CEF Cumulative Effects Framework

SUMMARY

March 2024

Summary of the Current Condition Report for Old Growth Forest in the Kamloops LRMP Area | 2019 Analysis

The Current Condition Report for Old Growth Forest in the Kamloops Land and Resource Management Plan (LRMP) Area was developed as part of the provincial Cumulative Effects Framework (CEF). The CEF identifies and assesses how values are impacted by cumulative effects[1] across the province. Results from current condition reports help explain the current state of values and can be used to support management of cumulative effects. Old growth forest is a value that is assessed under the CEF as it is important to the conservation and maintenance of landscape biodiversity at all scales. Functioning old growth forest delivers various ecosystem services as well as provides cultural and spiritual values.

The purpose of this summary is to:

- Highlight results from the Current Condition Report for Old Growth Forest: Thompson Okanagan – Kamloops LRMP Area, 2019 Analysis; and,
- Inform collaborative discussions among government, First Nations, natural resource industries, and community stakeholders when managing old growth forest.

Note: This summary (and report) provides quantitative reporting on the legal targets and does not discuss the overall effectiveness or implementation of those targets.

Disclaimer: This summary and current condition report was developed solely by the Province of British Columbia. This summary and report is based on GIS information and has not been ground-truthed. There will be opportunities for First Nations and the Province of British Columbia to collaborate on future current condition reports, monitor the condition of cumulative effects values, and validate the outcomes of these assessments.

Kamloops LRMP Assessment Area

The KLRMP area is in the southern interior of the province in the Thompson Okanagan Natural Resource Region (the Region) and covers approximately 2.77 million hectares. The KLRMP area is a topographically and ecologically diverse landscape that supports a range of biogeoclimatic ecosystem classification (BEC) zones. Most of the area is high elevation BEC zone of the ESSF (32%), while the mid-elevation is mostly ICH (24%) and the lower valley bottoms are IDF (23%).

The KLRMP area boundary and all the Crown land within defines the outer limits of this cumulative effects (CE) assessment. All area-based tenures (e.g., Tree Farm Licenses and Community Forests) that are more than 600 hectares are included in the assessment. The exception is all woodlots, regardless of size, are excluded from the assessment.

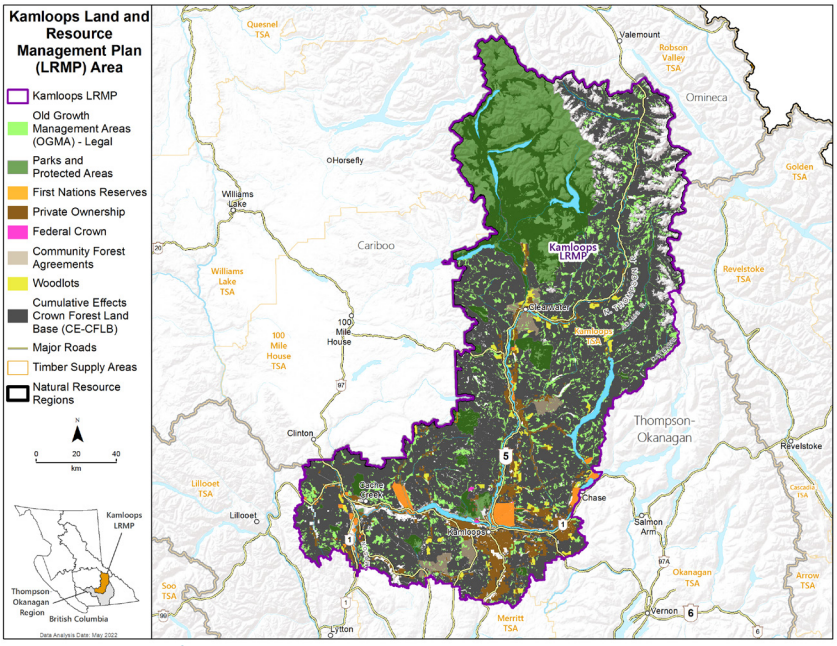


Figure 1. *Map of the Kamloops Land and Resource Management Plan (KLRMP) Area.*

[1] Cumulative effects are changes to environmental, social, and economic values caused by the combined effect of past, present, and potential future activities and natural disturbance events. If not managed, these changes to the environment can compound and eventually impact various environmental, social, and economic values that are important to people in British Columbia.

