

**BC Timber Sales
Cariboo - Chilcotin Business Area**



***CARIBOO CHILCOTIN BUSINESS AREA FOREST
STEWARDSHIP PLAN – SUPPORT DOCUMENT***

*(QUESNEL AND WILLIAMS LAKE TSA AND CASCADIA TSA WITHIN THE
QUESNEL NATURAL RESOURCE DISTRICT)*

Effective Date: June 15, 2018

1 Introduction

This document is provided as supporting information for the 2018-2022 BC Timber Sales Cariboo-Chilcotin Business Area Forest Stewardship Plan. It is not part of the legal Forest Stewardship Plan (FSP). It is primarily meant to assist the Delegated Decision Makers during their review process and, secondarily, to inform the public and stakeholders.

1.2. Support Document Format

Part 1. Response to Delegated Decision (DDM) Expectation Letters.

Prior to submission of the FSP the Delegated Decision provided a series of letters outlining expectations for replacement FSP(s). Part 1 provides brief responses how the FSP has addressed those expectations.

Part 2. Discussion on each strategy

To provide for efficient cross-referencing between this Support Document and the FSP, the Table of Contents and the numbering of each section are the same. Where the author considered the meaning of a section of the FSP to be implicit, not requiring rationale, clarification or background information, the section number and heading has been retained but the section is labelled 'self-explanatory'.

PART 1

Response to the District Manager's Expectation Documents

In April of 2016 the DDMs produced a document that laid out their general expectations to guide the development of replacement FSPs. There were seven subsequent "update" documents giving direction to plan preparers. These are as follows:

- A. *Replacing FSP and sustaining dialogue about forest resource stewardship in the Cariboo Region*, (April 2016)
- B. Update #1 -*Dry Belt Fir Management Guidelines* (November 216)
- C. Update #2 -*Landscape Level Biodiversity Guidelines* (February 2017)
- D. Update #3 *Stand Level Biodiversity -Riparian Management and Wildlife Tree Retention*. (April 2016)
- E. *Transitions to Green Timber Profiles* (March 2017)
- F. Update #4 *Wildlife* (June 2017)
- G. *Post Fire Salvage Expectations for Land Use Designations in Cariboo Region* (Feb 2018)
- H. Update #5 *Recommendation for Moose and Fisher- Nenquay Dene Accord* (March 2018)

The following sections explain how BCTS is addressing the key points of the DDM documents.

A) DDM document -*Replacing FSP and sustaining dialogue about forest resource stewardship in the Cariboo Region, April 2016.*

Note: The following numbers matches sections of district manager's expectation letter.

Letter Sections: 1.0 Introduction 2.0 Replacement of Forest Stewardship Plans, 2.1 Extension of Forest Stewardship plans.

Response: BCTS agrees it is time to replace and update the existing FSP.

Letter sections: 2.2 Expectations respecting “results” and strategies”, 2.2.2 Evidentiary considerations respecting “results” and strategies”

Response: The purpose this FSP support document is to assist delegated decision makers by explaining how the proposed “results” and strategies” are either measurable or verifiable

Letter section 2.3 Objectives requiring plan content. 2.3.2 Evidentiary considerations respecting “results” and strategies”

Response:

- FSP preparation used information listed in section 2.3 including: 1) Land Use Orders applicable to Cariboo-Chilcotin (CCLUP), 2) Land Use Orders (LUO) established under the Government Action Regulations (GAR) that establishes objectives set by government (OBSG), 3) CCLUP 90-day Implementation Process Report and, 4) Forest Planning and Practices Regulations.
- The purpose of this FSP support document is to assist delegated decision makers by explaining how the proposed “results” and strategies” relate to the objectives set by Government.
- To address current and forecasted forest stewardship circumstances the FSP preparation has reflected on the most current information available surrounding fire salvage, cumulative effects, FREP (Forest Resource Evaluation Program), forest health, wildfire hazard assessments and climate change provided by the BC provincial government. The FSP preparation has also considered other critical forest stewardship issues including: road density, wildlife habitat, economic viability, timber supply implications and soil conservation values and a host of other topics not listed.
- The management of shared landscape units with multiple licenses for landscape level biodiversity objectives is discussed in another section.

Letter section: 2.4 First Nations, other rights holders and the public. 2.4.1 Collaboration with First Nations, 2.4.2 Consultation with holder of government granted tenures; 2.4.3 Public engagement with person or parties that do not hold constitutional or government rights

BCTS Response:

- BCTS publishes its annual Sales Schedule with spatial mapping, on its web site: www.for.gov.bc.ca/-/ftp/tcc/external!/publish/sales_schedule/
- You can also review planned harvest activities by all major licensees by going to the following web page: http://services.forsite.ca/cariboo_infoshare/
- Information sharing on the FSP with First Nations and Stakeholders will be provided separately to government at the end of the information sharing period. It will include a documentation of all consultation and a summary of actions taken.
- Operationally, several results and strategies speak to information sharing and consultation with First Nations and other stake holders including: FSP Sections 4.6 Community watersheds, 4.11 Objectives set by government for Cultural Heritage Resources. 5.0 Range 5.1 Natural Range Barriers.

- Operationally, the TSM is the statutory decision maker for TSLs and associated Road Development.
- BCTS has referral process in place so that we effectively consult with FNs and other stakeholders: See Appendix A (TCC Consultation Flowchart).

Letter section: 2.5 - Dry Belt Fir Ecosystems

BCTS Response: See response to Update #1 “*Cariboo Region – Dry Belt Fir Management Guidelines*”

Letter section 2.6 Specific Considerations respecting the transition of green timber profiles.

BCTS Response: The transition from mountain pine beetle salvage harvesting to harvesting of green timber has commenced. Various sections of the FSP speak to salvage harvest criteria, cut block size, and seral stage distribution during this time. Further details can be found in the response to Transitions to Green Timber Profiles and in Part 2.

Letter section: 2.7 Cumulative Effects Assessment

BCTS Response: Cumulative Effect Assessments implementation in the Cariboo Forest Region for following forest values: forest biodiversity, hydrological stability, moose, mule deer, grizzly bear and marten was still unfolding during the preparation of this FSP. Then catastrophic fires in 2017 occurred throughout the Cariboo making the initial cumulative effects assessment from 2015 invalid. BCTS will collaborate and work with the Region and other licensees as legal policies are implemented in the Cariboo Region that account for cumulative effects post-fire. In the meantime stewardship of these values will be based on exclusively on meeting existing legal government objectives.

Letter section: 2.8 Roads and Access Management

BCTS Response: Several sub sections of 4.10 of the FSP relate to Roads and Access Management, as well as some sections related to wildlife, classified lakes, and watershed hydrology. Section 4.10.8 Access General, explains that TSL in-block roads are routinely deactivated and access barriers installed within 2 years of harvest.

- California Big Horn Sheep (timing restrictions)
- Moose (no roads within 500m of a high value wetland)
- Mountain Goat (no primary roads within 500m of winter range)
- Classified Lakes (no secondary roads inside of lakeshore management zones)
- Salmon watersheds (no new primary roads within 500m of rivers listed unless there is no other practicable option)
- OGMAs (no roads unless no other practicable option)
- Community areas of special concerns (no roads unless there is no other practicable option)
- Recreation Sites (no road construction unless authorized by District Recreation Officer)
- Backcountry (secondary roads deactivated within 12 months, access controls for longer term primary roads)
- Buffered Trails (50m buffered trails)
- Alexander Mackenzie/Nuxalk-Carrier Grease trail (100m buffer)
- Wildcraft – (2 years for in-block road deactivated)

- Access General (specific CCLUP sub-zones (secondary roads deactivated within 12 months, access controls for longer term primary roads)

B. DDM Document - *Cariboo Region Dry Belt Management Guidelines, Nov. 2016.*

BCTS Response:

- BCTS will follow the Mule Deer Winter Range (Dry belt Fir) GAR orders which require selective harvest techniques.
- BCTS will employ group selection and single-tree selection where appropriate in the Cariboo region to maintain and perpetuate Douglas-Fir on the landscape.
- BCTS submitted a silviculture strategy to government to maintain Douglas Fir on the landscape for Mule Deer Winter Range area next to the city of Williams Lake. This was strategy was outside of the FSP process.
- BCTS contributed to a joint (licensee and government) Regional Silviculture committee revised the stocking standards for FSP replacement and considered Douglas-Fir reforestation and climate change issues.

C. DDM Document – *Expectations for Cariboo Region Replacement Forest Stewardship Plans -Update #2: Landscape level Biodiversity.*

Letter Section 2.1: Landscape unit boundaries

BCTS Response: DDM indicated Landscape boundaries are defined by LUO #5.

Letter Sections 2.2 Mature + Old Seral Representation & 2.3 Old Seral

BCTS Response: FSP section 4.7.1 Seral Stage Targets the Mature + Old targets will be met by only proposing new development where there is seral availability identified in the seral analysis from the **most current** FLNOR seral stage availability based on table 7 targets from CCLUP. If the analysis is more than three years old, then the TSM commits to undertaking a seral stage analysis using the best available information as per DDM Update #2: Appendix 1. There are exceptions relating to forest health and fire salvage specified in the FSP that would allow development in landscape / BEC units with seral deficits. In areas where BCTS shares a landscape unit one or more licensees BCTS will share information and collaborate with those operating in the same landscape unit when requested.

Letter Section 2.4: Landscape connectivity, Species Composition, Temporal Distribution of Cut-blocks, Patch Size Distribution

BCTS Response: FSP section 4.7 Objectives set by Government for Wildlife and Biodiversity – Landscape Level addresses the issues of concern from DDM update letter #2 by considering at the Landscape Unit Level/ Biodiversity Emphasis Options the following items:

1. Seral targets (stand age class distribution)
2. Temporal distribution of forested polygons
3. Patch size distribution of forested polygons
4. Landscape Connectivity
5. Area in forested interior conditions

6. Coarse Woody Debris

The BCTS has taken the following approach to meet FPPR section 9:

- Seral targets is addressed in FSP section 4.7.1 Seral stage Targets, and speaks to meeting the seral stages targets set by government. This section also speaks to the circumstances when drawing below the target can occur to harvest damaged timber (Bark Beetles and Fire Salvage). Seral stage targets for mature + old forest types are also supported by FSP sections: 4.7.3 to 4.7.5 Old Growth Management Areas (OGMAs).
- Temporal distribution of forested polygons and Patch size distribution of forested polygons is addressed in FSP section 4.7.2 Spatial Patch Size targets
- Landscape Connectivity addressed in FSP section 4.7.6 Connectivity and FSP section 4.8 Objectives Set by Government for Wildlife and Biodiversity – Stand Level speaks to Wildlife tree patches an important stewardship strategy to promote conservation.
- Area in forested interior condition will be achieved by meeting management strategies in FSP section 4.7.2 Spatial Patch Size targets using the approach outlined in Biodiversity Conservation Strategy Update #4: An approach to patch size assessment.
- For item 6 Coarse Woody Debris. This FSP is silent as FPPR section 68 legal requirement does not need to be repeated in the FSP: *68 (1) An agreement holder who carries out timber harvesting must retain at least the following logs on a cutblock: (b) if the area is in the Interior, a minimum of 4 logs per hectare, each being a minimum of 2 m in length and 7.5 cm in diameter at one end. This Section 68 that does not need to be included in the FSP.* However, BCTS's operational BMPs specify meeting the Chief Forester's Guidance on Coarse Wood Management – May 2010.

Letter sections: 3.1 Mature+Old Representation, 3.2 Old Seral, 3.3 Landscape connectivity, Species Composition, Temporal Distribution of Cut-blocks, Patch Size Distribution

BCTS Response: Please see the response to letter section 2.5. In addition, species composition including rare stand types are addressed by FSP section 4.3.3.13 Sensitive Plant communities and FSP section 4.7.7 Mature Birch Retention. The stocking standards are designed for replacement of suitable species on harvested sites.

D. DDM Document – Expectations for Cariboo Region Replacement Forest Stewardship Plans -Update #3 Stand Level Biodiversity -Riparian Management and Wildlife Tree Retention-April 2017

Letters Sections: 1.0 Back Ground & 2.0 Riparian Management

BCTS Response: The FSP is consistent with the DDM's expectation that the OSBG for riparian management are LUO Objectives 20, 21, 22 and 23, and the CCLUP objectives for riparian management zones (pg. 1 of this document, from the Riparian Guidebook pg. 3).

Letter Section 3.0: Wildlife Tree Retention

BCTS Response: This FSP includes objectives for Wildlife Tree Retention consistent with LUOs 6 & 7.

Letter Section 4.0 Riparian Management and Wildlife Tree Retention – Expectations respecting content of replacement FSPs

BCTS Response: See response to Letter Section(s): 4.1, 4.2 and 4.3.

Letter Section(s): 4.1 Riparian Reserve Zones, 4.2 Riparian Management Zones and 4.3 Wildlife Tree Retention

BCTS Response: See FSP section 4.4 Objectives Set by Government for Water, Fish, Wildlife and Biodiversity within Riparian Areas for specific strategies BCTS will implement to meet DDM concerns surrounding riparian management. For additional clarification see the following BCTS strategies Riparian Reserve Zones and Riparian Management Zones:

- Definitions for where the RRZ begins = Streams as per the FPC Riparian Guidebook, and for lakes and wetlands = un-treed hydric soils and/or hydrophitic vegetation.
- Windthrow hazard assessment = where it is greater than 10% of the RMA is occupied by known high risk areas to windthrow, which are primarily subhygric, hygric and subhydryc moisture regime spruce/cedar/subalpine fire forest types.
- Reasons for allowing activities in RRZs include: Forest health, roads crossings and incidental harvest reasons as listed in the FSP section 4.4 R/S g).
- Management of wildlife features in RMAs is addressed in FSP section 4.4 R/S e) and f) and further described in table(s): 5, 5A, 5B and 5C.
- Enhanced Riparian management zones for Lakes is addressed in Section 4.4.1 Classified lakes
- Enhanced Riparian management zones for known Moose habitat in proximity to W1, W3 and W5 wet lands is addressed in Wildlife section 4.3.21 Moose

BCTS commits to retaining wildlife trees equal to the percentages specified in Schedule 1 of the LUO 6. Deciduous retention is addressed by FSP section 4.7.7 Mature Birch. Spruce retention is common place within riparian Zones and will manage using a coarse filter approach through both stand and landscape level FSP biodiversity strategies.

E. DDM Document - *Transitions to Green Timber Profiles - March 2017*

BCTS Response: See FSP section 4.7 Objectives Set by Government for Wildlife and Biodiversity – Landscape Level. See Part 2 Section 4.7 – Biodiversity Landscape Level for further discussion on the BCTS approach DDM expectation for both patch size distribution and stand-level forest health criteria that exempts an area from Mature and Old seral stage accounting.

F. DDM Document – *Expectations for Cariboo Region Replacement Forest Stewardship Plans -Update #4 Wildlife – June 2017*

BCTS Response: To alleviate any DDM concerns FSP section 4.3 begins with a table listing the species which have their own unique result and strategy. See Part 2 of this document for the verifiable or measurable strategy for each species discussed in the FSP wildlife section.

