

MOU Immediate Measures (IM) Implementation Plan for Management Practices

Endorsed for implementation December 3, 2019.

Background:

The Carrier Sekani First Nations (CSFNs) and BC have engaged in a cumulative environmental effects assessment (CEA) process as part of the Omineca Environment Stewardship Initiative (ESI) within the Study Area (CSFNs Shared Territory). As part of the CEA, an ecological risk assessment was completed in order to inform the CSFN and BC of the implications of current management to VECs. Based on those outcomes, CSFNs and BC Leadership reached consensus on a series of immediate forest management measures that are intended to: mitigate risks to VECs, and preserve opportunities to work collaboratively with forest licensees, CSFNs and other parties on options for long-term strategies.

The Immediate Measures (IMs) focus on two approaches: avoid harvesting in important areas identified by the ESI Project Team; and second, use alternative management practices in specific areas or circumstances.

BC and CSFN Leadership directed the Project Team to work collaboratively with forest licensees to implement the immediate forest management measures. The CSFN and BC see partnership and collaboration with licensees as a positive step towards a more competitive and sustainable forest sector in the Omineca area. The parties executed a Memorandum of Understanding (MoU) to facilitate the refinement and implementation of the IMs.

MOU Immediate Measures (IM) Implementation Plan for Management Practices

- The following *Management Practices* and Objectives are not practice requirements in the context of *FRPA*, *FPPR* and *FSPs* – they are voluntary.
- It is expected that licensee MOU signatories will implement the *Management Practices*, to the greatest extent practicable once they are agreed upon by the MOU signatories.
- The *Management Practices* are not expressed in any order of priority and in many instances are deliberately non-prescriptive to support adaptive management, continuous improvement and professional reliance.
- Where it is not practicable to implement a *Management Practice(s)* it is expected that licensee signatories will document and rationalize why.
- If licensee signatories have additional or different *Management Practice(s)* that they believe will meet the Immediate Measure objective, this is permissible provided that this is documented.

Objectives for Moose practices within 5km of Specified Areas

Management Practices: Moose practices within 5Km of Specified Areas ¹
<p>Objective: Minimize Line of Sight (LOS) (to reduce predation risk by reducing the efficiency of ungulate predators and hunters).</p> <ul style="list-style-type: none">• Design block access to disrupt mainline-to-block LOS (i.e. Incorporate a hockey stick/dogleg alignment).• Limit wetland and riparian road crossings to the extent practicable.• Avoid permanent access roads within 500m of wetlands.• Apply buffers around low wet areas, seeps, and stand-alone W3 and W4• Leave un-brushed buffers 10-20 meters in width between cutblocks and mainline roads (push boundary back to leave brush against road).• Provide road screening on mainlines.• Avoid decking along mainlines.• Maintain < 250m dash distance between cover (cover consists of WTPs 3-5ha or security cover at least 3m in height and 3ha in size). <p>Note: MOU IM Reference (MOU Appendix 3): 4 (Biodiversity & Moose – Road), 3 (Moose UWR), 6 (Fish and Aquatics), 7 (Harvest Planning and Mgmt Data).</p>
<p>Objective: Reduce road/linear feature density (to reduce predation risk by reducing the efficiency of ungulate predators and hunters).</p> <ul style="list-style-type: none">• Manage trend to reduce road density.• Avoid construction of new roads, or loop roads.• Maximize use of existing access (where available) to avoid new construction.• Minimize in-block roads by increasing skidding distances throughout the block (target minimum of 250m skid distance). <p>Note: MOU IM Reference: : 4 (Biodiversity & Moose – Road), 3 (Moose UWR)</p>

¹ See Memorandum of Understanding (MOU) Signatories, November 8, 2018 Appendix 3

Management Practices: Moose practices within 5Km of Specified Areas¹

Objective: Decrease motorized vehicle access opportunities

- Use interim access management measures such as tank traps, lock blocks etc. for the short-term.
- Within 3 years of harvest complete date, reduce motorized vehicle access (Pick-up & ATV's) by employing access management, or line blocking techniques (i.e. stump / debris pull-back within the first 25m of the access road).