BRITISH COLUMBIA

The Cumulative Effects Crown Forested Land Base (CE-CFLB)[2] calculated for the KLRMP area is 1,966,473.5 ha, which is approximately 71% of the total gross area.

Land use in the KLRMP area is diverse, from a wide-ranging natural resource sector (e.g., forestry, mining, ranching, agriculture, fish, wildlife) to uses within municipalities like health care and education. The KLRMP area has experienced changes on the land base from natural disturbances such as wildfires and pest infestations (e.g., mountain pine beetle in 2004). These events may further affect the remaining old growth forests in combination with cumulative effects from resource development, urban development, and other potential climate change impacts.

Old Growth Forest Management in the KLRMP Area

Old growth forests are spatially managed through the legal objectives established in the *Order Establishing Old Growth Management Objectives for the Kamloops Land and Resource Management Plan Area* (2013). This order establishes the legal old growth management areas (OGMAs) and provides guidance for incursions into legal OGMAs.[3]

This order was a negotiated outcome of the KLRMP process using the Landscape Unit Planning Guide (LUPG, 1999) "rules-based" approach on designing OGMAs to mitigate impacts on timber supply. The Provincial Non-Spatial Old Growth Order (PNOGO, 2004) was never established over the KLRMP area due to this OGMA subcommittee and subsequent legal OGMA order. As a result, the permissible 2/3 drawdown in Low BEO units from PNOGO does not apply to the KLRMP area; OGMAs were designed to the full targets. For this CE assessment, old growth forest targets from the Biodiversity Guidebook (BDG, 1995) were used for comparison only, noting that actual OGMA establishment was a negotiated outcome from these policy targets. The BDG sets old growth forest retention targets by landscape unit (LUs) for each natural disturbance type (NDT), biogeoclimatic ecosystem classification (BEC), and biodiversity emphasis option (BEO) combination, and are defined by seral stage (Table 1).

Although **management to mature-plus-old forest targets are not a legal requirement** in the KLRMP area, an assessment against these targets was completed to better inform the current condition. Mature-plus-old forest policy targets are set in the Biodiversity Guidebook (BDG, 1995) by LU for each NDT, BEC, and BEO combination with targets defined by seral stage (Table 2).

Age Definitions

Table 1. *Age of Old Growth Forest in the KLRMP Area*

NDT	BEC zone	Policy Target: % Old Growth Forest Retention			Old Growth Forest Age Definition (years)
		Low BEO	Int. BEO	High BEO	
NDT1	ESSF	19	19	28	>250
	ICH	13	13	19	>250
NDT2	ESSF	9	9	13	>250
	ICH	9	9	13	>250
NDT3	ESSF	14	14	21	>140
	ICH	14	14	21	>140
	MS	14	14	21	>140
	SBPS	7	7	10	>140
	SBS	11	11	16	>140
NDT4	IDF	13	13	19	>250
	PP	13	13	19	>250

Table 2. *Age of Mature-Plus-Old Forest in the KLRMP Area*

NDT	BEC zone	Policy Target: % Mature + Old Retention			Mature + Old Forest Age Definition (years)
		Low BEO	Int. BEO	High BEO	
NDT1	ESSF	19	36	54	>120
	ICH	17	34	51	>100
NDT2	ESSF	14	28	42	>120
	ICH	15	31	46	>100
NDT3	ESSF	14	23	34	>120
	ICH	14	23	34	>100
	MS	14	26	39	>100
	SBPS	8	17	25	>100
	SBS	11	23	34	>100
NDT4	IDF	17	34	51	>100
	PP	17	34	51	>100

[2] A unique CE-CFLB is calculated for the CE assessment to include area-based tenures because they are required to manage for old growth biodiversity objectives. The full methodology can be found in the Old Growth Cumulative Effects Assessment Backgrounder (2024).