G. DDM Document - Post Fire Salvage Expectations for Land Use Designations in Cariboo Region - Feb 2018

BCTS Response: Most of the information provided by the DDM was deemed “operational” level information and guidance not strategic level legal direction that should be incorporated into the FSP. However, specific direction related to fire salvage provisions when managing for landscape level biodiversity and scenic areas FRPA values has been incorporated into the FSP and has been fully described in Part 2 of this document see Section 4.9 Objective set by Government for Visual Quality.

H. DDM Document - Update #5 Recommendation for Moose and Fisher- Nenquay Dene Accord - March 2018

BCTS Response: See FSP Sections 4.3.2.1 Moose and 4.3.3.11 Fisher and Wolverine for BCTS specific management strategies to manage for these species of Nenquay Dene concern. More specifically, FSP Section(s) 4.3.2.1 Moose includes strategies on moose habitat including using WTP as screening cover for moose. Also, FSP Section 4.3.3.11 Fisher and Wolverine makes reference to using best management practices found at bcfisherhabitat.ca to conserve this important furbearer. BCTS is committed to participate in initiatives led by government once the cumulative effects assessments have been updated post-fire and any other moose or fisher recovery plans.

PART 2

Preamble:

Responsibility of BCTS vs. (Timber Sale License) TSL or Road Permit Licence Holder

BCTS Staff Do Not Direct TSL Holder Activities:

TSL holders operate in a results-based regime under the Forest and Range Practices Act (FRPA) and are able to plan and conduct their activities without supervision from BCTS once they have purchased a TSL. BCTS determines objectives and creates a plan for a TSL through various planning requirements under the FRPA framework (e.g. Forest Stewardship Plans, Site Plans and Road Site Plans) and related FRPA regulations. BCTS ensures that the objectives and obligations are met by establishing results-based clauses within the TSL document clearly specifying all “plans” need to be consistent with the FSP. However, BCTS staff will not direct the TSL holder in how these FSP objectives requirements are achieved.

To summarize for FSP implementation of strategies to protect FRPA value(s) the following process occurs:

- 1) BCTS plans management areas on the landscapes that are consistent with the approved FSP.
- 2) The TSL holder is independent tenure holder. BCTS provides information to the TSL holder which should he decide to followed would him to be successful in terms of the results and strategies in the FSP.
- 3) BCTS does conduct field monitoring of harvest, and reports infractions to Compliance and Enforcement of FSP management strategies including infractions to Land Use Orders and GAR orders.
- 4) BCTS does enter contracts for silviculture activities and road building. BCTS in these cases would be responsible for conformance/compliance to the FSP.

Part 2 Additional Info on Document Format

To provide for efficient cross-referencing between this Support Document and the FSP, the Table of Contents and the numbering of each section are the same. Where the author considered the meaning of a section of the FSP to be implicit, not requiring rationale, clarification or background information, the section number and heading has been retained but the section is labelled ‘self-explanatory’.

For the main part the FSP for each objective – result and strategy there is the following:

- Discussion/Common Practice section
 - o To explain the strategy and best management practices BCTS use to protect FRPA values, by expanding on information included in the legal FSP document.
- Measureable and verifiable section.
 - o To demonstrate to decision makers all strategies in the FSP are either measurable or verifiable.
 - o To provide evidence that BCTS provides quality landscape and stand level operational planning direction that will ensure TSL tenure holders can meet expectations to protect key FRPA values.

1.0 Interpretation and Administration

1.1 Definitions Under Acts and Regulations

(self-explanatory)

1.1.2 Definitions Specific to This FSP

(self-explanatory)

1.2 Linkages between the CCLUP, LUOs, and GARs to the FSP

This section explains the connections between higher level plans (HLP) and objectives set by government (OBSG) including legal objectives in regulation and legal objectives enabled by regulation.

1.3 References

Forest Act: http://www.bclaws.ca/civix/document/id/lc/statreg/96157_00

FRPA: http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01

FPPR: http://www.bclaws.ca/civix/document/id/loo83/loo83/12_14_2004

FRR: http://www.bclaws.ca/Recon/document/ID/freeside/16_2004

CCLUP 90 day report & LUOs: <https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/land-use-plans-objectives/cariboochilcotin-rlup>

2.0 Application of the FSP

2.1 Term of the FSP

The term of this FSP is five years, commencing from the date of approval by the Delegated Decision Maker (DDM) for the Minister of Forests, Lands and Natural Resource Operations or another date as specified by the DDM.

2.2 FSP Holder - Timber Sales Manager

The holder of this FSP is the Timber Sales Manager (TSM) for the BC Timber Sales (BCTS) Cariboo-Chilcotin Business Area.

2.3 Purpose of the FSP

(Self-explanatory) please note specific plans for road and harvest block development are included in the BC Timber Sales Annual Sales Schedule which are available to the public at the following location: www.for.gov.bc.ca - /ftp/tcc/external/!publish/sales_schedule/ .

2.4 Other planning initiatives

The main purpose and focus of this FSP is to demonstrate how BCTS will be consistent with legal objectives set by government (OBSG). However, outside of the legal realm of the FSP, BCTS participates in a wide range of activities, planning, processes and initiatives that are directly related to the management of forest and range values. Many of these initiatives derive from, or influence, the commitments made in the results, strategies and measures specified in the FSP.

2.5 Application of the FSP

This FSP applies to the following tenure agreements: Timber Sale License (TSL), Road Permit (RP) and Forest Licence to Cut (FLTC) and with any contracts entered into with the TSM including road maintenance, road construction and silviculture contracts.

2.6 Collaboration within Shared Management Units

Although it is not a legal content requirement for FSPs to collaborate with other tenure holder it does lead to better forest stewardship. BCTS will within shared landscape units, fisheries sensitive watersheds, community watersheds and ungulate winter ranges, where timber harvesting is planned the TSM will provide planning information, offer to exchange information, collaborate and coordinate with each licence or agreement holder to ensure FRPA values are met. In some cases this collaboration will lead to documentation and final products created. In other cases BCTS as a part of government may not be able to participate if the potential outcome will create a conflict of interest with government policy or direction.

2.7 Timber Sale Licences and Road Permits in Effect

(Self-explanatory)

3.0 Forest Development Units in Effect on the Date of Submission

(Self-explanatory) Effective with this 2018-2022 FSP the previously separate Williams Lake FSP and Quesnel FSP have been combined into one single FSP.

4.0 Objective, Results and Strategies

4.1 Objective Set by Government for Soils

Legal Reference: FPPR Sec. 5, Sec. 12.1 (5), Sec. 35 and Sec. 36

Objective: TSM is exempt by Section 12.1 from specifying a results or strategy for soils, provide the TSM commits to 12.1(5) to inform TSL and Road Permit holders that section 35 (block - soil disturbance limits) and section 36 (Permanent Access Structure limits) applies to the holder.

Discussion/Common Practice:

Where TSM carries out or authorizes primary forest activities, the TSM will have Site Plans that include the acceptable Section 35 (soil disturbance limits) for the block and Section 36 (specifying permanent access structure limits for the block). This information is then reviewed with the Tenure holder during the pre-work along with road deactivation requirements

The Maximum Allowable Percent in Permanent Access Structures in block is 7% under the FPPR. During the planning BCTS normally calculates the actual required Permanent Access Structures +1 % for additional development which usually is a percentage typically less than 5%. Maximum Allowable Percent in Permanent Access Structures percentage is recorded in the Site Plan and Harvest Plan. Then as per Section 82 and 83 of FPPR, road deactivation and road access barriers are installed for in-block roads.

The TSL package and support documentation will indicate slopes over 35% and other topography features (i.e. slope >35%, gullies, benches, boulders, bed rock, soil moisture, etc.). Should signs of unstable slopes be found during either during planning or development recce phase a Terrain Stability assessment will be completed by a Qualified Resource Professional (QRP).

Reference(s): Soil Conservation Guidebook (May 2001)

<https://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/soil/soil-toc.htm>

Soil Conservation Surveys Guidebook (May 2001)

<https://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/soilsurv/soil-toc.htm>

Guidelines for Management of Terrain Stability in the Forest Sector (September 2008)

<https://www.egbc.ca/getmedia/b3f36705-fd6f-46ac-b45c-2fdd5d363b9f/APEGBC-Guidelines-for-Management-of-Terrain-Stability-in-the-Forest-Sector.pdf.aspx>

Measureable and Verifiable

Who: The TSM will inform the TSL holder

What: Limits for soil disturbance, percent permanent access structures and areas where slopes are > 35%.

Where: In the TSL / Timber Sale Licence clauses and site and road site plans documents.

When: Upon entering into a licence or permit, each holder of a Timber Sale License or Road Permit is notified that they are entering into a results based regime of which Sections 35 and 36 of the FPPR applies. Owner Obligations are subsequently discussed by BCTS with the TSL holder at the TSL & Permit Operations Pre-work Discussion and Report stage.

How: Measureable the way of determining if the proposed result has been achieved is either a YES or NO if the TSM has notified each holder of a Timber Sale License entered into or a road permit granted, during the term of the plan that Sections 35 and 36 of the FPPR, apply to the holder. BCTS will report any infractions to C&E for investigation. Verifiable, the soil disturbance and permanent access structures is recorded on site plans, and pre-works with the TSL/Road Permit holder has been documented on the "Pre-Work Report". TSL holders can change the plan but are required to have a new revised plan that meets FSP standards.

4.2 Timber

Legal Reference(s): CCLUP 90 Day Report, FPPR Sec. 6 and Sec. 12 (6) to 12 (8) and Ministerial Order Land Use Objectives for the CCLUP (dated April 18, 2011).

Objective 1: TSM is exempt by Section 12 (8) from specifying a results or strategy for timber.

Discussion/Common Practice: The FPPR Section 6 identifies 3 objectives set by government for timber. These are related to the continuity of a supply of commercial timber in the province,

competitively delivered wood costs in comparison to other jurisdictions and ensuring that legislation (the FPPR and the Forest Act) does not unduly constrain agreement holders' rights. It is the TSM's view that these are broad, high level, public policy-related objectives which are outside the scope of results and strategies proposed by a single FSP holder. For this reason, the TSM has elected the exemption permitted in the regulation (FPPR Section 12(8)). However, BCTS is striving to meet the non-legal "*Provincial Timber Management Goals, Objectives, Targets*" (July 10, 2017) through development of a provincial initiative.

Measureable or Verifiable: N/A

Objective 2: CCLUP Appendix 3 sub-unit for an overall percentage of timber activities, broken down into Conventional, Modified and No Harvest for the timber land base

In the context of the Cariboo Chilcotin Land Use Plan (CCLUP) targets for other resource sectors and for timber targets that distinguish between three levels of timber availability: No harvest, Conventional harvest and Modified harvest. The BCTS result and strategy is to follow the Land Use Orders for the subject areas listed in the strategy. The Land Use Orders were enabled through the *Land Use Objectives Regulation* (LUOR) and is consistent with Section 93.4 of the *Land Act*. The Land Use Orders provide more specific direction above the legal components of the CCLUP; as such, meeting the Legal Order will satisfy compliance with the CCLUP. Adherence to the Land Use Order will ensure that Objective # 2 above is met.

Measureable and Verifiable

Who: The TSM as described in other sections of the FSP

What: By following the strategies in other sections of the FSP

Where: On the forest land base as described by the Development Zones in the CCLUP.

When/How: This objective is measurable by GIS analysis of the percentages as specified in the CCLUP for the sub-units through compliance with Land Use Order targets.

4.3 Objectives set by Government for Wildlife

Discussion: This introductory section explains the BCTS Cariboo Chilcotin "umbrella approach" to managing wildlife under the FSP.

4.3.1 Wildlife (General)

Legal Reference: FRPA Section 7 and CCLUP 90 Day Report, Appendix 3

This section describes the BCTS coarse-filter general wildlife management approach outside of Wildlife Habitat Area (WHA) that relies on adhering to conservation strategies found in other FSP sections including: 4.4, 4.5, 4.6, 4.7, 4.8 and 4.9. Also it describes BCTS Cariboo-Chilcotin program to identify species of management concern and how we develop plans that will protect important habitat.

Discussion/common practice: BCTS general wildlife management approach begins with a GIS review of known wildlife layers including the Conservation Data Centre info, recording field sighting observations. If a species or wildlife features is found during layout phase then protection measures including: seasonal timing windows, habitat/habitat features protection and road access management strategies will be taken. A qualified resource professional (QRP) uses the following source data and personal knowledge when developing species specific protection measures:

- 1) Relevant wildlife GAR and LUO habitat protection direction for the species in similar landscapes as documented in FSP Section(s): 4.3.2 and 4.3.3.
- 2) Accounts and Measures for Managing Identified Wildlife Southern Interior Forest Region – V.2004
- 3) BCTS Cariboo own species at risk manuals as found on our certification website including:
 - TCC-Field Guide to Wildlife Habitat Management
<https://www.for.gov.bc.ca/ftp/TCC/external!/publish/EMS2/SFM/TCC-Field-Guide.pdf>
 - TCC-Species Identification Guide
<https://www.for.gov.bc.ca/ftp/TCC/external!/publish/EMS2/SFM/TCC-Species-Identification-Guide.pdf>
 - TCC-Species of Management Concern Office Manual
<https://www.for.gov.bc.ca/ftp/TCC/external!/publish/EMS2/SFM/TCC-SpeciesMC-Manual.pdf>
- 4) Current BMPs from other sources that apply (ex. <https://www.bcfisherhabitat.ca/>)

Results/Strategy 1-4 apply occur during the planning and layout phases for wildlife protection and management.

Result/Strategy 1: (Self-explanatory) The protection of habitat and accommodating for wildlife begins with adhering to strategies in found in other sections of FSP such as riparian reserves, biodiversity, critical fish habitat, etc.

Result/Strategy 2: (Self-explanatory) Accessing various GIS spatial layers for information related to know wildlife occurrences and habitat.

Result/Strategy 3: BCTS uses a Field Observation Forms- BCTS CCBA SPECIES AT RISK FIELD OBSERVATION FORM, to recorded wildlife observed, wildlife unique features such as nests, dens, mineral licks, the location and time. This form is also used when a species is found outside of WHA. This information is then submitted to Conservation Data Centre through the Wildlife Incidental Observations Form (WIOF) internet portal.

Result/Strategy 4: If species or wildlife features is found during layout phase, then action will be taken (seasonal timing or habitat/habitat feature protection). The direction on action to be taken can be found in FSP Result/Strategy for that species.

Result/Strategy 4a (a-c): Describes process within the South Chilcotin Plan Area for conservation of critical Moose thermal and security cover. More details and additional strategy for Moose are also provided in the next FSP section 4.3.2.1 Moose.

