

Summary of the Current Condition Report for Old Growth Forest in the Merritt TSA | 2019 Analysis

The Current Condition Report for Old Growth Forest in the Merritt Timber Supply Area (TSA) was developed as part of the provincial [Cumulative Effects Framework](#) (CEF). The CEF identifies and assesses how values are impacted by cumulative effects¹ 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 – Merritt TSA, 2019 Analysis; and,
- Inform collaborative discussions among government, First Nations, natural resource industries, and community stakeholders when managing old growth forest.

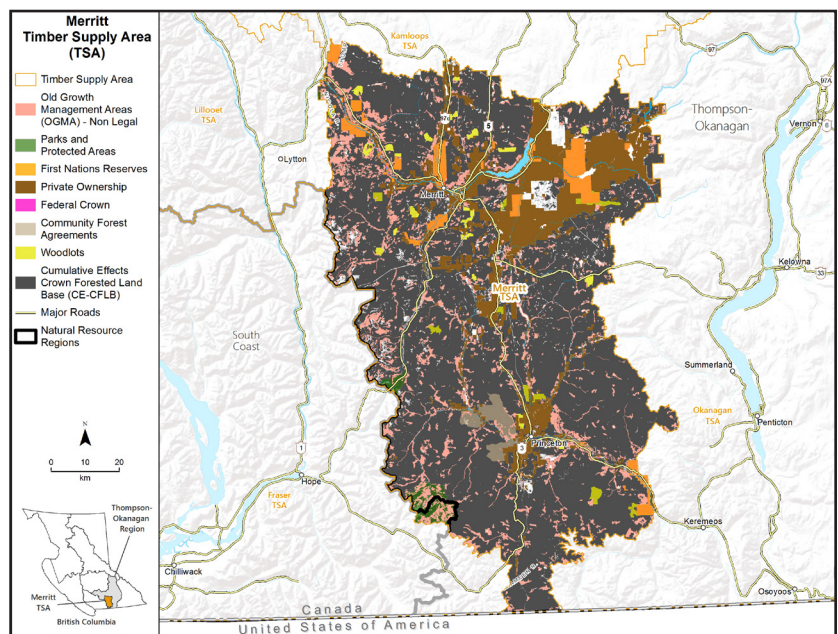
Note: This summary (and report) provides quantitative reporting on the legal targets and does not discuss the overall effectiveness or implementation of those targets.

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.

Merritt TSA Assessment Area

The Merritt TSA is in the southern interior of the province in the Thompson Okanagan Natural Resource Region (the Region) and covers approximately 1.13 million hectares. The topography of the Merritt TSA varies from steep river valleys to relatively flat and dry terrain, which supports a range of biogeoclimatic ecosystem classification (BEC) zones. Most of the TSA is in interior dry forests of the IDF (47%), transitional forests of the MS (28%), and high elevation forests of the ESSF (18%).

The Merritt TSA boundary and all the Crown land within the TSA 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.



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.

The Cumulative Effects Crown Forested Land Base (CE-CFLB)² calculated for the Merritt TSA is 887,134.2 ha, which is approximately 78% of the gross area of the TSA. Land use in the Merritt TSA is predominately natural resource based, including forestry, agriculture, mining, and tourism. The TSA 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 forest in the TSA in combination with cumulative effects from resource development, urban development, and other potential climate change impacts.

Old Growth Forest Management in the Merritt TSA

There are 12 Landscape Units (LUs) in the Merritt TSA. Old growth forests in these LUs are managed through legal old growth orders by two mechanisms:

1. **Non-spatial old forest targets legally established through the Provincial Non-Spatial Old Growth Order (PNOGO, 2004).** The Merritt TSA is unique in that old growth forest targets are listed under PNOGO Appendix 2 Table 2 as area-based (hectares) targets, opposed to percent targets that are established elsewhere in the province. Old growth forest targets are set in PNOGO by LU for each biogeoclimatic ecosystem classification (BEC) (BEC version 5 at the time of PNOGO). The age of old forest is defined in the Biodiversity Guidebook (1995) (Table 1).
2. **Spatial non-legal Old Growth Management Areas (OGMAs).** Non-legal OGMAs were established in 2006 on approximately 114,000 ha but were not legally designated under PNOGO. Provisions for allowable OGMA incursions and amendments are managed through the Regional OGMA policies³.