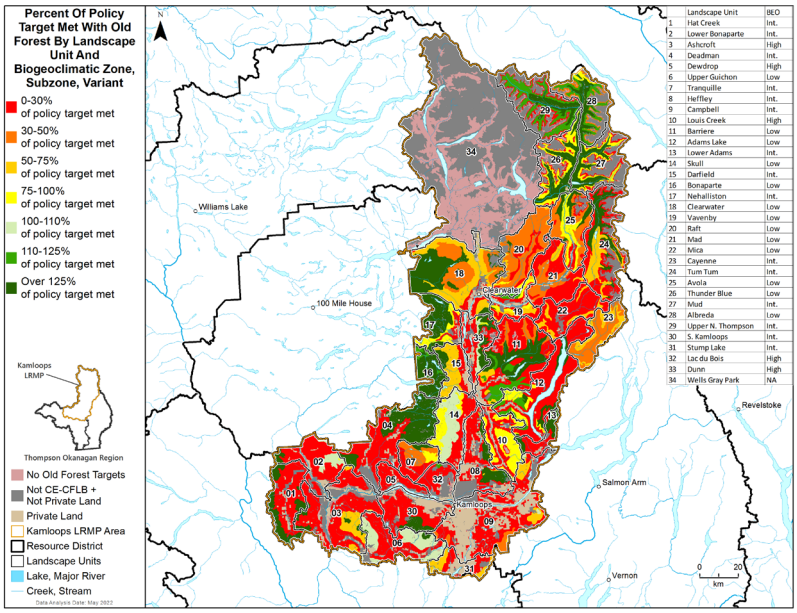
[3] In the Order Establishing Old Growth Management Objectives for the Kamloops Land and Resource Management Plan Area (2013), there are objectives that allow incursions for very specific reasons up to 2.0 hectares or 10% of each individual OGMA polygon, whichever is less, over a 20-year period. Any incursion beyond this threshold where consistency with desired old seral conditions cannot be demonstrated, or where an OGMA can be relocated to improve biodiversity values, would result in the OGMA being replaced with an ecologically suitable area.

Assessment Results

The current condition of old growth forest in the KLRMP area was assessed using the four indicators as outlined in the *Interim Assessment Protocol for Old Growth Forest in British Columbia (2017)*. Assessment units (AUs), which are defined by a combination of LU, BEO, NDT, and BEC are used to report on the current condition of old growth forest and mature-plus-old forest on the CE-CFLB. The KLRMP area has 33 LUs with a total of 237 AUs used in this CE assessment.

Indicator #1: Amount of Old Growth Forest

Indicator Description: This non-spatial indicator determines the current amount of old growth forest within each AU in relation to the policy targets for old growth forest in the CE-CFLB.

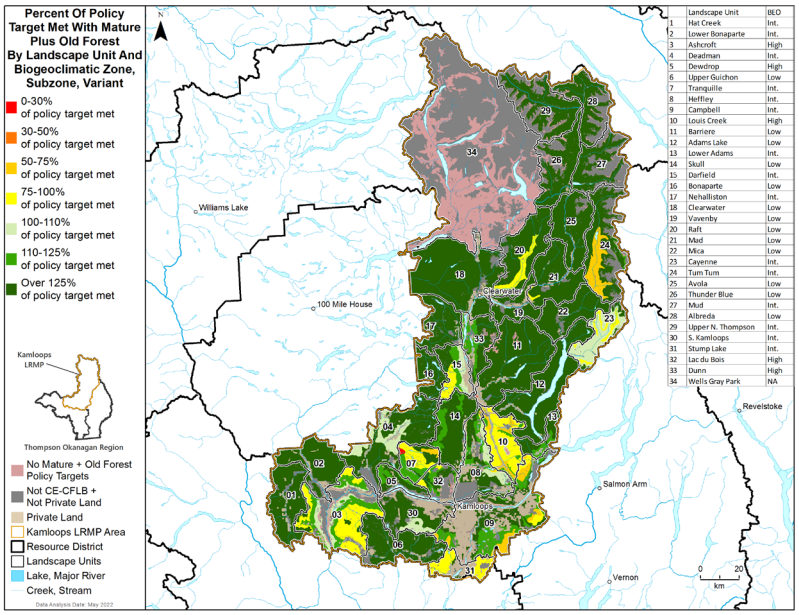


Assessment Results:

- 11.8% (232,080.7 ha) of the CE-CFLB is old growth forest.
- Of the 237 AUs, **73 AUs (31%) meet or exceed the old growth forest policy targets (502,550.2 ha of CE-CFLB)**. These occur mostly in the mid-elevation forests (MS and SBPS zones) and in the northern valleys (ICH).
- There are 6 BEC subzones/ variants (out of 34) with all AUs meeting the legal targets.
- The remaining 164 units (69%) have not met the defined targets with old growth forest. These occur across the KLRMP area but are more common in the dry, low elevation valley bottoms (IDF and PP BEC zones). There are 46 AUs with no old growth forest remaining (128,415.3 ha of CE-CFLB).

