BC Timber Sales
Kamloops Business Area
Kamloops and Clearwater Field Teams

BCTS
BC Timber Sales
Kamloops Business Area

KAMLOOPS TSA
FOREST STEWARDSHIP PLAN

Extended Plan Final Consolidated Version – December 20, 2011

TABLE OF CONTENTS

1. DEFINITIONS AND INTERPRETATION 1
1.1 DEFINITIONS 1
1.2 DEFINITIONS UNDER ENACTMENTS 1

2. SUBMISSION DATE, TERM AND COMMENCEMENT DATE OF THIS FSP 1
2.1 SUBMISSION DATE 1
2.2 TERM 1
2.3 COMMENCEMENT DATE 2

3. APPLICATION OF THIS FSP 2

4. FOREST DEVELOPMENT UNIT 2
4.1 ITEMS IDENTIFIED IN THE FDU 4

5. KAMLOOPS TSA RESULTS OR STRATEGIES 7
5.1 INCORPORATION OF LRMP OBJECTIVES INTO THE FSP 7
5.2 SOIL MANAGEMENT AND CONSERVATION OBJECTIVE 7
5.3 WATER OBJECTIVES 7
5.3.1 Community Watersheds 7
5.3.2 General Water Resources 8
5.4 RIPARIAN MANAGEMENT OBJECTIVES 9
5.4.1 Lakeshore Management 9
5.4.2 General Riparian Management 10
5.5 BIODIVERSITY OBJECTIVES 11
5.5.1 General Biodiversity 11
5.5.2 Landscape Level Biodiversity 12
5.5.3 Stand Level Biodiversity 13
5.6 RECREATION OBJECTIVES 14
5.6.1 Recreation Sites and Trails 14
5.6.2 Walk-in Lakes 15
5.6.3 Recreation and Tourism Zones 16
5.6.4 Road and Trail Disturbances 16
5.6.5 Remote Recreation and Tourism Zones – Back-country Recreational Activity 17
5.7 WILDLIFE OBJECTIVES 17
5.7.1 Deer 18
5.7.2 Moose 20
5.7.3 Mountain Goat 22
5.7.4 Flammulated Owl 23
5.7.5 "Interior" Western Screech Owl 24
5.7.6 Lewis's Woodpecker 25
5.7.7 Badger 26
5.7.8 Spotted Bat 27
5.8 VISUAL OBJECTIVES 28
5.8.1 Visually Sensitive Areas in the Headwaters Forest District (Kamloops TSA) 28
5.8.2 Visually Sensitive Areas in the Kamloops Forest District (Kamloops TSA) 29
5.8.3 Areas Outside Visually Sensitive Areas within the Kamloops TSA 31
5.9 CULTURAL HERITAGE OBJECTIVES 31
5.9.1 Cultural Heritage Resources 31
5.9.2 Archaeological Assessments 33
5.10 SETTLEMENT AREA OBJECTIVES 34
5.11 RANGE 35
5.12 RANGE BARRIERS AND NOXIOUS WEED MEASURES 35
5.12.1 Natural Range Barriers - Measures 35
5.12.2 Invasive Plants - Measures 36

6. STOCKING STANDARDS 37

APPENDIX A – STOCKING STANDARDS TABLES 39
5.13 A-1 GENERAL DISCUSSION 39
5.14 A-2 STOCKING STANDARDS TABLES 41
5.15 A-3 PARTIAL CUTTING STOCKING STANDARDS 53
APPENDIX B – WALK-IN LAKES 61
APPENDIX C - FOREST STEWARDSHIP PLAN MAPS 62

LIST OF TABLES

Table 1. Forest Development Units for the BCTS Kamloops TSA Forest Stewardship Plan. 2
Table 2. FRPA Sec 196(1) Blocks 5
Table 3. FRPA Sec 196(2) Blocks 6
Table 4. Declared Areas 6
Table 5. Riparian Retention Strategies - Streams 10
Table 6. Riparian Retention Strategies - Wetlands 11
Table 7. Riparian Retention Strategies - Lakes 11
Table 8. Wildlife related objectives in the BCTS Kamloops TSA Forest Stewardship Plan. 18
Table 9. Percent height above brush by BEC Zone 39
Table 10. Stocking Standards for Even-aged Stands 41
Table 11. Uneven-aged Stocking Standards 50
Table 12. Mixed Wood and Broadleaf Stocking Standards 51
Table 13. Deviation from potential (DFP) volume by understory tree density and overstory basal area 55
Table 14. Proposed minimum partial-cutting stocking standards for site series with 700/1200 even-aged stocking standards, for Kamloops BCTS – Kamloops TSA. 57
Table 15. Proposed minimum partial-cutting stocking standards for site series with 500/1000 even-aged stocking standards, for the Kamloops BCTS – Kamloops TSA. 58
Table 16. Tree acceptability criteria for the proposed stocking assessment procedure. 59
Table 17. Walk-in Lakes in the Kamloops TSA. 61
Table 18. Landscape Unit Based FDU Maps for the BCTS Kamloops TSA FSP. 62

LIST OF FIGURES

Figure 1. Forest Development Units for the BCTS Kamloops TSA Forest Stewardship Plan 3
Figure 2. Stocking zone, lower basal area limit, minimum stocking line, and isolines of average stand diameter for assessing partial cut stands in Kamloops BCTS – Kamloops TSA. 53
Figure 3. Stocking decision flowchart. 56
Figure 4. Suggested post-harvest stand structure standards for beetle-proofed lodgepole pine stands in Kamloops BCTS – Kamloops TSA. 60

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this FSP:

- **"BCTS Agreement Holder"** means the holder of a Timber Sale Licence or Road Permit granted by the TSM to which this FSP applies;
- **"Commencement Date"** means the date the Term of this FSP begins;
- "**FDU"** means the 33 forest development units identified under this FSP;
- **"FPPR"** means the Forest Planning and Practices Regulation, consolidated to December 31, 2004 as amended from time to time*;*
- **"FRPA"** means the *Forest and Range Practices Act*, SBC 2002, c. 69, as amended from time to time;
- **"FSP"** means this Forest Stewardship Plan;
- **"Kamloops LRMP"** means the Kamloops Land and Resource Management Plan approved by the government in 1995 and as amended from time to time;
- **"Submission Date"** means the date specified in Paragraph 2.1;
- **"Term"** means the period specified in Paragraph 2.2;
- "**TSM"** means the Timber Sales Manager for the BC Timber Sales Kamloops Business Area;
- **"Wildlife Tree Patches"** means an area occupied by a group of trees with special characteristics that provide valuable habitat for the conservation and enhancement of wildlife.

1.2 Definitions under Enactments

Unless otherwise expressly indicated, or indicated by context, terms used in this FSP have the definition given them, as of the Submission Date, in *Forest and Range Practices Act* and associated regulations and the *Forest Act* and the regulations under them, as amended from time to time.

2. SUBMISSION DATE, TERM AND COMMENCEMENT DATE OF THIS FSP

2.1 Submission Date

The date of submission of this FSP is September 25, 2006.

2.2 Term

The Term of this Extended FSP is 5 years beginning on the Commencement Date (January 01, 2012).

2.3 Commencement Date

The Commencement Date for the Term of this FSP is the date specified by the minister in approving this FSP.

3. APPLICATION OF THIS FSP

Subject to exceptions under FRPA, this FSP applies to each of the following located within an identified FDU:

(a) timber sale licenses advertised or entered into by the TSM on or after the commencement date,

(b) road permits granted by the TSM on or after the commencement date.

4. FOREST DEVELOPMENT UNIT

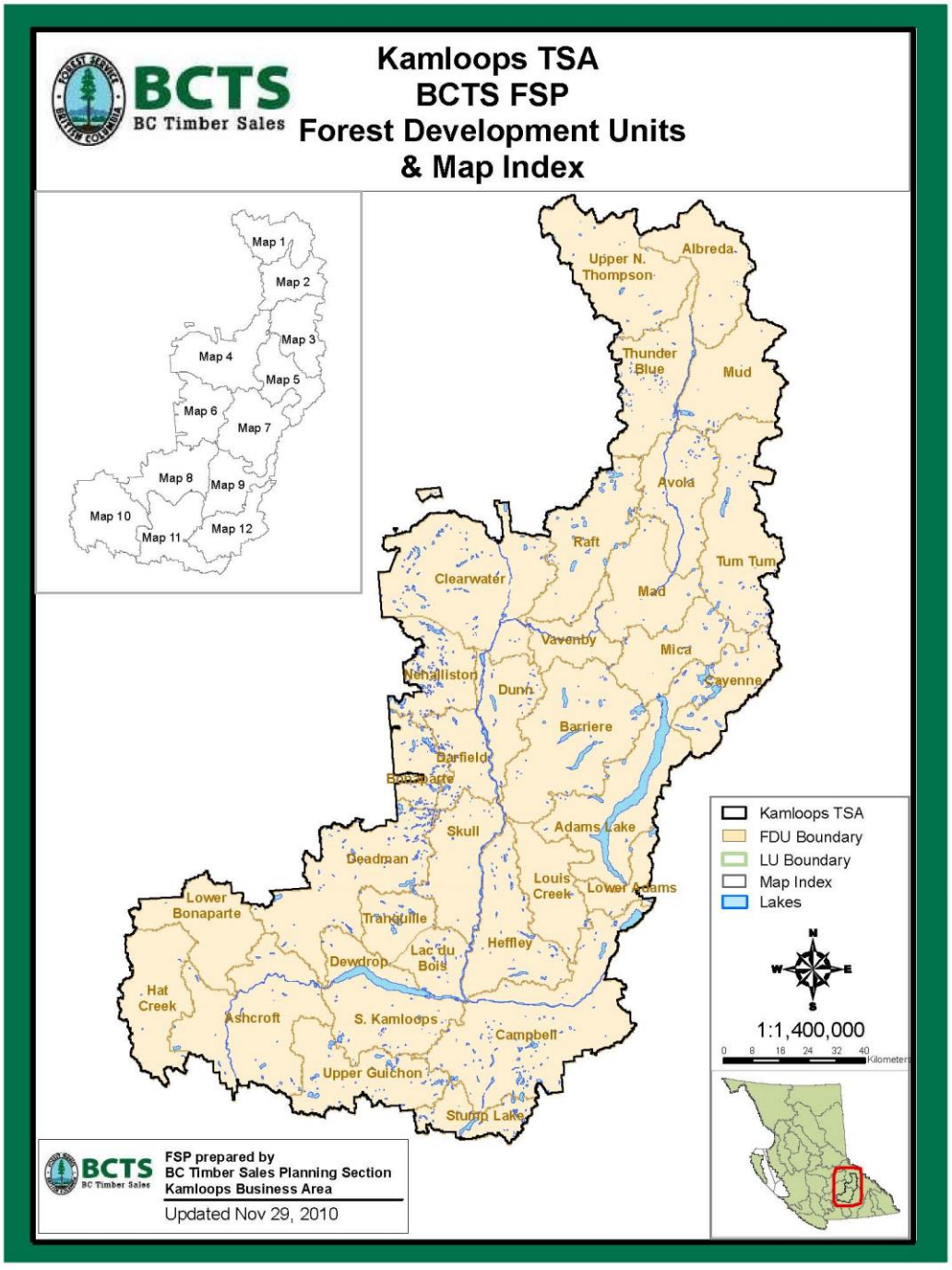
A total of 33 FDUs have been identified in this FSP which incorporate the majority of the Kamloops Timber Supply Area (TSA) and are based on the preliminary landscape units boundaries with assigned biodiversity emphasis options as proposed by the Kamloops LRMP, with boundaries updated to the year 2000[1].

Table 1. Forest Development Units for the BCTS Kamloops TSA Forest Stewardship Plan.

FDU #	FDU Name	FDU #	FDU Name
1	HAT CREEK	18	CLEARWATER
2	LOWER BONAPARTE	19	VAVENBY
3	ASHCROFT	20	RAFT
4	DEADMAN	21	MAD
5	DEWDROP	22	MICA
6	UPPER GUICHON	23	CAYENNE
7	TRANQUILLE	24	TUM TUM
8	HEFFLEY	25	AVOLA
9	CAMPBELL	26	THUNDER BLUE
10	LOUIS CREEK	27	MUD
11	BARRIERE	28	ALBREDA
12	ADAMS LAKE	29	UPPER N. THOMPSON
13	LOWER ADAMS	30	SOUTH KAMLOOPS
14	SKULL	31	STUMP LAKE
15	DARFIELD	32	LAC DU BOIS
16	BONAPARTE[2]	33	DUNN
17	NEHALLISTON		

[1] Updated based on new height of land data available in the year 2000.
[2] Bonaparte FDU boundary increased slightly. Amendment #3 – April 23, 2008

Figure 1. Forest Development Units for the BCTS Kamloops TSA Forest Stewardship Plan.



4.1 Items Identified in the FDU

Forest Stewardship Plan Maps (APPENDIX C - FOREST STEWARDSHIP PLAN MAPS) identify locations of the following items that were in effect on the Submission Date as per section 14(2) and (3) of the FPPR Ungulate winter range areas, wildlife habitat areas[3], fisheries sensitive watersheds[4], lakeshore management zones[5], scenic areas, L1 lakes, community watersheds, old growth management areas, and areas where commercial timber harvesting is prohibited by an enactment.

In addition, the areas within the FDU that are subject to a timber sale licence, or a road permit granted by the TSM are those TSLs and Road Permits that are in effect at the commencement date of this FSP.

FRPA 196 (1) and 196(2) cutblocks (no TSL issued) pertaining to this FSP are found in Table 2 and Table 3. All FDP approved roads providing access to these 196(1) and 196(2) blocks listed below are considered 196(1) and 196(2) roads, respectively.

[3] There are no Wildlife Habitat Areas designated within the Kamloops TSA and so there are no WHAs displayed on the FSP Maps.
[4] No Fisheries Sensitive Watersheds (FSWs) have been identified in the Kamloops TSA and so there are no FSWs displayed on the FSP Maps.
[5] Lakeshore Management Zones have not been established and so the LMZs have not been displayed on the FSP maps.

Table 2. FRPA Sec 196(1) Blocks

TSL	Block
A33284	1
A35204	1
A43404	1
A43469	1
A43470	1
A43471	1
A43682	1
A47006	1
A47007	1
A47008	1
A47011	1
A47023	1
A47980	1
A48687	3
A48687	4
A48687	4
A49108	1
A56781	1
A56803	1
A58384	1
A58384	2
A59696	1
N/A	MUD001
N/A	MUD002
A81552	BO6EZ
A81552	BO6F1
A59697	1
A73593	KC247

TSL	Block
A75065 (re-sale of 60227)	1
A75065 (re-sale of 60227)	2
A75065 (re-sale of 60227)	3
A75065 (re-sale of 60227)	4
A77739	BA302
A77739	BA303
A77739	BA5XE
A77740	FA5VZ
A77740	FA5W0
A77740	FA5W1
A78090	KC60U
A78090	KC60V
A78092	KC60S
A78092	KC62R
A78838	BO63R
A78838	BO63S
A78881	KC63D
A78881	KC63N
A78989	BO63V
A78990	BO63W
N/A	MUD003
N/A	MUD005
A78839	BO63T
A78839	BO634
A78990	BO63Y
A78991	BO63X
A78992	BO6DO
A78992	BO6EZ

TSL	Block
A78992	BO6F1
A79074	1
A79075	1
A79860	RO5XS
A79860	RO5XT
A79898	6K1
A79898	6K2
A79898	6K3
A79898	6K4
A79898	6k5
A79898	6k6
A80419	64L
A80419	64M
A80420	64N
A80420	64P
A81425	1
A81425	2
N/A	MUD006
A78737	BO642
A78737	BO643
A78737	BO644
A78737	BO64R
A83338	1
A66211	1
A83658	1
A83658	2
A87137	ALL

Table 3. FRPA Sec 196(2) Blocks

TSL	Block
A26202	1
A28822	1
A32474	1
A32476	1
A33275	1
A33275	2
A33275	3
A33276	1
A33284	1
A35236	1
A35242	1
A43634	1
A43635	1
A43636	1
A43637	1
A45487	A
A45487	B
A45488	A
A45488	B
A45488	C
A45489	A
A45489	B
A45489	C
A45490	A
A45490	B
A45490	C
A45490	D
A45490	E
A45490	F
A47012	1
A47017	1
A47018	1
A47977	1
A47979	1
A48005	1
A49106	1
A49107	1
A50906	1
A50906	2
A50906	3
A50906	4
A50906	5
A51370	1
A53655	1
A53655	2
A53684	1
A54103	1
A54107	1
A54583	A
A54583	B
A54583	C
A56795	1
A56802	1
A57031	1
A57031	2
A57841	1
A58268	1
A58269	1
A58270	1
A60230	1
A60230	2
A60230	3
A60231	1
A60231	2
A60233	1
A60233	2
A60235	1
A60716	FA25S
A60717	FA25T
A60718	FA25U
A60720	FA25W
A60949	1
A60950	1
A61028	1
A61548	ALL
A63854	1
A66451	1
A66451	2
A66451	3
A66451	4
A66452	1
A66453	1
A66453	2
A66453	3
A66454	1
A66463	1
A66463	2
A66463	3
A68518	1
A68518	2
A68518	3
A68518	4
A69075	1
A69076	1
A69076	2
A69076	3
A69365	1
A69367	A
A69367	B
A69368	1
A69369	1
A69370	1
A69371	1
A69372	1
A69373	1
A69374	1
A69375	1
A69376	1
A69387	1
A69388	1
A69389	1
A69390	1
A69391	1
A69392	1
A69393	1
A69394	1
A69395	1
A69396	1
A69397	1
A69398	1
A69399	1
A69401	1
A69402	1
A69403	1
A69404	1
A69405	1
A69406	1
A69407	1
A69408	1
A69409	1
A69410	1
A69411	1
A69412	1
A69413	1
A69414	1
A69415	1
A69416	1
A69443	1
A69444	1
A69445	1
A69447	1
A69448	1
A69449	1
A69450	1
A69451	1
A69452	1
A69453	1
A69454	1
A69455	1
A69456	1
A69457	1
A69458	1
A69459	1
A69460	1
A69461	1
A69462	1
A69463	1
A69465	1
A69471	1
A69472	1
A69473	1
A69474	1
A69475	1
A69476	1
A69477	1
A69478	1
A69479	1
A69480	1
A69495	1
A69732	1
A69732	2
A69732	3
A70127	1
A72338	1
A74386	1
A74386	2
A74386	3
A74387	1
A74387	2
A74388	1
A74388	2
A75063	2
A75064	1
A75065	1
A75065	2
A75065	3
A75065	4
A75449	1
A79073	1
A79861	RO6GT
A80034	RO5XY
A81592	TF1

Table 4. Declared Areas

TSL	Block
A60232	1
A60232	2
A60232	3
A60234	1
A60234	2
A60234	5
A60234	7

5. KAMLOOPS TSA RESULTS OR STRATEGIES

5.1 Incorporation of LRMP Objectives into the FSP

On January 23, 2006 the Minister of Agriculture and Lands signed the Order amending the "original order" dated January 23, 1996 which declared the Kamloops Land and Resource Management Plan (KLRMP) to be a Higher Level Plan (HLP). The purpose of the order is to facilitate implementation of the KLRMP in the context of the *Forest and Range Practices Act* and Forest Stewardship Plan content requirement. The order clarifies which provisions regarding zones, objectives and strategies from the KLRMP constitute the HLP objective and establish the area, or (Special) Resource Management Zone, to where the objective applies. Twenty six objectives were outlined by the HLPO. All HLPO Objectives that apply to the FDUs have been addressed or considered:

5.2 Soil Management and Conservation Objective

#	***Objective***	***Source***
FRPA S.149	The objective set by government for soils, is without unduly reducing the supply of timber from British Columbia's forests, to conserve the productivity and the hydrologic function of soils.	FPPR Sec 5
Applicable Area All FDUs.		
Result or Strategy <u>Approach to Harvesting and Roads</u> If the TSM carries out or authorizes primary forest activities, the activities will conform with Sections 35 and 36 of the FPPR.		

5.3 Water Objectives

5.3.1 Community Watersheds

#	***Objective***	***Source***
FRPA S.149	The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to, without unduly reducing the supply of timber from British Columbia's forests, prevent the cumulative hydrological effects of primary forest activities within the community watershed from resulting in: a) a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks, or b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water	FPPR Sec 8.2

	treatment required under (i) an enactment, or (ii) the licence pertaining to the waterworks.	