Definitions for measurements and the common practice for Result/Strategy 4a as described in the South Chilcotin Plan are as follows:

- a. *Modelled moose polygons are field verified to see if they meet the following thermal and security cover attributes:*
 1. *Thermal cover: patches of >60% live conifers (preferably Douglas-fir, spruce, or balsam >60 years old (or 15m tall) with canopy closure of >40% in patches >60 m wide. (South Chilcotin Moose Habitat Plan.*
 2. *Security cover: Security cover has been defined as coniferous cover ≥ 3 m tall that is sufficient to conceal 90% of a standing moose from view at 100 m, or*
- b. *If the security and/or thermal cover are absent no special management provisions will occur and the TSM will default to the general riparian management strategy.*

- c. *If security and/or thermal cover are present the TSM will take typically take one the following actions:*
- i. *The verified modeled moose habitat excluded from the block.*
 - ii. *If harvesting is found adjacent to a modelled moose habitat the verified habitat*
 - iii. *Other general approaches when in or adjacent to the MMWH in the South Chilcotin Plan Area include*
- *Focus WTP placement adjacent to MMWH and/or to be used for screening from roads*
 - *Use WTP placement to screening riparian areas of Moose Habitat or to supplement the RMA.*
 - *Preserve existing regeneration for visual screening.*
 - *In-block roads deactivated and access barriers will be established.*

The Modelled moose polygon is a GIS layer based only VRI data based on field checks is not known to be precise and at times may include questionable line work. The final modelled moose polygon is often revised following field checks.

Note: Conservation of wildlife species post TSL award

After a TSL is awarded BCTS will review all items related to know wildlife and/or wildlife habitat including seasonal restrictions and/or habitat protection with the TSL/Road Permit holder who is responsible to implement as the tenure holder.

The TSL holder as part of BCTS EMS system is also obligated to stop and report if a previously unknown habitat feature is discovered during operations, or is observed (for example bear den, stock nest etc).

Reference(s)/Links:

Procedures for Managing Identified Wildlife – V. 2004.

<http://www.env.gov.bc.ca/wld/frpa/iwms/procedures.html>

Accounts and Measures for Managing Identified Wildlife Southern Interior Forest Region – V.2004

http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Accounts_and_Measures_South.pdf

BCTS CCBA SPECIES AT RISK FIELD OBSERVATION FORM

<https://www.for.gov.bc.ca/ftp/TCC/external!/publish/EMS2/SFM/TCC-Field-Observation-Form.pdf>

Conservation Data Centre Wildlife Incidental Observation Form

<https://a100.gov.bc.ca/pub/wiof/locationForm.do>

Measurable or Verifiable: The strategy 1-4 relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections.

Who: The TSM

What:

- Will ensure that the results and strategies of other sections of the FSP plan listed in the Wildlife (General) R/S are followed.
- Complete a Species of Management Concern Field Observation Form and submit to Conservation Data Centre.

Where: Timber Sales License and Site/Road Plan

When: Prior to auction BCTS is responsible and post auction TSL holder is responsible

How: Field Observation Forms, Site plan and other documentation with the TSL auction package that are kept on file. Pre-works are held with TSL holders that review the wildlife concerns, the pre-works are document and kept on file. For Section 4 a) Model Moose, is measurable by reviewing the site plan and

assessments done for thermal and security cover.

4.3.2 Wildlife Regionally Important – Non-Species at Risk

4.3.2.1 Moose

Legal Reference: CCLUP 90 Day Report, Appendix 3 zonal and sub-unit resource targets, Appendix 4 Wildlife Strategies, and the LUO Objective 32 for High Value Wetlands

This section relates to Cariboo Chilcotin High Value Wetlands for Moose LUO 32.

Objective #1: The objective for this section points to protection by adhering to strategies in other sections of the FSP such as riparian reserves for wetlands and the biodiversity section. Also describes that minor amount of harvesting for proposes allow under FRPR Section 51 (i.e. falling safety tree, sanitation, wind throw and road crossings locations).

Objective #2:

Result/Strategy a: The objective for this section is to ensure sufficient vegetation is retained for security and thermal cover for wintering moose adjacent to areas identified and mapped as “*Cariboo Chilcotin High Value Wetlands for Moose*”. BCTS commits to reserving from harvesting the entire Riparian Management Zone (RMZ) and to augment the riparian management zone with additional screening using Wildlife Tree Patches (WTP).

Result/Strategy b: This section describes when within 500 m of High Value Wetlands for Moose zone, use suitable existing roads rather than construct new roads and apply access management barriers and road deactivation to limit hunter access.

The result and strategies for objective 2 are referenced from the Quesnel and Williams Lake Sub-Regional Management Plans (SRMPs). Strategy A was taken from the best management practices from: Preliminary List of High Value Wetlands for Moose within the Cariboo Forest Region, Intrepid Biological Contracting, December, 2003. The strategy b distance of 500m is from the Quesnel SRMP.

Discussion/Common Practice: For Strategy A In some cases WTP locations may not be directly adjacent to riparian feature, this will occur where there are other habitat features to protect (i.e. nest site, den, buffered trail) or where WTP placement provides a screening of wildlife opportunity from a road

For Strategy B the common practise is to avoid building new roads within this 500m zone, and when necessary have any new roads/upgraded roads within this zone deactivated.

Measurable or Verifiable:

Who: The TSM

What:

- Maintain vegetation and trees in the management zone adjacent to key wetlands (with exceptions specified) and focus required WTPs along key wetlands.
- Limit the number of roads within 500 metres of high value wetlands and design roads to limit site lines.
- Deactivation of roads when no longer needed within 500 metres of high value wetlands

Where: Proposed timber harvesting block is adjacent to a high value moose wetlands and where a road will be used within 500 metres of high value moose wetlands.

When: When the TSM conducts or authorizes timber harvesting adjacent to areas identified as high value wetlands.

How: Did BCTS do the following: 1) Leave the entire RMZ adjacent to high value wetlands, 2) Limit the number of roads within 500 metres of high value wetlands and design roads to limit site line and 3) Deactivate roads when no longer needed within 500 metres of high value wetlands.

4.3.2.2 Mule Deer

Legal Reference: CCLUP 90 Day Report, Appendix 3 and Appendix 4

Discussion/Common Practice: The document; *Expectations for Cariboo Region Replacement Forest Stewardship Plans -Update # 4 Wildlife* states: “Mule deer are not a designated Species at Risk and there are no remaining OSBG under the CCLUP for Mule deer outside of the established UWR”. For this reason, the TSM has simply adopted the WHAs and associated general wildlife measures U-501 and U-5-002 for mule deer.

Measurable or Verifiable

Who: The TSM

What: The TSM has adopted the GWMs for the mule deer WHAs.

Where: MDWR WHAs

When: During the layout phase and a site plan will be prepared that complies with the GAR order. Following award of TSL, BCTS will review the site plan and TSL conditions with the TSL holder who is responsible for implementation as the tenure holder.

How: Sufficient habitat compliance detail is provided in the GAR order and will be documented in the BCTS Site plan, harvest plan and cruise information which are both kept on file.

4.3.2.3 Furbearers

Legal Reference: CCLUP 90 Day Report, Appendix 3

Discussion/Common Practice: The objective for this section points to protection by adhering to strategies in other FSP sections such as riparian reserves and biodiversity and by 4.3.1 Wildlife General. The TSM will ensure that the results and strategies of other sections of the FSP are followed in order to maintain the furbearer habitat using a coarse filter approach across the landscape. BCTS’s current internal approach is to notify registered trap line holders when TSL has been awarded.

Measurable or Verifiable:

Who: The TSM

What: Will ensure that the results and strategies of other sections of the plan listed in the furbearers’ R/S is followed in order to maintain the ‘general’ furbearers’ habitat.

Where: Across the landscape in area under active management of BCTS.

When: When primary forest activities are planned by the BCTS.

How: Pre-award: Field Observation Forms, information with Site plans and other documentation (ex. Harvest Plans) with the TSL auction package that are kept on file. Post award: Pre-works are held with TSL holders that review the wildlife concerns, the pre-works are document and kept on file.

4.3.3. Wildlife – Species at Risk Identified by DDM

4.3.3.1. American Badger and Great Basin Spadefoot Toad

Legal Reference: CCLUP 90 Day Report, Appendix 3

Discussion/Common Practice: Badger and Spadefoot Toad are identified species within the Species at Risk category that was established by GAR in May 2004 and are included in the “Background Information” notices issued in 2005. There are currently no WHAs established related to either of these two species in the area of the plan

Result/Strategy a & b:

The strategy relies on adhering to strategies in other FSP sections such as riparian reserves and biodiversity and by 4.3.1 Wildlife General. When a Badger and Spadefoot Toad is observed during layout and cruising, a field observation form will be completed, a wildlife assessment completed by QRP will be kept on file and a site plan developed using the assessment information.

Measurable or Verifiable:

Who: The TSM

What:

- Will ensure that the results and strategies of other sections of the plan are followed in order to maintain badger and spadefoot toad habitat.
- If the species is identified in a proposed harvest area, will complete a field observation form and complete an assessment
- Developed a site plan using information from the site plan.

Where: Within proposed harvest areas.

When: When primary forest activities are conducted or authorized by the TSM.

How: Strategy A relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections. Strategy b relies on a field observation form, assessment, and site plan have been completed and are on file.

4.3.3.2. American White Pelican

Legal Reference: CCLUP 90 Day Report, Appendix 3 and Appendix 4

Discussion/Common Practice: White Pelican is an identified species within the Species at Risk category. Within this FSP area, there are 19 WHAs in 7 sub-units related to maintaining key American White Pelican habitat. The TSM will apply conservation results and strategies of other sections of the FSP in order to limit disturbance to White Pelicans outside WHA’s and has committed follow the GARs when inside a WHAs

It known that that the that existing WHAs may not capture all key White Pelican nesting and feeding habitats or reflect changes in preferences of key habitats used by White Pelicans. The BCTS common practice recognizes that lakes with nesting White Pelicans in the general area of WHA need recognition as Pelican nesting habitats. One example is where BCTS in 2012 applied harvesting seasonal and habitat

avoidance similar to the GAR order for an unnamed lake with nesting White Pelicans in the Owen Lake area, located just outside the northern border of the WHA.

Objective 1 Both strategies a & b rely on adhering to strategies in other FSP sections such as riparian reserves and biodiversity and by 4.3.1 Wildlife General. When American White Pelican is observed during layout and cruising, a field observation form will be completed, assessment by QRP will be kept on file and the site plan developed using the assessment.

Objectives 2: TSM adopted the GAR for the WHA listed

Measurable or Verifiable Objective 1:

Who: The TSM

What:

- Will ensure that the results and strategies of other sections of the plan are followed in order to maintain American White Pelican habitat.
- If the species is identified in a proposed harvest area, will complete a field observation form and complete an assessment, and develop a Site Plan using the assessment.
- Adhere to WHA and GAR orders established.

Where: Within proposed harvest areas.

When: When primary forest activities are conducted or authorized by the TSM.

How:

Objective 1 a) relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections.

Objective 1 b) a field observation form, assessment, and site plan have been completed and are on file.

Objective 2. The White Pelican GAR is sufficiently detailed to be measured

4.3.3.3. Great Blue Heron

Legal Reference: CCLUP 90 Day Report, Appendix 3

Discussion/Common Practice: Great Blue Heron is an identified species within the Species at Risk category. There are 5 WHAs established related to maintaining key Great Blue Heron habitat. They are 'Data Sensitive' WHAs and further information regarding them is only available upon request from the WHA specialist in the Cariboo Region.

The TSM has committed follow the GAR/GWM when inside a WHA and when Great Blue Heron habitat is found within 200m of a Great Blue Heron WHA.

The TSM will ensure that the results and strategies of other sections of the plan listed in the Great Blue Heron R/S are followed in order to limit disturbance to Great Blue Heron nesting colonies sites and habitat areas. When Great Blue Heron observed during layout and cruising, a field observation form will be completed, assessment by QRP will be kept on file and the site plan developed using the assessment.

Measurable or Verifiable:

Who: The TSM

What:

- Will adopt GWMs within WHAs for Great Blue Heron
- For areas outside of WHAs
 - If the Great Blue Heron habitat is identified within 200 metres of WHA apply the GWM order.
 - Will ensure that the results and strategies of other sections of the plan are followed in order to maintain blue heron habitat.
 - If the species is identified in a proposed harvest area, will complete a field observation form and complete an assessment, and develop a Site Plan using the assessment.

Where: Within proposed harvest areas.

When: When primary forest activities are conducted or authorized by the TSM.

How:

Strategy a and b: The GAR/GWM are sufficiently detail to be measured

Strategy c: This strategy relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections.

Strategy d: A field observation form, assessment, and site plan have been completed and are on file

4.3.3.4. Bull Trout

Legal Reference: CCLUP 90 Day Report, Appendix 3

Discussion/Common Practice: The CCLUP text refers to Bull Trout as “Dolly Varden”. Bull Trout is an identified species within the Species at Risk category that was established by GAR in June 2006. There are currently no WHAs established related to maintaining Bull Trout habitat. Strategy a) applies to all FDU’s relies on adhering to strategies in other FSP sections such as riparian reserves and biodiversity as listed in the strategy.

Strategy b) Applies to the Bull trout GIS layer in FDU 2 Niut and South Chilcotin SRDZ, and means increase the amount of basal area retention in the Riparian Management Zone by 20%.

Measurable or Verifiable:

Who: The TSM

What: Will ensure that the results and strategies of other sections of the FSP listed in the Bull Trout R/S are followed in order to limit disturbance to existing and future Bull Trout habitat.

Where: Within proposed harvest areas.

When: When primary forest activities are conducted or authorized by the TSM.

How:

Strategy a and b: The GAR/GWM are sufficiently detail to be measured.

Strategy a: This strategy relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections.

Strategy b: Site plan will show riparian management zone basal area retention will be increased by 20% in areas directly adjacent to the bull trout GIS layer for the Niut and South Chilcotin SRDZ.

4.3.3.5. California Bighorn Sheep

Legal Reference: CCLUP 90 Day Report Sec 5.2.9 and Appendix 3

Discussion/Common Practice: Strategy a relies on adhering to strategies in other FSP sections such as riparian reserves and biodiversity and by 4.3.1 Wildlife General. Strategy b is self-explanatory, no

harvesting or road building in Bighorn Sheep Winter Range. Strategies c & d are self-explanatory, with seasonal restrictions behinds gates on the Gaspard-Red Mountain FSR and Gaspard-West Churn FSR.

Measureable or Verifiable:

Who: The TSM

What: Will ensure that the results and strategies of other sections of the plan listed in the California Bighorn Sheep strategy are followed.

Where:

- Strategy a: Across the landscape in Taseko Lake SRDZ, South Chilcotin SRDZ and Gaspard ERDZ.
- Strategy b: Bighorn Sheep winter range
- Strategy c: Beyond the gate at the start of the Gaspard-Red Mountain FSR near the junction with the 2800 Road
- Strategy d: Beyond the gate at the start of the Gaspard-West Churn FSR

When: When primary forest activities are conducted or authorized by the TSM.

How

Strategy a: This strategy relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections.

Strategy b: It can be verified if there was any timber harvesting or road construction within areas identified as Bighorn Sheep Winter Range.

Strategies c and d: It will be verifiable if primary forest activities are taking place in the specified areas during the restricted periods.

4.3.3.6 Mountain and Northern Caribou

Legal Reference: CCLUP 90 Day Report: Appendix(s) 3 & 4, Southern and Northern Mountain Caribou WHAs established by GAR order(s): 5-086, 5-087, 5-088, 5-117 and 5-118.