Note: MOU IM Reference: 4 (Biodiversity & Moose – Road)

Objective: Facilitate the maintenance of moose habitat effectiveness

- Use irregular boundaries.
- Leave buffer strips of intact forest; travel corridors, patch retention, swales, height of land/partial retention on high points, etc.
- Buffer important habitat feature: 100m setback from mineral licks and wallows.
- Retain deciduous trees and non-merchantable conifers in moist depressions. (see Keystone, 2005 for TFL 5).
- Non-classified wetlands (NCW) and non-classified lakes (NCL) as anchor point retention.
- Maintain < 250m dash distance between cover (cover consists of WTPs 3-5ha or security cover at least 3m in height and 3ha in size).
- Mitigate windthrow risk along block and WTP boundaries.

Note: MOU IM Reference: 3 (Moose UWR), **5** (Biodiversity & Moose – Stand)

Objective: Facilitate recruitment of moose forage species

- During harvesting, avoid damaging brush understory, advanced regen, and non-merchantable trees.
- Maximize use of existing stocking standard latitude to lower stocking and use of alternate species.
- No application of chemical herbicides.
- When brushing, retain non-competing important moose browse species (red-osier dogwood, birch, willow, subalpine fir, highbush cranberry, beaked hazelnut, saskatoon, etc.) especially within 10m of block boundaries.

Note: MOU IM Reference: 3 (Moose UWR), **5** (Biodiversity & Moose – Stand), **8** (Herbicide Use)

Riparian Objectives and Management Practices Overview

Riparian Assessments

Riparian assessments must be completed for riparian features noting lakes and wetland assessments are generally GIS based however the stands surrounding lakes, wetlands and streams must be assessed to determine how retention requirements will be applied. Assessments should clearly describe the riparian management area conditions (considerations given to: soils, stand type, timber, terrain, windthrow hazard, retention opportunities, vegetation, wildlife habitat, etc.) and for streams (specifically S4s / S6s); representative widths to determine the average. Use of the RIC stream measurement procedure should be modified to include more measurements (Refer to Takla Nation Lands & Stewardship Department for methodology used to assess small stream widths) spread out over a greater distance to ensure that accurate stream width measurements are obtained. Accurate classification of small streams (i.e. S6 & S4) is critical, so that a streams value & subsequent management is adequately addressed.

Riparian Retention

The riparian requirements provided in the riparian tables are the minimum (merchantable stems) retention requirements for riparian features on the CSFN Traditional Territory. The intent is to retain large woody debris, provide visual screening, retain vertical structure, maintain wind firm boundaries, reduce sedimentation risk, conserve overall riparian function, and maintain connectivity corridors adjacent to and between riparian features.

Management Practices: Riparian²

Objective: Within 10 meters of all S4, S5, and S6 stream; L3 and L4 lakes; W4 and W5 wetlands, retain windfirm buffers **OR** follow *Takla Forestry Stewardship Framework* below:

Stream Riparian Management Practices

Stream Class	Width (m)	RMA (m)	RRZ (m)	RMZ (m)	RETENTION (%)	Management Hierarchy & Prescriptions
S1-A	≥100	100	55	45	50	1) Address within Landscape Level Reserve, and if not; 2) 55m RRZ. 50% retention within first 15m of the RMZ adjacent to the RRZ; focus on: a) Removal of Dominant & Co-dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush; or 3) Defer to ESI Project Team for Feature-specific Direction.
S1-B	>20	70	55	15	50	1) Address within Landscape Level Reserve, and if not; 2) 55m RRZ. 50% retention within 15m RMZ; focus on: a) Removal of Dominant & Co-dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush; or 3) Defer to ESI Project Team for Feature-specific Direction.
S2	≤20 – 5	50	35	15	50	35m RRZ. 50% retention within 15m RMZ; focus on: a) Removal on Dominant & Co-dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush
S3	< 5 - 1.5	40*	25	15	50	25m RRZ. 50% retention within 15m RMZ; focus on: a) Removal of Dominant & Co-dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush
S5 (non-fish)	>3.0	30*	25	5	50	25m RRZ. 50% retention within 5m RMZ; focus on: a) Removal of Dominant & Co-dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush
Large S4	<1.5 -1.0	30	10	20	25	10m RRZ. 25% retention within the first 10m of the RMZ adjacent to the RRZ; focus on: 1) Removal of Dominant & Co-dominant (wind-prone) stems; 2) Retaining ≥25% of Merch Stems; and 3) Deciduous, DWT's, Stubs, L2 – L4 & Brush.
S4 (<1m)	<1.0	30*	0	30	Per mgmt. prescriptions.	30m (S4) or 20m (S6) RMZ. 7m of the RMZ adjacent to the stream is a machine free zone (MFZ); focus on: 1) Removal of Dominant & Co-dominant (wind-prone) stems; 2) Retaining ≥15 merch stems per 100m of stream length (per side); 3) Where voids i.e.<15/100m; retain all merch stems w/in 10m; and 4) Deciduous, DWT's, Stubs, L2 – L4, Brush.
S6 (< 3-1.0)	< 3 – 1.0	20*	0	20		
S6 & NCD	<1.0 Variable	20	0	20	Per mgmt. prescriptions.	20m RMZ. 5m of the RMZ adjacent to the stream is a machine free zone (MFZ); focus on: a) Removing Merch Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush.