Applicable Area

Within designated Community Watershed areas: Kamloops Forest District Community Watersheds: Cornwall, Currie, Tranquille, Leonie, Nelson, Paul, Paul Lake, Peterson, Rosen, Skowootum, Toops, and Jimmies. Headwaters Forest District (Kamloops TSA Portion) Community Watersheds: Avola, Hascheak, Mcdougall, Russell Community Watersheds.

Result or Strategy

Definitions

1.1 In Paragraph 1.2:

(a) "Community Watershed Objective" means the objectives set by government for water in community watersheds as described in Section 8.2 of the Forest Planning and Practices Regulation (January 31, 2004);

(b) "Designated Community Watersheds" means the Cornwall, Currie, Tranquille, Leonie, Nelson, Paul, Paul Lake, Peterson, Rosen, Skowootum, Toops, and Jimmies community watersheds in the Kamloops Forest District and the Avola, Hascheak, Mcdougall, and Russell community watersheds in the Kamloops Timber Supply Area portion of the Headwaters Forest District.

Approach to Harvesting and Roads

1.2 If the TSM carries out or authorizes primary forest activities within **Designated Community Watersheds**, the TSM will:

(a) ensure that the timber harvesting and road construction is consistent with the **Community Watershed Objective** by conforming with the requirements for watersheds stated in Sections 59 to 63 of the FPPR (January 31, 2004);

(b) maintain a library of pertinent watershed assessments;

(c) complete assessments in the manner recommended by a qualified professional;

(d) ensure that primary forest activities are planned and conducted in a manner that is consistent with the assessment recommendations.

5.3.2 General Water Resources

#	***Objective***	***Source***
LRMP Sec 2.1.2	Ensure implementation of a referral process to notify all potentially impacted water licensees when development is proposed.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Approach to Harvesting and Roads

Within each FDU, if the TSM carries out or authorizes primary forest activities, the TSM will :

(a) contact water licensees to solicit input during the preparation of site plans if it is determined that the water license holder may be impacted by primary forest activities;

(b) notify water licensees when road construction or timber harvesting is to occur within a 100m radius of a water license where the water is diverted for human consumption.

5.4 Riparian Management Objectives

5.4.1 Lakeshore Management

#	*Objective*	*Source*
LRMP Sec 2.1.2.1	Manage riparian areas, including streams, wetlands and lakes in accordance with the Forest Planning and Practices Regulation and the Kamloops and Clearwater District Lakeshore Management Guidelines, or other applicable management tools or agency agreements.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In Paragraph 1.2, **"Lakes LRUPs"** means the *Clearwater Forest District Lakes Local Resource Use Plan – Lakeshore Management Guidelines* dated August 1, 2001 and the Kamloops Forest District *Lakes Local Resource Use Plan – Lakeshore Management Guidelines* dated December 20, 2001.

Approach to Harvesting and Roads

1.2 If the TSM carries out or authorizes primary forest activities within the ±190 m lakeshore management zone around classified lakes, the TSM will:

(a) ensure that, exclusive of the need for referrals, consultation and the submission of variance approvals, the timber harvesting and road construction is consistent with the intent of the harvesting guidelines found within the Lakes LRUPs;

(b) ensure that rational for variances permitted within the Lakes LRUPs will be developed and documented by a Qualified Registered Professional.

5.4.2 General Riparian Management

#	*Objective*	*Source*
FRPA S.149	The objective set by government for water, fish, wildlife and biodiversity within riparian areas is, without unduly reducing the supply of timber from British Columbia's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.	FPPR Sec 8

Applicable Area

All FDUs.

Result or Strategy

Approach to Harvesting and Roads

Within each FDU, if the TSM carries out or authorizes primary forest activities, the TSM will ensure that the primary forest activities complies with:

(a) Sections 47 to 51, 52(2) and 53 of the FPPR as those provisions were on the Date of Submission, and

(b) the retention strategies in a Riparian Management Zone for streams, wetlands and lakes as outlined in Table 5, Table 6, and
(c) Table 7 below;

Table 5. Riparian Retention Strategies - Streams

Streams				% Basal Area Retention – Streams General Objectives**	
Riparian Class	Width (m)	Riparian Reserve Zone (m)	Riparian Management Zone (m)	Riparian Management Zone	
				Low Windthrow Risk	Mod/High Windthrow Risk
S1	>20	50	20	≥ 25	0-50
S2	>5≤20	30	20	≥ 25	0-50
S3	>1.5≤5	20	20	≥ 25	0-50
S4	<1.5	0	30	≥ 25	0-50
S5	>3	0	30	0-30	0-30
S6	≤3	0	20	0-20	0-20

** These are General Objectives for % Basal Area Retention. Site specific factors may require additional retention to meet the objective of ensuring the viability of the RRZ. Site specific factors include water quality and fish habitat protection, level of shading required, sediment filtering, stream bank integrity, etc.

Table 6. Riparian Retention Strategies - Wetlands

Wetlands				% Basal Area Retention – Wetlands**
Riparian Class*	**Area (ha)**	**Riparian Reserve Zone (m)**	**Riparian Management Zone (m)**	**Riparian Management Zone**
W1	≥5	10	40	0-30
W2	≥1 & <5 ***	10	20	0-30
W3	≥1 & <5 +	10	20	0-30
W4	≥0.25 & <1 ++	0	30	10-50
W5	Complex Wetlands*	10	40	10-50

*Refer to definition of wetland classifications found in FPPR Section 48.
** These are General Objectives for % Basal Area Retention. Site specific factors will be considered when defining retention to meet the objective of ensuring the viability of the RRZ. Site specific factors include water quality and fish habitat protection, level of shading required, sediment filtering, stream bank integrity, etc.
*** Wetlands of this size within the following ecosystems: PP, IDFxh, xw, xm, and BG.
+ Wetlands of this size, outside of the following ecosystems: PP, IDFxh, xw, xm, and BG.
++ Wetlands of this size within the following ecosystems: PP, IDFxh, xw, xm, and BG.

Table 7. Riparian Retention Strategies - Lakes

Lakes			% Basal Area Retention – Lakes***
Lake Class *	**Riparian Reserve Zone Width (m)**	**Riparian Management Zone Width (m)**	**Riparian Mgmt Zone**
A	0	0	N/A
B	10	0	N/A
C	10	20	>=10+
D	0	30	>=10
E	0	30	>=10

*Refer to definition of lakes classifications found in the **Lakes LRUPs**.
*** These are General Objectives for % Basal Area Retention. Site specific factors will be considered when defining retention to meet the objective of ensuring the viability of the RRZ. Site specific factors include water quality and fish habitat protection, level of shading required, sediment filtering, stream bank integrity, etc.
+The >=10% BA retention represents compliance to FPPR Sec 52 and the reference to BA retention for small tenures

5.5 Biodiversity Objectives

5.5.1 General Biodiversity

#	***Objective***	***Source***
LRMP Sec 2.1.3.1	To conserve the diversity and abundance of native species and their habitats throughout the Kamloops LRMP	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Approach to Harvesting and Roads

The results or strategies in the following sections of this FSP are the results or strategies for this objective:

- Section 5.5.2 - Landscape Level Biodiversity
- Section 5.5.3 – Wildlife Tree Retention
- Section 5.5.2 - Old Growth Management Areas
- Section 5.4 - Riparian Management
- Section 5.7 - Wildlife and Species at Risk

5.5.2 Landscape Level Biodiversity

#	*Objective*	*Source*
FRPA S.149	The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.	FPPR Section 9

Applicable Area

All FDUs.

Result or Strategy

Approach to Harvesting and Roads

When the TSM carries out or authorizes primary forest activities, the TSM will ensure that the activities are designed and carried out in a manner that is consistent with the requirements of Sections 64 and 65 of the FPPR.

#	*Objective*	*Source*
Ministerial Order under the Land Act	1. Conserve biodiversity by retaining old forest values and attributes, or rare features within the OGMAs across the landscape units over time. 2. Maintain all timber within OGMAs except as required to accommodate the following purposes: (a) to prevent the spread of insect infestation or disease that pose a significant threat to forested areas external to the OGMA; (b) to address safety hazards associated with primary forest activities; (c) to provide for guyline clearance and tailhold anchors; (d) to address fuel management concerns and related safety hazards;	Old Growth Management Objectives for the Kamloops Land and Resource Management Plan Area, dated March 5, 2013

	(e) to provide road access where no alternative practicable option for road location exists; or (f) to facilitate timber harvesting that will result in operationally practicable cutblock boundaries. 3. Primary forest activities conducted for the purposes under section 2 must: (a) be conducted to the minimum extent necessary to accommodate the purpose; and (b) not exceed the lesser of two hectares or 10% of an individual OGMA polygon per 20 year time period.	

Applicable Area

All FDUs

Results or Strategies

Approach to Harvesting and Roads

When the TSM carries out or authorizes primary forest activities, the TSM will ensure that the activities are designed and carried out in a manner that is consistent with objectives 2. and 3. in the March 5, 2013 Land Act Order establishing old growth management objectives for the Kamloops Land and Resource Management Plan area.

5.5.3 Stand Level Biodiversity

#	*Objective*	*Source*
FRPA S.149	The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.	FPPR Sec 9.1

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 to 1.4, **"Mature Forest"** means:
(a) for pine leading stands, trees that are greater than or equal to 80 years of age,
(b) for deciduous leading stands, trees that greater than or equal to 60 years of age, and;
(c) for coniferous leading stands, other than pine, trees that are greater than or equal to 100 years of age.

Approach to Harvesting and Roads

1.2 When the TSM carries out or authorizes primary forest activities, the TSM will ensure that the activity is designed and carried out in a manner that conforms to the following:

(a) at least 80% of the cutblocks greater than 5 hectares with harvesting completed during the 12 month period beginning on April 1 of any calendar year will have one or more Wildlife Tree Retention Areas associated with the cutblock, and;

(b) for all cutblocks, the distance from a Wildlife Tree Retention Area or area of **Mature Forest** to another Wildlife Tree Retention Area or area of **Mature Forest** will not exceed 500 metres.

1.3 The TSM will not carry out or authorize timber harvesting within a Wildlife Tree Retention Area unless:

(a) the trees on the Net Area to be Reforested of the cutblock to which the Wildlife Tree Retention Area relates have developed attributes that are consistent with a **Mature Forest**,

(b) access to future harvest is severely limited by the Wildlife Tree Retention Area,

(c) the removal of one or more trees is necessary to ensure public safety; or

(d) the post-harvest stand within the Wildlife Tree Retention Area will continue to have the ability to provide suitable wildlife tree habitat;

(e) a qualified registered professional has determined that ecological value of the Wildlife Tree Retention Area has been lost due to windfall, blowdown or another disturbance, or

(f) the condition of the stand within the Wildlife Tree Retention Area represents a significant forest health risks to surrounding stands and

1.4 If the TSM carries out or authorize timber harvesting within a Wildlife Tree Retention Area for the reasons outlined in Section 1.3 e and f, then the harvested Wildlife Tree Retention Area will be replaced with an equivalent or other suitable Wildlife Tree Retention Area.

5.6 Recreation Objectives

5.6.1 Recreation Sites and Trails

#	*Objective*	*Source*
Grandparented designations	Manage known recreation sites and trails in accordance with established objectives	FRPA Sec 180

Applicable Area

Established recreation sites and trails in the Headwaters Forest District portion of the FDU.

Note

Although Recreation Sites and Trails have been legally established in the Kamloops Forest District, no formal objectives (as required by FRPA Sec 181) were established and therefore no Result or Strategy is required in this FSP.

Result or Strategy

1.1 When the TSM carries out or authorizes primary forest activities in areas adjacent to a recreation site or trail with established objectives, the TSM will ensure that the activity is designed and carried out in a manner that is consistent with the established objectives.

1.2 When the TSM carries out or authorizes primary forest activities in areas within 100m of a designated Recreation Sites and Trails with established objectives, the TSM will ensure that the activity is designed and carried out in a manner that is consistent with the following guidelines:

(a) Utilize a silviculture system of partial cutting, when stand damage from forest health factors is at least 10% of the stems per hectare;
(b) Consider the use of a silviculture system of clear cutting, when stand damage from forest health factors is greater than 40% of the stems per hectare; or
(c) Utilize temporary access construction, or permanent access construction with access control implemented post-construction.
(d) Repair or mitigate physical damage to the recreation site or trail caused by road construction or harvest activities.

1.3 When the TSM retains maintenance responsibility for a Forest Service Road that is the only access to an established Recreation Site or Trail, the TSM will ensure that summer access is not restricted except for temporary closures to repair or replace roads and stream crossings.

5.6.2 Walk-in Lakes

#	*Objective*	*Source*
LRMP Sec 2.1.5	Maintain a mosaic of angling opportunities within the recreational spectrum (i.e. walk-in lakes, drive to lakes, trophy lakes)	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In paragraph 1.2

(a) **"Walk-in Lakes"** means a lake identified as a Walk-in Lake as outlined in APPENDIX B – WALK-IN LAKES.

(b) **"Lakes LRUPs"** means the Kamloops Forest District *Lakes Local Resource Use Plan – Lakeshore Management Guidelines* dated December 20, 2001 and the Clearwater Forest District Lakes Local Resource Use Plan dated August 1, 2001.

Approach to Harvesting and Roads

1.2 Subject to Section 1.3, before the TSM carries out or authorizes primary forest activities in areas adjacent to **Walk-in Lakes**, the TSM will ensure that the activity is designed and carried out in a manner that is consistent with the access management recommendations of the **Lakes LRUPs.**

1.3 The TSM will not authorize or carry out permanent road construction within a zone around a **Walk-in Lake** that is subject to an order under Section 58(1) unless no other practicable option exists to provide road access for timber harvesting within the drainage system associated with the lake.

1.4 Strategies outlined in Section 5.6.1 (Recreation Sites and Trails) Section 1.2 (a) through (d) are strategies that apply to identified **Walk-in Lakes** under this objective.

5.6.3 Recreation and Tourism Zones

#	*Objective*	*Source*
LRMP Sec 2.6.1	Maintain viewscapes in Recreation and tourism areas to a standard that does not detract from the recreational enjoyment of users.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All Special Resource Management – Recreation and Tourism Zones as identified in Figure 11 of the Kamloops LRMP, that fall within the FDU – Zones include Alan Creek, Bischoff, Blustery, Bone, Clemina, Lac Le Jeune, North Thompson Glacier, Smoke, Taweel, Thompson Rivers, Tod Mountain and Tod Mountain (controlled area)

Result or Strategy

Approach to Harvesting and Roads

The results or strategies in following sections of this FSP are the results or strategies for this objective:

- Section 5.8 – Visual Objectives.

5.6.4 Road and Trail Disturbances

#	*Objective*	*Source*
LRMP Sec 2.6.1	Road and trail construction, maintenance and deactivation and other surface disturbances and construction will be undertaken in a manner that meets	Kamloops LRMP HLP Order dated January 23,

	the management objectives of each recreation and tourism zone, in accordance with direction from an approved plan, local process or enhanced referral.	2006

Applicable Area

All Special Resource Management – Recreation and Tourism Zones as identified in Figure 11 of the Kamloops LRMP, that fall within the FDU – Zones include Alan Creek, Bischoff, Blustery, Bone, Clemina, Lac Le Jeune, North Thompson Glacier, Smoke, Taweel, Thompson Rivers, Tod Mountain and Tod Mountain (controlled area)

Result or Strategy

Approach to Harvesting and Roads

When the TSM carries out or authorizes timber harvesting or road construction, the TSM will ensure that the activity is designed and carried out in a manner that is consistent with existing direction from an approved plan, local process or enhanced referral.

5.6.5 Remote Recreation and Tourism Zones – Back-country Recreational Activity

#	*Objective*	*Source*
LRMP Sec 2.6.1.4	Extractive uses are permitted providing they are consistent with the objectives of the RMZ.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

R4 – Bone and R7 – North Thompson Glacier Special Resource Management – Recreation and Tourism Zones.

Result or Strategy

Approach to Harvesting and Roads

When the TSM carries out or authorizes primary forest activities in areas where there are currently no roads and little evidence of human activity, the TSM will ensure that access is designed to minimize the impact to the long-term objectives of maintaining a predominantly primitive condition.

5.7 Wildlife Objectives

The following section outlines general wildlife objectives as well as species and area specific objectives from both FRPA – General Objective in FPPR and related Section 7(2) Notices and the Kamloops LRMP HLP Objectives. Table 8 details the wildlife species considered in this FSP.

Table 8. Wildlife related objectives in the BCTS Kamloops TSA Forest Stewardship Plan.

Species	FRPA	Kamloops LRMP	Applicable Area for Results and Strategies
Mule Deer	No "Section 7 Notice" exists for mule deer. No WHAs designated.	Kamloops LRMP Section 2.1.12.1 – Higher Level Plan Order (January 08, 2009)	Critical Deer Winter Range as outlined in Map 1, Kamloops LRMP.
Moose	No "Section 7 Notice" exists for moose. No WHAs designated.	Kamloops LRMP Section 2.1.12.2 – Higher Level Plan Order (January 08, 2009)	Critical Moose Winter Range as outlined in Map 1, Kamloops LRMP
Mountain Goat	Notice under FRPA Sec 7(2)	N/A	A maximum of 25,998 ha within Kamloops TSA.
Flammulated Owl	No "Section 7 Notice" exists for Flammulated Owl.	Background Information for Wildlife Habitat for Species at Risk	Kamloops LRMP Figure 3, General Resource Management Zone
"Interior" Western Screech Owl	No "Section 7 Notice" exists for "Interior" Western Screech Owl.	Background Information for Wildlife Habitat for Species at Risk	Kamloops LRMP Figure 3, General Resource Management Zone
Lewis's Woodpecker	No "Section 7 Notice" exists for Lewis's Woodpecker.	Background Information for Wildlife Habitat for Species at Risk	Kamloops LRMP Figure 3, General Resource Management Zone
Badger	No "Section 7 Notice" exists for Badger.	Background Information for Wildlife Habitat for Species at Risk	Kamloops LRMP Figure 3, General Resource Management Zone
Spotted Bat	No "Section 7 Notice" exists for Spotted Bat. No WHAs designated.	Background Information for Wildlife Habitat for Species at Risk	Kamloops LRMP Figure 3, General Resource Management Zone

5.7.1 Deer

The following objectives and associated results or strategies pertain to the Critical Deer Winter Range areas as outlined in the Kamloops LRMP.

#	***Objective***	***Source***
LRMP Section 2.1.12.1	Maintain or enhance forage production and habitat requirements in critical deer winter range	Kamloops LRMP HLP Order dated January 8, 2009
LRMP Section 2.1.12.1	Disperse the timber harvest throughout the winter range and spread it our evenly over the rotation	Kamloops LRMP HLP Order dated January 8, 2009
LRMP Section 2.1.12.1	Maintain at least 25% of forested area in the thermal cover. Link thermal cover units together with suitable	Kamloops LRMP HLP Order dated

	travel corridors, especially mature Douglas fir vets on ridges	January 8, 2009
LRMP Section 2.5.2	Skull Wildlife Habitat – Maintain or enhance forage production and habitat requirements in critical deer winter range	Kamloops LRMP HLP Order dated January 8, 2009

Applicable Area

Critical Deer Winter Range (Kamloops HLP Ministerial Order January 8, 2009) and the Skull Wildlife Habitat Management Area (January 8, 2009). These areas are found within the following FDUs: Raft, Mad, Vavenby, Nehalliston, Barrier, Adams Lake, Dunn, Darfield, Skull, Deadman, Louis Creek, Heffley, Lower Adams, Lower Bonaparte, Tranquille, Hat Creek, Lac du Bois, Dewdrop, Ashcroft, S. Kamloops, Campbell, and Stump Lake.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) **"Critical Deer Winter Range"** means an area that:
- (i) is Crown land;
- (ii) is identified as Critical Deer Winter Range in Kamloops HLP Ministerial order dated January 8, 2009); or
- (iii) is within the Skull Wildlife Habitat Management Area.

(b) **"Established Cutblock"** means a cutblock that, before the earlier of the date a cutblock or road is included within a TSL or Road Permit to which this FSP applies, or is included within a declared area under this FSP, has been:
- (i)harvested under a TSL to which this FSP applies;
- (ii)included within a issued or awarded TSL to which this FSP applies; or
- (iv) Identified in an inventory (RESULTS layer) or notice provided by Government as an area:
  - (A) harvested under a license to which this FSP does not apply;
  - (B) included in a current cutting permit or timber sale issued under a license to which this FSP does not apply.

(c) **"Thermal Cover Unit"** means area in a FDU and Critical Deer Winter Range that is:
- (i) Suitable Snow Intercept Cover and is not in an Established Cutblock;
- (ii) Suitable Snow Intercept Cover and is in an Established Cutblock;
- (iii) In an established cutblock that is planned to be harvested in a manner that will provide Suitable Snow Intercept Cover on harvest completion.