Discussion/Common Practice: Both Southern Mountain Caribou (DU 9) and Northern Mountain Caribou (DU 7) are located within the extent of the FSP plan area. DU means a Designatable Unit or unique caribou population used by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) to evaluate population status. Southern Mountain Caribou are an endangered population based on the most recent COSEWIC assessment. They live year-round in the extreme eastern portion of the FSP plan area in rugged and mountainous terrain and remain in subalpine forests throughout the year foraging on arboreal lichens. Northern Mountain Caribou are a threatened population of special concern based on the most recent COSEWIC (Committee on the Status of Endangered Wildlife in Canada) assessment. They live in the north-west portion of the FSP plan area and migrate between low elevation winter ranges and higher elevation summer ranges and forage on both ground and arboreal lichen.

Objective 1 Strategies a and b rely on adhering to strategies in other FSP sections such as riparian reserves and biodiversity and by 4.3.1 Wildlife General. When Cariboo is observed during layout and cruising, a field observation form will be completed, assessment by QRP will be kept on file and the site plan developed using the assessment.

Objectives 2: TSM will follow the GAR order for WHA associated with Cariboo

Measurable or Verifiable -Objective 1:**Who:** The TSM**What:**

- Will ensure that the results and strategies of other sections of the plan are followed in order to limit disturbance to Mountain and Northern Caribou habitat.
- When caribou are identified within a proposed harvest block a field observation form and assessment will be completed. The site plan will incorporate the information from the assessment.

Where: Within proposed harvest areas.**When:** When primary forest activities are conducted or authorized by the TSM.**How:**

Objective 1 Strategy a, b relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections. A field observation form, assessment, and site plan have been completed and are on file

Measurable or Verifiable -Objective 2:**Who:** The TSM**What:** The TSM has adopted the GWMs for Mountain and Northern Caribou.**Where:** Proposed harvest areas within Mountain and Northern Caribou WHAs.**When:** When primary forest activities are conducted or authorized by the TSM.**How:** The Caribou GARs are sufficiently detail to be measured**4.3.3.7. Grizzly Bear****Legal Reference:**

CCLUP 90 Day Report, Appendix 3

LUO 33, 34

Discussion/Common Practice: Strategy 1 relies on adhering to strategies in other FSP sections such as riparian reserves and biodiversity and by 4.3.1 Wildlife General. When a Grizzly Bear is observed during layout and cruising, a field observation form will be completed, and assessment by QRP will be kept on file and the site plan will be developed using the assessment.

Strategy 2: The TSM has adopted the GWMs: #5-037 to #5-043 for the grizzly bear WHA that currently exists in the area of the plan as follows;

- a) For protection of grizzly bear moderate, high, and very high capability foraging habitats. The TSM has committed to specific methods of harvesting to retain important habitat attributes including increasing security cover adjacent to foraging habitats identified in LUO objective 33. This includes preserving at least 80% of the basal area of mature forest adjacent to herb dominated avalanche paths and runout zones.
- b) The TSM also recognizes that critical fish habitat is important to grizzly bears so is committed to follow Section 4.5.1 Critical Fish Habitat of the FSP
- c) Brushing treatments within grizzly bear capability polygons in general are designed to preserve areas with high levels of natural berry production. The treatment types depend on the habitat capability zone and the existing level of berry % over. A ranking system of berry vegetation from low - high is a part of this strategy.
- d-h) These strategies list the acceptable brushing treatments permitted based on the grizzly bear foraging habitat capability based on the berry vegetation ranking.

Measurable or Verifiable Strategy 1:**Who:** The TSM**What:**

- Will ensure that the results and strategies of other sections of the plan are followed in order to limit disturbance to Grizzly Bear
- When Grizzly Bear are identified within a proposed harvest block a field observation form and assessment will be completed and site plan created incorporating assessment info.

Where: Within proposed harvest areas.**When:** When primary forest activities are conducted or authorized by the TSM.**How:**

Strategy 1 relies on strategies in other sections of the FSP.

Measurable or Verifiable Strategy 2:**Who:** The TSM**What:** Committed to following the GAR orders #5-037 to #5-043.**Where:**

- Strategy 1: Within the grizzly bear WHA.
- Strategy 2: Within 100 metres of herb- dominated avalanche tracks and run-out zones on southerly and westerly aspects in very high, high, and moderate grizzly bear foraging habitat capability.
- Strategy 3: In Critical Fish Habitat
- Strategy 4: In very high, high, and moderate grizzly bear foraging habitat capability.
- Strategies 5 and 6: In moderate and high grizzly bear foraging habitat capability.
- Strategies 7 and 8: In very high grizzly bear foraging habitat capability.

When:

- Strategy 1: In grizzly bear WHAs.
- Strategies 2 and 3: When primary forest activities are conducted or authorized by the TSM.
- Strategy 4: Prior to conducting brushing treatments.
- Strategies 5, 6, 7, and 8: When conducting brushing activities.

How:

For strategy 2) a, GIS can confirm if block is located in WHA.

For strategy 2) b, the pre-harvest and post-harvest volumes or cover for the 100m band on either side of herb dominated avalanche paths and runout zones can be measurable to calculate the percent basal area remaining.

For strategy 2) c, be measurable as described in Section 4.5.1 Critical Fish Habitat.

For strategy 2) d-h, a vegetative assessment for % berry producing shrub cover will be completed prior to a brushing treatment and kept on file. The vegetation assessment data collection may consist of the one or more of the following procedures: walk through, aerial photography, drone UTA flight, and may or may not include plots. Berry production does vary from greatly from year to year. Consequently, vegetative assessments taken a different times or by different methods may yield different results for % cover.

4.3.3.8 Mountain Goat**Legal Reference:** CCLUP 90 Day Report Appendix 3 (Taseko Lake -Fish and Wildlife)**Discussion/Common Practice:** The result/strategy was referenced from the Chilcotin SRMP.

Measurable or Verifiable:**Who:** The TSM**What:**

- Will not construct primary or secondary roads within 500 meters of a winter range polygon.
- Will not conduct harvesting or silviculture within 500 metres of a winter range polygon between November 1 to June 15.
- Will not conduct helicopter logging or rock blasting within 1500m of a winter range polygon.
- Will not authorize cutblocks greater than 5ha or 200 metres in one dimension.

Where: Within 500 to 1500 metres of a winter range polygon depending on the primary forest activity.**When:**

- Strategy 1: When constructing primary or secondary roads.
- Strategy 2: Within 60 days of completion of harvesting.
- Strategies 3 and 4: Between November 1 to June 15.
- Strategy 4: When authorizing cutblocks.

How:

Strategy a is only the definition for Escape Terrain.

Strategy b will be verifiable whether by identifying if primary or secondary roads were constructed within 500 meters of a winter range polygon.

Strategy c will be verifiable by identifying whether or not block roads are deactivated within 60 days of the completion of harvesting and loading of logs is completed.

Strategies d and e will be verifiable because examining whether harvesting, silviculture, helicopter logging or rock blasting was conducted between November 1 and June 15.

Strategy e will be verifiable if blocks were authorized larger than 5 ha or over 200 metres in one dimension within mountain goat winter range.

4.3.3.9 Prairie Falcon

Legal Reference: CCLUP Appendix 3

Discussion/Common Practice: Prairie Falcon is an identified species within the Species at Risk category. There are currently 4 WHAs established related to maintaining Prairie Falcon habitat. They are 'Data Sensitive' WHAs and further information regarding them is only available upon request from the WHA specialist in the Cariboo Region. The TSM has adopted the general wildlife measures associated with the WHAs as a strategy. Outside WHAs the TSM will ensure that the results and strategies of other sections of the plan followed in order to limit disturbance to Prairie Falcon habitat over the landscape in general.

Measurable or Verifiable:**Who:** The TSM**What:**

- Will adopt the GWMs for Prairie Falcon in WHA's.
- Will ensure that the results and strategies of other sections of the plan are followed in order to limit disturbance to Prairie Falcon
- If Prairie Falcon are identified within a proposed harvest area outside a WHA, will complete a field observation form and complete an assessment. The site plan will incorporate the information from the assessment.

Where: Within proposed harvest areas.

When: When primary forest primary forest activities are being conducted.

How:

Strategy a can be verified by evaluating if the general wildlife measures were followed.

Strategy b relies on strategies in other sections of the FSP.

Strategy c can be verified by checking to see if a field observation form, assessment, and site plan have been completed and are on file.

4.3.3.10 Sandhill Cranes

Legal Reference: CCLUP Appendix 3

Discussion/Common Practice: Sandhill crane is an identified species within the Species at Risk category.

There are currently no WHAs for Sandhill Crane within the area covered by this plan.

The TSM will ensure that the results and strategies of other sections of the plan listed in in order to limit disturbance to Sandhill Cranes habitat over the landscape in general.

Measureable or Verifiable:

Who: The TSM

What:

- Will ensure that the results and strategies of other sections of the plan are followed in order to limit disturbance to Sandhill Crane habitat.
- When Sandhill Crane nests are identified within a proposed harvest block a field observation form and assessment will be completed. The site plan will incorporate the information from the assessment.

Where: In proposed harvest blocks

When: When primary forest activities are conducted or authorized by the TSM.

How

Strategy a **relies** on strategies in other sections of the FSP.

Strategy b can be verified by checking to see if a field observation form, assessment, and site plan have been completed and are on file.

4.3.3.11 Furbearers – Fisher and Wolverine

Legal Reference: CCLUP Appendix 3 & Forest Practices Code (FPC) including the Riparian and Biodiversity Guidebooks

Discussion/Common Practice: This section of the FSP is about furbearer species and species at risk. Fisher and Wolverine are furbearer species and are also identified species within the Species at Risk category.

TSM will ensure that the results and strategies of other sections of the plan listed in in order to limit disturbance to furbearer species habitat over the landscape in general.

For Fisher the TSM requires the QRP to reference BMP as found on British Columbia Fisher Habitat and Forestry Web Module <https://www.bcfisherhabitat.ca/> for suitability to implement. This means the assessment completed will have to document if the Fisher web portal's BMPs were suitable and if they were

used. However, the QRP does have latitude to vary for unique site conditions, or when balancing other FRPA values.

Measurable or Verifiable:

Who: The TSM

What:

- Will ensure that the results and strategies of other sections of the plan are followed in order to limit disturbance to fisher and wolverine habitat.
- When fisher or wolverine is identified within a proposed harvest block a field observation form and assessment will be completed. The site plan will incorporate the information from the assessment.

Where: In proposed harvest blocks.

When: When primary forest activities are conducted or authorized by the TSM.

How: Strategy a relies on strategies in other sections of the FSP. Strategy b relies on checking to see if a field observation form, assessment, and site plan have been completed and are on file.

4.3.3.12 Additional Species at Risk – under GAR

Legal Reference: CCLUP 90 Day Report, Appendix 3

Discussion/Common Practice: The following are additional identified species within the Species at Risk category that was established by GAR in May 2004 and June 2006 and for which there are currently no WHAs established under GAR:

- Gopher Snake
- Flammulated Owl
- Lewis’s Woodpecker
- Spotted Bat
- Fringed Myotis

TSM will ensure that the results and strategies of other sections of the plan listed in in order to limit disturbance these additional species at risk habitat over the landscape in general.

Measurable or Verifiable:

Who: The TSM

What:

- Will ensure that the results and strategies of other sections of the plan are followed in order to limit disturbance of the habitat to Gopher Snake, Flammulated Owl, Lewis’s Woodpecker and Spotted Bat
- When Gopher Snake, Flammulated Owl, Lewis’s Woodpecker or Spotted Bat are identified within a proposed harvest block a field observation form and assessment will be completed. The site plan will incorporate the information from the assessment.
- Direction from new WHAs will be followed.

Where: In propose harvest blocks

When: When primary forest activities are conducted or authorized by the TSM.

How: Strategy a relies on strategies in other sections of the FSP.

Strategy b can verified by checking to see if a field observation form, assessment, and site plan have been completed and are on file.

4.3.3.13 Sensitive Plan Communities:

Legal Reference: CCLUP 90 Day Report

Discussion/Common Practice: TSM has committed exclude road and harvesting SBSmh site series 02.03,08 and 09 unless there no other location practicable for a road or a fence. Other common practices is for BCTS including :1) Reserving mature white bark pine from harvest in the south portions of FDU 1 ESSF and MS zones, 2) Protecting concentrations of Trappers Tea found in the MSxv though avoidance, winter harvesting with snow pack or trailing harvest felling/skidding systems.

4.4 Objectives Set by Government for Water, Fish, Wildlife and Biodiversity within Riparian Areas

Legal References: FPPR 8, CCLUP 90 day report, LUOs 16, 20-23, FPC Riparian Guidebook (as referenced in DDM Update #3).

Discussion/Common practice: The strategies that follow include both Riparian Reserve Zone (RRZ) and Riparian Management Zone (RMZ) (See Figure 1)

Riparian Reserve Zones:

- Definitions for where the Riparian Reserve Zone (RRZ) begins
- When to do Windthrow hazard assessment
- Reasons for allowing activities within RRZs

Riparian Management Zones:

- Management practices in the Riparian Management Zone (RMZ)
- Definitions for where the RMZs begin
- When a Windthrow hazard assessment is required

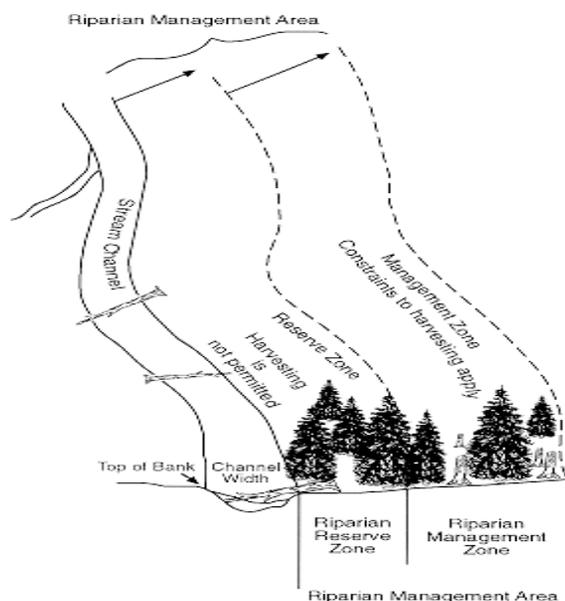


Figure 1: Diagram show spatial arrangement of RRZ and RMA along riparian features

This FSP section also include several tables speaking to tree retention requirements

- General Riparian requirements - for retention and for machine free zones
- Steams – retention requirements by size and class
- Wetlands – retention requirements by size and class
- Lakes – retention requirements by size and class

BCTS Cariboo-Chilcotin common practice for managing riparian features is as follows:

- Map the location and classify streams, wetlands and lakes within 50 m of a project area.
- Map the location of Non-classified drainages (NCDs) within the project area.
- The QPR will prescribe retention as describe in the FSP tables 5,5a,5b and 5c often exceeding the amount of retention to augment screening of wildlife features or address terrain/slope issues next to the riparian feature.
- The Riparian no harvests areas are marked with flagging in the field and document on harvest and site plan maps. It is also common to field mark machine free zones on very small streams and NCDs. No tracks or wheels of various machines are allowed within the machine free zone and temporary designated crossings are used when NCDs and non-fishing bearing streams.
- The completed Site Plan will describe the riparian features, amount and distribution of retention for each feature and management practices around the feature (ex. temporary crossing).
- Post award BCTS will also review the riparian sections of the site plan and TSL conditions with the TSL holder who is responsible for implementation as the tenure holder.

