removed from a fish stream, the stream crossing site including approaches must be left in a condition that renders the stream crossing impassable to protect fish habitat.
- 5.23 When a crossing structure is removed from a non-fish stream, an armoured ford should be established, if vehicle use of the crossing and sedimentation into downstream fish habitat is anticipated.

Pile driving or blasting

- 5.24 Pile driving or blasting that may result in vibrations harmful to fish are subject to the in-stream work timing windows.

Temporary Winter Crossing Structures

- 5.25 Construct temporary winter crossings with snow, logs, and culverts in a manner that the crossing can be installed and removed without disturbing the stream channel.
- 5.26 Remove all crossing structures prior to spring thaw, and remove and/or stabilize approach fills to prevent sediment input to the stream.
- 5.27 Winter crossing sites must be field checked after spring runoff to ensure that safe fish passage can occur, and that fish habitat is not being damaged.

Emergency Actions

- 5.28 If, during works that are subject to timing windows and measures, emergency actions are required to protect roads, stream environments or crossing structures from catastrophic events, or a crossing has failed as a result of catastrophic events and damage to fish habitat has or may occur, the incident must be reported in writing to the DEO (or designate) as soon as possible.

7.0 TIMING WINDOWS

Stream crossings requiring in-stream works that may result in introduction of sediment to fish habitat must be conducted within the specified timing window for the stream or watershed. These timing windows must be applied to all fish-bearing streams, as well as non-fish bearing waters that are direct tributaries to downstream fish habitat and can reasonably be expected to result in sedimentation of the fish habitat. Timing windows ensure that in-stream works occur at the correct time of year to avoid damage to spawning habitat and destruction of fish eggs and juveniles and to prevent impacts to adults and juveniles that may be migrating, over-wintering or rearing. There is no timing window for in-stream works during the winter, because sediment and disturbance is detrimental to over-wintering adult fish.

The DEO may vary the timing windows on a site-specific basis, and proponents are reminded that adequate stream inventory data is critical to establishing the widest possible timing windows. Where "no timing window" is noted, sediment will damage eggs or young fish that are present in spawning gravels throughout the year.

<u>Watershed</u>	<u>Timing Window</u>
Baker Creek Watershed	
1. Downstream of Puntataenkut (Tibbles) Lake, and for Merston subbasin downstream of DL 2454	July 15 to July 31 July 15 to October 31
2. Upstream of Puntataenkut (Tibbles) Lake, and for Merston subbasin upstream of DL 2454	
Blackwater River Watershed	
1. Nazko River, Euchiniko River, Blackwater River downstream from the Nazko River, and tributaries	July 15 to July 31
2. Blackwater River watershed upstream from the Nazko River, and tributaries.	July 22 to July 31
3. Headwaters (currently unroaded)	Timing Windows must be determined on a site specific basis.
Dean River Watershed	Timing Windows must be determined on a site specific basis.
Bowron River Watershed	July 22 to July 25
Cariboo River Watershed	July 22 to August 7
Cottonwood/Swift River Watershed	
1. Swift River and tributaries downstream of the confluence with Bendixon Creek, excluding Lightning Creek.	July 15 to July 31
2. Swift River and Bendixon Creek above their confluence but downstream of the Little Swift River, and tributaries.	July 22 to October 31
3. Swift River and Little Swift River above their confluence, and tributaries.	No Timing Window
4. Lightning Creek and tributaries	No Timing Window
Narcosli Creek Watershed	July 15 to July 31
Quesnel River Watershed	July 15 to July 31
Willow River Watershed	July 15 to July 25
Other Fraser River tributaries	July 15 to July 31
Kluskus Supply Block	Timing Windows must be determined on a site specific basis.