(d) **"Suitable Snow Interception Cover"** means:
- (i) a forest cover polygon that:
  - A. is greater than 0.25 hectares in size;

B. is conifer leading; and
C. has a crown closure class of:
I. 2 or greater in the BG, PP, or IDFxh biogeoclimatic zones;
II. 5 or greater in the ESSF and ICH biogeoclimatic zones;
III. 4 or greater in all other biogeoclimatic zones;

(ii)an area harvested under a single-tree or group selection system; or
(iii)a forested area that contains the attributes and size characteristics specified in Clause (i).

Approach to Harvesting and Roads

1.2 Where the TSM carries out or authorizes primary forest activities in an area within Critical Deer Winter Range, the TSM will ensure that:

(a) subject to strategy 5.12.2, as of the regeneration date of a harvested cutblock to which the FSP applies, permanent road right of ways associated with the cutblock will be seeded with a suitable grass seed mix;

(b) to the extent practicable the timber harvesting is dispersed throughout the deer winter range and is spread out evenly over the rotation,

(c) the TSM will not cause less than 25% of the forested area in each **Thermal Cover Unit** to be retained as **Suitable Snow Interception Cover**,

(d) to the extent practicable **Thermal Cover Units** will be linked together with suitable travel corridors,

(e) uneven aged management is practiced when species composition, stand condition/structure and site conditions are suitable, and

(f) mixed species reforestation and management are implemented where it is ecologically suitable.

1.3 Paragraph 1.2 does not apply to the extent it is not practicable to retain Suitable Snow Interception Cover where timber harvesting is being carried out on a cutblock:
(a) to recover timber damaged by fire, insect infestation, wind or other similar events;
(b) to facilitate treatments required to address root disease;
(c) by employing a cable harvest system; or
(d) for safety reasons.

5.7.2 Moose

The following objectives and associated results or strategies pertain to the Moose Winter Range areas as identified in the Kamloops LRMP (1995).

#	*Objective*	*Source*
LRMP Sec. 2.1.12.2	Critical Moose Winter Range – Maintain thermal and visual cover for moose, and enhance browse production.	Kamloops LRMP HLP Order dated January 8, 2009
LRMP Sec. 2.1.12.2	Critical Moose Winter Range – Maintain suitable forest cover attributes with respect to thermal cover and forage production.	Kamloops LRMP HLP Order dated January 8, 2009
LRMP Sec. 2.5.1	The overall objective of special resource management zones for habitat and wildlife management areas is to: maintain or enhance identified wildlife habitat areas.	Kamloops LRMP HLP Order dated January 8, 2009
LRMP Sec. 2.5.2	Skwilatin Wildlife Habitat – Maintain or enhance forage production and habitat requirements in critical moose winter range	Kamloops LRMP HLP Order dated January 8, 2009

Applicable Area

Critical Moose Winter Range (January 8, 2009) and the Skwilatin Habitat RMZ (January 8, 2009) areas that are found within the following FDUs: Upper N. Thompson, Albreda, Thunder Blue, Mud, Tum Tum, Avola, Raft, Mad, Clearwater, Vavenby, Mica, Nehalliston, Cayenne, Barrier, Adams Lake, Dunn, Darfield, Bonaparte, Skull, Deadman, Louis Creek, Heffley, Tranquille, Lac du Bois, S. Kamloops, Campbell, Upper Guichon, and Stump Lake.

Result or Strategy

Definitions

1.1 In Paragraph 1.2:

(a) "**Extended Use Roads"** means newly constructed roads that are planned for more than 2 years of use for forestry activities;

(b) **"Moose Forage"** means palatable species of plants that are a food source for Moose. These plants include Salix spp., red-osier dogwood and Betula spp.;

(c) **"Moose Habitat"** means wetlands in **Moose Winter Range** that are either 200 metres in length or greater than one hectare in size and that contain habitat features required by Moose as defined by a qualified registered professional;

(d) **"Moose Winter Range"** means areas identified in Figure 4 of the Kamloops Land and Resource Management Plan (July 1995) as critical moose winter range;

(e) **"Moose Management Units"** means 200 metre buffers around **Moose Habitat**;

(f) **"Visual Screening"** means vegetation and/or topography providing visual obstruction that makes it difficult to see into adjacent areas from the roadbed.

Approach to Harvesting and Roads

1.2 If the TSM carries out or authorizes primary forest activities within an area in the FDU that is in **Moose Winter Range,** the TSM will:

(a) pursue mixed forest management with similar species distribution to natural stands (including deciduous) (LRMP 2.1.12.2),

(b) within each **Moose Management Unit**, retain at least 67% of the forested area equal to or greater than 20 years of age,

(c) where present, retain **Visual Screening** along those **Extended Use Roads** that are located within 100 meters of a **Moose Management Unit**, and

(d) retain **Moose Forage** during silviculture activities (including brushing, weeding and stand tending) unless retaining **Moose Forage** impedes the ability of a stand to reach free growing status.

5.7.3 Mountain Goat

#	*Objective*	*Source*
FRPA 7	FPPR section 7(2) states: "A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister of Water, Land and Air Protection, or a designated official, notifies the person of the applicable (a) species referred to in subsection (1), and (b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1)."	FPPR Section 7

Applicable Area

Mountain Goat Winter Range areas that are found within the following FDUs: Upper N. Thompson, Albreda, Thunder Blue, Mud, Tum Tum, Avola, Cayenne, Barrier, and Dunn.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) "Early Seral" means less than 40 years of age;

(b) "Escape Terrain" means rock outcrops or cliffs with slopes >30^{O} and <60^{O};

(c) "Existing Reserves" means **Old Growth Management Areas**, **Wildlife Tree Patches** or other reserves established to protect additional resource values;

(d) "Inoperable Areas" means those areas identified spatially by forest cover data as being not operationally feasible. Examples of **Inoperable Areas** include low productivity sites and steep inaccessible terrain;

(e) "Mountain Goat Winter Range" means areas identified in the Kamloops Timber Supply Area by Ministry of Environment and provided as spatial data to support the **Ungulate Winter Range Notice**;

(f) "Snow Interception Cover" means mature coniferous forest with preference given to Douglas-fir (*Pseudotsuga menziesii*) leading stands equal to or greater than 12m in height with a crown closure class equal to or greater than 7. Snow interception cover is assumed to also provide adequate security cover and thermal cover;

(g) "Total Habitat Required" means a maximum of 25,998 ha of habitat with no timber supply impacts as specified in the **Ungulate Winter Range Notice** for this species;

(h) "Ungulate Winter Range Notice" means the notice for the Kamloops Timber Supply Area dated December 30, 2004 and issued to the Holder of this FSP by the Date of Submission pursuant to section 7(2) of the FPPR.

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3, within an area in the FDU that is subject to the **Ungulate Winter Range Notice**, if the TSM carries out or authorizes primary forest activities, the TSM will comply with the objectives set by government for the winter survival of ungulates as described in the **Ungulate Winter Range Notice**. Specifically:

(a) within 200 metres of **Escape Terrain**, the TSM will only carry out or authorize primary forest activities if the TSM can utilize **Existing Reserves** and **Inoperable Areas** to retain less than or equal to 33% of the forested area in **Early Seral** and retain equal to or greater than 50% basal area of **Snow Interception Cover**; and

(b) in areas currently occupied by Mountain Goats for winter use within **Mountain Goat Winter Range,** the TSM will refer to the **Ungulate Winter Range Notice** and/or other pertinent information for guidance during the development of strategies to conserve sufficient habitat for this species.

Amount of Area Affected

1.3 The amount of area subject to Paragraph 1.2 is the **Total Habitat Required** with no impact to the timber supply.

5.7.4 Flammulated Owl

#	*Objective*	*Source*
LRMP 2.1.12	Ensure habitat needs of all naturally occurring wildlife species are provided for. Special attention will be paid to those red- and blue- listed species, as defined by BC Environment, and species designated as regionally important (e.g. Mule Deer)	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) "Flammulated Owl Known Locations" means areas where Flammulated Owls have been identified in the Kamloops TSA from spatial data from the Land and Resource Data Warehouse;

(b) "Total Habitat Required" means 3,300 ha of habitat specified in the **Species at**

Risk Background Information Document.

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3, the TSM will only carry out or authorize primary forest activities in an area occupied by Flammulated Owl if the TSM ensures that the design of the area:

(a) refers to the Flammulated Owl *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004) and/or other pertinent information for guidance during the development of strategies to conserve sufficient habitat in that area; and

(b) considers **Flammulated Owl Known Locations** when establishing **Wildlife Tree Patches**;

Amount of Area Affected

1.3 The amount of area subject to Paragraph 1.2 is the **Total Habitat Required** consistent with the policy direction on timber supply impacts.

5.7.5 "Interior" Western Screech Owl

#	*Objective*	*Source*
LRMP 2.1.12	Ensure habitat needs of all naturally occurring wildlife species are provided for. Special attention will be paid to those red- and blue- listed species, as defined by BC Environment, and species designated as regionally important (e.g. Mule Deer)	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) "Interior Western Screech Owl Known Locations" means areas where Interior Western Screech Owls" have been identified in the Kamloops TSA;

(b) "Total Habitat Required" means 60 ha of habitat specified in the **Species at Risk Background Information Document**.

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3, the TSM will only carry out or authorize primary forest activities in an area occupied by "Interior" western Screech Owl if the TSM ensures that the design of the area:

(a) refers to the "Interior" Western Screech Owl *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004) and /or other

pertinent information for guidance during the development of strategies to conserve sufficient habitat in that area; and

(b) considers **Interior Western Screech Owl Known Locations** when establishing **Wildlife Tree Patches**.

Amount of Area Affected

1.3 The amount of area subject to Paragraph 1.2 is the **Total Habitat Required** consistent with the policy direction on timber supply impacts.

5.7.6 Lewis's Woodpecker

#	*Objective*	*Source*
LRMP 2.1.12	Ensure habitat needs of all naturally occurring wildlife species are provided for. Special attention will be paid to those red- and blue- listed species, as defined by BC Environment, and species designated as regionally important (e.g. Mule Deer)	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) "Lewis's Woodpecker Known Locations" means areas where Lewis's Woodpeckers have been identified in the Kamloops TSA from the spatial data from the Land and Resource Data Warehouse;

(b) "Total Habitat Required" means 650 ha of habitat specified in the **Species at Risk Background Information Document**.

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3, the TSM will only carry out or authorize primary forest activities in an area occupied by Lewis's Woodpecker if the TSM ensures that the design of the area:

(a) refers to the Lewis's Woodpecker *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004) and/or other pertinent information for guidance during the development of strategies to conserve sufficient habitat in that area; and

(b) considers **Lewis's Woodpecker Known Locations** when establishing **Wildlife Tree Patches**;

Amount of Area Affected

1.3 The amount of area subject to Paragraph 1.2 is the **Total Habitat Required** consistent with the policy direction on timber supply impacts.

5.7.7 Badger

#	*Objective*	*Source*
LRMP 2.1.12	Ensure habitat needs of all naturally occurring wildlife species are provided for. Special attention will be paid to those red- and blue- listed species, as defined by BC Environment, and species designated as regionally important (e.g. Mule Deer)	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) "Badger Known Locations" means areas where Badgers have been identified in the Kamloops TSA as shown on spatial data from the Land and Resource Data Warehouse;

(b) "Total Habitat Required" means 35 ha of habitat specified in the **Species at Risk Background Information Document**.

Approach to Harvesting and Roads

1.2 Subject to Paragraphs 1.3,: the TSM will only carry out or authorize primary forest activities in an area occupied by Badger if the TSM ensures that the design of the area:

(a) refers to the Badger *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004) and/or other pertinent information for guidance during the development of strategies to conserve sufficient habitat; and,

(b) considers **Badger Known Locations** when establishing **Wildlife Tree Patches**.

Amount of Area Affected

1.3 The amount of area subject to Paragraph 1.2 is the **Total Habitat Required** consistent with the policy direction on timber supply impacts.

5.7.8 Spotted Bat

#	*Objective*	*Source*
LRMP 2.1.12	Ensure habitat needs of all naturally occurring wildlife species are provided for. Special attention will be paid to those red- and blue- listed species, as defined by BC Environment, and species designated as regionally important (e.g. Mule Deer)	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) "Spotted Bat Known Locations" means areas where Spotted Bats have been identified in the Kamloops TSA.;

(b) "Total Habitat Required" means 120 ha of habitat specified in the **Species at Risk Background Information Document**.

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3 , the TSM will only carry out or authorize primary forest activities in an area occupied by Spotted Bat if the TSM ensures that the design of the area:

(a) refers to the Spotted Bat *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004) and/or other pertinent information for guidance during the development of strategies to conserve sufficient habitat; and

(b) considers **Spotted Bat Known Locations** when establishing **Wildlife Tree Patches**;

Amount of Area Affected

1.3 The amount of area subject to Paragraph 1.2 is the **Total Habitat Required** consistent with the policy direction on timber supply impacts.

5.8 Visual Objectives

5.8.1 Visually Sensitive Areas in the Headwaters Forest District (Kamloops TSA)

#	***Objective***	***Source***
FRPA 9.2	The objective set by government in relation to visual quality for a scenic area, that a) was established on or before October 24, 2002, and b) for which there is no visual quality objective is to ensure that the altered forest landscape for the scenic area c) in visual sensitivity class 1 is in either the preservation or retention category, d) in visual sensitivity class 2 is in either the retention or partial retention category, e) in visual sensitivity class 3 is in either the partial retention or modification category, f) in visual sensitivity class 4 is in either the partial retention or modification category, g) in visual sensitivity class 5 is in either the modification or maximum modification category	FPPR Sec 9.2(2)
LRMP 2.1.14.2	The primary objective of management in Visually Sensitive Areas is to ensure that the levels of visual quality expected by society are achieved on Crown land in keeping with the concepts and principles of integrated resource management.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

Scenic Areas within all FDUs within the Headwaters Forest District portion of the Kamloops TSA.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3, **"Visually Sensitive Areas"** means areas presented in Figure 5 of the Kamloops LRMP (July 28, 1995);

In Paragraph 1.3 "salvage" is defined as harvest in timber that has been damaged by insects, forest health factors, or fire where:

a.) >35% of the net merchantable volume of a cutblock contains green, red, or grey attacked timber, or

b.) >75% of the net merchantable volume of a cutblock contains fire damaged timber.

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3, the TSM will only carry out or authorize primary forest activities in a **Visually Sensitive Area** if the TSM ensures that the design of the cutblock or road is consistent with the following:

(a) In areas of **Visual Sensitivity Class** 1, the altered forest landscape is either **Preservation** or **Retention**;

(b) In areas of **Visual Sensitivity Class** 2 , the altered forest landscape is either **Retention** or **Partial Retention**;

(c) In areas of **Visual Sensitivity Class** 3, the altered forest landscape is either **Partial Retention** or **Modification**;

(d) In areas of **Visual Sensitivity Class** 4, the altered forest landscape is either **Modification** or **Maximum Modification;** and

(e) the visual quality guidelines for timber harvesting outlined in Appendix 8 of the Kamloops LRMP (1995).

Effects of Other Circumstances

1.3 Paragraph 1.2 may not apply:

(a) if and to the extent necessary for harvesting or road construction:

(i) required for safety, fire suppression, salvage or to manage pest or disease outbreaks;

(ii) authorized or required by government;

(b) where, outside the control of the TSM, natural events or actions by third parties have impacted **Visually Sensitive Areas** so that the altered forest landscapes in Paragraph 1.2 cannot be achieved.

1.3.1 For the purposes of Paragraph 1.3 (a) (i):
The TSM will only carry out or authorize "salvage" primary forest activities in a Visually Sensitive Area if the TSM ensures that:

a) the primarily forest activities will be carried out in accordance with visual landscape design principles identified in the January 2001 Visual Assessment guidebook to the extent practicable, and

b) all reasonable efforts will be made to be fully consistent with the visual quality objective.

5.8.2 Visually Sensitive Areas in the Kamloops Forest District (Kamloops TSA)

#	*Objective*	*Source*
FRPA 180/181	**Grandparented Objective:** Known scenic areas with established VQOs.	FRPA Sec.180 and 181
LRMP 2.1.14.2	The primary objective of management in Visually Sensitive Areas is to ensure that the levels of visual quality expected by society are achieved on Crown land in keeping with the concepts and principles of integrated resource management.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

Within Visually Sensitive Area as

1) presented in Figure 5 (July 28, 1995) of the Kamloops Land and Resource Management Plan and including
2) additional areas established under District Manager direction and as displayed in APPENDIX C - FOREST STEWARDSHIP PLAN MAPS.

within all FDUs within the Kamloops Forest District portion of the Kamloops TSA.

Result or Strategy

Approach to Harvesting and Roads

In Paragraph 1.2 "salvage" is defined as harvest in timber that has been damaged by insects, forest health factors, or fire where:

a) >35% of the net merchantable volume of a cutblock contains green, red, or grey attacked timber, or

b) >75% of the net merchantable volume of a cutblock contains fire damaged timber.

1.1 Subject to Paragraph 1.2, the TSM will only carry out or authorize primary forest activities in a Visually Sensitive Area if the TSM ensures that the design of the primary forest activities are consistent with the following:

(a) the Visual Quality Objectives; and

(b) the visual quality guidelines for timber harvesting outlined in Appendix 8 of the Kamloops LRMP (1995).

Effects of Other Circumstances

1.2 Paragraph 1.1 may not apply:

(a) if and to the extent necessary for harvesting or road construction:

(i) required for safety, fire suppression, salvage or to manage pest or disease outbreaks;

(ii) authorized or required by government;

(b) where, outside the control of the TSM, natural events or actions by third parties have impacted **Visually Sensitive Areas** so that the objectives and guidelines in Paragraph 1.1 cannot be achieved.

1.2.1 For the purposes of Paragraph 1.2 (a) (i):
The TSM will only carry out or authorize "salvage" primary forest activities in a Visually Sensitive Area if the TSM ensures that:

c) the primarily forest activities will be carried out in accordance with visual landscape design principles identified in the January 2001 Visual Assessment guidebook to the extent practicable, and

d) all reasonable efforts will be made to be fully consistent with the visual quality objective.

5.8.3 Areas Outside Visually Sensitive Areas within the Kamloops TSA

#	*Objective*	*Source*
LRMP Section 2.1.14.1	Areas outside the identified visually sensitive areas in the Kamloops LRMP are managed for landscape objectives as follows: alterations may dominate the characteristic landscape but must borrow from natural line and form to such an extent and on such a scale that they are comparable to natural occurrences.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

Areas outside the identified visually sensitive areas in all FDUs.

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3, **"Visually Sensitive Areas"** means areas presented in Figure 5 (July 28, 1995) of the Kamloops LRMP;

Approach to Harvesting and Roads

1.2 Subject to Paragraph 1.3, within an area in the FDU that is outside of the identified Visually Sensitive Areas, the TSM will only carry out or authorize primary forest activities if the TSM ensures that the design of the cutblock or road is consistent with mimicking naturally occurring landscape characteristics with variety of openings (in size, shape and distribution), by following natural boundaries, lines and forms such as ridgelines, creeks, draws, rock outcrops or timber types etc. to ensure that naturally appearing boundaries remain;

Effects of Other Circumstances

1.3 Paragraph 1.2 may not apply if and to the extent necessary for harvesting or road construction:

(a) required for safety, fire suppression, salvage or to manage pest or disease outbreaks;

(b) authorized or required by government;

5.9 Cultural Heritage Objectives

5.9.1 Cultural Heritage Resources

#	*Objective*	*Source*
FRPA S.149	The objective set by government for cultural heritage resources is to conserve, or, if necessary, protect cultural heritage resources that are a) the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and b) not regulated under the Heritage Conservation Act	FPPR Sec 10

Applicable Area

All FDUs

Result or Strategy

Definitions

1.1 In Paragraphs 1.2 and 1.3:

(a) **"Affected Cultural Heritage Resource"** means a cultural heritage resource to which the objective set by government in section 10 of the FPPR pertains;

(b) **"Cultural Heritage Resource Evaluation"** means a process conducted by an authorized member of the affected First Nation or qualified professional to assess the existence and significance of an **Affected Cultural Heritage Resource**;

(c) **"Culturally Modified Tree"** means trees that have been altered by aboriginal people as part of their traditional use of the forests;

Approach to Harvesting and Roads

1.2 Within an area in the FDU:

(a) before carrying out or authorizing primary forest activities, the TSM will refer to potentially affected First Nations the areas identified for proposed forest harvesting and road construction and request information regarding cultural heritage resource values;

(b) if the TSM is made aware of the presence of an affected cultural heritage resource in or adjacent to a proposed cutblock or road, the TSM will:

(i) evaluate and work to mitigate the direct impact of the road or cutblock on the affected **Cultural Heritage Resource** based on:

a. the relative value or importance of the affected **Cultural Heritage Resource** to a traditional use by an aboriginal people;

b. the relative abundance or scarcity of the affected **Cultural Heritage Resource**;

c. the historical extent of the traditional use of the affected **Cultural Heritage Resource** and

d. the impact that conserving or protecting the **Cultural Heritage Resource** has on the Timber Sales Manager's ability to sell timber or an Agreement Holder's timber harvesting rights.

