

Cariboo-Chilcotin
Land Use Plan

Regional Biodiversity Conservation Strategy

UPDATE NOTE # 15

Mature + Old Seral Management in Wildfire Areas

Prepared by:
Biodiversity
Conservation
Strategy
Committee

Prepared for:
The Regional
Management Team

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Biodiversity Conservation Strategy Update Notes are prepared by the Cariboo-Chilcotin Biodiversity Conservation Strategy Committee for purposes of technical clarification or technical additions to the Biodiversity Conservation Strategy report, submitted to the Cariboo-Mid Coast Interagency Management Committee in July 1996. These notes are prepared in response to issues and questions presented to the Biodiversity Committee by the Interagency Cariboo Manager's Committee or Regional Management Team.

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Previous CCLUP Biodiversity Strategy Updates include:

Update #1: Key Assumptions and Recommendations For Use of the Inventory Adjustment Factor in the Cariboo Forest Region

Update Note #2: Amalgamation of Small NDT-BEC Units in Relation to Assessment of Seral Objectives and Old Growth Management Area Planning

Update Note #3: Definition of the Fir Group and Pine Group for Purposes of Seral Stage Assessments within NDT 4 of the Cariboo-Chilcotin

Update Note #4: An Approach for Patch Size Assessments in the Cariboo Forest Region

Update Note #5: An Integrated Mountain Pine-Biodiversity Conservation Management Strategy

Update Note #6: Procedures for Implementation of the Mountain Pine Beetle-Biodiversity Strategy to Address Current Attack During the Outbreak Phase

Update Note #7b: An Integrated Strategy for Management of Biodiversity and Bark Beetles in Douglas-fir and Spruce Stands

Update Note #8: Strategy for Management of Mature Seral Forest and Salvage of Mountain Pine Beetle-Killed Timber

Update Note #9: Strategy for Management of Mature Seral Forest and Salvage of Mountain Pine Beetle-Killed Timber Within TFLs in the Cariboo

Update Note #10: Management of Transition Old Growth Management Areas with a High Lodgepole Pine Component Heavily Attacked by Mountain Pine Beetle

Update Note #11: New Options for Old Growth Management Areas in Ecosystems with Frequent, Stand Destroying Natural Disturbance

Update Note #12: Stand Level Retention Biodiversity

Update Note #14: The Function and Management of Old Growth Management Areas in the Cariboo-Chilcotin

Updates are available at:
<https://www.for.gov.bc.ca/tasb/SLRP/plan104.html>

Introduction

The mature+old seral targets are a legal requirement under CCLUP, and in LU-BEC units that are at or below target levels, forest harvesting is constrained. Wildfire has impacted some areas significantly, potentially changing some old or mature stands to a younger seral class. Adjustment of the seral age based on this change can affect the availability for salvage harvest relative to the M+O seral target.

This update is intended to inform forest planners with respect to seral age in the interim period between the year of wildfire impact and the year when the impacted areas are reassessed by Forest Analysis and Inventory Branch (FAIB). When re-inventory is complete, forest stands are assigned a new age, after which seral condition will be updated based on the new age, consistent with methodology to date.

Management Framework

This guidance is being provided to fully inform all stakeholders of potential harvest opportunities consistent with the legal parameters that are in place. Where salvage of M+O overlaps with other legal land use designations, management must also be consistent with the requirements for those areas. Stakeholders are encouraged to target areas not constrained by M+O seral as priorities for wildfire salvage, but provided good structural legacies are retained, it is acknowledged that in some severely burned stands salvage harvesting may contribute to quicker recovery of biodiversity through prompt reforestation.

In order to assess the potential shift in seral class of a burned stand, criteria are necessary at both the stand and tree level. For the purposes of re-classification, the following criteria will define stands eligible for salvage harvest in seral-constrained units on an interim basis:

- Stand was classified as mature or old seral before being burnt
- LU NDT-BEC is at or below M+O seral targets
- Current stand mortality of the planned harvest area is $\geq 70\%$
- Individual trees are determined to currently be dead if crown mortality from scorch is $\geq 75\%$ (75% of crown has brown needles or no needles)

*Note: Ensure that where stands overlap other designated areas like MDWR, all eligibility criteria are met for harvesting in those stands.