Measurable or Verifiable:

Who: The TSM

What:

Strategy a: Will adopt sections 47 to 51, 52(2), 53, and 55 to 57 of the FPPR & LUO 20

Strategy b: Will conform to CCLUP LUOs 16, 17, 20, 21, 22, and 23.

Strategy c: Will retain trees in the RMZ as specified in Tables 5, 5a, 5b, and 5c. & LUO 21

Strategy d: Describes the process of conducting riparian assessment, developing a site plan by QRP and how to measures RMA.

Strategy e: When a Windthrow assessment will be completed.

Strategy f: What key wildlife habitat features will be retained.

Strategy g: Specifies circumstances when a machine free zone is located adjacent to specified streams, wetlands and lakes.

Strategy h: Will not construct roads in RMZs except for specified reasons. When roads must be constructed for the reasons identified, conditions are specified for location and construction.

Strategy i: Specifies certain circumstances that allow harvest in RRZ as per FPPR 47-49.

Strategy j: Will establish a machine free zone on NCDs (ex. Ephemeral type)

Where: In proposed harvest blocks and road construction riparian crossings.

When: When primary forest activities are conducted or authorized by the TSM.

How: Strategy all:

- Qualified Registered Professional will complete a riparian assessment that will be incorporated into site plans and will be on file.
- When a windthrow assessment is required it will be on file.

- Field measuring widths of RRZ and RMZ using the following method; the average of all cross section taken at 90 degrees (statics \pm 1m with a 95% confident level) will achieve the requirements for width for the class identified and will measurable.
- Retention levels retained within the RMZ can be measured by comparing pre and post- harvest basal areas compared against the Tables: 5, 5a, 5b, and 5c.
- Important wildlife habitat attributes by default are retained in the no harvest RRZ zones and in the RMZ zones important wildlife habitat attributes: deciduous, nest trees, and snags; will also be present by default in various percentages as related to retention levels as described Tables 5, 5a, 5b and 5c.
- NCD marking and evidence of traffic is clearly visible.

4.4.1 Classified Lakes

Legal Reference: LUO 16, 17, 18, 19

Discussion/Common Practice: Strategies 1 and 2 commit to managing lakeshores according to FSP Appendix E Tables 1 and 2. They also specify that in order to comply with these tables an assessment will be completed by a qualified forest professional.

Strategy 3 discusses the option to vary from the limits or intent of the tables in Appendix E, based on specific factors assessed in this strategy, recognizing that lakeshore RMZ retention target require a site-level specific analysis by QRP based on wide a range of factors. For the purpose to fire management plans in lakeshore management areas retaining old growth characteristics means the following stand structure goals will be used: 1) Retaining no less than an average of 10 standing trees/per ha from the largest diameter class over the treatment area and 2) Post treatment un-treed area will not be greater 0.4ha. However, in the absence of an established regional definition for old growth BCTS recognizes it should reflect natural disturbance types and the prevailing fire regime. Therefore the default definition can be replaced by a qualified resource professional with localized knowledge.

Strategy 4 commits to specific road restrictions around lakes. For refugia and wilderness lakes discussed in FSP Appendix E Table 2 the BCTS common practice is to avoid constructing new roads in LMZ. When new secondary roads (in-block) are constructed in LMZ they are always deactivated. Also, no new primary road construction will occur with 2000m away from Wilderness Lake and Refugia Lakes unless no other practicable location exists. This will be determined by a qualified forest professional.

Strategy 5 commits to completing a GIS analysis to determine the forest disturbance and retention in the lakeshore management zone prior to layout. Lakeshore areas within the LMZ that have achieved free growing are no longer considered disturbed area.

Measureable or Verifiable:

Who: The TSM

What: See the discussion section above.

Where: In lakeshore management zones of Classified Lakes.

When: When primary forest activities are conducted or authorized by the TSM.

How:

Strategies 1 and 2 are verifiable in that they commit to specific retention levels (Appendix E, Table 1) and management intent (Appendix E, Table 2) and will be recorded in a site plan. There is also a commitment in Strategy 5 to complete a GIS analysis to determine the forest disturbance and retention in the lakeshore management zone prior to layout.

Strategy 3 is verifiable in that it outlines specific reasons for varying from the retention levels and management intents specified in the Appendix E tables. The criteria for these variances are clear and includes determinations by a qualified forest professional and is recorded in a site plan

Strategy 4 is verifiable in that there are clear restrictions for roads adjacent to refugia and wilderness fisheries lakes. There is a conditional statement allowing roads within the restricted areas “where no other practicable option exists” and this is determined through an analysis by a qualified forest professional and is recorded in a site plan.

4.4.2 Watershed Hydrology

Legal Reference: CCLUP 90-Day Report

Discussion/Common Practice: Strategy 1 as it relates to Objectives 1 and 2 are mostly addressed by reference to other objectives and strategies so they will be discussed in the sections for those objectives. Strategy 1 also commits to adhering to FPPR section 39. This statement was included because, at the time of writing this FSP, as the Horsefly Fishery Sensitive Watershed (FSW) GAR was anticipated. Strategy 2 commits the TSM for key watersheds and within key watershed sub basin with proposed development to conduct a watershed assessment by QRP when the Equivalent Clear-cut Area (ECA) is >25%. The strategy also defines the watershed indicators the assessment must cover.

The GIS spatial analysis threshold for assessing if the ECA > 25% is determined using the following calculation:

$$ECA = \frac{(\text{proposed harvest area} + \text{historic harvest} + \text{proposed harvest of other tenure holder})}{\text{Watershed area}}$$

Note: the historic harvest area includes ECA recovery factors since the time of harvest.

Measureable or Verifiable

Who: The TSM

What:

- Will follow the results and strategies of other sections of the FSP.
- Conduct ECA assessment when GIS spatial analysis indicated ECA>25%.

Where: In Cariboo, Horsefly and Cottonwood watersheds that have sub-basins with proposed development.

When: When primary forest activities are conducted or authorized by the TSM.

How: Strategy 1 is verifiable for the referenced objectives/strategies and is discussed in those sections of the FSP.

Strategy 2 is measurable because the initial GIS analysis to assess if the ECA > 25% will use the analysis protocol found in the FPC Interior Watershed Assessment Procedure Guidebook (IWAP) 1995. Also, if the ECA>25% a QRP report will be on file that includes the content described in the FSP.

4.5 Objectives Set by Government for Fish Habitat in Fisheries Sensitive Watersheds

Legal Reference: CCLUP 90 Day Report and LUO 12 and 13

Discussion/common practice: BCTS has adopted the critical fish habitats areas from the Chilcotin and Quesnel SRMPs. The intent is to consider these areas as no harvest reserves and only to propose development if there is no other practicable location of for the reasons permitted in Strategy 2 including: forest health, no other practicable roads location and stream crossings, etc.

Measureable or Verifiable

Who: The TSM

What: Maintain the mapped polygons as no harvest zones with specified exceptions.

Where: In critical fish habitat

When: When primary forest activities are conducted or authorized by the TSM.

How:

Strategy 1 no harvest has occurred in the areas identified in the spatial dataset. Strategy 2 is verifiable by checking if an assessment is on file by a qualified forest professional specifying reasons when primary forest activities could be authorized in the no-harvest zones.

4.5.2 Salmon Watersheds

Legal Reference: CCLUP Appendix 3

Discussion/Common Practice: In general BCTS will manage these watersheds listed using the FSP section 4.3 Objectives for Wildlife, FSP section 4.4 Objectives for Fish, Wildlife and Biodiversity within Riparian Area, FSP section 4.5.1 Critical Fish Habitat and FSP Section 4.4.2 Watershed Hydrology. Strategy 1 relies on adhering to strategies in other FSP sections. Strategy 2 allows for minor amount of harvest in Cariboo and Horsefly watershed as listed exemptions 4.5.1 Critical Fish Habitat. Strategy 3 restricts harvest next to the Fraser River. Strategy 4 restricts new primarily road construction within 500m of most major rivers as listed in applicable area.

Measurable or Verifiable

Who: The TSM

What:

- Relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections
- No harvesting next to Fraser River unless allowed by FSP section 4.3 permanent OGMA.
- No new primarily road construction with 500m of most major rivers.

Where:

- Fraser River
- In the Horsefly, Chilko, Taseko, Atnarko, Dean, Cariboo, Quesnel, Chilcotin, Nazko, Beaver, Hazeltine, Edney, Bowron, Cottonwood and Baezaeko watersheds.

When: When primary forest activities are conducted or authorized by the TSM.

How:

Strategies 1, 2, 3 rely on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable is discussed in those sections.

Strategy 4, new primary road construction with 500 meter of river is measurable

4.6 Objectives Set by Government for Water in Community Watersheds

Legal Reference: FPPR Sec. 8.2

Discussion/Common Practice: There are four very community small watersheds in the area of the plan (communities of Alexis Creek, Dog Creek, South Lakeside and Troll) ranging from 9 ha to 360 ha. None of these are overlap current BCTS operating areas. A strategy has been included in this FSP in the event that a block in a community watershed is purchased from one of the other companies operating in the area of the plan.

Strategy 1 adopts sections from the FPPR Part 4, Division 4 - Watersheds as the strategy. Specifically, that herbicides must not be applied or roads constructed within 100m of a licensed waterworks, other than for the exemptions as found in the regulation.

Strategy 2 specifies a commitment to have a hydrological assessment, including consideration of cumulative effects, completed by a QRP before operating in a community watershed. For the purposes of this section, 'cumulative effects' means, in relation to forest hydrology, the effects (e.g., changes to quantity & timing of water flow, water quality, stream channel conditions and sensitivity, redirected runoff, etc.) caused by the combined results of past, current and future forest development by all forest agreement holders, as well as other known activities, within a watershed or development area.

Strategy 3 specifies that both inside and outside a community watershed BCTS will notify licensed water holders when a proposed harvest or road construction is within 100m of water intake or irrigation structure.

Measurable or Verifiable

Who: The TSM

What: See discussion above

Where: Community Watersheds, or the location of license water holders water intake or irrigation structure outside of community watersheds.

When: Prior to constructing a road or entering into an agreement that authorizes timber harvesting or road construction in community watershed or prior to harvest for notification license water holders anytime before harvest.

How

Strategy 1, sections 59 to 63 of the FPPR are detailed enough to be measured

Strategy 2, an assessment by a Qualified Registered Professional is on file.

Strategy 3, a notification documentation to water licence holders is on file

4.7 Biodiversity – Landscape Level

4.7 Objectives Set by Government for Wildlife and Biodiversity – Landscape Level

Legal Reference: FPPR Sec. 9

Discussion/Common Practice: The TSM believes that in order to meet the Objectives set by Government for Wildlife and Biodiversity at the landscape level the following must be addressed at the Landscape Unit Level by their Biodiversity Emphasis Options:

1. Seral targets (age class)
2. Temporal distribution of forested polygons
3. Patch size distribution of forested polygons
4. Connectivity and linkages including allowable dash distances
5. Area in forested interior conditions

Collectively, managing for key landscape indicators will enable us to achieve the overall desired outcome of managing the forest consistent with the historical natural disturbance regime. For these 5 items this section of the FSP has taken this approach:

- 1) Seral targets are addressed in FSP section 4.7.1 Seral stage Targets which focuses on meeting the seral stages targets set by government. Also, it provides a rationale for circumstances when seral mature + old target can be exceeded to harvest bark beetle and fire damaged timber. Meeting Seral stage targets for Old + Mature Forests is also supported by retention of the spatial Old Growth Management Areas (OGMAs) FSP sections 4.7.3 and 4.7.4.
- 2) Temporal distribution of forested polygons and 3) Patch size distribution of forested polygons are addressed in FSP section 4.7.2 Spatial Patch Size targets
- 4) Connectivity and linkages including allowable dash distances is addressed in FSP section 4.7.6 Connectivity and FSP section 4.8 Objectives Set by Government for Wildlife and Biodiversity – Stand Level with Wildlife tree patches design contributing to connectivity objectives.
- 5) Area in forested interior conditions is addressed in FSP section 4.7.2 Spatial Patch Size targets.

BCTS operations occur in exclusive assigned operating areas found within FDU #1 & #2. These operating areas do not align with landscape unit boundaries. BCTS will within shared landscape units where timber harvesting is planned provide planning information, offer to exchange information, collaborate and coordinate with each licence or agreement holder, in relation to the following applicable values, to ensure that the objectives* set by government for the area will be achieved:

- Old and Mature Forest (Seral Stage);
- Connectivity Corridors;
- Landscape Level Patch Size Distribution;
- Ungulate Winter Range (Mule Deer and Caribou);
- Fish Habitat in Fisheries Sensitive Watersheds;
- Water in Community Watersheds; and
- Shared Key Watersheds.
- Shared Scenic Viewsheds

This sharing of information is consistent with FFPR section 19 “Cumulative effect of multiple forest stewardship plans.

*For the purposes of this section, “Objectives” means objectives set by government in legally established land use plans, in regulation, or enabled through regulation, for managing and protecting forest and range values.

Measureable or Verifiable

Who: The TSM

What: The TSM will design timber harvesting that resembles both spatially and temporally & the patterns of natural disturbance that occur within a landscape by adhering to the results or strategies in the section(s): 4.7.1 Seral Stage Targets, 4.7.2 Spatial Patch Size Targets, 4.7.3 Permanent – Static and Permanent – Rotating OGMA’s, 4.7.4 Transition OGMAs, 4.7.5 Reporting OGMA Changes and 4.7.6 Connectivity

Where: FDU 1 and FDU 2

When: When primary forest activities are conducted or authorized by the TSM.

How:

This strategy relies on strategies in other sections of the FSP.

4.7.1 Seral Stage Targets

Legal Reference: LUO 5 & CCLUP 90 day report

Discussion/Common Practice: This section articulates how the TSM will achieve the Seral Stage targets by landscape units. BCTS is committed to proposing new development where there is seral availability in the Mature + Old targets as identified in a seral analysis from the most current BC Government Seral assessment tables. Should the seral assessment tables become more than three years old, then the TSM commits to undertaking his own seral stage analysis. There are exceptions specified that would allow development proceed in landscape Unit where a seral deficits exists or would exist with the development. These exceptions are associated with mortality (bark beetle, fire salvage, windthrow, etc.) or are incidental harvests that are specified in FSP Section 4.7.1 Strategy 2.