Although **management to mature-plus-old forest targets are not a legal requirement** in the Merritt TSA, 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](#) (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 Merritt TSA

NDT	BEC zone	Old Forest Age Definition (years)
NDT1	MH	>250
NDT2	CWH	>250
	ESSF	>250
NDT3	ESSF	>140
	MS	>140
NDT4	IDF	>250
	PP	>250

Table 2. Age of Mature-Plus-Old Forest in the Merritt TSA

NDT	BEC zone	Policy Target: % Mature + Old Retention			Mature + Old Forest Age Definition (years)
		Low BEO	Int. BEO	High BEO	
NDT2	CWH	17	34	51	>80
	ESSF	14	28	42	>120
NDT3	ESSF	14	23	34	>120
	MS	14	26	39	>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 [Old Growth Management Area Guidance Thompson Okanagan](#) (ILMB, 2007) regional OGMA guidance document, there are objectives that allow incursions for very specific reasons up to 10 hectares or 10% of the area of the OGMA, whichever is less, for any single OGMA. 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 Merritt TSA was assessed using the four indicators as outlined in the *Interim Assessment Protocol for Old Growth Forest in British Columbia (2017)*. 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.

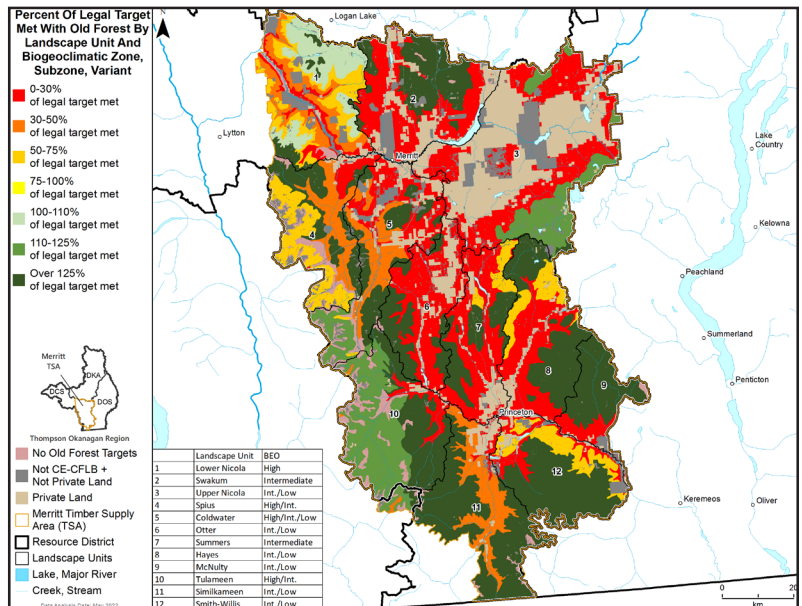
Since the Merritt TSA has old growth forest targets established in PNOGO Appendix 2 Table 2, AUs for this indicator are based on unique combinations of LU-BEC. As a result, there are 80 AUs used in this CE assessment for old growth forest. However, mature-plus-old forest policy targets come from the Biodiversity Guidebook which is based on unique combinations of LU, BEO, NDT, and BEC, there are 128 AUs used in this CE assessment for mature-plus-old forest.

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 legal targets for old growth forest in the CE-CFLB.

Assessment Results:

- 13.6% (120,611.7 ha) of the CE-CFLB is old growth forest.
- Of the 80 AUs in the TSA, **32 AUs (40%) have sufficient amounts of old growth forest compared to the targets (438,617.9 ha of CE-CFLB)**. These occur mostly in higher elevations (ESSF BEC zones) and in the southern portion of the TSA. There is one BEC subzone/variant (out of 11) with all AUs meeting the legal targets.
- The remaining 48 units (60%) have not met the defined targets with old growth forest. These occur across the TSA but are more common in the dry, low elevation valley bottoms (IDF and PP zones). There are 8 AUs with no old growth forest remaining (16,913.3 ha of CE-CFLB).