(ii) work with the affected First Nations who provided cultural heritage resource information, on the development of strategies for mitigating potential impacts to those values; and

(iii) consider and implement the recommended management strategies.

(c) if a previously unidentified **Affected Cultural Heritage Resource** is encountered during harvesting, road construction or mechanical site preparation that is carried out or authorized by the TSM, the TSM will require operations to cease to the extent necessary to protect the affected cultural heritage resource until a **Cultural Heritage Resource Evaluation** can be carried out.

(d) If the **Cultural Heritage Resource Evaluation** determines that the previously unidentified **Cultural Heritage Resource** consists of only **Culturally Modified Trees**, then the TSM will ensure that

(i) a survey to identify **Culturally Modified Trees** is carried out, and

(ii) the survey results are provided to affected First Nations:

(e) If the **Cultural Heritage Resource Evaluation** determines that the previously unidentified **Cultural Heritage Resource** is not a **Culturally Modified Tree** then the TSM will

(i) evaluate the direct impact of the forest practice on the Cultural Heritage Resource, and

(ii) in accordance with paragraph (b), prepare and implement recommendations to mitigate the impact on, conserve or, if necessary, protect the cultural heritage resource; and

(iii) communicate the outcomes of this evaluation to the First Nation in whose asserted traditional territory the area lies.

5.9.2 Archaeological Assessments

#	***Objective***	***Source***
LRMP Section 2.1.16	Undertake archaeological assessments in all High and Medium Potential areas identified in the Archaeological Overview Assessment	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs as it pertain to the area outlined in Figure 6 of the Kamloops LRMP otherwise referred to as “1995 AOA Model”.

Result or Strategy

Definitions

1.1 In Paragraph 1.2:

(a) **“Archaeological Impact Assessment”** means assessments initiated in response to proposed development projects which will disturb or alter the landscape, thereby potentially endangering archaeological sites, and

(b) **“Kamloops TSA Archaeological Overview Assessment”** means the process

developed to guide forest development planning in the Kamloops TSA as amended from time to time (1999).

Approach to Harvesting and Roads

1.2 If the TSM carries out or authorizes primary forest activities within an FDU, the TSM will:

(a) solicit input from affected First Nations through a referral process;

(b) comply with Forest and Range Agreements (FRA) with regard to unique referral processes as they pertain to those agreements;

(c) for participating First Nation Bands comply with the **Kamloops TSA Archaeological Overview Assessment** process for Forest Development Planning in the Kamloops TSA;

(d) conduct **Archaeological Impact Assessments** on areas recommended through the **Kamloops TSA Archaeological Overview Assessment** process;

(e) implement recommendations of the **Kamloops TSA Archaeological Overview Assessment**, where significant sites are found, through measures such as establishing no harvest buffers, redesign of cutblock boundaries, combining into wildlife tree patches or riparian reserves;

(f) for those First Nation Bands who are not participating in the **Kamloops TSA Archaeological Overview Assessment** process, conduct archaeological assessments in all high and Medium Potential areas identified in Figure 6 of the Kamloops Land and Resource Management Plan (1995).

5.10 Settlement Area Objectives

#	***Objective***	***Source***
LRMP Section 2.2	Manage land within community growth boundary to meet the objectives set out in approved community land use plans	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

FDUs which contain the following Settlement Resource Management Zones: Ashcroft, Ashcroft Manor, Avola, Barriere, Blackpool, Blue River, Boston Flats, Cache Creek, Campbell Creek, Cherry Creek, City of Kamloops, Clearwater, Duck Range, East Clearwater, Heffley Creek, Knutsford, Lac Le Jeune, Logan Lake, Louis Creek, McLure, Martin Prairie, Mesa Vista, Monte Creek, North of Heffley Creek, Paul Lake, Pinantan, Pritchard, Savona, Six Mile, Sullivan (Knouff) Lake, Sunshine Valley and Vinsula/Black Pines.

Result or Strategy

Definitions

1.1 In Paragraph 1.2, **"Settlement Resource Management Zones"** means areas proposed for settlement use as outlined in an Official Community Plan, Crown Land Plan or an

LRMP.

Approach to Harvesting and Roads

1.2 Before the TSM carries out or authorizes primary forest activities in the Settlement Resource Management Zones, the TSM will consider any approved community land use plans that are applicable.

5.11 Range

#	***Objective***	***Source***
LRMP Sec. 2.1.10	Minimize tree/grass/cattle conflicts through integrated management practices.	Kamloops LRMP HLP Order dated January 23, 2006

Applicable Area

All FDUs.

Strategy

Approach to Harvesting and Roads

1.1 Before the TSM carries out or authorizes primary forest activities within an FDU that contains range tenure, the TSM will;

(a) on an annual basis or as required inform the range tenure holder of activities within or adjacent to their range tenure, and

(b) where range tenure holder indicates that conflict between timber and range management may arise develop and implement strategies, in collaboration with the range tenure holder, to minimize such conflict through integrated management practices.

5.12 Range Barriers and Noxious Weed Measures

5.12.1 Natural Range Barriers - Measures

The following measures will be undertaken by the holder of this FSP in all FDU areas that contain, or are adjacent to range tenures:

#	***Objective***	***Source***
FRPA Section 48	BCTS must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.	FPPR Section 18

Applicable Area

All FDUs.

Measures

Approach to Harvesting and Roads

1.1 TSM will annually, based on information obtained from Ministry of Forests and Range, update maps of occupied areas or areas adjacent to range tenures with information pertinent to range management (range unit boundaries, natural barriers).

1.2 Before the TSM carries out or authorizes primary forest activities within an FDU, the TSM will;

(a) inform the range holder of activities within or adjacent to their range tenure, and

(b) where the range tenure holder indicates that primary forest activities may remove or render ineffective a **Natural Range Barrier**, work with the range tenure holder to develop and implement a strategy for mitigation.

5.12.2 Invasive Plants - Measures

Requirement	***Source***
A person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plants Regulation, if the introduction is likely to be a result of the person's forest practices.	FRPA Section .47 and FPPR Section 17

Applicable Area

All FDUs

Measures

Definitions

1.1 In Paragraph 1.2, **"Invasive Plant Species"** means those plants defined in the Invasive Plants Regulation (January 31, 2004) as amended from time to time.

Approach to Harvesting and Roads

1.2 The measures for the purposes of preventing the introduction or spread of prescribed species of invasive plants are:

(a) before the TSM carries out or authorizes primary forest activities within an FDU, the TSM will check the provincial inventory database and mapping system for the presence of invasive plant species in the area proposed for development;

(b) if the TSM carries out or authorizes primary forest activities that will result in creating contiguous areas of disturbed soil ≥ 0.25 ha, the TSM will ensure that, within one year of their completion, the portions of the area occupied by ditch-lines, cut-or fill slopes, and deactivated roads which are not reforested (except for active running surface) are revegetated using:

i) seed or forage mixture that meets or exceeds Canada Common Number 1 Forage Mixture as defined by the *Canada Seeds Act* and Regulation; or

ii) native forbs or shrubs.

(c) report new invasive plant infestation sites to the Ministry of Forests and Range within one year of discovery.

6. STOCKING STANDARDS

All stocking requirements are applicable across the entire FSP area (all FDUs).

Legal Reference: Section 29 (2) of the Act and Section 16 and 44(1) of the FPPR

Scale of Measurement: Cutblock.
Map Reference: N/A.

General Standards

Where the TSM is required under FRPA to establish a free growing stand with respect to timber harvesting governed by this FSP, the TSM will do so in accordance with the coniferous (even-aged), coniferous (uneven-aged), and deciduous stocking standards in Appendix A.

For areas where the TSM authorizes commercial thinning or other similar type of intermediate cutting, stocking standards for the residual stand will be applied as per Table 11 in Appendix A-2 and/or Appendix A-3.

SIGNATURES OF PREPARING FORESTER AND PERSON REQUIRED TO PREPARE PLAN

	Preparing Forester *"I certify that I have determined that this work was performed to an acceptable standard"*
Zoran Boskovic, R.P.F BCTS Planning Forester Kamloops Timber Sales Office Kamloops Business Area	

	Signature of Person Required to Prepare the Plan
Tony Buckley, P.Eng Timber Sales Manager Kamloops Timber Sales Office Kamloops Business Area	

APPENDIX A – STOCKING STANDARDS TABLES

5.13A-1 GENERAL DISCUSSION

Minimum Inter-Tree Distance

The minimum inter-tree distance may be reduced to 1.5 meters from the 2 metres stated in the stocking standards if the Site Plan has identified any of the following criteria:

- hygric or wetter sites
- mechanical site preparation (including mounding, patch scarification and disc trenching)
- group planting (eg. Grizzly habitat, Caribou Management Guidelines)
- very rocky soils
- areas with a high potential for cattle congregation
- sites with a significant number of wildlife trees
- riparian management zones with a high residual component
- sites that will be stumped to manage root rot
- partial cut areas with an abundance of residual regeneration.
- very harsh sites where protected microsites are critical (e.g. Shade, snow creep)

Crop Tree/Brush Ratio

Table 9. Percent height above brush by BEC Zone

% Height above Brush	Biogeoclimatic Zone
125	ESSF, IDF, MS, PP, BG
150	ICH, SBPS,SBS

Characteristics of Retained Trees

- In situation or circumstances where trees are retained to form either an even-aged or an uneven aged stand following timber harvesting the minimum characteristics of trees to be retained will be consistent with the tree characteristics as specified in the Silviculture Survey Reference cards (FS 660-1 HFP 01/05).

Mixed Wood Stocking Standards

- Broadleaf species will be used as preferred or acceptable well spaced trees in conjunction with suitable conifers where a predominantly broadleaf stand is being harvested for commercial use and there is a reasonable expectations of returning that site to a commercially valuable broadleaf stand
- Consistent with the KLRMP, the option is available to use mixed wood stocking standards in areas with predominantly deciduous to create a stand similar to the pre-harvest stand.

Broadleaf Stocking Standards

- Broadleaf Stocking Standards will be used on sites of pure deciduous or at least greater than 80% deciduous component by net cruise volume.
- Free growing height will be equal to the tallest conifer height for the site series/stocking standard ID.

Regeneration Delay

- Regeneration delay will be 4 years unless the site plan identifies natural regeneration for the block or SU then regeneration delay will be set up to a maximum of 7 years.

Damage Criteria

- BCTS will use damage criteria for Regeneration and Free growing surveys specified in FS 660, 2005/01 or equivalent future guidelines.

Maximum Density

- Maximum density for Lodgepole pine leading stands is 25,000 countable stems per hectare. Lodgepole pine leading stands are stands where pine component is ≥80 percent of the inventory label.
- For all other species and mixed pine stands where pine component is less then 80 percent by inventory, maximum density will be 10,000 countable stems per hectare.

White Pine

- Where Pw is an acceptable species in the attached stocking standards, planted Rust Resistant stock will be considered preferred, to a maximum of 50% of total preferred and acceptable well spaced stems.
- Natural regenerated or non-rust resistant planted Pw to be pruned to 1.3 metre height to reduce white pine blister rust. Pw to be pruned only if accounting for more than 5% of the required stems per hectare to meet minimum free growing numbers. If less than 5% then accept unpruned Pw as free growing.

Deviation From Potential Stocking Standards and Survey methodology

- Partial Cutting stocking standards may be used to define and assess stocking success in partial cut standards units (SUs) applied to even-aged Silviculture systems that have retained a minimum of 5m3/ha of residual basal area. Details of the methodology and process are contained in the background materials. Intent is to use these standards primarily where an Intermediate Cut No Regeneration Objectives Silviculture System is being used to meet necessary site objectives including but not limited to: Visuals, Wildlife, Adjacency, Beetle Management in areas of lower Beetle attack and susceptible host trees. (See Section A-3 - Partial Cutting Stocking Standards).

5.14A-2 STOCKING STANDARDS TABLES

Table 10. Stocking Standards for Even-aged Stands

Identification		Situations/ Circumstances of Application				Regeneration Standards							Free Growing Standards					
		Location			Other	Species				Density (well spaced)			FG Date	Species	Height	Density Limits		
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Physical Location/ Geographic	BEC Zone/SubZone/Var.	BEC Site Series	(describe)	Conifers Preferred (p)	Conifers Acceptable (a)	Broadleaf Preferred (p)	Broadleaf Acceptable (a)	Target P&A (sph)	Min P&A (sph)	Min P (sph)	Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s) (Min sph)	Post Spacing (w/s) (Max sph)
1005273			BGxh2	03*		Py^{27}				400	200	200	20	All	0.6	10,000	400	3500
1005274				04*		Py^{27}	Fd^{27}			400	200	200	20	All	0.6	10,000	400	3500
1005275				07*		Fd^{1} Py^{1}	Sx^{1}			400	200	200	20	All	0.6	10,000	400	3500
1005276			BGxw1	03*		Py^{27}	Fd^{27}			400	200	200	20	All	0.6	10,000	400	3500
1005277				05*		Py^{27}	Fd^{27}			400	200	200	20	All	0.6	10,000	400	3500
1005278				08		Fd^{32}				1200	700	600	20	All	0.6	10,000	1200	3500
16100			ESSFdc1	01		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
16101				02		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16102				03		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16103				04		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
16104				05		Pl Se	$Bl^{10,13}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16105				06		Pl^{1} $Se^{1,32}$	$Bl^{1,32}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16247			ESSFdc2	01		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
16248				02*		Pl^{62}	Bl^{13} Se			600	400	400	20	Pl Others	1.2 0.6	10,000	600	3500
16249				03		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16250				04		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16251				05		Pl Se	$Bl^{10,13}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
16252				06		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
16253				07		Pl Se^{32}	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
16254				08		Pl^{1} $Se^{1,32}$	$Bl^{1,32}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005279			ESSFdc1	01		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005280				02*		Pl^{62}	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	600	3500
1005281				03		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005282				04		Pl Se	Bl^{13}			1200	700	600	20	Pl Others	1.2 0.6	10,000	1000	3500
1005283				05		Pl Se	$Bl^{10,13}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005284				06		Pl Se	Bl			1000	500	400	20	Pl Others	1.6 0.6	10,000	1200	3500
1005285			ESSFdc2	01		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005286				02*		Pl^{62}	Bl^{13} Se			600	400	400	20	Pl Others	1.2 0.6	10,000	600	3500
1005287				03		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005288				04		Pl	Bl^{13} Se			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005289				05		Pl Se	$Bl^{10,13}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005290				06		Pl Se	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005291				07		Pl Se^{32}	Bl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005292				08		Pl^{1} $Se^{1,32}$	$Bl^{1,32}$			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005293			ESSFmm1	01		Bl Se	Pl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005294				02		Bl^{28} Pl Se^{28}				1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005295				03		Pl	Bl^{28}			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005296				04		Bl Se	Pl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005297				05		Bl Se	Pl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005298				06		Bl Se	Pl			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005299				07*		$Bl^{1,32}$ $Se^{1,32}$	Pl^{1}			400	200	200	20	Pl Others	1.2 0.6	10,000	400	3500
1032575			ESSFmm1	01, 04, 05		Bl^{28} Pl Se^{28}				1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005300			ESSFvc	01		Bl Se	Hm			1200	700	600	20	All	0.8	10,000	1200	3500
1005301				02		Se	Bl Hm			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005302				03		Bl Se	Hm			1000	500	400	20	All	0.6	10,000	1000	3500
1005303				04		Bl Se	Hm			1200	700	600	20	All	0.8	10,000	1200	3500
1005304				05		$Bl^{1,32}$ $Se^{1,32}$	Hm^{1}			1000	500	400	20	All	0.6	10,000	1000	3500
		All Landscape Units except: Mica, Cayenne, Tum Tum	ESSFvv	01		Bl^{32} Se^{32}				1200	700	600	25	All	0.8	10,000	1200	3500
				02		Bl^{32} Se^{32}	Pl^{34}			600	400	400	25	Pl Others	1.2 0.6	10,000	600	3500 3500
				03		Bl^{32} Se^{32}				1000	500	400	25	All	0.6	10,000	1000	3500
				04		Bl^{32} Se^{32}				600	400	400	25	All	0.6	10,000	600	3500
1005305		Landscape Units: Mica, Cayenne, Tum Tum	ESSFvv	01		Bl^{32} Se^{32}	Hm^{16}			1200	700	600	25	All	0.8	10,000	1200	3500
1005306				02		Bl^{32} Se^{32}	Hm^{16} Pl^{34}			600	400	400	25	Pl Others	1.2 0.6	10,000	600	3500
1005307				03		Bl^{32} Se^{32}	Hm^{16}			1000	500	400	25	All	0.6	10,000	1000	3500
1005308				04		Bl^{32} Se^{32}	Hm^{16}			600	400	400	25	All	0.6	10,000	600	3500

Identification		Situations/ Circumstances of Application				Regeneration Standards								Free Growing Standards					
		Location			Other	Species				Density (well spaced)				FG Date	Species	Height		Density Limits	
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Physical Location/ Geographic	BEC			Conifers		Broadleaf		Target P&A	Min P&A	Min P	Max (yrs)			Min (m)	Pre Space (Max sph)	Post Spacing (w/s)	
			Zone/SubZone/Var.	Site Series	(describe)	Preferred (p)	Acceptable (a)	Preferred (p)	Acceptable (a)	(sph)								(Min sph)	(Max sph)
16106			ESSFwc2	01		Bl Se	Pl[17,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16107				02		Pl[17] Se	Bl			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
16108				03		Se Pl[17,34]	Bl			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
16109				04		Bl Se	Pl[17,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16110				05		Bl Se	Pl[23,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16111				06		Bl[32] Se[32]	Pl[23,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16112				07		Bl Se	Pl[23,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16113				08		Bl[1,32] Se[1,32]	Pl[23,34]			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
16114				09*		Pl[1] Se[1,32]	Bl[1,32]			400	200	200	20	Pl	1.2		10,000	400	3500
														Others	0.6				
1005309			ESSFwc2	01		Bl Se	Pl[17,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005310				02		Pl[17] Se	Bl			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
1005311				03		Se Pl[17,34]	Bl			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
1005312				04		Bl Se	Pl[17,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005313				05		Bl Se	Pl[23,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005314				06		Bl[32] Se[32]	Pl[23,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005315				07		Bl Se	Pl[23,34]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005316				08		Bl[1,32] Se[1,32]	Pl[23,34]			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
1005317				09*		Pl[1] Se[1,32]	Bl[1,32]			400	200	200	20	Pl	1.2		10,000	400	3500
														Others	0.6				
1016007			ESSFwc2 David Lake ESSF Transitional	01, 04, 05, 06, 07		Bl Se Sx Pl				1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1016008			ESSFwc2 Mackenzie Ck, David Lake pine leading	01, 04, 05, 06		Bl Sx Pl				1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1033186			ESSFwc2 ESSFwc2 with Pli as preferred	01, 04, 05, 06		Bl Sx Pl				1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16115			ESSFxc	01		Pl Se[32]	Bl[10,13]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16116				02		Pl	Bl[13] Se			600	400	400	20	Pl	1.2		10,000	600	3500
														Others	0.6				
16117				05		Pl	Bl[13] Se			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
16118				06		Pl Se	Bl[13]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16119				07		Pl Se[32]	Bl[32]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
16120				08		Pl[1] Se[1,32]	Bl[1,32]			1000	500	400	20	Pl	1.2		10,000	1000	3500
1005318			ESSFxc	01		Pl Se[32]	Bl[10,13]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005319				02		Pl	Bl[13] Se			600	400	400	20	Pl	1.2		10,000	600	3500
														Others	0.6				
1005320				05		Pl	Bl[13] Se			1000	500	400	20	Pl	1.2		10,000	1000	3500
														Others	0.6				
1005321				06		Pl Se	Bl[13]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005322				07		Pl Se[32]	Bl[32]			1200	700	600	20	Pl	1.6		10,000	1200	3500
														Others	0.8				
1005323				08		Pl[1] Se[1,32]	Bl[1,32]			1000	500	400	20	Pl	1.2		10,000	1000	3500
16159			IDFdk1	01		Fd[32] Pl	Py[8,14] Sx[10,13]	At		1000	500	400	20	Pl	1.0		10,000	1000	3500
														Fd	0.8				
16160				02		Fd[27] Py[8,14]				600	400	400	20	Sx, Py	0.6		10,000	600	3500
														Fd	0.8				
16161				03		Fd Pl	Py[8,14,23]			600	400	400	20	Py	0.6		10,000	600	3500
														Pl	1.0				
16162				04		Fd Pl	Py[8,14] Sx[10,13]			1000	500	400	20	Fd	0.8		10,000	1000	3500
														Py	0.6				
16163				05		Fd[8,14,32] Sx	Bl[10,13] Pl	Act At	Ep	1000	500	400	20	Pl	1.0		10,000	1000	3500
														Fd	0.8				
16164				06		Pl[1] Sx[1] Fd[1,32]	Bl[1]	Act	At Ep	1000	500	400	20	Others	0.6		10,000	1000	3500
														Pl	1.0				
16165			IDFdk1a	94		Fd[32]	Pl	At		1200	700	600	20	Fd	0.8		10,000	1200	3500
														Others	0.6				
1005324			IDFdk1	01		Fd[32] Pl	Py[8,14] Sx[10,13]	At		1000	500	400	20	Fd	1.4		10,000	1000	3500
														Pl	1.0				
1005325				02		Fd[27] Py[8,14]				600	400	400	20	Fd	0.8		10,000	600	3500
														Sx, Py	0.6				
1005326				03		Fd Pl	Py[8,14,23]			600	400	400	20	Fd	0.8		10,000	600	3500
														Py	0.6				
1005327				04		Fd Pl	Py[8,14] Sx[10,13]			1000	500	400	20	Pl	1.0		10,000	1000	3500
														Fd	0.8				
1005328				05		Fd[8,14,32] Sx	Bl[10,13] Pl	Act At	Ep	1000	500	400	20	Py	0.6		10,000	1000	3500
														Others	0.6				
1005329				06		Pl[1] Sx[1] Fd[1,32]	Bl[1]	Act	At Ep	1000	500	400	20	Pl	1.0		10,000	1000	3500
														Fd	0.8				
														Others	0.6				