Past & Current BCTS Cariboo harvest situation

Since the start of the mountain pine beetle outbreak BCTS has targeted harvesting stands that were both < 70% pine leading by basal area and < 70% attacked by mountain pine beetle consistent with direction from the chief forester for additional retention. However, as these stands were salvaged BCTS then shifted into blocks that have < 70% pine land with 50-70% Pine attacked by mountain pine beetle. What remains on the landscape especially west of the Fraser River are stands with < 70% pine leading by basal area with 30-50 % Pine attacked by mountain pine beetle and fire-damaged stands. East of the Fraser BCTS is focusing in the short term on fire-salvaged stands while transitioning into green mixed species stands. Spruce bark beetle is becoming a management concern and will become a priority beginning with the most heavily damaged stands.

BCTS has developed a harvest prioritization system to guide its annual sales schedule development. The current BCTS focuses on the remaining harvest priority 1 salvage stands with catastrophic fire and beetle damage. BCTS will also include some green undamaged timber sales for market pricing purposes.

Priority 2 salvage stands with moderate-high fire and beetle damaged stands, with Priority 3 consisting of both incidental and green undamaged timber harvest. Beyond forest stewardship our harvest priorities reflect our mandate to sell stands representative of the profile to ensure we provide accurate selling price data for MPS in the Cariboo Region.

The definitions of the 3 BCTS priorities for harvest that the TSM requests a waiver from Mature & Old seral targets:

Priority 1 Stands

Consistent with DDM Expectation – Transition to Green (March 9, 2017), these are BCTS's top harvest priorities:

- Where pine represents $\geq 70\%$ of the basal area of the stand and $\geq 50\%$ of the merchantable pine stems are red, grey, or green attacked mountain pine beetle
- Where $\geq 50\%$ of the basal area of any stand types is dead or red, grey, or green attacked mountain pine, spruce or Douglas-fir bark beetle.
- Fire Salvage – Current stand mortality of the planned harvest area is $\geq 70\%$. Individual trees are determined to currently be dead if crown mortality from scorch is $\geq 75\%$ defined as 75% of crown has brown needles or no needles). Ref: Conservation Strategy - #15, February, 2018.

Priority 2 Stands

Target stands of any mixture of species with $\geq 30\%$ bark beetle damaged stems. The rationale to harvest these stands; using Quesnel TSA as example which is similar for the Williams Lake TSA, is as follows:

Quesnel Timber Supply TSA Discussion Paper, May 2016, pgs. 13&14, base case uses harvesting of pine stands with greater than $\geq 50\%$ dead see Figure 2. Examination of the alternative scenarios to the base case (fall down over 20 year graph) show if the pine salvage remained extended for another 5 years until 2025 this would be the most desirable as the harvest level (AAC) drop in the mid-term is less ($\sim 100,000\text{m}^3$). The BCTS plan over the short-term is to concentrate salvage on those stands with 30-50% damage to extend the salvage phase to 2025, capture the mortality and reduce the mid-term harvest trough consistent with AAC analysis path – fall over 20 years see Figure 2.

BCTS recognizes the forest stewardship concern that some stands could be economically viable midterm future harvest opportunities even after 30-50% of the stand has been lost to mortality. These stands also provide values including: wildlife habitat, hydrology, and biodiversity. BCTS believe there is balancing act between the 2 objectives of lost economic vs other values. When planning priority 2 areas BCTS is required to considered all the other FRPA values includes the commitments made in the FSP.

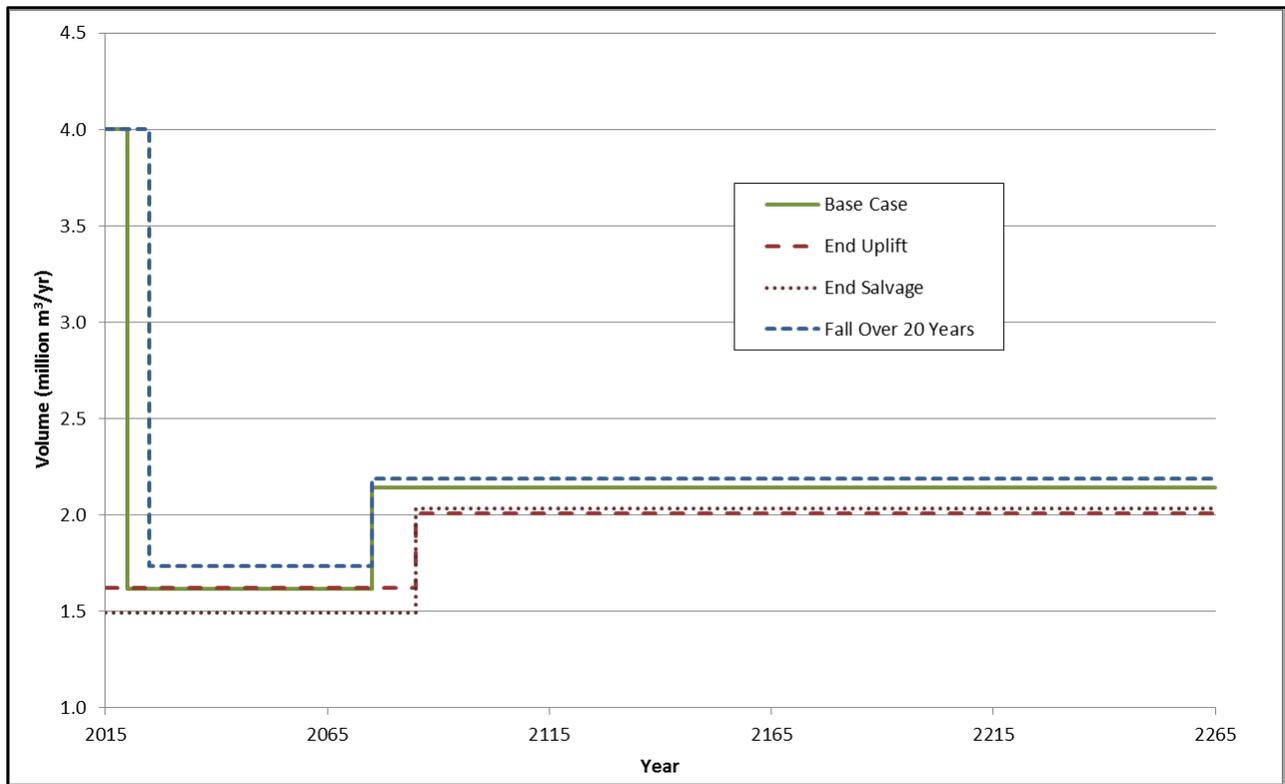


Figure 2. Alternative harvest forecasts – Quesnel TSA 2015.

Other supporting documentation for Harvest Priorities 1 & 2

- Conservation biodiversity update note # 9 Strategy for Management of Mature Seral Forest and Salvage of Mountain Pine Beetle Killed Timber Within TFLs (would apply to Cascadia) in the Cariboo, 50% pine stand eligible
- Conservation biodiversity update note #8 Strategy for Management of Mature Seral Forest and Salvage of Mountain Pine Beetle-Killed Timber Beetle kill stand over 70% pine
- Conservation biodiversity update note #5 An Integrated Mountain Pine-Biodiversity Conservation Management Strategy page 6 Generally, ecological features with 30% or less mortality should not be salvage logged”
- Appraisal Manual 1.4.3 Cruise Base/Scale Base: A cut block has 35% of more red and grey MPB attacked Lodgepole pine attack

Priority 3 Incidental harvest

Incidental harvest of single groups of trees, trap trees, very small areas less than 1 ha, and partial cutting in Cariboo Modified where opens are less than 2 ha. In these cases seral stage targets would be waived.

Strategies 1 (a) to (e): commit to the Seral Stage targets in the Cariboo- Chilcotin Landscape Units.

Measureable or Verifiable

Who: The TSM

What:

- a) Will adopt the Cariboo-Chilcotin landscape units for mature-old seral stage analysis
- b) Meet old seral by adhering to strategies for OGMAs and non-harvest areas such as riparian reserve zones, and stand level retention (Wildlife Tree Patches).
- c) Follow the Seral Stage Target percentages for each Landscape Unit as shown in Mature+Old Representation Targets (% Biodiversity Forest Landbase), as specified in FSP Appendix B.
- d) Adhering to seral targets and availability from the most recent analysis by the FLNORD. If this analysis is older than 3 year then BCTS will conduct its own analysis.
- e) Assume in low biodiversity emphasis landscape units, where the Old and Mature + Old targets are the same, that the seral targets are met in the spatially defined OGMAs.

Where: At the landscape level where primary forest activities are being proposed.

When: When primary forest activities are being proposed.

How:

- a) Seral targets and availability from the most recent analysis by the FLNORD, or BCTS own analysis of availability would be on file.
- b) Site Plans on file would confirm available Seral stage availability existed at the time.

Strategy 2: Harvesting will not be proposed where the analysis identifies there is a seral stage target deficit except for specified forest health/salvage reasons.

Measureable or Verifiable

Who: The TSM

What: Propose new development where there is Seral Stage Mature + Old is in deficit within the Landscape Unit. Where harvesting is essential for sanitation or salvage harvesting, provide that species composition and damage percentage thresholds are met. Otherwise the block is considered a green harvest as per strategy 1.

Where: At the landscape level where primary forest activities are being proposed

When: When primary forest activities are being proposed.

How:

- a) Seral targets and availability from the most recent analysis by the FLNORD, or BCTS's own analysis of availability.
- b) Site Plans on file would confirm available Seral stage availability existed at the time.
- c) Species composition and damage can be measure using one of: basal area assessment, reduced cruise comp, recon level assessment by qualified forest professional.

Strategy 2: Other priorities includes Priority 3 Incidental harvest of single groups of trees, trap trees, very small areas less than 1 ha, and partial cutting in Cariboo Modified where opens are less than 2 ha. In these cases seral stage targets do not apply.

Measureable or Verifiable

Who: The TSM

What: Incidental harvest where Seral Stage Mature + Old is in deficit within the Landscape Unit,

Where: At the landscape level where Incidental harvest forest activities are being proposed

When: When Incidental harvest activities are being proposed

Measureable: The incidental harvest activities authorization will be on file showing the location. Partial cutting in Cariboo Modified where openings are less than 2 ha would be in the site plan.

4.7. 2 Spatial Patch Size Targets

Legal Reference: FPPR sec. 9

Discussion: This section of the FSP refers to management of harvest block size to meet patch size targets and uses the following approaches:

- 1) In strategies 1 and 2 BCTS commits to blocks 60 ha or less and that adjacency rules for green up apply when proposing new harvesting.
- 2) In strategy 3 when blocks area over 60 ha are proposed BCTS commits to a patch size analysis consistent with 1995 Forest Practices Code Biodiversity guidebook for targets of the patch size. These targets vary by Natural Disturbance types, where:
 - o Patch size refers to a single block or an aggregation of cutblocks
 - o Patches are group in three size categories.
 - NDT 1 , NDT 2, NDT3 with Douglas Fir, NDT4 <40ha, 40-80ha, 80-250ha
 - NDT 3 without Douglas Fir <40 ha, 40-250ha, 250-1000ha
 - NDT 3 in BWBS <20ha, 20-40ha, 40-80ha
 - NDT 5 = Alpine and grasslands – generally no harvest occurs, recommend limit to 5ha patches
 - Targets for percentages size class be BEC are provide in the Biodiversity guidebook
- 3) In Strategy 3b commits to “*Use both the most current information from the government’s tracking of patch size distribution across landscape and the approved government methodology*”. This means BCTS will either:
 - a) Default to the government’s localized published patch-size information available to determine if there is opportunity to proceed with the proposed harvest in that patch size category or:
 - b) BCTS will conduct its own analyse using similar data layers used by government such as landscape units boundaries, current forest inventory. BCTS will use a framework methodology (steps) for patch size analysis consistent with government approach. The actual results of the model used by BCTS maybe produce slightly different results when compared to models created by others, however, the results, interpretation of results, and use of the results will be consistent with the intent of *FFPR 64 (2) b (ii) is designed to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance.*
- 4) Strategy 4 allows for deviation of patch size targets to address bark beetle and fire salvage reasons.
- 5) Strategy 4(e) explains that in some landscape units or portion of landscape unit BCTS operates the current condition patch size distribution significantly deviates from the desired landscape condition. In those cases a QRP would describe the current condition, and that how the current proposed harvest and/or future harvest could over the long term achieve the desired patch size distribution.

Measureable or Verifiable

Who: The TSM

What: The TSM relies on FPPR sections 64.1(b), 64 (2), 64 (3) and patch size analysis to meet this objective.

Where: Within landscape units and/or BCTS portions of the landscape unit

When: When primary forest activities are being proposed.

How:

Strategies 1 and 2 will be measurable/verifiable (size of block, location and stocking of adjacent blocks) whether or not the FPPR provisions are adhered. The harvest block NAR area will be recorded on the site plan. Results data, recent silviculture surveys, walk through and/or notes on the development file address green up and adjacent issues.

Strategy 3 patch size assessment information will be kept on file.

Strategy 4 level of damage will be assess as per FSP section 4.7.1

Strategy 4e assessment, memo or rationale will be on file, explain the existing conditions, and the ability to work towards meeting the patch size desired target conditions over the long term.

4.7.3 Permanent – Static and Permanent-Rotating OGMA’s

Legal Reference: LUO Sec 8 and 9

Discussion/Common Practice: The TSM has created strategies based LUO Sec 8 and 10 with details & specifications to ensure the strategies are measurable and/or verifiable.

Strategy 1 is self-explanatory

Strategy 2a) provides flexibility for harvest inclusions of up to 10 hectares to better align OGMA boundaries. The purpose of this strategy is deal with variation between the GIS projection of the OGMA and what is found on site and for occasionally better area alignment to a feature such as road, stream wetland. In practice this strategy is rarely used.

Strategy 2 (b) to (f) are self-explanatory.

Strategy 3 is self-explanatory.

Measurable or Verifiable

Who: The TSM

What: The TSM recognizes mapped permanent OGMA-static, and permanent OGMA-rotating as no harvest areas. Also, details circumstances where harvesting and road building could occur within OGMA's.

Where: Within OGMA's as defined by the LUO spatial dataset.

When: When authorizing harvesting, thinning from below for fire management and road building in an OGMA

How:

- 1) Where harvesting is allowed for forest health reasons there is a requirement for an assessment by a Qualified Forest Professional to determine the degree of attack. It can be verified if the assessment was completed.
- 2) For fire salvage will be as per direction provide from FNLNOR “Post –wildfire Salvage Expectations for land use designations in the Cariboo Region February 27,2018 as amend form time to time or superseded.
- 3) In strategy 2d the term “no other practicable location” will included assessment on file by Qualified Forest Professional.
- 4) In strategy 2e the fuel/fire management objective is to reduce fine fuel surface debris, ladder fuels and small diameter trees found in the intermediate and overtopped crown classes. For the purpose

for fire management plans retaining old growth characteristics means for the retaining no less than an average of 10 standing trees/per ha over the treatment area, where any untreed area is > 0.4ha. The standing trees can be of any species including deciduous species and are from the largest diameter classes present for that species. This default definition can be replaced by a QRP based on unique local old growth conditions.

- 5) Strategy 2g the species composition and damage can be measure using one of: basal area assessment, reduced cruise comp and/or reconnaissance level assessment by a QRP.
- 6) Strategy 3 cruise information and supporting rationale by a qualified resource professional on file.