² See Memorandum of Understanding (MOU) Signatories, November 8, 2018 Appendix 3 MOU IM Reference #6 Fish and Aquatics

Management Practices: Riparian²

*Multiple RMA's for S3 & S5 (i.e. 40 & 30m), and S4 (<1.0m) & S6 (1m-3m) (i.e. 30 & 20m) reflect Legal RMA's for each feature.

RIPARIAN DEFINITIONS:

NCD = Non-Classifiable Drainage. A watercourse which does not meet the definition of a stream (i.e. continuously defined streambed with alluvium) but shows signs of significant water flow and therefore has some ability to transport/deposit materials downstream. This includes continuous organic channels, defined channels less than 100m long, non-classifiable watercourses with year around flow, and watercourses which are not classifiable as streams.

WD = Wet Draw. A wet draw is a gully or depression often associated with a change in ecotype which has seasonal, overland flow. It may consist of an intermittent organic channel separated by flow over terrestrial vegetation. Channel definition is typically very poor. These include alder swales, low-lying willow areas, spiraea and devil's club/horsetail-dominated areas.

NVC = No Visible Channel. Watercourses shown on TRIM maps which show complete lack of channel characteristics when verified in the field. These features are completely overgrown with terrestrial vegetation. They may have overland flow during spring melt (like all gullies do)

DWT = Dispersed Wildlife Trees

Lakes Riparian Management Practices

Lakeshore Class / Lake Class	Size (ha)	RMA (m)	RRZ (m)	RMZ (m)	RETENTION (%)	Management Hierarchy & Prescriptions
A (If Lake Trout – entire lakeshore)	>5 ≤ 500	250	200	50	25 ----- or 50	1) Addressed within Landscape Level Reserve, and if not; 2) 200m RRZ. 25% Retention within 50m RMZ or 50% within 25m RMZ, focus on: a) Removal of dominant & co-dominant stems; b) Retaining Deciduous; Dispersed Wildlife Trees (DWT's), stubs, L2-L4 and brush; or 3) Defer to ESI Project Team for feature-specific direction
A modified (Lake Trout Spawning Areas) (Mack TSA L1-A)	>500 ≤ 1000 (Refer to Inventory) >1000	250	100	150	25 or ----- 50	1) Addressed within Landscape Level Reserve, and if not; 2) 100m RRZ. 25% retention within 50m RMZ or 50% within 25m RMZ, focus on: a) Removal of dominant & co-dominant stems; b) Retaining deciduous; DWT's, stubs, L2-L4 and brush; or 3) Defer to ESI Project Team for Feature-specific Direction Note: Exception is Williston Lake – treat as <i>FPPR L1-A</i> (after Steps 1 above)
B (If no Spawning LT Areas) Mack TSA L1-B	>500 (Refer to Inventory) 5-1000	100	50	50	25 or ----- 50	1) Addressed within Landscape Level Reserve, and if not; 2) 50m RRZ. 25% retention within 50m RMZ, or 50% retention within 25m RMZ, focus on: a) Removal of Dominant & Co-dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4, Brush; or 3) Defer to ESI Project Team for Feature-specific Direction.
L1-C (PG TSA Only)	>5 ≤ 500 (Refer to Inventory)	100	50	50	25 or ----- 50	1) Addressed within Landscape Level Reserve, and if not; 2) 50m RRZ. 50m. 25% retention within 50m RMZ; or 50% retention within 25m RMZ, focus on: A) Removal of dominant & co-dominant stems; B) Retaining deciduous; DWT's, stubs, L2-L4 and brush; or 3) Defer to ESI Project Team for Feature-specific Direction.
L3 All TSA's	≥1 ≤ 5	30	15	15	25	15m RRZ & 15m RMZ. 25% retention within 15m RMZ, focus on: 1) Removal of dominant & co-dominant stems; 2) Retaining 25% of the merchantable stems; deciduous; DWT's, stubs, L2-L4 stems and brush.