Identification		Situations/ Circumstances of Application				Regeneration Standards							Free Growing Standards					
		Location			Other	Species				Density (well spaced)			FG Date	Species	Height	Density Limits		
MOFLNRO ID #	Estab. Obj/ Strat Ref. / Silv.	Physical Location/ Geographic	BEC Zone/SubZone/Var.	Site Series	(describe)	Conifers Preferred (p)	Conifers Acceptable (a)	Broadleaf Preferred (p)	Broadleaf Acceptable (a)	Target P&A (sph)	Min P&A (sph)	Min P (sph)	Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s) (Min sph)	Post Spacing (w/s) (Max sph)
1005330			IDFdk1a	94		Fd[32]	Pl	At		1200	700	600	20	Fd Pl	1.0 1.4	10,000	1200	3500
16166			IDFdk2	01		Fd[32] Pl	Py[8,14] Sx[10,13]	At		1000	500	400	20	Pl Fd Sx, Py	1.0 0.8 0.6	10,000	1000	3500
16167				02		Fd[27] Py[14]				600	400	400	20	Fd Py	0.8 0.6	10,000	600	3500
16168				03		Fd[27] Pl	Py[14]			1000	500	400	20	Pl Fd Py	1.0 0.8 0.6	10,000	1000	3500
16169				04		Fd[32] Pl Sx[10,13]	Py[8,14]	At		1200	700	600	20	Pl Fd Py	1.4 1.0 0.8	10,000	1200	3500
16170				05		Fd[32] Sx Pl	Cw[32]	Act At Ep		1200	700	600	20	Pl Fd Others	1.4 1.0 0.8	10,000	1200	3500
16171				06		Pl[1] Sx[1] Fd[1,32]		Act	At Ep	1000	500	400	20	Pl Fd Others	1.0 0.8 0.6	10,000	1000	3500
16172				07		Pl[1] Sx[1]	Cw[32]	Act At Ep		1000	500	400	20	Pl Others	1.0 0.6	10,000	1000	3500
1005331			IDFdk2	01		Fd[32] Pl	Py[8,14] Sx[10,13]	At		1000	500	400	20	Pl Fd Sx, Py	1.0 0.8 0.6	10,000	1000	3500
1005332				02		Fd[27] Py[14]				600	400	400	20	Fd Py	0.8 0.6	10,000	600	3500
1005333				03		Fd[27] Pl	Py[14]			1000	500	400	20	Pl Fd Py	1.0 0.8 0.6	10,000	1000	3500
1005334				04		Fd[32] Pl Sx[10,13]	Py[8,14]	At		1200	700	600	20	Pl Fd Py	1.4 1.0 0.8	10,000	1200	3500
1005335				05		Fd[32] Sx Pl	Cw[32]	Act At Ep		1200	700	600	20	Pl Fd Others	1.4 1.0 0.8	10,000	1200	3500
1005336				06		Pl[1] Sx[1] Fd[1,32]		Act	At Ep	1000	500	400	20	Pl Fd Others	1.0 0.8 0.6	10,000	1000	3500
1005337				07		Pl[1] Sx[1]	Cw[32]	Act At Ep		1000	500	400	20	Pl Others	1.0 0.6	10,000	1000	3500
16173			IDFdk3	01		Fd[27,32] Pl	Sx[13,28]	At		1200	700	600	20	Pl Fd Sx	1.4 1.0 0.8	10,000	1200	3500
16174				02*		Fd[27] Pl				1000	500	400	20	Pl Fd	1.0 0.8	10,000	1000	3500
16175				03*		Fd[27] Pl				600	400	400	20	Pl Fd	1.0 0.8	10,000	600	3500
16176				04		Fd[27] Pl				1200	700	600	20	Pl Fd	1.4 1.0	10,000	1200	3500
				05		Fd[27] Pl		At[5]		1200	700	600	15	Pl Fd	1.4 1.0	10,000 10,000	1200	3500 3500
				06		Fd[27] Pl		At[5]		1200	700	600	15	Pl Fd	1.4 1.0	10,000	1200	3500
16177				07		Fd[32] Pl Sx		At	Ep	1000	500	400	20	Pl Fd Sx	1.0 0.8 0.6	10,000	1000	3500
16178				08		Fd[32] Pl Sx		Act At	Ep	1000	500	400	20	Pl Fd Sx	1.0 0.8 0.6	10,000	1000	3500
16179				09		Sx[1,32] Pl[1]		Act		1000	500	400	20	Pl Sx	1.0 0.6	10,000	1000	3500
1005338			IDFdk3	01		Fd[27,32] Pl	Sx[13,28]	At		1200	700	600	20	Pl Fd Sx	1.4 1.0 0.8	10,000	1200	3500
1005339				02*		Fd[27] Pl				1000	500	400	20	Pl Fd	1.0 0.8	10,000	1000	3500
1005340				03*		Fd[27] Pl				600	400	400	20	Pl Fd	1.0 0.8	10,000	600	3500
1005341				04		Fd[27] Pl				1200	700	600	20	Pl Fd	1.4 1.0	10,000	1200	3500
1005342				05		Fd[27] Pl		At[5]		1200	700	600	15	Pl Fd	1.4 1.0	10,000 10,000	1200	3500 3500
1005343				06		Fd[27] Pl		At[5]		1200	700	600	15	Pl Fd	1.4 1.0	10,000	1200	3500
1005344				07		Fd[32] Pl Sx		At	Ep	1000	500	400	20	Pl Fd Sx	1.0 0.8 0.6	10,000	1000	3500
1005345				08		Fd[32] Pl Sx		Act At	Ep	1000	500	400	20	Pl Fd Sx	1.0 0.8 0.6	10,000	1000	3500
10053446				09		Sx[1,32] Pl[1]		Act		1000	500	400	20	Pl Sx	1.0 0.6	10,000	1000	3500
16180			IDFmw2	01		Fd Pl	Cw[10,13] Sx[10,13] Bl[10,13] Lw[68] Py	At Ep		1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
16181				01-YC		Fd Pl	Bl[10,13] Cw[10,13] Sx[10,13] Lw[68]	At Ep	Act	1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
16182				01-YS		Fd Pl	Sx[10,13] Bl[10,13] Cw[10,13] Lw[68]	At Ep		1200	700	600	20	Pl, Lw Fd Sx	1.6 1.0 0.8	10,000	1200	3500
16183				02		Fd[27] Pl	Py[8,14,16,23]			600	400	400	20	Pl Fd Py	1.2 0.8 0.6	10,000	600	3500
16184				03		Fd[14] Pl	Py[8,14,16] Cw[10,13] Sx[10,13]			1000	500	400	20	Pl Fd Others	1.6 1.0 0.8	10,000	1000	3500
16185				04		Fd[32] Sx Pl	Cw[32,37] Lw[68]	Act At Ep		1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
16186				05*		Sx[1] Pl[1]	Cw[1,32]	Act	At Ep	400	200	200	20	Pl Others	1.2 0.6	10,000	400	3500

Identification		Situations/ Circumstances of Application				Regeneration Standards								Free Growing Standards					
		Location			Other	Species				Density (well spaced)				FG Date	Species	Height		Density Limits	
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Silv.	Physical Location/ Geographic	BEC Zone/SubZone/Var.	BEC Site Series	(describe)	Conifers Preferred (p)	Conifers Acceptable (a)	Broadleaf Preferred (p)	Broadleaf Acceptable (a)	Target P&A	Min P&A	Min P	Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s) (Min sph)	Post Spacing (w/s) (Max sph)
											(sph)								
16255				IDFmw2	01		Fd Pl	$Cw^{10.13}$ $Sx^{10.13}$ $Bl^{10.13}$ Lw^{65} Py	At Ep		1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005347				IDFmw2	01		Fd Pl	$Cw^{10.13}$ $Sx^{10.13}$ $Bl^{10.13}$ Lw^{65} Py	At Ep		1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005348					01-YC		Fd Pl	$Bl^{10.13}$ $Cw^{10.13}$ $Sx^{10.13}$ Lw^{65}	At Ep	Act	1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005349					01-YS		Fd Pl	$Sx^{10.13}$ $Bl^{10.13}$ $Cw^{10.13}$ Lw^{65}	At Ep		1200	700	600	20	Pl, Lw Fd Sx Others	1.6 1.0 0.8	10,000	1200	3500
1005350					02		Fd^{27} Pl	$Py^{8.14,16,23}$			600	400	400	20	Pl Fd Py Others	1.2 0.8 0.6 0.8	10,000	600	3500
1005351					03		Fd^{14} Pl	$Py^{8.14,16}$ $Cw^{10.13}$ $Sx^{10.13}$			1000	500	400	20	Pl Fd Others	1.6 1.0 0.8	10,000	1000	3500
1005352					04		Fd^{32} Sx Pl	$Cw^{32,37}$ Lw^{65}	Act At Ep		1200	700	600	20	Pl, Lw Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005353					05*		Sx^{1} Pl^{1}	$Cw^{1,32}$	Act	At Ep	400	200	200	20	Pl Others	1.2 0.6	10,000	400	3500
16187				IDFxh1	01		Fd^{27} Py	$Lw^{1,10,13,32}$			1000	500	400	20	All	0.6	10,000	1000	3500
16188					02*		Py^{27} Fd^{27}				400	200	200	20	All	0.6	10,000	400	3500
16189					03		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
16190					04		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
16191					05		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
16192					06		Fd^{27} Py	$Lw^{1,10,13,32}$			1000	500	400	20	All	0.6	10,000	1000	3500
16193					07		Fd Py	$Lw^{1,10,13,32}$ Cw^{27}			1000	500	400	20	All	0.6	10,000	1000	3500
16194					08		$Fd^{1,32}$ $Pl^{1,8x}$ Sx	Cw^{27}	Act At Ep		1200	700	600	20	Pl Others	1.0 0.8	10,000	1200	3500
16195				IDFxh1a	98		Fd^{32} Py^{32}		At		1200	700	600	20	Fd Py	0.8 0.6	10,000	1200	3500
1005354				IDFxh1	01		Fd^{27} Py	$Lw^{1,10,13,32}$			1000	500	400	20	All	0.6	10,000	1000	3500
1005355					02*		Py^{27} Fd^{27}				400	200	200	20	All	0.6	10,000	400	3500
1005356					03		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
1005357					04		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
1005358					05		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
1005359					06		Fd^{27} Py	$Lw^{1,10,13,32}$			1000	500	400	20	All	0.6	10,000	1000	3500
1005360					07		Fd Py	$Lw^{1,10,13,32}$ Cw^{27}			1000	500	400	20	All	0.6	10,000	1000	3500
1005361					08		$Fd^{1,32}$ $Pl^{1,8x}$ Sx	Cw^{27}	Act At Ep		1200	700	600	20	Pl Others	1.0 0.8	10,000	1200	3500
1005362				IDFxh1a	98		Fd^{32} Py^{32}		At		1200	700	600	20	Fd Py	0.8 0.6	10,000	1200	3500
16196				IDFxh2	01		Fd^{27} Py				1000	500	400	20	All	0.6	10,000	1000	3500
16197					02		Py^{27} Fd^{27}				400	200	200	20	All	0.6	10,000	400	3500
16198					03		Py^{27} Fd^{27}				400	200	200	20	All	0.6	10,000	400	3500
16199					04		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
16200					05		Fd^{27} Py				1000	500	400	20	All	0.6	10,000	1000	3500
16201					06		Fd Py				1200	700	600	20	All	0.6	10,000	1200	3500
16202					07		Fd^{32} Sx	Py^{32} Cw^{32}	Act At Ep		1200	700	600	20	All	0.6	10,000	1200	3500
16203					08		Sx^{1} $Fd^{1,32}$	$Pl^{1,23}$	Act At Ep		1000	500	400	20	Pl Others	0.8 0.6	10,000	1000	3500
16204				IDFxh2a	95		Fd^{32} Py^{32}		At		1200	700	600	20	All	0.8	10,000	1200	3500
1005363				IDFxh2	01		Fd^{27} Py				1000	500	400	20	All	0.6	10,000	1000	3500
1005364					02		Py^{27} Fd^{27}				400	200	200	20	All	0.6	10,000	400	3500
1005365					03		Py^{27} Fd^{27}				400	200	200	20	All	0.6	10,000	400	3500
1005366					04		Py Fd^{27}				600	400	400	20	All	0.6	10,000	600	3500
1005367					05		Fd^{27} Py				1000	500	400	20	All	0.6	10,000	1000	3500
1005368					06		Fd Py				1200	700	600	20	All	0.6	10,000	1200	3500
1005369					07		Fd^{32} Sx	Py^{32} Cw^{32}	Act At Ep		1200	700	600	20	All	0.6	10,000	1200	3500
1005370					08		Sx^{1} $Fd^{1,32}$	$Pl^{1,23}$	Act At Ep		1000	500	400	20	Pl Others	0.8 0.6	10,000	1000	3500
1005371				IDFxh2a	95		Fd^{32} Py^{32}		At		1200	700	600	20	All	0.8	10,000	1200	3500
16121				ICHmk1	01		$Fd^{8,14,32}$ $Lw^{8,14,32}$ Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13,32}$	At Ep	Act	1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16122					01-YS		$Fd^{8,14,32}$ $Lw^{8,14,32}$ Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13,32}$	At Ep	Act	1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16123					02		Fd Pl	$Bl^{10,13}$ $Sx^{10,13}$			600	400	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	600	3500
16124					03		Fd Lw Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13}$	At	Ep	1000	500	400	20	Pl, Lw Fd Others	1.4 1.0 0.8	10,000	1000	3500
16125					04		Fd^{32} Lw^{32} Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13,32}$	At Ep		1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16126					05		Pl Sx $Fd^{8,14,32}$ $Lw^{8,14,32}$	Bl Cw^{32}	Act At Ep		1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 0.8	10,000	1200	3500
16127					06		Pl Sx $Fd^{8,14,32}$ $Lw^{8,14,32}$	Bl Cw^{32}	Act At Ep		1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 0.8	10,000	1200	3500
16128					07		Pl^{1} Sx^{1} $Lw^{1,32}$ $Fd^{1,32}$	Bl^{1} Cw^{32}	Act	At Ep	1000	500	400	20	Pl, Lw Fd Others	1.4 1.0 0.8	10,000	1000	3500
1005372				ICHmk1	01		$Fd^{8,14,32}$ $Lw^{8,14,32}$ Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13,32}$	At Ep	Act	1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005373					01-YS		$Fd^{8,14,32}$ $Lw^{8,14,32}$ Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13,32}$	At Ep	Act	1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005374					02		Fd Pl	$Bl^{10,13}$ $Sx^{10,13}$			600	400	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	600	3500
1005375					03		Fd Lw Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13}$	At	Ep	1000	500	400	20	Pl, Lw Fd Others	1.4 1.0 0.8	10,000	1000	3500
1005376					04		Fd^{32} Lw^{32} Pl $Sx^{10,13}$	$Bl^{10,13}$ $Cw^{10,13,32}$	At Ep		1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005377					05		Pl Sx $Fd^{8,14,32}$ $Lw^{8,14,32}$	Bl Cw^{32}	Act At Ep		1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 0.8	10,000	1200	3500
1005378					06		Pl Sx $Fd^{8,14,32}$ $Lw^{8,14,32}$	Bl Cw^{32}	Act At Ep		1200	700	600	20	Pl, Lw Fd Others	2.0 1.4 0.8	10,000	1200	3500
1005379					07		Pl^{1} Sx^{1} $Lw^{1,32}$ $Fd^{1,32}$	Bl^{1} Cw^{32}	Act	At Ep	1000	500	400	20	Pl, Lw Fd Others	1.4 1.0 0.8	10,000	1000	3500