Consistent with the Biodiversity Strategy (1996), the principle for seral age recovery is the time expected to return to mature seral. Using that general approach, stands meeting the above criteria are considered to have shifted to mid-seral or younger for the interim period.

Note that there will be stands that have degrees of fire scorch $< 75\%$ and many of these trees may die. It is important that trees with intermediate or low levels of scorch remain on the land base until the summer following the year of wildfire impact in order to determine whether mortality actually occurs and to utilize the stressed trees as bait for expected FBB infestations.

LU-BEC units that are currently at or below M+O targets and occur within the perimeter of the 2017 fires are listed in Table 1. LU-BEC units that are not currently at or below M+O targets but might be below targets once fire impacts are considered are listed in table 2.

Table 1. LU NDT-BEC units within a fire perimeter that are currently at or below M+O seral targets.

landscape unit	BEC label	species group	forest area ¹	current M+O relative to target area	M+O within 2017 fire perimeters	M+O relative to target area minus M+O within 2017 fire perimeters
DCC_Minton	IDF dk 4	PineGroup	24,348	-2,766	4,039	-6,805
DCC_Minton	IDF dk 4	FirGroup	11,252	-2,094	4,719	-6,813
DQU_Twan	IDF dk 3	FirGroup	5,783	-2,013	464	-2,477
DQU_Twan	IDF dk 3	PineGroup	14,725	-1,818	346	-2,164
DQU_Twan	SBS dw 2	na	11,275	-1,640	774	-2,414
DCC_Polley	ICH mk 3	na	23,478	-1,569	23	-1,592
DQU_Victoria	SBS wk 1	na	20,416	-1,534	18	-1,552
DCC_Meldrum	IDF dk 3	FirGroup	15,544	-1,487	1,385	-2,872
DCC_Mackin	SBPSxc	na	23,842	-1,310	474	-1,784
DCC_Riske	IDF dk 3	PineGroup	13,743	-1,304	1,560	-2,864
DCC_Anaham	IDF dk 4	PineGroup	13,608	-1,214	1,219	-2,433
DCC_Gaspard	MS xv	na	21,308	-1,137	79	-1,216
DCC_Minton	IDF xm	FirGroup	9,779	-529	5,810	-6,339
DCC_Siwash	IDF dk 4	PineGroup	16,333	-406	938	-1,344
DCC_Riske	SBPSxc	na	1,973	-279	28	-307
DCC_Gaspard	IDF dk 4	FirGroup	9,438	-242	829	-1,071
DCC_Gaspard	IDF dk 4	PineGroup	13,269	-183	901	-1,084
DCC_Minton	IDF xm	PineGroup	1,958	-177	490	-667
DMH_Dog_Creek	IDF dk 3	FirGroup	31,712	-165	1	-166
DQU_Twan	SBPSxc	na	778	-158	8	-166
DMH_Loon	MS xk 2	na	20,976	-139	4,415	-4,554
DCC_Williams_Lake	IDF dk 3	FirGroup	32,269	-130	1,093	-1,223
DCC_Tautri	SBPSxc	na	11,784	-129	568	-697
DCC_Riske	SBPSmk	na	675	-99	16	-115
DMH_Cunningham_Lake	IDF dk 3	PineGroup	52,886	-88	1	-89
DCC_Minton	BG xw 2	FirGroup	1,089	-77	615	-692
DQU_Snaking	SBS mc 2	na	19,089	-57	225	-282
DCC_Anaham	IDF dk 3	PineGroup	873	-49	152	-201
DQU Pelican	SBS mc 3	na	834	-24	51	-75

1 - LU/BEC units less than 5000 ha are included that are part of a larger amalgamated unit that is in M+O seral deficit

Table 2. LU NDT-BEC units within a fire perimeter that are at risk of being at or below M+O seral targets.