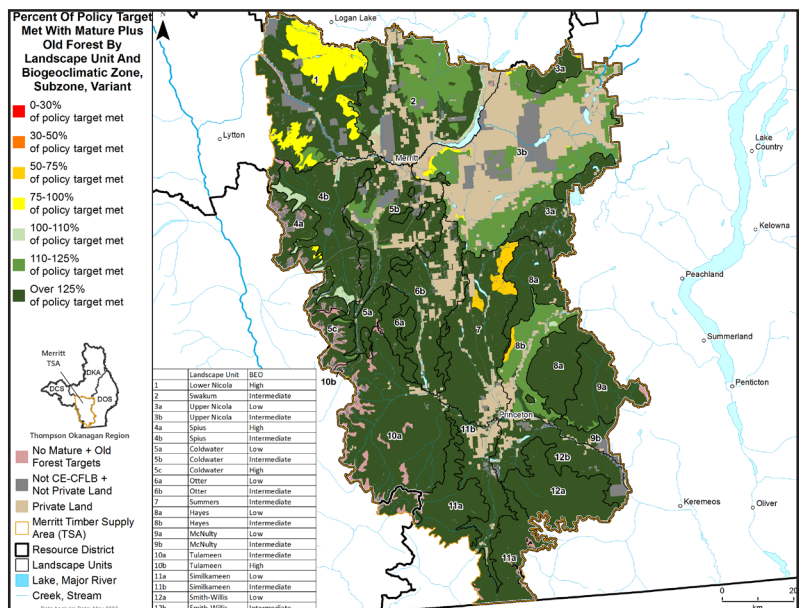


Indicator #2: Amount of Mature-Plus-Old Forest

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:

- 45.2% (401,136.5 ha) of the CE-CFLB is mature-plus-old forest. There is considerably more mature-plus-old forest across the CE-CFLB (95.2%) compared to old growth forest alone (51.4%).
- Of the 128 AUs in the TSA, currently **112 AUs (88%) meet or exceed the mature-plus-old forest policy targets**.
- There are 4 out of 13 BEC subzones/variants with all AUs meeting the policy targets.
- The 16 AUs that do not meet the mature-plus-old forest policy targets (41,853.9 ha of CE-CFLB) are close to meeting the targets (75-100% of the target met).

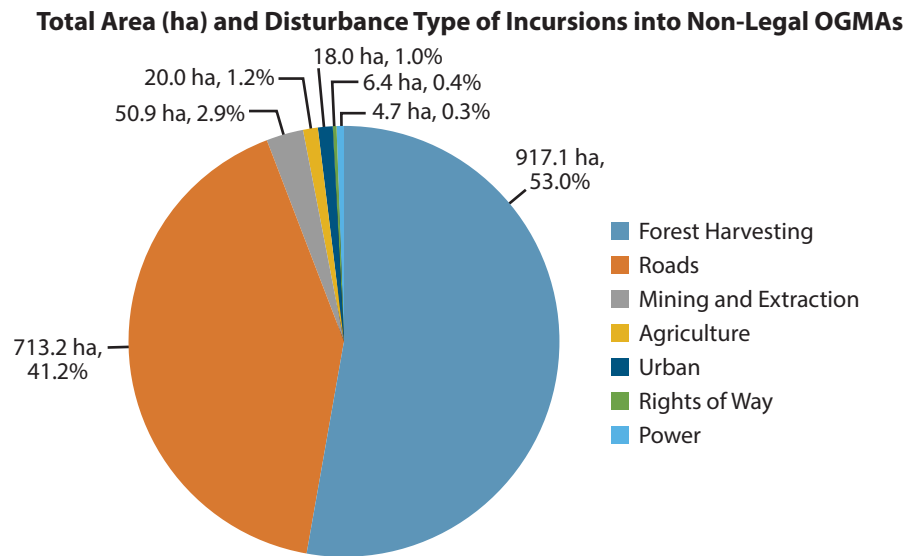


Indicator #3: Incursions into Old Growth Management Areas

Indicator Description: This indicator compares the area of anthropogenic (human-caused) disturbance footprint (i.e., incursions) in OGMAs relative to allowable incursions specified in the Regional policy or guidance⁴.

Assessment Results:

- There are 1,305 spatial non-legal OGMAs in the Merritt TSA with a total OGMA area of 114,589.0 ha and a CE-CFLB of 113,232.1 ha.
- 812 OGMAs (62%) show some level of disturbance, impacting 2,709.1 ha of total OGMA area.
- **114 OGMAs (9% of all non-legal OGMAs) have incursions greater than the allowable threshold. These incursions represent 5.2% (1,730.4 ha) of the total OGMA area in the TSA.**
- Most incursions were due to forest harvesting (cutblocks) (53.0%) followed by road development (41.2%).
- Most incursions disturb less than 5% of the total OGMA area.
- The Coldwater LU has the largest number of incurred OGMAs (22 OGMAs) and the largest total OGMA area with incurred status (417.9 ha).