Identification		Situations/ Circumstances of Application				Regeneration Standards								Free Growing Standards					
		Location			Other	Species				Density (well spaced)				FG Date	Species	Height		Density Limits	
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Physical Location/ Geographic	BEC Zone/SubZone/Var.	BEC Site Series	(describe)	Conifers Preferred (p)	Conifers Acceptable (a)	Broadleaf Preferred (p)	Broadleaf Acceptable (a)	Target P&A (sph)	Min P&A (sph)	Min P (sph)		Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s) (Min sph)	Post Spacing (w/s) (Max sph)
16129		South of 51° 30' Latitude	ICHmk2	01		$Fd^{9,14,32}$ Pl Sx $Lw^{9,14,32,64,65}$	$Bl^{10,13}$ Cw	At Ep	Act	1200	700	600	20		Pl, Lw Fd Sx Others	2.0 1.4 0.8 1.0	10,000	1200	3500
16130				02		Fd Pl	$Sx^{10,13}$			600	400	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	600	3500
16131				03		Fd Pl $Sx^{10,13}$	$Cw^{10,13}$	At	Ep	1000	500	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
16132				04		Fd Pl Sx	$Bl^{10,13}$ $Cw^{10,13}$ $Lw^{9,14,32,64,65}$	At Ep		1200	700	600	20		Pl, Lw Fd Sx Others	2.0 1.4 0.8 1.0	10,000	1200	3500
16133				05		$Fd^{9,14,32}$ Pl Sx	Bl^{13} Cw^{32}	Act At Ep		1200	700	600	20		Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16134				06		Pl^{1} Sx^{1} $Fd^{1,32}$	Bl^{1} Cw^{32}	Act	At Ep	1000	500	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
16256		North of 51° 30' Latitude	ICHmk2	01		$Fd^{9,14,32}$ Pl	$Bl^{10,13}$ Cw $Lw^{9,14,32,64,65}$	At Ep	Act	1200	700	600	20		Pl, Pw Fd	2.0 1.4	10,000	1200	3500
1003927		North of 51° 30' Latitude	ICHmk2	01		$Fd^{9,14,32}$ Pl Sx $Lw^{9,14,32,64,65}$	$Bl^{10,13}$ Cw	At Ep	Act	1200	700	600	20		Pl, Pw Fd	2.0 1.4	10,000	1200	3500
1005380		South of 51° 30' Latitude	ICHmk2	01		$Fd^{9,14,32}$ Pl Sx	$Bl^{10,13}$ Cw $Lw^{9,14,32,64,65}$	At Ep	Act	1200	700	600	20		Pl, Lw Fd Sx Others	2.0 1.4 0.8 1.0	10,000	1200	3500
1005381				02		Fd Pl	$Sx^{10,13}$			600	400	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	600	3500
1005382				03		Fd Pl $Sx^{10,13}$	$Cw^{10,13}$	At	Ep	1000	500	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
1005383				04		Fd Pl Sx	$Bl^{10,13}$ $Cw^{10,13}$ $Lw^{9,14,32,64,65}$	At Ep		1200	700	600	20		Pl, Lw Fd Sx Others	2.0 1.4 0.8 1.0	10,000	1200	3500
1005384				05		$Fd^{9,14,32}$ Pl Sx	Bl^{13} Cw^{32}	Act At Ep		1200	700	600	20		Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005385				06		Pl^{1} Sx^{1} $Fd^{1,32}$	Bl^{1} Cw^{32}	Act	At Ep	1000	500	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
1005386			ICHmm	01		Fd Pl Sx^{28}Cw	Bl^{29} Hw $Pw^{31,57}$	At Ep		1200	700	600	20		Pl Fd Others	2.00 1.40 1.00	10,000	1200	3500
1005387				02		Fd Pl	Hw Cw Sx			1000	500	400	20		Pl, Fd Others	1.40 0.80	10,000	1000	3500
1005388				03		Fd Hw Pl Sx	Bl^{29} Cw	At Ep		1200	700	600	20		Pl Fd Others	2.00 1.40 1.00	10,000	1200	3500
1005389				04		Cw^{32} Hw^{32} $Sx^{28}Fd^{32}$	Bl^{28} Pl $Pw^{31,57}$	At Ep	Act	1200	700	600	20		Pl, Pw Fd Others	2.00 1.40 1.00	10,000	1200	3500
1005390				05		Cw^{32} Hw^{32} $Sx^{28}Fd^{32}$	Bl^{28} $Pl^{1}Pw^{31,57}$	Act At Ep		1200	700	600	20		Pl Fd Others	2.00 1.40 1.00	10,000	1200	3500
1005391				06		$Cw^{1,32}$ $Hw^{1,32}$ Pl^{1} $Sx^{1,32,35}$	$Bl^{1,28}$ $Pw^{31,57}$	Act		1000	500	400	20		Pl Others	1.40 0.80	10,000	1000	3500
1005392				07*		Pl^{1} Sb^{1} $Sx^{1,32,35}$				400	200	200	20		Pl Others	1.40 0.80	10,000	400	3500
1005393				08*		$Cw^{1,32}$ $Hw^{1,32}$ $Sx^{1,32,35}$	$Bl^{1,29,32}$ Pl^{1}			400	200	200	20		Pl Others	1.40 0.80	10,000	400	3500
1032576			ICHmm	01		Fd Pl Sx^{28}Cw Bl^{29}	Hw $Pw^{31,57}$			1200	700	600	20		Pl Fd Others	2.00 1.40 1.00	10,000	1200	3500
1032577				05		Cw^{32} Hw^{32} $Sx^{28}Fd^{32}$ Pl	Bl^{29} $Pw^{31,57}$			1200	700	600	20		Pl Fd Others	2.00 1.40 1.00	10,000	1200	3500
16135			ICHmw2	01		Fd Lw	Pl^{51} Cw $Pw^{31,57}$ $Sx^{10,13}$	At Ep	Act	1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16136				01-YS		Fd Lw $Cw^{10,13}$ $Sx^{10,13}$	$Hw^{10,13}$ Pl^{51} $Pw^{31,57}$	At Ep	Act	1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16137				02		Fd Lw Pl^{51}	Cw $Pw^{31,57}$ Sx	At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16138				03		Fd Lw Pl^{51} $Sx^{10,13}$	Cw Pw31,57 Sx	At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16139				04		Cw $Fd^{9,14}$ Hw $Lw^{9,14}$ Sx	Bl Pl^{51} $Pw^{31,57}$	Act At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16140				05		Cw^{32} Sx $Fd^{1,32}$ $Lw^{1,32}$	Bl Hw^{32} Pl^{51} $Pw^{31,57}$	Act At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
16141				06		$Cw^{1,32}$ Sx^{1}	Bl^{1} $Hw^{1,32}$ $Pl^{1,51}$ $Pw^{31,57}$	Act	At Ep	1000	500	400	20		Pl, Pw Others	1.4 0.8	10,000	1000	3500
16142				07		$Cw^{1,32}$ $Pl^{1,51}$ Sx^{1}	Bl^{1} $Hw^{1,32}$	Act	At Ep	1000	500	400	20		Pl Others	1.4 0.8	10,000	1000	3500
1005394			ICHmw2	01		Fd Lw	Pl^{51} Cw $Pw^{31,57}$ $Sx^{10,13}$	At Ep	Act	1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005395				01-YS		Fd Lw $Cw^{10,13}$ $Sx^{10,13}$	$Hw^{10,13}$ Pl^{51} $Pw^{31,57}$	At Ep	Act	1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005396				02		Fd Lw Pl^{51}	Cw $Pw^{31,57}$ Sx	At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005397				03		Fd Lw Pl^{51} $Sx^{10,13}$	Cw Pw31,57	At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005398				04		Cw $Fd^{9,14}$ Hw $Lw^{9,14}$ Sx	Bl Pl^{51} $Pw^{31,57}$	Act At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005399				05		Cw^{32} Sx $Fd^{1,32}$ $Lw^{1,32}$	Bl Hw^{32} Pl^{51} $Pw^{31,57}$	Act At Ep		1200	700	600	20		Pw, Lw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005400				06		$Cw^{1,32}$ Sx^{1}	Bl^{1} $Hw^{1,32}$ $Pl^{1,51}$ $Pw^{31,57}$	Act	At Ep	1000	500	400	20		Pl, Pw Others	1.4 0.8	10,000	1000	3500
1005401				07		$Cw^{1,32}$ $Pl^{1,51}$ Sx^{1}	Bl^{1} $Hw^{1,32}$	Act	At Ep	1000	500	400	20		Pl Others	1.4 0.8	10,000	1000	3500

Identification		Situations/ Circumstances of Application			Regeneration Standards							Free Growing Standards					
		Location		Other	Species				Density (well spaced)			FG Date	Species	Height		Density Limits	
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Physical Location/ Geographic	BEC		Conifers		Broadleaf		Target P&A	Min P&A	Min P	Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s)	
			Zone/SubZone/Var.	Site Series	Preferred (p)	Acceptable (a)	Preferred (p)	Acceptable (a)	(sph)							(Min sph)	(Max sph)
16143			ICHmw3	1, 01YC	Fd Sx^{10,13} Cw^{10,13}	Pl^{51} Bl^{10,13} Pw^{21,57} Hw^{10,13} Lw^{9,14,32,64,65}	At Ep	Act	1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
16144													Fd	1.4			
													Others	1.0			
16145				02	Fd Pl	Cw^{10,13} Pw^{21,57} Py			1000	500	400	20	Pl, Pw	1.4	10,000	1000	3500
													Fd	1.0			
													Others	0.8			
16146				03	Fd^{32} Pl	Cw^{10,13} Pw^{21,57} Sx^{10,13} Bl^{10,13} Hw	At Ep		1000	500	400	20	Pw, Lw	1.4	10,000	1000	3500
													Fd	1.0			
													Others	0.8			
16147				04	Fd Pl^{51}	Cw^{10,13} Pw^{21,57} Sx^{10,13}Hw	At Ep		1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16148				05	Fd Cw^{10,13} Sx^{10,13}	Bl^{10,13} Pl^{51} Pw^{21,57} Hw Lw^{9,14,32,64,65}	At Ep	Act	1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16149				06	Cw Fd^{14} Hw Sx	Bl^{10,13} Pl^{51} Pw^{21,57} Lw^{9,14,32,64,65}	Act At Ep		1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16150				07	Cw^{32} Sx Fd^{1,32}	Bl Hw^{32} Pl^{51} Pw^{21,57} Lw^{9,14,32,64,65}	Act At Ep		1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16151				08	Cw^{1,32} Hw^{1,32} Pl^{1,51} Sx^{1}	Bl^{1} Pw^{21,57}	Act	At Ep	1000	500	400	20	Pl	1.4	10,000	1000	3500
													Others	0.8			
1005402			ICHmw3	1, 01YC	Fd Sx^{10,13} Cw^{10,13}	Pl^{51} Bl^{10,13} Pw^{21,57} Hw^{10,13} Lw^{9,14,32,64,65}	At Ep	Act	1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005403				02	Fd Pl	Cw^{10,13} Pw^{21,57} Py			1000	500	400	20	Pl, Pw	1.4	10,000	1000	3500
													Fd	1.0			
													Others	0.8			
1005404				03	Fd^{32} Pl	Cw^{10,13} Pw^{21,57} Sx^{10,13} Bl^{10,13} Hw	At Ep		1000	500	400	20	Pw, Lw	1.4	10,000	1000	3500
													Fd	1.0			
													Others	0.8			
1005405				04	Fd Pl^{51}	Cw^{10,13} Pw^{21,57} Sx^{10,13}Hw	At Ep		1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005406				05	Fd Cw^{10,13} Sx^{10,13}	Bl^{10,13} Pl^{51} Pw^{21,57} Hw Lw^{9,14,32,64,65}	At Ep	Act	1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005407				06	Cw Fd^{14} Hw Sx	Bl^{10,13} Pl^{51} Pw^{21,57} Lw^{9,14,32,64,65}	Act At Ep		1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005408				07	Cw^{32} Sx Fd^{1,32}	Bl Hw^{32} Pl^{51} Pw^{21,57} Lw^{9,14,32,64,65}	Act At Ep		1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005409				08	Cw^{1,32} Hw^{1,32} Pl^{1,51} Sx^{1}	Bl^{1} Pw^{21,57}	Act	At Ep	1000	500	400	20	Pl	1.4	10,000	1000	3500
													Others	0.8			
1023683			ICHmw3	01, 04, 05	Fd Sx^{10,13} Cw^{10,13} Pl^{51} Lw^{9,14,32,64,65}	Bl^{10,13} Pw^{21,57} Hw^{10,13}			1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1025627			ICHmw3	01, 01Y, 05, 06	Fd Sx^{10,13} Cw^{10,13} Pl^{51} Lw^{9,14,32,64,65}	Bl^{10,13} Pw^{21,57} Hw^{10,13}			1200	700	600	20	Pw, Lw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1030102			ICHmw3 Pli Leading in the Mahood Lake Area	01, 01Y, 05, 06, 07	Fd Sx^{10,13} Cw^{10,13} Pl^{51}	Bl^{10,13} Pw^{21,57} Hw^{10,13}			1200	700	600	20	Pl, Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005410			ICHvk1	01	Cw^{32} Sx Bl^{13}	Fd^{5,9,14,32,34} Pw^{21,57} Hw^{32}	Act At Ep		1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005411				02	Fd^{9} Cw Sx Bl	Hw Pw^{21,57}	At Ep	Act	1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005412				03	Cw Fd^{9,14,34} Hw Sx Bl^{10,13}	Pw^{21,57}			1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005413				04	Cw Fd^{9,14} Hw Sx Bl^{13}	Pw^{21,57}	Act At Ep		1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005414				05	Cw^{1,32} Sx^{1} Bl^{1}	Hw^{1,32} Pw^{1,31,57}	Act	At Ep	1000	500	400	20	Pw	1.4	10,000	1000	3500
													Others	0.8			
1005415				06	Cw^{1,32} Hw^{1,32} Sx^{1} Bl^{1}	Pw^{1,31,57}	Act	At Ep	1000	500	400	20	Pw	1.4	10,000	1000	3500
													Others	0.8			
1005416			ICHvk1c (cold air drainage)	01	Sx Bl^{13}	Pw^{21,57}			1200	700	600	20	Pw	2.0	10,000	1200	3500
													Others	1.0			
1005417				02	Fd^{9} Sx Bl	Pw^{21,57}			1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
1005418				03	Sx Bl^{10,13}	Pw^{21,57}			1200	700	600	20	Pw	2.0	10,000	1200	3500
													Others	1.0			
1005419				04	Sx Bl^{13}	Pw^{21,57}			1200	700	600	20	Pw	2.0	10,000	1200	3500
													Others	1.0			
1005420				05	Sx^{1} Bl^{1}	Pw^{1,31,57}			1000	500	400	20	Pw	1.4	10,000	1000	3500
													Others	0.8			
1005421				06	Sx^{1} Bl^{1}	Pw^{1,31,57}			1000	500	400	20	Pw	1.4	10,000	1000	3500
													Others	0.8			
16152			ICHwk1	01	Cw Fd^{9,14} Hw Sx	Bl^{10,13} Pw^{21,57}	Act At Ep		1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16153				02	Fd Pl^{51} Cw^{10,13}	Pw^{21,57} Sx^{10,13}Hw Bl			1000	500	400	20	Pl, Pw	1.4	10,000	1000	3500
													Fd	1.0			
													Others	0.8			
16154				03	Fd Cw^{10,13}	Hw^{10,13} Pw^{21,57} Sx^{10,13}			1200	700	600	20	Pl	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16155				04	Fd^{9,14} Cw Sx^{10,13}Hw	Pw^{21,57} Bl Pl	At Ep	Act	1200	700	600	20	Pl, Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16156				05	Cw^{32} Sx Bl Hw^{32}	Fd^{1,14,32} Pw^{21,57}	Act At Ep		1200	700	600	20	Pw	2.0	10,000	1200	3500
													Fd	1.4			
													Others	1.0			
16157				06	Cw^{1,32} Sx^{1} Bl^{1} Hw^{1,32}	Pw^{1,31,57}	Act Ep	At	1000	500	400	20	Pw	1.4	10,000	1000	3500
													Others	0.8			
16158				07	Cw^{1,32} Hw^{1,32} Sx^{1}	Bl^{1}	Act	At Ep	1000	500	400	20	All	0.8	10,000	1000	3500

Identification		Situations/ Circumstances of Application				Regeneration Standards								Free Growing Standards					
		Location			Other	Species				Density (well spaced)				FG Date	Species	Height		Density Limits	
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Physical Location/ Geographic	BEC			Conifers		Broadleaf		Target P&A	Min P&A	Min P		Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s)	
			Zone/SubZone/Var.	Site Series	(describe)	Preferred (p)	Acceptable (a)	Preferred (p)	Acceptable (a)	(sph)								(Min sph)	(Max sph)
1005422			ICHwk1	01		Cw Fd$^{9.14}$ Hw Sx	Bl$^{10.13}$ Pw$^{31.57}$	Act At Ep		1200	700	600	20		Pw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005423				02		Fd Pl^{51} Cw$^{10.13}$	Pw$^{31.57}$ Sx$^{10.13}$ Hw Bl			1000	500	400	20		Pl, Pw Fd Others	1.4 1.0 0.8	10,000	1000	3500
1005424				03		Fd Cw$^{10.13}$	Hw$^{10.13}$ Pw$^{31.57}$ Sx$^{10.13}$			1200	700	600	20		Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005425				04		Fd$^{9.14}$ Cw Sx$^{10.13}$ Hw	Pw$^{31.57}$ Bl Pl	At Ep	Act	1200	700	600	20		Pl, Pw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005426				05		Cw^{32} Sx Bl Hw^{32}	Fd^{1,14,32} Pw$^{31.57}$	Act At Ep		1200	700	600	20		Pw Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005427				06		Cw^{1,32} Sx^{1} Bl^{1} Hw^{1,32}	Pw$^{1,31.57}$	Act Ep	At	1000	500	400	20		Pw Others	1.4 0.8	10,000	1000	3500
1005428				07		Cw^{1,32} Hw^{1,32} Sx^{1}	Bl^{1}	Act	At Ep	1000	500	400	20		All	0.8	10,000	1000	3500
16205			MSdm2	01		Pl Sx Fd$^{9.14,32}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16206				03		Fd$^{9.14}$ Pl	Bl$^{10.13}$ Sx$^{10.13}$			1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
16207				04		Pl Fd$^{9.14,32}$ Sx$^{10.13}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16208				05		Pl Sx Fd$^{9.14,32}$	Bl Cw^{32}	Act At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16209				06		Pl Sx Fd$^{9.14,32}$	Bl	Act At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16210				07		Pl Sx	Bl	Act	At	1000	500	400	20		Pl Others	1.0 0.8	10,000	1000	3500
1005429			MSdm2	01		Pl Sx Fd$^{9.14,32}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005430				03		Fd$^{9.14}$ Pl	Bl$^{10.13}$ Sx$^{10.13}$			1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
1005431				04		Pl Fd$^{9.14,32}$ Sx$^{10.13}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005432				05		Pl Sx Fd$^{9.14,32}$	Bl Cw^{32}	Act At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005433				06		Pl Sx Fd$^{9.14,32}$	Bl	Act At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005434				07		Pl Sx	Bl	Act	At	1000	500	400	20		Pl Others	1.0 0.8	10,000	1000	3500
16211			MSxk	01		Pl Fd$^{9.14,32}$ Sx$^{10.13}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16212				02		Pl Fd$^{9.14}$	Bl$^{10.13}$			1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
16213				05		Pl Fd$^{9.14}$	Bl$^{10.13}$ Sx$^{10.13}$			1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
16214				06		Pl Fd$^{9.14,32}$ Sx$^{10.13}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16215				07		Pl Fd$^{1,9.14,32}$ Sx	Bl$^{10.13}$			1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16216				08		Pl Sx Fd$^{9.14,32}$	Bl	Act At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
16217				09		Pl^{1} Sx^{1}	Bl^{1}	Act	At	1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
1005435			MSxk	01		Pl Fd$^{9.14,32}$ Sx$^{10.13}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005436				02		Pl Fd$^{9.14}$	Bl$^{10.13}$			1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
1005437				05		Pl Fd$^{9.14}$	Bl$^{10.13}$ Sx$^{10.13}$			1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
1005438				06		Pl Fd$^{9.14,32}$ Sx$^{10.13}$	Bl$^{10.13}$	At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005439				07		Pl Fd$^{1,9.14,32}$ Sx	Bl$^{10.13}$			1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005440				08		Pl Sx Fd$^{9.14,32}$	Bl	Act At		1200	700	600	20		Pl Others	1.4 0.8	10,000	1200	3500
1005441				09		Pl^{1} Sx^{1}	Bl^{1}	Act	At	1000	500	400	20		Pl Others	1.0 0.6	10,000	1000	3500
1005442			PPxh2	01		Py^{27} Fd^{27}				400	200	200	20		All	0.6	10,000	400	3500
1005443				02*		Py^{27} Fd^{27}				400	200	200	20		All	0.6	10,000	400	3500
1005444				03		Py^{27} Fd^{27}				400	200	200	20		All	0.6	10,000	400	3500
1005445				04		Py^{27} Fd^{27}				400	200	200	20		All	0.6	10,000	400	3500
1005446				06		Fd^{27} Py				600	400	400	20		All	0.6	10,000	600	3500
1005447				07		Pl^{1,23} Sx^{1} Fd^{1}	Py^{1}	Act At		1000	500	400	20		All	0.6	10,000	1000	3500
1005448			SBSdh	01		Fd Pl Sx	Bl^{29}	At Ep		1200	700	600	20		Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005449				02*		Pl	Sx			1000	500	400	20		Pl Sx	1.4 0.8	10,000	1000	3500
1005450				03*		Fd Pl	Pw^{16,31,57}			1000	500	400	20		Pl, Pw Fd	1.4 1.0	10,000	1000	3500
1005451				04		Fd Pl Sx^{28}				1200	700	600	20		Pl Fd Sx	2.0 1.4 1.0	10,000	1200	3500
1005452				05		Pl	Sb Sx^{32}			1200	700	600	20		Pl Others	2.0 1.0	10,000	1200	3500
1005453				06		Fd Sx Pl	Bl^{29}	At Ep		1200	700	600	20		Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005454				07		Fd^{1,32} Pl^{1} Sx^{1,32}	Bl^{1,29,32}	Act At Ep		1000	500	400	20		Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
1005455				08*		Pl^{1} Sb^{1} Sx^{1,32}				400	200	200	20		Pl Others	1.4 0.8	10,000	400	3500

