

**BRITISH COLUMBIA
MINISTRY OF FORESTS**

**Klinse-za / Twin Sisters Park
Dawson Creek Timber Supply Area**

**Determination of
Allowable Annual Cut (AAC) Reduction
and Harvest Profile Specification**

Effective June 20, 2024

**Albert Nussbaum, RPF
Deputy Chief Forester**

Objective of this document

This document is intended to provide an accounting of the factors I have considered and the rationale I have employed as Deputy Chief Forester of British Columbia (BC) in specifying the changes in timber profile and allowable annual cut (AAC) reduction for the Dawson Creek Timber Supply Area (TSA) to account for Order in Council (OIC) No. 303/2024.

Klinse-za / Twin Sisters Park

On June 20, 2024, OIC No. 303/2024 was issued expanding the Klinse-za / Twin Sisters Park. The park is located west of Chetwynd and Hudson's Hope in northeastern BC and is approximately 199 780 hectares in size. It includes two mountains known locally as the Twin Sisters, which are an area of cultural and spiritual significance for Treaty 8 First Nations. The park expansion is the result of a historic 2020 partnership agreement between the governments of BC, Canada, Sauleau First Nations, and West Moberly First Nations. The agreement commits all partners to take action to help stabilize and increase southern mountain caribou populations to self-sustaining levels in northeastern BC, while considering the effects of this work on surrounding communities.

The Klinse-za / Twin Sisters Park expansion overlaps with the Dawson Creek TSA, the Mackenzie TSA, Tree Farm Licence 48, and Woodlot Licence 0263. This rationale pertains to the park's impact on the Dawson Creek TSA.

Statutory framework

Within four months of the effective date of the designation of the Klinse-za / Twin Sisters Park, Part 3 Section 16 of the Deletions and Expropriations (For Parks, Conservancies and Recreation Areas) Regulation requires the chief forester to determine the AAC reduction and new AAC for the Dawson Creek TSA described under Part 15 Section 199 of the *Forest Act*. The chief forester must also identify the profile of timber in the TSA before and after the park was designated, identifying the differences in the timber profile. Under Section 18 of the Deletions and Expropriations (For Parks, Conservancies and Recreation Areas) Regulation, the AAC reduction effective date is the effective date of the *Park Act* deletion, June 20, 2024.

Methodology

Timber Profile

The 2023 Vegetation Resources Inventory (VRI) and timber harvesting land base (THLB) file derived during the 2014 timber supply review (TSR) were used to compare the timber profiles before and after the designation of the Klinse-za / Twin Sisters Park. The 2023 VRI included both disturbance and wildfire updates to the end of calendar year 2023. The THLB is an estimate of the land where timber harvesting is considered both acceptable and economically feasible at the time of the last TSR, given the objectives for all relevant forest values, existing timber quality, market values, and applicable technology.

In the analysis, merchantable growing stock was defined as the live tree volume on the THLB that met the utilization standards and minimum harvestable criteria used in the last TSR. Merchantable volume was used to compare the species composition and age class profile of the THLB before and after the designation and removal of the Klinse-za / Twin Sisters Park.

Timber Supply Impacts

Two assessment methods were developed to estimate the impact the park designation will have on the timber supply of the Dawson Creek TSA. These methods included the THLB ratio and volume contribution method:

1. **THLB ratio method:** The THLB ratio method involved calculating a ratio of the management unit AAC (cubic metres/year) to the total THLB area (hectares) within the management unit, resulting in an estimated AAC contribution per hectare of THLB (cubic metres/year/hectare). This ratio is then multiplied by the THLB area being removed due to the Klinse-za / Twin Sisters Park, deriving an estimated adjustment to be deducted from the current AAC (cubic metres/year). The AAC and the THLB used in deriving the ratio are obtained from the most recent AAC rationale and supporting timber supply analysis for the management unit.

The THLB ratio method assumes that forest attributes (e.g., species composition, age class, and site productivity) within the Klinse-za / Twin Sisters Park are similar to the average across the entire management unit that formed the basis of the AAC determination. This method is described in the Allowable Annual Cut Administration Regulation of the *Forest Act*.

2. **Volume contribution method:** The volume contribution is similar to the THLB ratio method but differs in that the THLB-area is replaced by existing THLB-merchantable timber volume. Specifically, the volume contribution method involved determining the proportion of the merchantable volume within the THLB area being removed due to the Klinse-za / Twin Sisters Park relative to the total merchantable volume within the THLB of the management unit. This proportion is then multiplied by the AAC deriving the estimated adjustment to be deducted from the AAC.

The volume contribution method can be useful where the age class distribution within the designated area differs from the broader management unit, considering the availability of existing mature volume which may better capture short-term timber supply implications.

Timber Supply Analysis

Timber Profile

The area statistics for the Dawson Creek TSA are presented in Table 1.

Table 1. Dawson Creek TSA area statistics

Dawson Creek TSA Area Summary			
TSA Total Area (ha)	TSA Total THLB Area (ha)	Total Area - Park Overlap (ha [%])	THLB Area - Park Overlap (ha [%])
2,989,933	758,335	64,924 [2.2]	19,572 [2.6]

The species composition of the Dawson Creek TSA before and after the removal of the Klinse-za / Twin Sisters Park is presented in Table 2. The THLB within the park contains 4.4 percent of the coniferous-leading merchantable growing stock, while only overlapping with 0.1 percent of the TSA's deciduous-leading merchantable growing stock.