4.7.4 Transition OGMA's

Legal Reference: LUO Sec 8 and 10

Discussion/Common Practice: The TSM has created strategies based LUO Sec 8 and 10 with details & specifications to ensure the strategies are measurable and/or verifiable.

Measurable or Verifiable

Who: The TSM

What: The TSM recognizes mapped transition OGMA's as no harvest areas. Detailed reasons where harvesting could occur within these OGMA's are provided. Specifically, Transition OGMA's may be harvested when conifer mortality is $\geq 50\%$ of the stand basal area.

Where: Within transition OGMA's as defined by the spatial dataset,

When: When authorizing harvesting in a transitional OGMA .

Measurable:

- 7) Species composition and damage can be measure using one of: basal area assessment, cruise compilation stock table, reconnaissance level assessment by a QRP.

4.7.5 Reporting OGMA Changes

Legal Reference: LUO Sec 11

Discussion/Common Practice: BCTS ha simply adopted LUO Sec 11 as a strategy. An additional strategy is provided that commits to identify potential replacement areas when harvesting occurs within an OGMA.

Measurable or Verifiable

Who: The TSM

What: Will report OGMA changes and identify potential replacement areas.

Where: Within OGMA's as defined by the spatial dataset.

When: When proposing harvesting excursion in an OGMA > 2 ha.

How:

It will be verifiable whether or not the TSM reports changes in OGMA's and identifies replacement area. Email or digital information will be on file.

4.7.4 Connectivity

Legal Reference: CCLUP 90 Day Report –pg. 179

Discussion: The TSM relies on other sections of the plan to address this objective. Note: Connectivity corridors have been identified in the South Chilcotin Plan area. Meanwhile, BCTS has been identifying connective corridors in other BCTS operating areas, this work is ongoing.

Measurable or Verifiable

Who: The TSM

What: Will ensure that the results and strategies of other sections of the plan are followed in order to meet this objective.

Where: Across the landscape.

When: When primary forest activities are being proposed

How:

The strategy relies on strategies in other sections of the FSP. Whether or not those strategies are measurable or verifiable are discussed in those sections.

4.7.6. Cariboo-Chilcotin Grassland Benchmark Area

Legal Reference: LUO 25

Discussion/Common Practice: This section addresses the implementation of the grassland benchmark with the intention that grasslands are retained to ensure that grassland biodiversity is maintained over the long term. The grassland area identified under LUO 25 is not limited to the area included in subunit(s) I-F (Grassland) of the CCLUP.

To guide harvesting and road building within the Grassland Area identified in LUO 25, the TSM commits to the practices identified in Cariboo-Chilcotin Grasslands Strategy: Best Management Practice Guidelines for Harvesting Treatments on CCLUP Grassland Benchmark Sites; prepared by the Cariboo-Chilcotin Grasslands Strategy Working Group, August 2007. The strategy allows variance from these practices for to address existing beetle or fire damage on vets and ensure safe work practices. The TSM will not actively promote natural or artificial regeneration. In Strategy 1(c) it is recognized that the grassland benchmark GIS polygon mapping may require adjustment following field sampling. This strategy also allows the QRP the ability to redefine grassland polygon boundaries to reflect the specific site to ensure the restoration strategy is successful.

Measureable or Verifiable

Who: The TSM

What: TSM will conform to the *Cariboo-Chilcotin Grasslands Strategy Best Management Practice Guidelines for Harvesting Treatments on CCLUP Grassland Benchmark Sites* and not promote regeneration.

Where: Within mapped grassland benchmark polygons.

When: When conducting or authorizing primary forest activities.

How:

- It can be verified whether or not harvesting and road building followed the practices in the Best Management Practice Guidelines for Harvesting Treatments on CCLUP Grassland Benchmark Sites document.

- An assessment by a QRP, Site Plan and map will be on file which shows the Grassland bench mark area and any changes to the shape based on field examination.

4.7.7 Community Areas of Special Concern

Legal Reference: LUO 14, 15

Discussion/Common Practice: The land use order objective includes specific strategies itself so the FSP simply adapts those strategies with more verifiable additions (i.e.: will be determined by an assessment completed by a qualified forest professional”). Old Growth in this Results and Strategy refers to old growth characteristics such as old trees, large trees, gaps in stand structure (consistent with natural disturbance regime), wildlife trees, and large woody debris on the ground. The fuel/fire management objective is to reduce fine fuel surface debris, ladder fuels and small diameter trees found in the intermediate and overtopped crown classes. For the purpose for fire management plans retaining old growth characteristics means for the retaining no less than an average of 10 standing trees/per ha over the treatment area, where any untreed area > 0.4ha. The standing trees can be of any species including delicious species and are from the largest diameter classes present for that species. This default definition can be replaced by a qualified resource professional.

Measureable or Verifiable

Who: The TSM

What: Will maintain Community Areas of Special Concern as no harvest areas except where harvesting meets specified conditions.

Where: Community Areas of Special Concern as defined by the spatial dataset,.

When: Proposing authorizing primary forest activities

How:

If harvesting is proposed for one of the exceptional reasons: An assessment of severity of forest health damage, road location or fuel reduction management plan will be on file.

4.7.8 Mature Birch Retention

Legal Reference: LUO 24

Discussion/Common Practice: To provide consistency with the objective of retaining at least 40% basal area of the existing mature birch it will be measured at the TSL level which can be measured more efficiently using cruise compilation data. **BCTS** common practice is to avoid harvesting concentrated areas of birch. However, where birch is found with the block boundary designating birch as a reserve species from cutting (less 10% for safety, damage, and road development) and using wildlife tree patches is the approach taken.

Measureable or Verifiable

Who: The TSM

What: Retaining Birch

Where: Within Birch Retention areas as defined by the LUO spatial dataset

When: When authorizing or conducting primary forest activities.

How:

- The strategy identifies how the Birch retention thresholds are measured on a TSL level using the cruise compilation and documented in the Site Plan.

4.8 Objectives Set by Government for Wildlife and Biodiversity – Stand Level

Legal Reference: LUO 6, 7

Discussion/Common Practice: In the document “*Expectations for Cariboo Region Replacement Forest Stewardship Plans –Update #3*” the DDMs exempted FSP preparers from the requirement to specify results/strategies for FPPR Section 9.1. By meeting the prescribed Wildlife Tree retention (WTR) targets by landscape unit as specified in LUO 6 and 7 BCTS meets the requirements of FPPR 66 Wildlife Tree Requirement that states on an annual basis, the WTR average is to be a minimum of 7% across the total area of the cut blocks. BCTS addresses the LUO objectives by specifying that the associated WTR percentages will be measured on a TSL basis. The TSM deals with the issue of TSLs that overlap more than one landscape unit by specifying that the more restrictive WTR requirement will be used. As recommended by the Forest Practices Board (FPB), the strategy also specifies how long the WTR areas will be retained. Strategy 4 allows for harvesting trees in WTR areas for the following reasons: 1) Related to forest health risk with a provision to find replacement areas and 2) In LUs with WTR surplus portion of WTRs can be removed adjacent to free growing stands,

Measureable or Verifiable

Who: The TSM

What: Commits to landscape WTR targets

Where: In proposed harvest blocks

When: When authorizing or conducting primary forest activities.

Measureable:

Each site plan will show areas of the WTR before harvest using the follow calculation:
(WTR area/Gross block area) X 100 = percentage

4.9 Visual Quality

Legal Reference: LUOR 26, 27, 28, 29 & FPPR s. 9.2

Discussion: The TSM commits to having a visual impact assessment completed and being consistent with Visual Quality Objectives (VQO)s for the scenic areas as defined by the spatial dataset. The common practice is to start the VIA during the layout phase, viewpoints are selected from known databases, the center of key lakes, and other significant viewpoints as determined by QRP. Examples, of significant viewpoints may include commercial lodges, roadside rest areas and cabins. The analysis is completed to determine the current condition and the post-harvest condition based on the proposed harvest boundaries. Depending on the results of the analysis the boundary shape of the block, or locations of WTP may change to better meet the VIA objective.

For scenic corridors (ex. road corridors) and in the viewshed of high elevation viewpoints the TSM commits to mimic natural existing openings when proposing new harvest. Adhering to seral targets and patch size targets will also help by mimicking existing natural openings, vegetation patterns, and natural features in the local landscape. Strategy 4 specifies detailed exceptions to requiring too meet VQO objectives for managing

stands with severe mortality from insect damage and/or fire salvage to accelerate the re-establishment of an aesthetic condition. The assessment of the severity of damage is to be completed by a qualified forest professional.

Measureable or Verifiable

Who: The TSM

What: Commitments to complete VIA

Where:

- In scenic area polygons as defined by spatial dataset Cariboo-Chilcotin Scenic Areas.
- In scenic corridors as defined by spatial dataset Cariboo-Chilcotin Scenic Corridors.
- In the viewshed of high elevation viewpoints as defined by the spatial dataset Cariboo-Chilcotin High Elevation Viewpoints.

When: When planning to harvest in scenic areas.

How:

For Strategy 1 a visual impact assessment (VIA) completed and will be on file.

For Strategy 2 a VIA assessment can be compared against the block layout to see if the VIA recommendations were implemented.

For strategy 3 a Qualified Professional will design the block boundaries to a) design the shape of harvest areas to mimic existing natural openings, vegetation patterns. Linear straight line boundaries will not occur unless it closely follows a forest inventory type line.

For strategy 4a forest health the strategy is measurable as defined, records will be on file

For strategy 4b fire salvage the strategy is measurable as defined, records will be on file

4.10 Recreational Resources

4.10.1 Tourism

Legal Reference: CCLUP 90 Day Report Pgs. 68 and 179

Discussion/Common Practice: The TSM addresses this objective by a committing to strategies in other sections of the plan.

Measureable or Verifiable

Who: The TSM

What: By committing to strategies in other sections of the plan.

Where: Across the landscape

When: When proposing harvesting.

How:

The strategy relies on strategies in other sections of the FSP.

4.10.2 Recreation Sites and Trails

Legal Reference: FRPA s. 180 and 181

Discussion/Common Practice: To judge whether a specific primary forest activity is acceptable when overlapping or adjacent to a recreation site or trail, the TSM defers the decision to the person responsible for those sites and trails – the District Recreation Officer. Strategy 5 includes some specific direction when harvesting is authorized adjacent to a recreation trail. Buffered trails are addressed in section 4.10.4 The Alexander Mackenzie Heritage Trail is addressed in section 4.10.5

Measureable or Verifiable

Who: The TSM

What: Seeking approval from the District Recreation Officer for the following reasons: 1) To harvest in recreation site or when road construction (or use) crosses a recreation trail and 2) When proposing harvest activities adjacent to a recreation site or trail.

Where: Within or adjacent to recreation sites or trails listed in Appendix F of the FSP.

When: When conducting or authorizing timber harvesting or road construction.

How:

Strategy 1 is verifiable in that it is clear that there will be no harvesting in a Recreation Site unless it is requested by the District Recreation Officer.

Strategies 2, 3, and 4 can be verified by examining if the District Recreation Officer's approval was obtained where any specific operation borders or crosses a Recreation Site or Trail. This info will be kept on file.

For Strategy 5, it will be possible to verify in the field whether or not operations followed the specific directions for harvesting an area that borders a Recreation Trail.

4.10.3 Backcountry

Legal Reference: CCLUP 90-Day Report

Discussion/Common Practice: The BCTS general approach is to keep roads outside of the backcountry polygons. When a secondary road or in block road is required within the backcountry polygon then the road will be deactivated within 12 months of completion of the timber harvesting tributary to these roads. For periods of inactivity for primary forest activities, timber harvesting or road building, within a backcountry areas greater than one year. To maintain the backcountry condition the TSM will ask the District Manager to authorize the installation of traffic control devices on Forest Service Roads (FSR) where no primary forest activity is expected for a year.

Measureable or Verifiable

Who: The TSM

What:

- Will adhere to other sections of the FSP
- Will deactivate secondary roads within 12 months of completion of harvest
- Will install traffic control devices on FSR roads in backcountry polygons where there is a period of primary forest inactivity of > 1 year if allowed by the District Manager.
- **Where:** Within backcountry polygons.

When: When proposing harvesting and roads within backcountry polygons.

Measureable:

Strategy 1: The strategy relies on strategies in other sections of the FSP.

Strategy 2: The strategy is verifiable if a road was deactivated, or if a traffic control device was requested and installed following a one year period of inactivity on a FSR.

4.10.4 Buffered Trails

Legal Reference: LUO 30, 31

Discussion/Common practice: The word “Trail” is mentioned multiple times throughout the CCLUP. The majority of the references are under “Recreation” and pertain to “Backcountry Recreation”. The key CCLUP objective for trails is found in section 2 -Setting Zonal Targets. It states that the focus will be “maintenance of backcountry recreation opportunities along *regionally significant* rivers and *trails*”. The CCLUP LUO 30 identifies specific trails to be buffered and there is an associated spatial data layer. The TSM considers that the regionally significant trails in the CCLUP recreation zone targets are the same trails identified in LUO 30. For this reason, the CCLUP objective was not included separately in the FSP. The BCTS strategy for buffered trails adds more details to the LUOs 30 and 31 to make them verifiable, such as stipulating the centre of trail for measuring the 50 metre required buffer. When harvesting is permitted within the 50m buffer for forest health or wind throw reasons then an assessment is required by a QRP. The Alexander Mackenzie Heritage Trail is an identified buffered trail but is also a designated Heritage Trail under the Heritage Conservation Act. It will be managed according to Section 4.10.5 Alexander Mackenzie Heritage Trail/Nuxalk-Carrier Grease Trail

Measureable or Verifiable:

Who: The TSM

What: Reserve from harvest buffered trails, except for road crossings, and under specific circumstances forest health and windrow.

Where: Buffered trails as referenced in Appendix A of the FSP.

When: When planning primary forest activities.

How:

Strategy 1 please see section 4.10.5 Alexander Mackenzie Heritage Trail/Nuxalk-Carrier Grease Trail

Strategy 2 is verifiable in that the pre-harvest and post-harvest basal area can be measured and compared to the 85% criterion committed to in the strategy.

Strategy 3 it will be verifiable whether or not a windthrow hazard has been completed and is on file.

Strategy 4 it will be verifiable in that the reasons for not maintaining 85% of the BA are clearly specified in an assessment by a QRP and kept on file.

4.10.5 Alexander Mackenzie Heritage Trail / Nuxalk-Carrier Grease Trail

Legal Reference: LUO 30, 31& Heritage Conservation Act

Discussion/Common Practice: The Alexander Mackenzie Heritage Trail also known as the Nuxalk-Carrier Grease Trail is a historic trail that has been designated as a Heritage Trail under Section 9 of the Heritage Conservation Act. The trail is managed under the “*Alexander Mackenzie Heritage Trail Management Plan for Trail Portions on Public Forest Lands*”(AMTMP) dated June, 1993. This plan ensures the recreational, aesthetics, and archaeological values and resources of the trail are protected. Under this Plan a 100 metre buffer has been established adjacent to both sides of the trail’s centre line (total buffer width is 200 metres). A more recent plan exists titled the “Nuxalk-Carrier Grease Trail Management Plan” (March, 2013). Although this was published by the Carrier-Chilcotin Tribal Council and local First Nation communities it

does not appear to be ratified. This document does contain important information that is useful when proposing harvest near the trail, or crossing the trail. The Alexander Mackenzie Heritage Trail is identified as a “Buffered Trail” on Map 10 under Land Use Order #30 (Land Use Objectives for the Cariboo-Chilcotin Land Use Plan Area dated April 18, 2011). Although the LUOR establishes a 50 metre buffer and provides the specifics for basal area retention for all “buffered trails”, the criteria established in the AMTMP supersedes and take precedence over the criteria set out in the LUOR.