Identification		Situations/ Circumstances of Application				Regeneration Standards							Free Growing Standards					
		Location			Other	Species				Density (well spaced)			FG Date	Species	Height		Density Limits	
MOFLNRO ID #	Estab. Obj/ Strat Ref.	Physical Location/ Geographic	BEC Zone/SubZone/Var.	BEC Site Series	(describe)	Conifers Preferred (p)	Conifers Acceptable (a)	Broadleaf Preferred (p)	Broadleaf Acceptable (a)	Target P&A (sph)	Min P&A (sph)	Min P (sph)	Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s) (Min sph)	Post Spacing (w/s) (Max sph)
			SBSdh	04		Fd Pl Sx[28]	Bl[29] At Ep			1200	700	600	20	Pl Fd Sx, Bl At, Ep	2.0 1.4 1.0 2.0	10,000	1200	3500
16234			SBSdw1	01		Fd Pl Sx[28]	Bl[28,5]	At Ep		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16235				02*		Fd[28] Pl				1000	500	400	20	Pl Fd	1.4 1.0	10,000	1000	3500
16236				03		Fd[27] Pl		At	Ep	1200	700	600	20	Pl Fd	2.0 1.4	10,000	1200	3500
16237				04		Fd[32] Pl Sx[28]		At		1200	700	600	20	Pl Fd Sx	2.0 1.4 1.0	10,000	1200	3500
16238				05		Fd Pl Sx		At Ep		1200	700	600	20	Pl Fd Sx	2.0 1.4 1.0	10,000	1200	3500
16239				06		Fd Pl Sx	Bl	Act At Ep		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16240				07		Fd[1,32] Pl Sx	Bl	Act At	Ep	1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16241 16243				08		Fd[1,32] Sx	Bl[32] Pl	Act At Ep		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16242 16244				09		Sx[1,32] Pl[1]	Bl[1,32]	Act		1000	500	400	20	Pl Others	1.4 0.8	10,000	1000	3500
1005456			SBSdw1	01		Fd Pl Sx[28]	Bl[28,5]	At Ep		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005457				02*		Fd[28] Pl				1000	500	400	20	Pl Fd	1.4 1.0	10,000	1000	3500
1005458				03		Fd[27] Pl		At	Ep	1200	700	600	20	Pl Fd	2.0 1.4	10,000	1200	3500
1005459				04		Fd[32] Pl Sx[28]		At		1200	700	600	20	Pl Fd Sx	2.0 1.4 1.0	10,000	1200	3500
1005460				05		Fd Pl Sx		At Ep		1200	700	600	20	Pl Fd Sx	2.0 1.4 1.0	10,000	1200	3500
1005461				06		Fd Pl Sx	Bl	Act At Ep		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005462				07		Fd[1,32] Pl Sx	Bl	Act At	Ep	1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005463				08		Fd[1,32] Sx	Bl[32] Pl	Act At Ep		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
1005464				09		Sx[1,32] Pl[1]	Bl[1,32]	Act		1000	500	400	20	Pl Others	1.4 0.8	10,000	1000	3500
1005465			SBSmc1	01		Fd[15,32] Pl Sx[28]	Bl[28]			1200	700	600	20	Pl Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005466				02*		Pl	Bl[28] Sx[26]			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500
1005467				03		Fd Pl				1200	700	600	20	Pl Fd	1.6 1.0	10,000	1200	3500
1005468				04		Pl Sx[32]	Bl[32]			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005469				05		Pl Sx[32]	Bl[32]			1200	700	600	20	Pl Others	1.6 0.8	10,000	1200	3500
1005470				06		Fd[15,32] Pl Sx	Bl	Act		1200	700	600	20	Pl Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005471				07		Fd[15,32] Pl Sx	Bl	Act		1200	700	600	20	Pl Fd Others	1.6 1.0 0.8	10,000	1200	3500
1005472				08		Sx[1,32]	Bl[1, 32] Pl[1]			1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500 3500
16218			SBSmm	01		Pl Sx Fd[8,14,32]	Bl[10,13]	At	Act	1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16219				02		Pl Fd[8,13,32]	Sx[10,13]			1000	500	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
16220				03		Fd[8,14,32] Pl	Sx[10,13]			1000	500	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
16221				04		Pl Fd[8,13,32]	Sx[10,13]			1000	500	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500
16222				05		Pl Fd[8,14,32] Sx	Bl[10,13]	At		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16223				06		Pl Sx Fd[8,14,32]	Bl[10,13]	At		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16224				07		Pl Sx Fd[8,14,32]	Bl CW[22]	Act At		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500
16225				08		Pl[1] Sx[1]	Bl[1]	Act	At Ep	1000	500	400	20	Pl Others	1.4 0.8	10,000	1000	3500

Identification		Situations/ Circumstances of Application				Regeneration Standards							Free Growing Standards						
		Location			Other	Species				Density (well spaced)			FG Date	Species	Height		Density Limits		
MOFLNRO ID #	Estab. Obj/ Strat Ref. Silv.	Physical Location/ Geographic	BEC Zone/SubZone/Var.	Site Series	(describe)	Conifers Preferred (p)	Conifers Acceptable (a)	Broadleaf Preferred (p)	Broadleaf Acceptable (a)	Target P&A (sph)	Min P&A (sph)	Min P (sph)	Max (yrs)		Min (m)	Pre Space (Max sph)	Post Spacing (w/s) (Min sph)	Post Spacing (w/s) (Max sph)	
1005473			SBSmm	01		Pl Sx Fd^{9,14,32}	Bl^{10,13}	At	Act	1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500	
1005474				02		Pl Fd^{9,13,32}	Sx^{10,13}			1000	500	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500	
1005475				03		Fd^{9,14,32} Pl	Sx^{10,13}			1000	500	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500	
1005476				04		Pl Fd^{9,13,32}	Sx^{10,13}			1000	500	400	20	Pl Fd Others	1.4 1.0 0.8	10,000	1000	3500	
1005477				05		Pl Fd^{9,14,32} Sx	Bl^{10,13}	At		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500	
1005478				06		Pl Sx Fd^{9,14,32}	Bl^{10,13}	At		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500	
1005479				07		Pl Sx Fd^{9,14,32}	Bl Cw^{22}	Act At		1200	700	600	20	Pl Fd Others	2.0 1.4 1.0	10,000	1200	3500	
1005480				08		Pl^{1} Sx^{1}	Bl^{1}	Act	At Ep	1000	500	400	20	Pl Others	1.4 0.8	10,000	1000	3500	
16226			SBPSmk	01		Fd^{14,32} Pl Sx		At		1200	700	600	20	Pl Fd Sx	1.6 1.0 0.8	10,000	1200	3500	
16227				02*		Fd^{14,28} Pl	Sx^{28}			1000	500	400	20	Pl Fd Sx	1.2 0.8 0.6	10,000	1000	3500	
16228				03		Fd^{28} Pl		At		1200	700	600	20	Pl Fd	1.6 1.0	10,000	1200	3500	
16229				04		Fd^{14,28,32} Pl Sx^{28}		At		1200	700	600	20	Pl Fd Others	1.6 1.0 0.8	10,000	1200	3500	
16230				05		Fd^{14,28} Pl Sx^{28}				1200	700	600	20	Pl Fd Sx	1.6 1.0 0.8	10,000	1200	3500	
16231				06		Pl Sx		Act At		1200	700	600	20	Pl Sx	1.6 0.8	10,000	1200	3500	
16232				07		Sx^{1,32}	Pl^{1} Bl^{1,32}	Act At		1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500	
16233				08		Sx^{1,32} Pl^{1}	Sb^{1}			400	200	200	20	Pl Others	1.2 0.6	10,000	400	3500	
1005481			SBPSmk	01		Fd^{14,32} Pl Sx		At		1200	700	600	20	Pl Fd Sx	1.6 1.0 0.8	10,000	1200	3500	
1005482				02*		Fd^{14,28} Pl	Sx^{28}			1000	500	400	20	Pl Fd Sx	1.2 0.8 0.6	10,000	1000	3500	
1005483				03		Fd^{28} Pl		At		1200	700	600	20	Pl Fd	1.6 1.0	10,000	1200	3500	
1005484				04		Fd^{14,28,32} Pl Sx^{28}		At		1200	700	600	20	Pl Fd Others	1.6 1.0 0.8	10,000	1200	3500	
1005485				05		Fd^{14,28} Pl Sx^{28}				1200	700	600	20	Pl Fd Sx	1.6 1.0 0.8	10,000	1200	3500	
1005486				06		Pl Sx		Act At		1200	700	600	20	Pl Sx	1.6 0.8	10,000	1200	3500	
1005487				07		Sx^{1,32}	Pl^{1} Bl^{1,32}	Act At		1000	500	400	20	Pl Others	1.2 0.6	10,000	1000	3500	
1005488				08		Sx^{1,32} Pl^{1}	Sb^{1}			400	200	200	20	Pl Others	1.2 0.6	10,000	400	3500	
1015354			ICHdw3	01, 04		Fd Sx^{10,13} Cw^{10,13}	Hw^{10,13}			1200	700	600	20	Fd Others	1.4 1.0	10,000	1200	3500	
1015358				03		Fd Cw^{10,13} Pw^{21,57} Py	Sx^{10,13}			1000	500	400	20	Pl, Pw Fd Others	1.6 1.0 0.8	10,000	1000	3500	
1015369				05		Cw^{10,13} Sx^{10,13}	Hw			1200	700	600	20	All	1.0	10,000	1200	3500	
				06,07		Cw Fd^{14} Sx	Hw Bl^{10,13}			1200	700	600	20	Fd Others	1.4 1.0	10,000	1200	3500	

Table 11. Uneven-aged Stocking Standards

Uneven-aged Stocking Standards* -- Single-tree selection only

Target from Table A standards	Layer**	Stocking***		
		TSSpa	MSSpa	MSS p
(stems/ha)		(well-spaced/ha)		
1200	1	600	300	250
	2	800	400	300
	3	1000	500	400
	4	1200	700	600
1000	1	400	200	200
	2	600	300	250
	3	800	400	300
	4	1000	500	400
600	1	300	150	150
	2	400	200	200
	3	500	300	300
	4	600	400	400
400	1	200	100	100
	2	300	125	125
	3	300	150	150
	4	400	200	200

* Maximum regeneration delay is seven years. Regeneration delay can be met immediately following harvest if the residual stand has no significant damage or pest problems and meets minimum stocking standards. If regeneration is achieved immediately following harvest, earliest free growing date is 12 months after completion of harvest and the latest date is 24 months after completion of harvest.

****Stand Layer Definition**

Layer 1	Mature	trees >= 12.5 cm dbh
Layer 2	Pole	trees 7.5 cm to 12.4 cm dbh
Layer 3	Sapling	trees >= 1.3 m height to 7.4 cm dbh
Layer 4	Regeneration	trees < 1.3 m height

*** pa - preferred and acceptable species p - preferred species

Preferred and acceptable species and "Target from Table A standards' are as specified in Table A by biogeoclimatic ecosystem classification (BEC) site series.

Table 12. Mixed Wood and Broadleaf Stocking Standards

Mixed Wood Stocking Standards*				
TSS from Table A Standards (even aged)	**Stocking****			
	TSSpa	MSSpa	MSSp	MSSc
(stems/ha)	(well-spaced/ha)			
1200	1600	1000	800	600
1000	1200	700	600	400
600	800	500	400	400
400	400	200	200	200

** pa - preferred and acceptable species; p - preferred species;
c - conifers
Preferred and acceptable species and "Target from Table A standards' are as specified in Table A by biogeoclimatic ecosystem classification (BEC) site series.

Broadleaf Stocking Standards							
TSS from Table A Standards (even aged)	**Stocking****			**Regen Date Max (yrs)**	**Late FG Max (yrs)**	**MITD (m)**	**% Tree over Brush**
	Target pa	MIN pa	MIN p				
(stems/ha)	(well-spaced stems/ha)						
1200	2000	1200	1000	4	12	2.0	150
1000	1200	1000	800	4	12	2.0	150
600	1000	500	400	4	12	2.0	150
400	600	400	400	4	12	2.0	150

Footnotes for Stocking Standard Tables

Footnote #	Footnote
1	elevated microsites are preferred
2	suitable on thick forest floors
3	restricted to coarse-textured soils
4	restricted to medium-textured soils
5	footnote retired
6	restricted to nutrient-very-poor sites
7	restricted to nutrient-medium sites
8	restricted to steep slopes
9	restricted to southerly aspects
10	restricted to northerly aspects
11	restricted to crest slope positions
12	suitable on cold air drainage sites
13	restricted to upper elevations of biogeoclimatic unit
14	restricted to lower elevations of biogeoclimatic unit
15	restricted to northern portion of biogeoclimatic unit in region
16	restricted to southern portion of biogeoclimatic unit in region
17	restricted to western portion of biogeoclimatic unit in region
18	restricted to eastern portion of biogeoclimatic unit in region
23	restricted to trial use
24	suitable (as a major species) in wetter portion of biogeoclimatic unit
27	partial canopy cover required for successful establishment
28	limited by moisture deficit
29	risk of heavy browsing by moose
30	risk of porcupine damage
31	risk of white pine blister rust
32	limited by growing-season frosts
33	footnote retired and replaced with footnote 'a'
34	risk of snow damage
35	risk of weevil damage
37	risk of heart rots
38	footnote retired
39	avoid exposed and windy sites
40	risk of redheart
41	limited by poorly drained soils
42	restricted to fresh soil moisture regimes
47	risk of balsam wooly adelgid
48	risk of heavy browsing by deer
49	applies only to rust resistant, planted stock.
50	restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
51	restricted to areas with proven Pl performance
52	restricted to sheltered microsites with deep soil
53	minor component
54	risk of unsuccessful release of advance regeneration
55	acceptable in sx-sm portion of site series

#	Localized Footnotes
57	Pw rust-resistant stock may be preferred to a max 50% of preferred and acceptable well-spaced stems.
59	Kamloops Forest District - species is acceptable in Kamloops Forest District only.
60	Kamloops Forest District - species is preferred in Kamloops Forest District only.
61	Headwaters Forest District - species is acceptable in Headwaters Forest District only.
62	Headwaters Forest District - species is preferred in Headwaters Forest District only.
63	Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
64	Lw Restricted to East of North Thompson River and South of 51° 30' Latitude and to a maximum of 25% of TSSpa
65	Lw Restricted to a maximum of 25% of TSSpa

5.15A-3 PARTIAL CUTTING STOCKING STANDARDS

The following proposed approach to defining and assessing stocking success in partial cut standards units apply to even-aged silvicultural systems that have retained a minimum of five (5) m^2/ha of residual basal area. Recommended stocking decisions are based on management objectives that are focused toward the production of sawlog timber. Bancroft *et. al.* (2003) and Martin (2004) have completed the initial work associated with the "Deviation From Potential" approach to assessing stocking in complex partially cut stand structures; their work has been incorporated into this proposed approach for Kamloops BCTS – Kamloops TSA.

NOTE: It is important to remember that some of the residual structures that would be accepted using this approach for stocking assessment are below stocking levels that would promote optimal growth where sawlog timber production is the dominant management objective. In many cases, they are intermediate cuts in a silvicultural system. These structures will result in growth losses, relative to TSR expectations, if they are retained for extended periods (Przeczek 2002). Non-timber values that require a partial cutting treatment to achieve short term management objectives (0 – 20 years) will result in stand structures that are appropriate for the use of these standards. **The expectation in these standards units is that additional harvesting with follow-up regeneration treatments will be required in the 20 – 30 year period if base case TSR volume assumptions are to be attained.** If additional harvesting that will promote close to optimal sawlog growth rates does not occur, TSR base case assumptions will need modification. Where non-timber management objectives require the long-term retention of residual structures that are below the minimum stocking line(s) in Figure 2, unique standards will be submitted to the District Manager for approval through a FSP amendment.

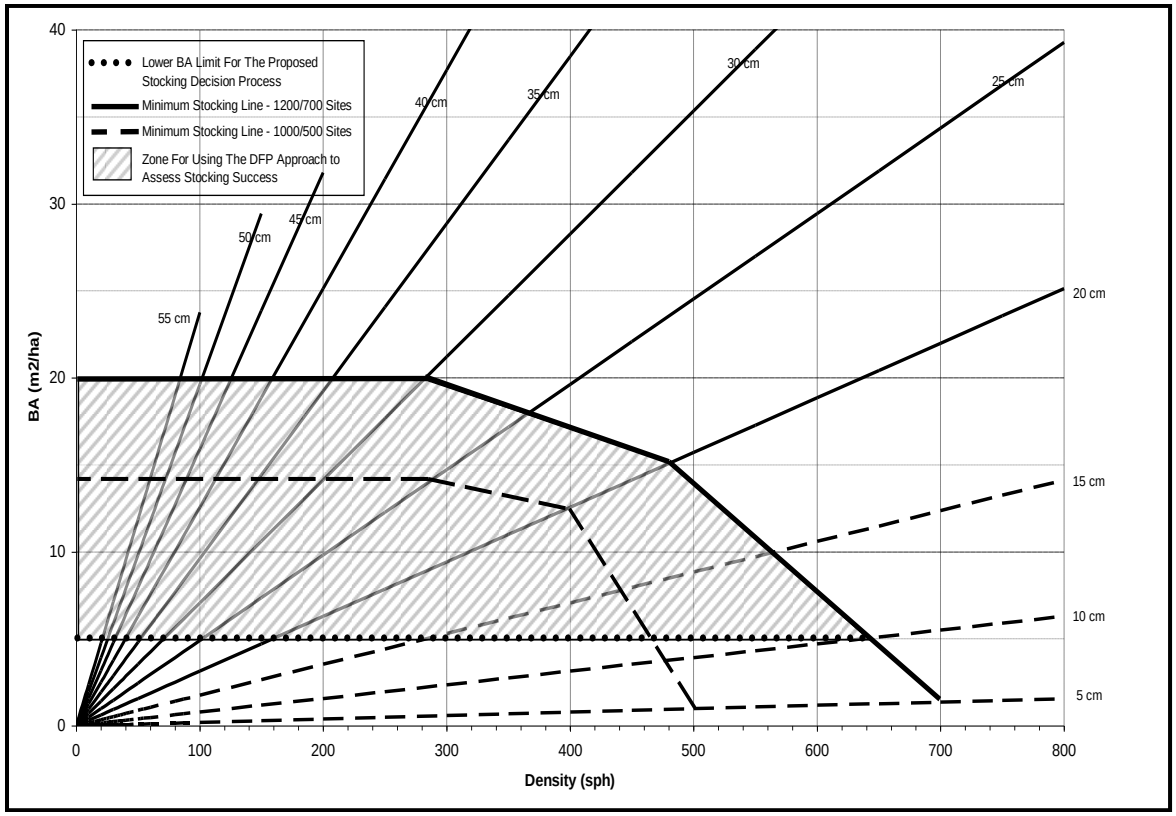


Figure 2. Stocking zone, lower basal area limit, minimum stocking line, and isolines of average stand diameter for assessing partial cut stands in Kamloops BCTS – Kamloops TSA.

Assessment Procedures

Plot assessments will be conducted as per standard even-aged regeneration and free-growing assessments with the following change:

Layer 1 stems (≥ 12.5 cm dbh)

Tally stems by species and diameter class (5 or 10 cm classes are appropriate) using an appropriate prism. Initial indications suggest that a 3 - 5 BAF prism will provide reasonable data for most sites. Tally dead and moribund trees as separate classes (species) but do not include them in basal area summaries for the stand. It will also be necessary to tally acceptable and unacceptable layer 1 stems separately because the minimum stocking line decision is based on acceptable layer 1 stems and the DFP stocking decision requires ≥ 80% of the layer 1 stems to be of acceptable quality; the deviation from potential (DFP) calculation for each plot is based on all layer 1 stems (except for dead and moribund). The more intensive tally of BA will assist with the determination of DFP until surveyors and practitioners become familiar with the system. It will also help with the preparation of more detailed treatment prescriptions where additional overstory manipulation will be required (e.g., harvesting).

Data Compilation

In addition to standard regeneration survey summary information, the following are required:

1. For the minimum stocking line, compute basal area, density, and mean diameter of live acceptable L1 trees.
2. Basal area (m2) and well-spaced sph for each plot will be compared to Table 13 and the DFP will be recorded. The mean DFP will be calculated for each stratum along with the proportion (%) of stocked, partially stocked and open plots1; and,
3. A stand table (m2/ha) could be prepared for each stratum to assist with decision making but it is not a survey requirement at this time.

Decision Rules

Stocking decisions will be based on the flow chart provided in Figure 3. Figure 2 should be consulted when assessing stocking in these partially cut stands. It uses density (sph), basal area (m^2/ha), and isolines of average stand diameter (after Gingrich 1967) as the basis for displaying:

1. Minimum Stocking Line
   This line represents the lowest residual stocking level of acceptable layer 1 stems (≥ 12.5 cm dbh) that will be considered stocked. If average stocking in a standards unit meets or exceeds the minimum stocking line the SU will be considered SR or FG (if all other species selection, health, size, and damage criteria are met). Two minimum stocking lines are presented; one for sites with 700/1200 even-aged stocking standards and one for sites with 500/1000 even-aged stocking standards.
   The deviation from potential stocking (DFP) should also be assessed to ensure that the majority of the standards unit is acceptably stocked (≥ 60% of the area as determined by the % of plots).
2. Lower Basal Area Limit

   This line defines the lowest average residual basal area, including all layer 1 stems, (≥ 5 m^2/ha) that a standards unit is allowed for the application of this approach to stocking assessment. Standards units with residual basal areas < 5 m^2/ha should be assessed with current even-aged stocking standards.