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Wetland Riparian Management Practices

Wetland Class	Size (ha)	RMA (m)	RRZ (m)	RMZ (m)	RETENTION (%)	Management Hierarchy & Prescriptions
W1 & W5	>5	50	30	20	25	1) Addressed within Landscape Level Reserve, and if not; 2) 30m RRZ. 25% retention within 20m RMZ; focus on: a) Removal of Dominant & Co-Dominant Stems; b) Retaining Deciduous; DWT's, stubs, L2-L4 and brush; or 3) Defer to ESI Project Team for Feature-specific Direction.
W3	< 5 – 1.0	30	15	15	25	15m RRZ. 25% retention within 15m RMZ; focus on: a) Removal of dominant & co-dominant stems; b) Retaining Deciduous; DWT's, stubs, L2-L4 and brush.
NCW & NCL	<1	10	0	10	25	25% retention within 10m RMZ; focus on: a) Removal of dominant & co-dominant stems; b) Retaining 25% of the merchantable stems deciduous; DWT's, stubs, L2-L4 and brush

Riparian Management Practices Notes:

- Fort St. James (FSJ) Lakeshore Classification (August 2000) based on protecting lake values, lake trout/char spawning habitat, and other high value biological features. Note that some lakes may have more than one lakeshore classification for the shoreline and the user should refer to the data generated by the Government of BC for Lakeshore Classification is available for download. Present (January 2019) data location is <https://icw.for.gov.bc.ca/ftp/DJA/external/!publish/lakeclass/Lakeclass%20ShapeFiles/>. Verify with Stuart Nechako District that data is current.
- L1-C: Currently FSJ only; default if no other Lakeshore Class in inventory. No D or E class Lakeshores identified in the lakes dataset. Do not manage any Lakeshores as D or E Class.
- Partial cutting is required to protect riparian reserve zones and to create complex habitat - Layer: L4 <1.3m; L2 1.3m – 7.5cm dbh; L3 7.5 - 12.5cm dbh complex habitat. (essentially non-merch)
- RMA's (i.e. RMA) remain consistent with FRPA / FSP RMA's, often following the more conservative width when FRPA and FSP's values differ.
- Retention percent is by number of merch or merch-sized stems.
- Mackenzie TSA: L1 Class A (>5 < 500ha with Lake Trout / Char): Needs an inventory for Mackenzie. Can rely on Traditional/Local knowledge. 200m RRZ + 50m RMZ (25%). Regionally Significant Lake Trout/Char Populations due to small size and remote locations of lakes. Locally important bull trout and / or Arctic Grayling populations may trigger this classification as well. The concerns are around protecting lakes from access, overfishing, and the protection of sensitive spawning habitat, while maintaining a unique, remote wilderness setting. *Exception is Williston Lake – treat as FPPR L1-A (after Steps 1 & 2 in the Management Hierarchy & Prescriptions)
- RRZ's & RMZ's shown are minimums. Licensees are not encouraged to default to minimums, and where RRZ's are wider than the minimums, CSFN recommends applying full-width RMZ's to these RRZ's (to a point where the RRZ reaches the full RMA width, but not wider), to the extent practicable, for the purpose of providing maximum protection of the RRZ.
- RMA's should consider windthrow, however windthrow risk does not determine the retention level regardless of FSP requirements noting that defaulting windthrow hazard is a common practice. The riparian tables show the minimum acceptable retention which should meet current licensee and BCTS FSP requirements.
- Variances for retention may be required for small streams (i.e. S6 & S4) in cases of aerial or cable yarding, skid crossings or other stream crossings, removing trees for

Management Practices: Riparian²

safety concerns; Discuss with CSFN Traditional Territory.

- The process for determining presence of Lake Trout/Char is in development by the MOU Management Practices Task Group. This document will be updated to reflect the process agreed to following the completion of the Task Group's work.