landscape unit	BEC label	species group	forest area ¹	M+O relative to target area	M+O within 2017 fire perimeters	M+O relative to target area minus M+O within 2017 fire perimeters
DQU_Clisbako	MS xv	na	46,100	9,915	20,245	-10,330
DCC_Clusko	SBPSxc	na	53,757	1,432	8,794	-7,362
DMH_Loon	IDF dk 3	FirGroup	17,916	3,305	9,341	-6,036
DCC_Clusko	MS xv	na	41,301	4,040	9,867	-5,827
DMH_Chasm	IDF dk 3	FirGroup	24,625	1,708	7,389	-5,681
DCC_Riske	IDF dk 3	FirGroup	9,491	903	4,341	-3,438
DQU_Baezaeko	MS xv	na	22,285	3,691	6,811	-3,120
DMH_Chasm	IDF dk 3	PineGroup	32,553	709	3,183	-2,474
DCC_Riske	IDF xm	FirGroup	13,582	1,624	3,757	-2,133
DQU_Clisbako	SBPSmk	na	10,277	1,383	3,130	-1,747
DCC_Nazko	MS xv	na	11,988	2,580	4,258	-1,678
DQU_Clisbako	SBPSxc	na	9,826	2,808	4,479	-1,671
DQU_Coglistiko	SBPSmc	na	11,650	3,262	4,900	-1,638
DCC_Tautri	SBPSdc	na	43,724	7,636	9,256	-1,620
DCC_Haines	IDF dk 4	FirGroup	7,792	3,058	4,571	-1,513
DCC_Riske	IDF xm	PineGroup	9,235	1,134	2,557	-1,423
DMH_Loon	IDF xw	FirGroup	3,085	838	2,162	-1,324
DCC_Anaham	IDF dk 4	FirGroup	7,663	534	1,832	-1,298
DCC_Nazko	SBPSdc	na	26,649	9,425	10,586	-1,161
DCC_Nazko	SBPSxc	na	41,758	7,645	8,663	-1,018
DMH_Loon	IDF dk 3	PineGroup	10,762	1,344	2,343	-999
DCC_Anaham	IDF xm	FirGroup	4,474	1,716	2,652	-936
DCC_Siwash	IDF dk 4	FirGroup	8,805	167	1,100	-933
DQU_Chine	SBPSmc	na	5,370	503	1,414	-911
DQU_Baezaeko	SBPSmc	na	10,771	4,523	5,385	-862
DMH_Chasm	IDF xw	FirGroup	5,002	1,653	2,499	-846
DQU_Marmot	MS xv	na	5,978	1,223	2,060	-837
DCC_Big_Creek	IDF dk 4	FirGroup	5,883	1,184	1,984	-800
DQU_Coglistiko	SBPSdc	na	8,778	3,004	3,759	-755
DQU_Coglistiko	SBS mc 2	na	5,467	253	976	-723
DMH_Clinton	IDF xw	FirGroup	8,361	3,380	4,024	-644
DCC_Klinaklini	MS xv	na	7,652	2,043	2,687	-644
DCC_Haines	IDF xm	FirGroup	2,615	1,483	2,059	-576
DMH_Bonaparte_Lake	IDF dk 3	FirGroup	5,792	1,995	2,570	-575
DQU_Baezaeko	SBS mc 2	na	9,063	2,013	2,575	-562
DQU_Baezaeko	SBPSmk	na	6,908	2,115	2,668	-553
DCC_Tautri	SBPSmk	na	7,519	403	937	-534
DCC_Haines	IDF dk 4	PineGroup	9,554	2,854	3,355	-501
DQU_Marmot	SBPSmk	na	11,678	3,224	3,716	-492
DCC_Minton	SBPSxc	na	12,579	649	1,109	-460
DCC_Meldrum	IDF dk 3	PineGroup	7,716	100	531	-431
DQU_Clisbako	SBPSdc	na	2,491	595	1,018	-423
DCC_Siwash	IDF xm	FirGroup	5,549	1,944	2,299	-355
DCC_Anaham	IDF dk 3	FirGroup	785	22	360	-338
DCC_Big_Creek	IDF xm	FirGroup	1,780	904	1,189	-285
DQU_Wentworth	MS xv	na	14,447	1,756	1,943	-187
DMH_Deadman	IDF dk 3	PineGroup	5,528	593	756	-163
DQU_Chine	MS xv	na	601	20	176	-156
DCC_Williams_Lake	SBS dw 2	na	3,774	272	415	-143
DCC_Nazko	SBPSmk	na	1,444	317	434	-117
DCC_Anaham	SBPSxc	na	34,066	245	352	-107
DMH_Green_Lake	IDF dk 3	FirGroup	9,849	3,810	3,914	-104
DMH_Bonaparte_Lake	IDF dk 3	PineGroup	5,081	1,125	1,224	-99
DCC_Big_Creek	IDF xm	PineGroup	702	226	304	-78
DCC_Anaham	IDF xm	PineGroup	452	3	80	-77
DMH_Chasm	IDF xw	PineGroup	421	117	159	-42
DCC_Minton	BG xw 2	PineGroup	101	44	77	-33
DCC_Hawks_Creek	IDF dk 3	FirGroup	20,916	2,393	2,418	-25
DCC_Haines	IDF xm	PineGroup	214	87	112	-25
DMH_Loon	IDF xw	PineGroup	95	41	63	-22
DCC_Riske	BG xw 2	PineGroup	824	37	57	-20
DCC_Big_Creek	IDF dk 4	PineGroup	18,208	2,050	2,068	-18
DCC_Klinaklini	SBPSxc	na	1,907	965	965	0