Indicator #2: Amount of Mature-Plus-Old Forest

Indicator Description: This non-spatial indicator determines the current amount of mature-plus-old forest within each AU in relation to the policy targets for mature-plus-old forest in the CE-CFLB. As mature forest will become old growth forest over time, it is important to assess where mature-plus-old forest is available to recruit towards old growth forest targets.



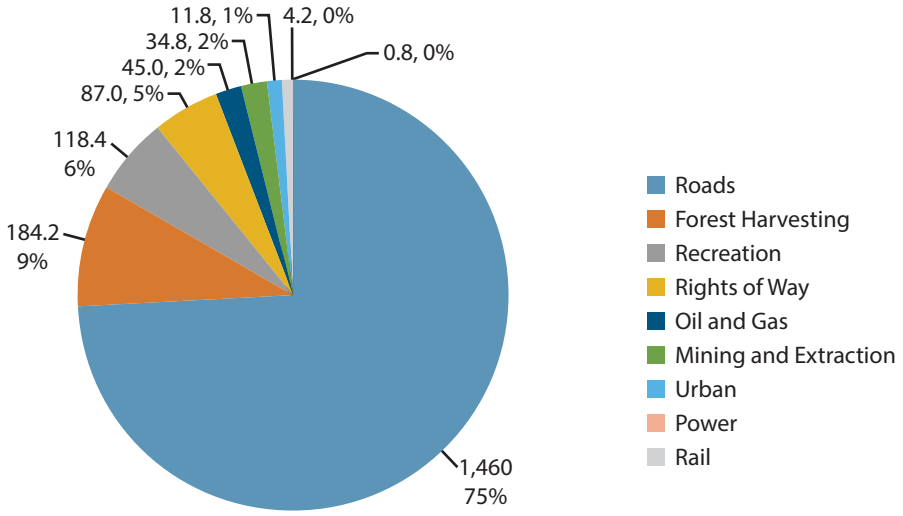
Assessment Results:

- 48.1% (946,165.8 ha) of the CE-CFLB is mature-plus-old forest. There is more mature-plus-old forest across the CE-CFLB (48.1%) compared to old growth forest alone (11.8%).
- Of the 237 AUs, **201 AUs (85%) meet or exceed the mature-plus-old forest policy targets (1,532,345.1 ha of CE-CFLB)**.
- There are 17 out of 34 BEC subzone/variants with all AUS meeting the policy targets.
- The AUs that do not meet the mature-plus-old forest policy targets are in the dry, lower elevation ecosystems (IDF and PP BEC zones) that have a long land use history from both human and natural disturbances.

Indicator #3: Incursions into Old Growth Management Areas

Indicator Description: This indicator compares the area of anthropogenic (human-caused) disturbance footprint (i.e., incursions[4]) in OGMAs relative to allowable incursions specified in the legal order.

Total Area (ha) and Disturbance Type of Incursions into Non-Legal OGMAs

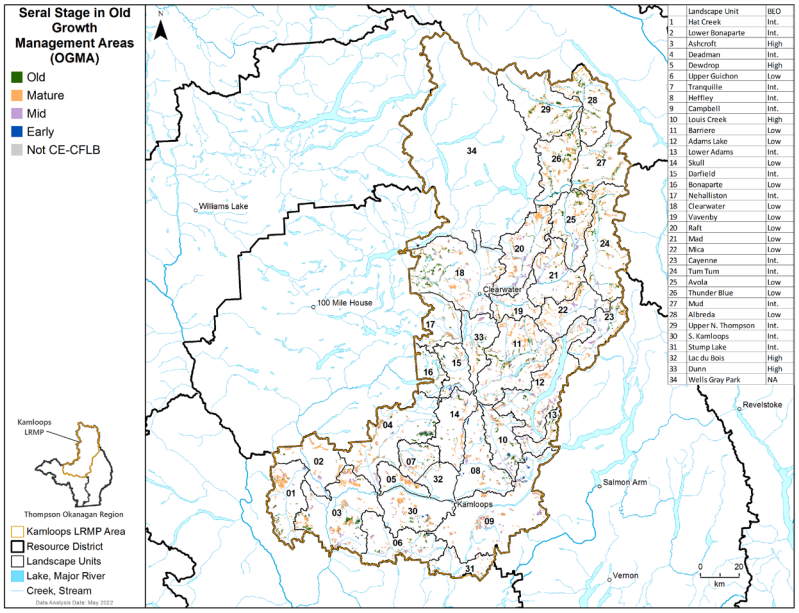


Assessment Results:

- There are 3,053 maped legal OGMAs in the KLRMP area with a total OGMA area of 201,199.3 ha and a CE-CFLB of 199,539.3 ha.
- 1,572 OGMAs (51%) show some level of disturbance, impacting 2,501.6 ha of total OGMA area.
- **379 OGMAs (12% of all legal OGMAs) have incursions greater than the allowable threshold.** These incursions impacted 1,946.3 ha of the total OGMA area.
- Most incursions were due to road development (75.0%) followed by forest harvesting (i.e., cutblocks) (9.5%).
- Most incursions disturb less than 5% of the total OGMA area. Barriere LU has the largest number of occurrences of incurred OGMAs (33 incurred OGMAs), while Louis Creek LU has the largest total OGMA area with incurred status (211.2 ha).

Indicator #4: Amount of Old Growth Forest in Old Growth Management Areas

Indicator Description: This indicator determines the amount of old growth within OGMAs in relation to policy targets. OGMAs are the implementation strategy used to meet old growth forest retention targets, therefore a comparison provides a high-level assessment of that strategy.



Assessment Results:

- In legal OGMAs, 57.3% of the total OGMA area is mature forest (115,243.6 ha), 19.2% is mid seral (38,552.6 ha), and 18.9% is old forest (37,970.8 ha), with a small component of early seral (3.7% or 7,349.8 ha) forests.
- There are **4 AUs that meet or exceed the old growth forest targets within legal OGMAs**, all of which are in the ESSF BEC zone.
- The remaining **233 AUs currently have insufficient amounts of old growth forest within legal OGMAs** compared to the policy targets. Of these, 71 AUs have no old growth forest within the legal OGMA boundaries.
- While there are sufficient amounts of old growth forest in most LUs compared to the policy targets, it is generally not within the legal OGMA boundaries (98% of OGMAs are not meeting targets).

[4] Incursions are defined as alterations to OGMAs caused by permitted activities, such as forestry cutblocks and roads, non-forestry-related activities (e.g., pipelines, oil and gas), and human use features such as recreation sites and trails.

General Reasons Contributing to the Current Condition

- Natural disturbance – There is a long history of wildfires and natural disturbances, including pest and insect damage (i.e., mountain pine beetle), that has impacted and resulted in large areas without old growth forest stands.
- Forest harvesting – This has occurred in all LUs, some associated with salvage in response to forest health as well as wildfire impacted stands, which has influenced the amount and distribution of old growth forest across the KLRMP area.
- Access to timber – In general, the northern portion of the KLRMP area consists of wetter ecosystems and steeper ground, making harvesting more operationally challenging or less desirable due to stand conditions, species profiles, and higher harvesting costs. Areas with easier access to timber (e.g., low elevations, closer to population centers) are often further away from meeting the targets.
- Younger forests – Mature forests may have been used to meet the old growth forest targets in AUs with insufficient old growth forest or to minimize socio-economic impacts to forestry operations. This may have been a negotiated outcome of the KLRMP process.
- Analysis limitations – Incursions into OGMAs may include disturbances that were known and considered acceptable at the time of OGMA establishment. It was not possible in the analysis to remove anthropogenic disturbances, except for forestry cutblocks, that occurred prior to OGMA establishment due to the lack of dates in the source data.
- Resource development – Old growth forests and OGMAs are subject to impacts from other (non-forestry) resource development as these sectors are not legally required to manage for old growth forest (e.g., mines, land conversion, oil and gas).
- Policy interpretation – The varying interpretation of orders and policy, as well as approaches to analysis and tracking of old growth forest by the Province and licensees, presents challenges to accurately track and monitor old growth forest conditions relative to the orders over time.
- Policy implementation – The application of provincial policy and guidance may have resulted in or contributed to the targets not being met within OGMAs because it was designed to mitigate the impacts to timber supply from the management of old growth forest (e.g., Landscape Unit Planning Guide prioritized OGMAs in areas considered uneconomical for forest harvesting or in areas that were managed for other values, which may have resulted in a trade-off of old growth forest biodiversity for areas that didn't impact timber supply).

Data sources: Based on Information from: Current Condition Report for Old Growth Forest in the Kamloops LRMP Area - 2019 Analysis.