Table 2. Dawson Creek TSA species composition by merchantable growing stock before and after removal of the Klinse-za / Twin Sisters Park

Dawson Creek TSA Merchantable Growing Stock			
Species Category	Before Park Removal (m ³)	Park Overlap (m ³ [%])	After Park Removal (m ³)
Coniferous-leading	67,761,457	2,986,755 [4.4]	64,774,702
Deciduous-leading	45,980,898	26,714 [0.1]	45,954,184

The merchantable growing stock by age class before and after the removal of the Klinse-za / Twin Sisters Park is presented in Table 3. The merchantable growing stock in the park primarily overlaps with the 141 to 250 age class and 250 year plus age class.

Table 3. Dawson Creek TSA merchantable growing stock by age class

Dawson Creek TSA Merchantable Growing Stock			
Age Class	Before Park Removal (m ³)	Park Overlap (m ³ [%])	After Park Removal (m ³)
1-20	-	-	-
21-40	-	-	-
41-60	706,488	726 [0.1]	705,762
61-80	9,131,896	167,805 [1.8]	8,964,091
81-100	13,859,877	53,729 [0.4]	13,806,148
101-120	26,580,429	34,541 [0.1]	26,545,888
121-140	30,107,306	45,044 [0.1]	30,062,262
141-250	30,653,452	1,989,739 [6.5]	28,663,713
250+	2,702,908	721,885 [26.7]	1,981,023

Timber Supply Impacts

The AAC for the Dawson Creek TSA was determined by the deputy chief forester on October 30, 2014, at 1 860 000 cubic metres of which a maximum of 978 000 cubic metres was attributable to conifers. On September 1, 2022, the AAC was adjusted by the AAC Administration Regulation to 1 841 124 cubic metres due to the expansion of the Tumbler Ridge Community Forest Agreement K20. There were no adjustments made to the conifer partition, it remains at a maximum of 978 000 cubic metres attributable to conifers.

The Klinse-za / Twin Sisters Park contains 19 572 hectares of THLB that contribute towards the timber supply of the Dawson Creek TSA. The THLB ratio and volume contribution methods both indicated that removing the park results in an AAC impact reduction of 2.6 percent.

Table 4. Dawson Creek TSA AAC impact summary

THLB Ratio Method						Volume Contribution Method				
Dawson Creek TSA AAC (m ³)	Park Overlap THLB (ha)	Dawson Creek TSA THLB (ha)	Percent Overlap (%)	AAC Reduction (m ³)	New AAC (m ³)	Park Overlap Volume (m ³)	Dawson Creek TSA Volume (m ³)	Percent Overlap (%)	AAC Reduction (m ³)	New AAC (m ³)
1,841,124	19,572	758,335	2.6%	48,004	1,793,120	3,013,469	113,742,355	2.6%	49,278	1,791,846

Determination

I have considered and reviewed the adjustment assessments as documented above, including the risks and uncertainties of the information provided. Both methods for assessing the effect of the removal of the Klinse-za / Twin Sisters Park on the timber supply provided a similar impact estimate and are necessary simplifications that allow for expedient adjustment of the AAC. The THLB ratio method assumes that forest attributes such as age class within the Klinse-za / Twin Sisters Park are similar to the average across the entire TSA. However, the park primarily overlaps with mature stands that generally contain higher volumes per hectare and I believe the volume contribution method is more indicative of the short-term timber supply impact. Therefore, I will base my decision on the adjustment estimate derived using the volume contribution method.

As the park primarily overlaps with coniferous-leading merchantable growing stock, the AAC reduction will be made to the coniferous-leading portion of the AAC.

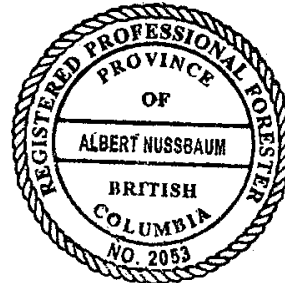
Pursuant to Section 199(1)(b) of the *Forest Act*, it is my determination that the AAC for the Dawson Creek TSA is reduced by 49 278 cubic metres. Effective June 20, 2024, the new AAC for the Dawson Creek TSA is 1 791 846 cubic metres, of which a maximum of 928 722 cubic metres is attributable to conifers.

Pursuant to Section 199(1)(a), (d), and (e) of the *Forest Act*, I specify the harvest profiles as described in Table 1, Table 2, and Table 3 of this document. It is my opinion that the Park removal does not materially alter the potential harvest profile available to licensees.



Albert Nussbaum, RPF
Deputy Chief Forester

October 18, 2024



Appendix 1: Information Sources

In considering all the factors required under Part 15, Division 4 of the *Forest Act*, I have reviewed the following:

Legislation

- Province of BC. *Forest Act* Part 15, Division 3 and 4.
- Province of BC. *Forest Act*. Deletions and Expropriations (For Parks, Conservancies and Recreation Areas) Regulation.
- Order in Council No. 303/2024.
https://www.bclaws.gov.bc.ca/civix/document/id/oic/oic_cur/0303_2024
- Order in Council No. 386/2023.
https://www.bclaws.gov.bc.ca/civix/document/id/oic/oic_cur/0386_2023

Timber supply and other related documents

- BC Gov News. Major park expansion will better protect sacred sites, caribou habitat.
<https://news.gov.bc.ca/releases/2024ENV0029-000925>
- BC Parks. Klinse-za / Twin Sisters Park. <https://bcparks.ca/klinse-za-twin-sisters-park/>
- Province of BC. Dawson Creek Timber Supply Analysis Public Discussion Paper. September 2013.
- Province of BC. Dawson Creek Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination, Effective October 30, 2014.
- Province of BC. Dawson Creek Timber Supply Area Timber Supply Review Data Package. September 2011.
- Provincial Timber Management Goals, Objectives & Targets Report for the Dawson Creek Timber Supply Area, July 31, 2024.