The TSM strategies commit to specific constraints to protect the recreational, archaeological and visual resources identified within the 100 metre buffer on either side of the trail. Timber harvesting, silviculture treatments and road construction, maintenance and deactivation will be consistent with the 1993 Management Plan as per the following Sections: Section 5.1 (Access) discusses criteria for the construction of new roads crossing the trail and Section 5.3 (Timber) provides guidelines for the harvesting of timber, usually restricted to specific circumstances of salvage or control of insect infestations and disease.

Measureable or Verifiable

Who: The TSM

What:

- Will conform to the general guidelines and constraints outlined in Section 5.1 (Access) and 5.3 (Timber) of the *Alexander Mackenzie Heritage Trail Management Plan for Trail Portions on Public Lands (June 1993)*.
- Where the trail is located within the visual quality objectives for scenic areas as defined by the spatial dataset, for Cariboo-Chilcotin, the trail will meet the VQOs as per the Visual Quality section for the FSP.
- Will follow the strategies in the Cultural Heritage section.

Where: Alexander Mackenzie Trail/Nuxalk-Carrier Grease Trail

When: When planning primary forest activities

How:

- The Results and strategies commit to specific constraints identified in the Alexander Mackenzie/Grease Trail Management Plan within 100 metre either side of the trail’s centreline. Adherence to the constraints is verifiable and the distance is measurable.
- Site plan will be consistent with section(s) 5.1 and 5.3 of Alexander Mackenzie Heritage Trail Management Plan for Trail Portions on Public Lands (June 1993).
- Strategies 2 and 3 rely on strategies in other sections of the FSP.

4.10.6 Wildcraft

Legal Reference: CCLUP 90-day report

Discussion/Common Practice: Wildcraft/Agro-Forestry is one of the resource sectors that identified in the CCLUP 90-Day Implementation Report (February, 1995). A general target for wildcrafting has been identified in the CCLUP as being “to maintain the existing resource and enhance the existing level of use”. In Appendix 3, a target is presented for each of the 37 identified sub-units that express the area available for Wildcraft harvesters using roads for wild plant foraging. Another important target is to maintain key pine mushroom harvesting sites in a condition that promotes mushroom growth. This latter target is addressed in Section 4.10.7 Pine Mushroom. This objective is focused on maintaining a percentage of area with roaded access for each CCLUP sub-unit. BCTS can only control construction and deactivation of their own roads.

The strategy addresses the objective by saying BCTS will only deactivate roads when they are no longer required for primary forest activities or silviculture.

Measureable or Verifiable:

Who: The TSM

What: Will follow the strategies of 4.10.8 Access General.

Where: In all CCLUP sub-zones.

When: When conducting or authorizing primary forest activities.

Measureable: The strategy on strategies in Section 4.10.8 Access General.

4.10.7 Pine Mushrooms

Legal Reference: CCLUP 90-day report

Discussion/Common Practice: In the CCLUP, pine mushrooms are specifically identified and mapped in the following Resource Development Zones and Sub-units. These sub-units are within the area of the “Anahim Round Table Sustainable Resource Management Plan” and include the following please see table 1:

Integrated Resource Management Zone	Special Resource Management Zone
Anahim Lake (I-B) Kleena Kleene (I-D) Chezacut (I-C)	Itcha Ilgachuz (F) Charlotte Alpands (c)

Table 1: Resource Development Map Units with mapped Pine Mushroom polygons

In the Anahim Round Table Sustainable Resource Management Plan (March 20, 2001), pine mushrooms are specifically identified in the objective “*Maintain or enhance the wildcraft resource at or from its present level of use*” under Section 4.8 “Wildcraft” (pg. 33). Several strategies are provided including:

- “Identify sites and conditions that promote and enhance growth of matusutake, (*Tricholoma magnivelare*), pine mushrooms”; and
 - “MOF and MELP to maintain key mushroom sites in a condition that promotes mushroom growth for the achievement of the CCLUP targets”.
- (<https://www.for.gov.bc.ca/tasb/SLRP/plan4.html>)

The BCTS strategies follow the recommendations of the report “*A Pine Mushroom Management Strategy for the West Chilcotin - Draft*”, by Bill Chapman, BC Ministry of Forests and Range. The report strategy states “Old Growth Management Areas (OGMAs), Visual Quality Objectives (VQOs), Caribou Management Zones and Natural Disturbance Seral Distribution Zone (NDS) all have significant potential for use in assuring that an adequate proportion of the landscape is capable of producing mushrooms at any time and that inoculum sources are well distributed across the landscape.” In fact, the document indicates that just over half of the “good potential pine

mushrooms producing areas” are covered by these “special management areas”. It all defined the characteristics of good Potential Pine Mushroom Producing Areas:

- Soil texture >60% sand <5% clay.
- Soil moisture regime of sub-xeric, mesic or sub mesic.
- Mor humus form, forest floor depth <10cm.
- Stand age >65.
- Old Forest Structural Stage
- Little Understory
- Any biogeoclimatic zone in the West Chilcotin where there are pine or Douglas-fir trees

BCTS Strategy a addresses this by adhering to strategies in other sections of the FSP that pertain to these other values such as Permanent-static and Permanent-rotating OGMAs, Visual Quality, Northern Caribou, etc. BCTS Strategy b is to place WTPs over areas of known pine mushroom producing locations to maintain and encourage re-inoculation of regeneration stands. Also reserving some larger Vets and advance regen also will contribute to creating a favourable future environment for Pine Mushrooms.

Measureable or Verifiable

Who: The TSM

What: Will follow the strategies of other sections of the FSP.

Where: The spatial dataset for Pine Mushrooms.

When: When proposing primary forest activities.

How:

Strategy 1 relies on strategies in other sections of the FSP. Strategy 2 identifies using wildlife trees retention in Pine Mushroom polygons which can be verified as document in site plans and maps on file.

4.10.8 Access

Legal Reference: CCLUP 90 Day Report, Appendix 3

Objective 1 Discussion/Common Practice: Objective 1 speaks to specific special Resource Development Zones from the CCLUP which have permanent road access restrictions including the Itcha-Ilgachuz SRDZ, Kluskus IRMZ, Upper Blackwater SRDZ, Quesnel Highlands SRDZ and Quesnel Lake SRDZ. BCTS intends to fulfill this objective by maintaining our current practice to deactivate in-block roads within two years of harvest by establishing access barriers. Primary road access will be maintained until silviculture obligations have been completed and/or the road is no longer required for primary forest activities unless there is another objective that requires the closure of the road (ex. backcountry polygon). BCTS will also participate in the development of local plans that include access management and adopt the guidelines. Local plans include any agreements between BTCS and local First Nations and/or tenure holders that have been endorsed by FLNRO.

Measureable or Verifiable

Who: The TSM

What:

- Will deactivate secondary roads within 2 years of harvest completion
- Primary roads will not be deactivated until no longer required
- Will participate in the development of local plans and adopt the guidelines

Where: In the following resource development zones: Itcha Ilgachuz SRDZ, Kluskus IRMZ, Upper Blackwater SRDZ, Quesnel Highlands SRDZ and Quesnel Lake SRDZ.

How:

- Strategy 1 within 2 years of completion of harvesting final harvest inspections will be on file and physical access barrier can be found in the field
- Strategy 2 typically between 5 years and 20 years, the road life span is proposed when the road is first constructed or is converted to FSR. The road will be deactivated in the field and documented on file.
- For Strategy 3 as planning groups develop local plans BCTS will collaborate. The access management plan strategy goals will be evident in the field and documented on file.

Objective 2 Discussion/Common Practice: The TSM has committed to participate in any government led access management plans and implement the plans. In the absence of access management plans will adhere to strategy 1 of objective 1 of this section.

Measureable or Verifiable

Who: The TSM

What: See discussion above

Where: In the Dean River and Tsuniah Lake Valleys, the northeastern portion of the Taseko Lake SRDZ and the area between Charlotte Lake and the alpine.

When: If an access management plan is developed.

Measureable:

It will be verifiable whether or not the TSM participates in an access management plan and if it is followed. In the absence of access management plans the strategy reverts back to the strategy for objective 1.

5.1 Objectives Set by Government for Cultural Heritage Resources

Legal Reference: FPPR Sec.10

Discussion/Common Practice: BCTS common practice is to refer the preliminary locations of all proposed roads and cutblocks to the First Nations with asserted traditional territory in the project area before conducting or authorizing timber harvesting or road construction. BCTS asks the First Nation to comment on their cultural heritage resources in the area and whether the road construction, cutblocks or any other subsequent primary forest activities would impact these resources. The timelines for referring information vary by the type and size of the activity and location as it relates to the First Nation interest area. Where any agreements have been made with local First Nations the TSM will follow all the provisions including timelines and scope of engagement. The details of existing agreements are not included in the FSP to respect the privacy rights of the parties involved. It is important to note that the TSM represents the government when determining BCTS's fiduciary responsibility for consultation obligations.

Measureable or Verifiable

Who: The TSM

What:

- Will refer proposed blocks and roads.
- Document comments, evaluate, and, if necessary modify the road or cutblock to ensure that the cultural heritage resource is conserved, or if necessary, protected.
- Share the results of Archaeology assessments with First Nations.

Where: In the area of proposed roads and cutblocks.

When: Variable depending on the type and size of the proposal and according to protocol agreements with individual First Nations.

How:

- First Nations Consultation and Referral Stake holder summary will be kept on file which records:
 - Which First Nations were contacted (based SOC and asserted traditional territory map).
 - Communication/event log.
 - Recording of concerns and questions.
 - Responses by BCTS to concerns and questions.
 - Communication records the result of any archaeology work to First Nations (during the referral period) .
 - After the referral period it is an non-official email exchange. The Final Arch report is provide automatically to each First Nations at end of the Arch season in the timelines provided by heritage branch and their permitting conditions.
- Filed maps, letters and emails.
- Decisions letters describing the accommodations BCTS will undertake which may include: modifying roads or cutblocks, seasonal constraints and/or other protection measures.

5.0 Range

Legal Reference: CCLUP 90-Day Report

Discussion/Common Practice: Although harvesting itself promotes grass production, the method of harvest can restrict cattle access to the grass. The strategies in this FSP take a proactive approach to identifying and mitigating potential negative impacts by, prior to operations, consulting with the range/grazing tenure holder to develop site specific methods of harvesting and road building to avoid, minimize, or mitigate the impacts.

Measureable or Verifiable

Who: The TSM

What:

- Will refer proposals 30 or more days prior to activities to affected stakeholders
- Will record comments
- Will develop strategies to minimize or mitigate impacts
- Will follow the strategies for Section 5.1 Invasive Plants and section 5.2 Natural Range Barriers

Where: Where roads and cutblocks are proposed.

When: 30 or more days before primary forest activities begin.

How:

It can be determined if

- Referral letter was sent at least 30 days before the commencement of activities and is on file.
- Referral Stake holder summary will be recorded and on file:
 - Comments received
 - BCTS actions to the comments

5.1 Natural Range Barriers

Legal Reference: FPPR Sec. 18

Discussion: Although Natural Range Barriers are not defined in the Forest and Range Practices Act, they are any of the following: a river, rock face, dense timber or any other naturally occurring feature that stops or significantly impeded livestock movement to and from an adjacent area. Section 18 of the FPPR states that for the purpose of natural range barriers a person who prepares a forest stewardship plan must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers. Mitigation means a lessening of the impact, and action that is reasonable and appropriate in the circumstances. BCTS current practice is to contact the range tenure holder and District Agrologist at the planning stage, to determine what practices will be used to mitigate effects of harvesting on natural range barriers. BCTS also commits to completing any range barrier remedial measures within 1 year of the completion of timber harvesting operations or as otherwise agreed to with the District Range Agrologist, including the kind of barrier to re-establish.

Measureable or Verifiable

Who: The TSM

What:

- Will contact the affected range tenure holders and District Range Agrologist.
- Will refer to the “Rangeland Natural Range Barriers” layer.
- Will Consult with the District Range Agrologist.
- Will, as a result of the input received, ensure measures are taken to mitigate removal of range barriers.

Where: Where roads and blocks are proposed.

When: 30 days prior to issuance of cutblocks or roads.

How:

For Measures a) and b), it will be verifiable whether or not the range tenure holder and the District Range Agrologist was notified/consulted and be on file

For Measures c) It will be verifiable if the measure was both implement and completed on the agreed timeline and this will be on file.

5.3 Invasive Plants

Legal Reference: FPPR Sec. 17

Discussion/Common Practice: The BCTS invasive plant strategy addresses risk assessment, detection and reporting of invasive plants as recommended by the Forest Practices Board (FPB).

For risk assessment BCTS uses the invasive plant spatial layers (see FSP appendix A) and relevant data bases to determine the priority known invasive species locations to be aware of during the layout phase.

Reference material to identify invasive plant is provided to all TSL, BCTS contractors, and BCTS staff. If

an invasive species is detected then it is reported to the report-weed website and documented with mitigation strategies in the site plan and TSL contract package. At the TSL or road building pre-work know invasive plant locations are communicated to the successful TSL or contract holder. BCTS common practice is to reduce the spread of invasive plants is to grass seed using a local mix all on-block road/landings within one year of disturbance or one year after completion of harvest. Where the primary forest activity overlaps Caribou Enhanced, Caribou Modified Habitat Areas and Very High, High and Moderate Grizzly Habitat capability then the seed mixture must not include clover.

Measureable or Verifiable:

Who: The TSM

What: The TSM will;

- Determine if there are any invasive plants in the area of a proposal.
- Record and report occurrence of invasive species.
- Ensure machines are free of invasive plant material.
- Replace topsoil.
- Seed with Common #1 Forage Mixture within one year of harvest completion, use a non-clover seed mix in the defined Caribou and Grizzly habitat areas.

Where: Where roads and blocks are proposed.

When:

Strategy 1: During the TSL and road planning phase

Strategy 2: Prior to commencement of work and, for seeding, within one year of completion of harvesting.

How:

- Where the spatial layer indicates and overlap with invasive species, the Site Plan will confirm if invasive species was seen or not seen. Know location will be on the site plan map.
- The EMS binder provided to TSL holders and Contractors include Invasive Plant reference material.
- If invasive plant was known, or suspected in the area it will be recorded in the Pre-work with the TSL holder or contractor its location and any avoidance/mitigation measures.
- Top soil replacement in completed borrow pits will be visible
- Common #1 Forage Mixture was used within 1 year of road disturbance of on-block roads.