[1] the % of plots calculation is a surrogate for the % of area. If the proportion or distribution of plots does not reflect the area for each DFP stocking class the calculation will be incorrect and another approach to estimating proportional area will have to be documented and applied.

3. Deviation From Potential Stocking Zone

   This area of the diagram represents the range of residual stand structures that will require the application of the DFP approach to assessing stocking and free-growing status.

Table 13. Deviation from potential (DFP) volume by understory tree density and overstory basal area.

OS Basal Area	Well-spaced trees in plot								
(m2/ha)	0	1	2	3	4	5	6	7	8
0	1.00	0.76	0.52	0.34	0.22	0.13	0.07	0.03	0.00
1	0.98	0.74	0.51	0.34	0.21	0.13	0.07	0.03	0.00
2	0.96	0.73	0.50	0.33	0.21	0.13	0.07	0.03	0.00
3	0.93	0.71	0.49	0.32	0.20	0.12	0.07	0.03	0.00
4	0.90	0.68	0.47	0.31	0.20	0.12	0.06	0.03	0.00
5	0.86	0.65	0.45	0.30	0.19	0.11	0.06	0.02	0.00
6	0.82	0.62	0.43	0.28	0.18	0.11	0.06	0.02	0.00
7	0.77	0.58	0.40	0.27	0.17	0.10	0.05	0.02	0.00
8	0.72	0.55	0.38	0.25	0.16	0.09	0.05	0.02	0.00
9	0.67	0.51	0.35	0.23	0.15	0.09	0.05	0.02	0.00
10	0.62	0.47	0.32	0.21	0.14	0.08	0.04	0.02	0.00
11	0.57	0.43	0.30	0.20	0.12	0.07	0.04	0.02	0.00
12	0.52	0.39	0.27	0.18	0.11	0.07	0.04	0.01	0.00
13	0.47	0.35	0.24	0.16	0.10	0.06	0.03	0.01	0.00
14	0.42	0.32	0.22	0.15	0.09	0.05	0.03	0.01	0.00
15	0.38	0.28	0.20	0.13	0.08	0.05	0.03	0.01	0.00
16	0.33	0.25	0.17	0.11	0.07	0.04	0.02	0.01	0.00
17	0.29	0.22	0.15	0.10	0.06	0.04	0.02	0.01	0.00
18	0.26	0.19	0.13	0.09	0.06	0.03	0.02	0.01	0.00
19	0.22	0.17	0.12	0.08	0.05	0.03	0.02	0.01	0.00
20	0.19	0.14	0.10	0.07	0.04	0.02	0.01	0.01	0.00
21	0.16	0.12	0.08	0.06	0.04	0.02	0.01	0.00	0.00
22	0.13	0.10	0.07	0.05	0.03	0.02	0.01	0.00	0.00
23	0.11	0.08	0.06	0.04	0.02	0.01	0.01	0.00	0.00
24	0.09	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00
25	0.07	0.05	0.04	0.02	0.02	0.01	0.00	0.00	0.00
26	0.05	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00
27	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00
28	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
29	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Color
Stocking Class
Growth Potential Opportunity

Open
High potential for additional volume growth
$\geq$ 41% Additional stocking is required where timber production is the primary management objective

Partially Stocked
Moderate potential for additional volume production through additional stocking
21 – 40% Assess options, additional stocking may be required

Stocked
Low potential for additional growth through additional stocking
$\leq$ 20% No further treatments required

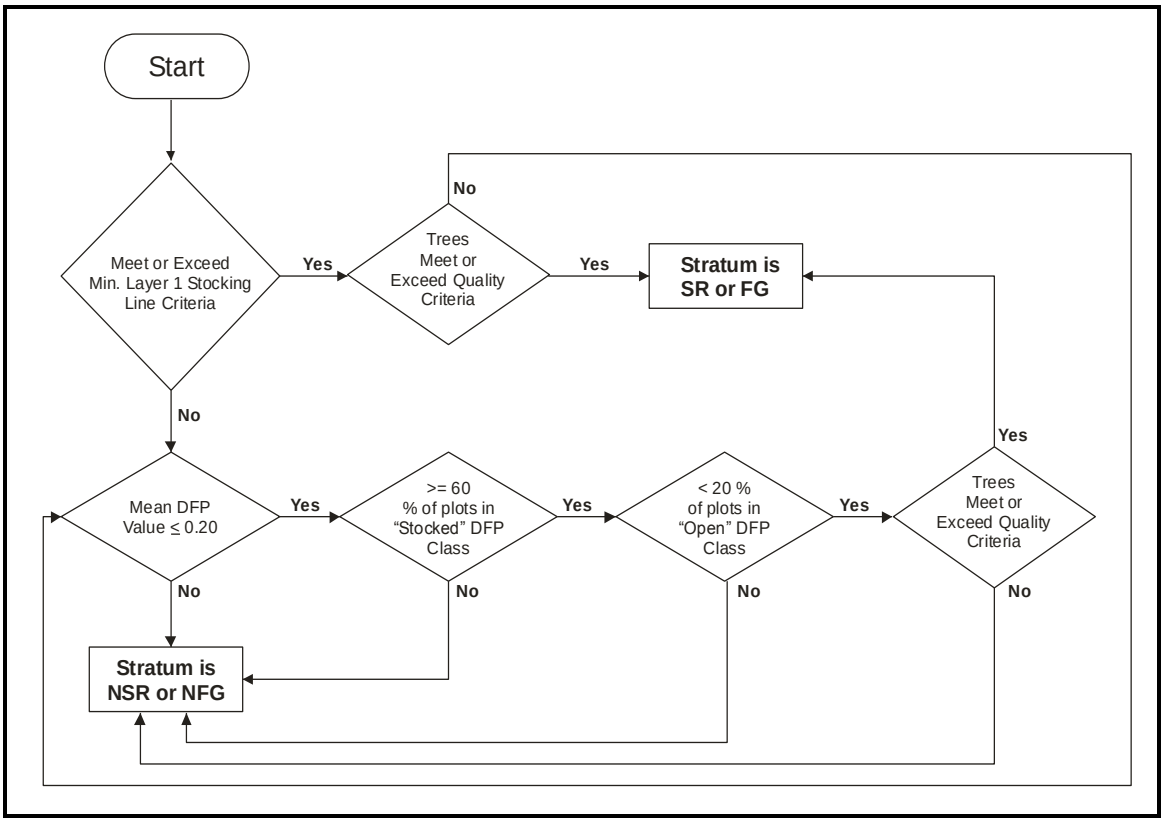


Figure 3. Stocking decision flowchart.

Notes: Many of these stands will have clumped, irregular stocking patterns and the amount of overstory will limit the potential for augmenting stocking through planting. All NSR openings ≥ 1.0 ha, that are not under significant overstory influence, will be reforested.

There may be a limited biological or financial opportunity to increase stocking in some partially cut stands that do not meet the stocking criteria. However, these strata cannot be declared stocked or free-growing; additional harvesting treatments may be required before stocking levels in layer 4 can be augmented.

Proposed Standards

Minimum Stocking Line, DFP, and General Criteria

Table 14 and Table 15 provide a set of proposed standards for partial-cutting in Kamloops BCTS – Kamloops TSA. The standards should be applied to partially cut standards units that were not prescribed for single-tree silvicultural systems, NDT4 ecosystem restoration (open forest or open range), beetle-proofing in lodgepole pine dominated stands, or where management objectives require long term overstory retention and where a reduction in yield is acceptable. These standards should be viewed as a First Approximation and they will be revised as more experience is gained with the system and as better information becomes available.

Table 14. Proposed minimum partial-cutting stocking standards for site series with 700/1200 even-aged stocking standards, for Kamloops BCTS – Kamloops TSA.

Minimum Stocking Line Criteria			Deviation from Potential (DFP) Criteria			General Criteria			
Average DBH (cm)[1]	MSS Density (sph)	MSS Basal Area (m^2/ha)	Maximum Mean DFP	Maximum % Partially Stocked Plots	Maximum % Open Plots	Min. Intertree Distance[2]	Regen. Delay (max. yrs.)[3]	FG Earliest (yrs.)[3]	FG Latest (yrs.)[3]
< 12.5			0.20	40	20	n/a + 2.0	1	1	2
15	560	10							
20	480	15							
25	360	17							
30	280	20							
35	210	20							
40	180	20							
45	150	20							
50 - 60	100	20							

Notes:

1. Calculation is based on stems $\geq$ 12.5 cm dbh; Average DBH is the weighted average for all acceptable stems.
2. No minimum intertree will be applied to layer 1 stems; a 2.0 minimum intertree distance will apply to layer 2, 3, and 4 stems.
3. Timeframes only apply where a stratum is declared SR or FG using the minimum stocking line and were chosen to allow up to 2 years for assessing windthrow damage prior to a free-growing declaration. If the minimum stocking line is not used, time frames will default to even-aged regeneration delay and free-growing delay periods.

Table 15. Proposed minimum partial-cutting stocking standards for site series with 500/1000 even-aged stocking standards, for the Kamloops BCTS – Kamloops TSA.

Minimum Stocking Line Criteria			Deviation from Potential (DFP) Criteria			General Criteria			
Average DBH (cm)[1]	**MSS Density (sph)**	**MSS Basal Area (m^2/ha)**	**Maximum Mean DFP**	**Maximum % Partially Stocked Plots**	**Maximum % Open Plots**	**Min. Intertree Distance[2]**	**Regen. Delay (max. yrs.)[3]**	**FG Earliest (yrs.)[3]**	**FG Latest (yrs.)[3]**
< 12.5			0.20	40	20	n/a + 2.0	1	1	2
15	440	8							
20	400	12.5							
25	290	14							
30	200	14							
35	150	14							
40	110	14							
45+	90	14							

Notes:

(a) Calculation is based on stems $\geq$ 12.5 cm dbhob; Average DBH is the weighted average for all acceptable stems.

(b) No minimum intertree will be applied to layer 1 stems; a 2.0 minimum intertree distance will apply to layer 2, 3, and 4 stems.

(c) Timeframes only apply where a stratum is declared SR or FG using the minimum stocking line and were chosen to allow up to 2 years for assessing windthrow damage prior to a free-growing declaration. If the minimum stocking line is not used, time frames will default to even-aged regeneration delay and free-growing delay periods.

Tree Acceptability Criteria

Table 16 provides a summary of the standards for tree acceptability for regeneration and free-growing assessments.

Table 16. Tree acceptability criteria for the proposed stocking assessment procedure.

Tree Acceptability Criteria	Regeneration Assessment	Free-growing Assessment
Species	All layer 1 stems will be considered as preferred species. Preferred and acceptable species for the site as per current even-aged stocking standards for other layers.	All layer 1 stems will be considered as preferred species. Preferred and acceptable species for the site as per current even-aged stocking standards for other layers.
MSS_p	Preferred species $\geq$ 50% of the well-spaced stocking	Preferred species $\geq$ 50% of the free-growing stocking
Health	Healthy	As per free-growing damage criteria (ETFG Guidebook, Appendix 5) and the Tree Wounding Guidebook. In stands that do not meet or exceed the minimum stocking line, ≥ 80% of the TOTAL Layer 1 stems must be of acceptable quality.
Brush		Appropriate conifer/brush ratio (ETFG Guidebook, Appendix 9)
Height	Min. 30 cm	70% of the minimum free-growing height for the species and site
Advanced Regeneration		Advanced regeneration standards (ETFG Guidebook, Appendix 10)
Minimum Intertree Distance	2.0 m, no MITD for layer 1 stems	2.0 m, no MITD for layer 1 stems

References (For Stocking Standards)

Bancroft, Bryce, Ken Day, Pat Martin, Kim Peel and Ken Zielke. 2003. *Partially Cut: Occupied or Not? What are my options? – A proposed survey approach*. . Unpubl. FIA Rep. for Lignum Limited.

B.C. Ministry of Forests. 2000. *Establishment to free growing guidebook*. Nelson Forest Region. Rev. ed., Version 2.2. For. Prac. Br., B.C. Min. For., Victoria, B.C. Forest Practices Code of British Columbia Guidebook.

Gingrich, Samual F. 1967. *Measuring and evaluating stocking and stand density in upland hardwood forests in the Central States*. For. Sci. 13: 38 – 53.

Martin, Pat. 2004. *Second approximation of the deviation from potential table*. Unpubl. Information Sheet. 17pp.

Przeczek, John E. 2002. *Partial Cutting Effects Study: Modeling with Prognosis^{BC} and TASS to Assess Partial Cutting Impacts on Yield in the Invermere T.S.A.*. Unpubl. FIA Rep. for Slocan Forest Products Ltd. and Tembec Industries Ltd. 21 pp. + append.

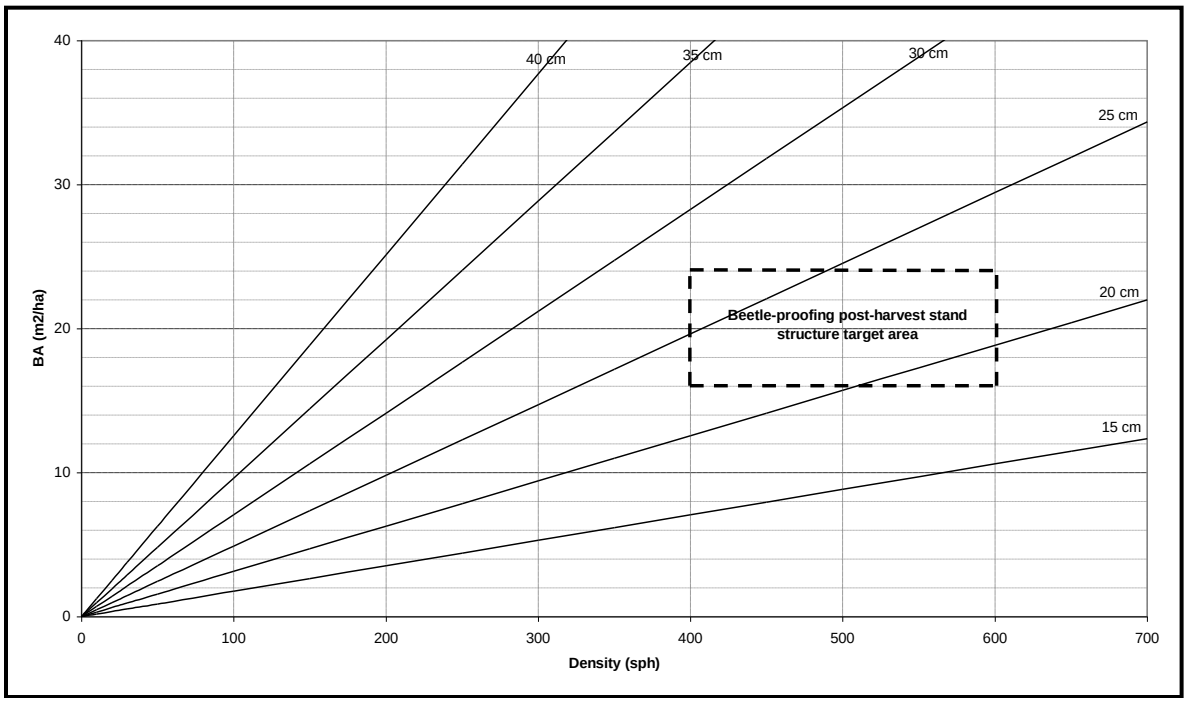


Figure 4. Suggested post-harvest stand structure standards for beetle-proofed lodgepole pine stands in Kamloops BCTS – Kamloops TSA.

APPENDIX B – WALK-IN LAKES

Table 17. Walk-in Lakes in the Kamloops TSA.

Lake #	Lake Name	Class_1	Access	Comments
773	Copper Lake	A	Maintain walk-in	
850	Lost lake	B	Walk-in	Defer Satellite Lake
874	Moosehead Lake	PA	Easy walk-in	Defer Satellite Lake
821	Grizzly Lake	A	Maintain walk-in	
872	Moose Lake	B	Easy walk-in	Defer Satellite Lake
1298		C	Walk-in	Used by meadow Lake Resort
811	Fourteen Mile	C	Walk-in must be maintained	Wild trout, lake integrity must be maintained
789	Donna Lake	B	Access concerns, walk-in	Wild rainbow, productive
1302	Little Thumb	B	Maintain walk-in access	Wild stock, manage as a group of lakes for access and visuals
511		B	Maintain walk-in access	Manage as a group of lakes with a total chance plan
839	Laurel Lake	B	Maintain walk-in	
934	Thumb lake	A	Maintain walk-in access	Wild stock, VQO is retention
948	Walkin Lake	C	Maintain existing walk-in	
963	Bendelin	C	Potential walk-in	MOE inventory
354	Tortoise lake	C	Walk-in	High priority MOE
1283		B	Maintain walk-in	
1708		C	Maintain walk-in	Swamp complex east of 1283
1012	Trails End Lake	B	Maintain walk-in (1.75km)	Recommend VMZ=C
1015	Boot Lake	B	Maintain walk-in (1.5km)	Recommend VMZ=C
1013	Summit Lake	B	Maintain walk-in (3/4km)	
1287	Gords Lake	C	Keep walk-in access	
1258	Scott	PA/C	Maintain walk-in access	Refer to Nehalliston LRUP, Zone 18 (High Lake), Livestock control concern
1255	Jeremy	PA	Maintain walk-in, road closures	Critical moose population, log after moose hunting season only, WINTER ONLY
1267	Linquist Ch.	B	Maintain walk-in access	Concern over VQO on canoe route
1041	Tibbetts Lake	B	Maintain walk-in access	LMZ=B, LVMZ=C
1678		C	Maintain walk-in	Important drainage for spawning
1266	Linquist Ch.	B	Maintain walk-in access	Concern over VQO on canoe route
1257		C	Maintain walk-in, deactivation	
1265	Linquist Ch.	C	Maintain walk-in access	Concern over VQO on canoe route
1238		C	Maintain existing walk-in	Wild rainbow trout
757	Boulanger Lake	C	Maintain existing walk-in access	
35	Bogmar Lake	C	Walk in	
377	Twin Lake	PA/B	Walk in	In Area "A" Check visual line is at PA bdry, check to see if B is a problem
275	Pothole Lake	B	Concerns, mainly walk-in	wild trout, resort use, just outside area "A"
114	Frankie Lake	PA	Walk in	in Area "A"
1049	Pocket Lake	PA/B	Walk in	
76	Dagger Lake	PA	Walk-in Lake	Within Bonaparte Protected Area
1211	Cherry Lake	PA/B	Walk in	Check visuals, concerned about MOE values, check with BC Parks
1213	Rubber boat	PA/B	Walk in	Review VQO's, Wild trout fishery
1212	Lost	PA		Walk in
88	Donut Lake	B	Walk in	Tropy fish
1697		C+		Maintain walk-in
1198		C+		Walk in
1199		C+		Walk in
843	Little Badger	B	Walk in lake	High recreation, probable beetlw problem, horse logging potential
1196		W		Walk in
1197		W		Walk in
1594		D	Maintain walk-in access	Maintain integrity of area
1130		PA		Walk in
391	Warren Lake	B	Leave as walk-in	find out if lease is walkin, use sec 105 to restrict access, Jennifer will bring 105 bdry to table.
1315	Little Warren	C	Maintain as walk-in	
1111		PA		Walk in
1116		PA		Walk in
1123		D		Walk in
1106		D		Walk in
1086		PA		DU # 92-I-146 Area 7/Walk in
1177		D		DU #92-I-402/Walk in
1185		C		Walk in

APPENDIX C - FOREST STEWARDSHIP PLAN MAPS

Table 18. Landscape Unit Based FDU Maps for the BCTS Kamloops TSA FSP.

FDU'S	MAP_NO
Upper N. Thompson/Albreda	1
Thunder Blue/Mud	2
Tum Tum/Avola	3
Raft/Clearwater/Vavenby	4
Mad/Mica/Cayenne	5
Nehalliston/Dunn/Darfield/Bonaparte	6
Adams Lake/Barriere	7
Deadman/Tranquille/Skull	8
Heffley/Louis Creek/Lower Adams	9
Lower Bonaparte/Hat Creek/Ashcroft	10
Lac du Bois/Dewdrop/S. Kamloops/Upper Guichon/Stump Lake	11
Campbell	12