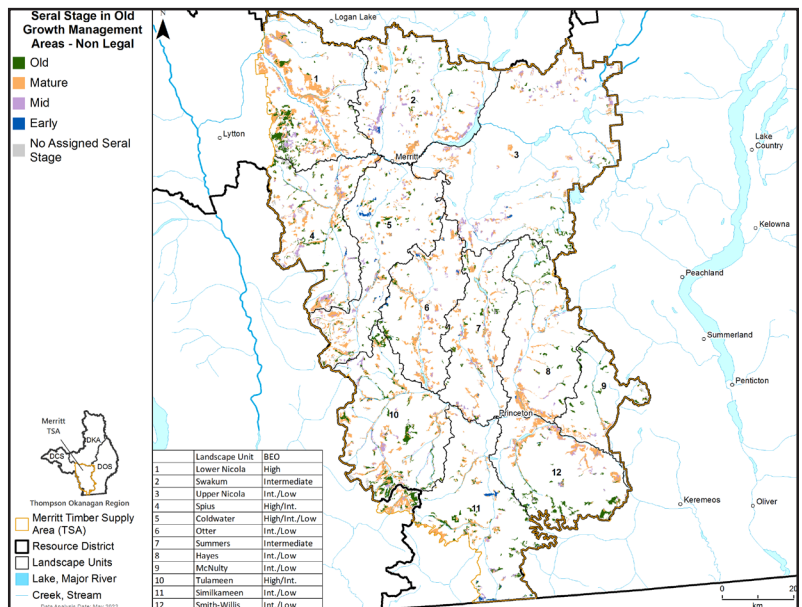


Indicator #4: Amount of Old Growth Forest in Old Growth Management Areas

Indicator Description: This indicator determines the amount of old growth within OGMAs in relation to PNOGO targets. OGMAs were the mechanism used to meet old growth forest retention targets, therefore a comparison provides an assessment of that implementation strategy.

Assessment Results:

- In non-legal OGMAs, 55.6% of the total OGMA area is mature seral (63,679.9 ha), 22.2% is old seral (25,433.6 ha), 14.7% is mid seral (16,900.9 ha), and 3.8% is early seral (4,371.2 ha) forests.
- There are **3 AUs with sufficient amounts of old growth forest within non-legal OGMAs** to meet PNOGO targets. These are in the ESSF and IDF BEC zones.
- The remaining **77 AUs currently have insufficient amounts of old growth forest within non-legal OGMAs** compared to PNOGO targets. Of these, 12 AUs have no old growth forest within the non-legal OGMA boundaries.
- While there are sufficient amounts of old growth forest in most LUs compared to legal targets, it is generally not within the non-legal OGMA boundaries (average 22% of the target being met within OGMAs).



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.

What are the general reasons contributing to current condition?

- Natural disturbance – There is a history of wildfires and natural disturbances in the TSA, 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 across the TSA, 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 in the TSA.
- Access to timber – In general, the gentle rolling terrain makes the TSA easily accessible, meaning that forest harvesting and other land uses are common and widespread. Areas with easier access to timber (e.g., low elevations, closer to population centres) 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.
- Analysis limitations – Incursions into OGMA may be overestimated as 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 forest and OGMA 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, and 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 OGMA 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 OGMA 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).

Opportunities

The following opportunities related to old growth management are identified for consideration in the Merritt TSA:

1. Review current non-legal OGMA locations and seral stage within OGMA in AUs that do not contain sufficient old growth forest to meet legal targets. The establishment of OGMA was intended to retain old growth forest attributes and should be reviewed to better understand if the intended outcomes are being achieved. Further investigation into the values being managed for within these non-legal OGMA is required (i.e., areas may have been selected for cultural values).
2. This assessment shows a general trend of sufficient old growth forest available across many AUs (i.e., the CE-CFLB across the TSA) but not necessarily within the non-legal OGMA. Determine if there is an opportunity to adjust the non-legal OGMA boundaries to capture more old growth forest that will better support old growth forest biodiversity objectives.
3. Review the current process in place for the tracking and monitoring of OGMA incursions and amendments to ensure the original intent of the OGMA are maintained.
4. Identify opportunities to integrate the findings of this report, including the CE assessment results and data into planning and decision-making processes.

Data sources: Based on Information from: Current Condition Report for Old Growth Forest in the Merritt TSA – 2019 Analysis.