1 - LU/BEC units less than 5000 ha are included that are part of a larger amalgamated unit that would be in M+O seral deficit

Landscape Level Planning

Where post-wildfire salvage harvest occurs within burnt old or mature forest in a constrained unit, a replacement area must be designated. Prior to harvest, the following factors must be considered in planning the recruitment area:

- Location: The replacement area should be in the same LU-BEC unit as the harvested stands
- Age: The replacement area should consist of an area of forest expected to recruit to mature seral forest in the shortest possible time. Stands in the upper age categories of mid-seral are preferred, if available
- Patch Size: Single large patches are preferred over several small ones. Patches that contribute to interior forest condition are preferred (minimum patch width = 600m).
- Mapped: The recruitment area must be mapped and shared with all forest tenure holders to assure retention of the patch for seral representation.

Stand Level Planning

Where post-wildfire salvage harvest occurs within burnt old or mature forest in a constrained unit it is important that as many stand level legacies as possible are retained. Planning and harvesting of the cutblock must show attention to the following;

- Wildlife Trees: Retention of wildlife trees, preferably in patches with some unburned or lightly burned trees up to the targets specified in the LU Order.
- Coarse Woody Debris: Medium and large logs (>30 cm) on the ground should be left as wildlife habitat. Fine fuels should be removed to reduce risk of repeated wildfire.
- Soil Conservation: Minimize soil compaction.
- Roads: Minimize new roads and deactivate on-block roads to 4X4 road vehicles once harvesting is complete.
- Natural Regeneration and Understory: Minimize mortality and damage to surviving trees (all types) and understory shrubs.

Note that this interim procedure is only applicable until re-inventory of burned stands is completed and revised seral calculations are done for the affected areas. This is expected in 2018.

Literature

Forest Practices Code Biodiversity Guidebook

<http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/biotoc.htm> or

<https://www.for.gov.bc.ca/hfd/library/documents/bib19715.pdf>

Cariboo Chilcotin Land Use Plan Biodiversity Conservation Strategy and Updates

<https://www.for.gov.bc.ca/tasb/SLRP/plan104.html>

Cariboo-Chilcotin Land Use Order, May 2011.

<ftp://ftp.geobc.gov.bc.ca/publish/Regional/WilliamsLake/Cariboo->

[Chilcotin LUOR Order/legal order document/CaribooChilcotinLUO_May2011.pdf](Chilcotin_LUOR_Order/legal_order_document/CaribooChilcotinLUO_May2011.pdf)