

**BRITISH COLUMBIA
MINISTRY OF FORESTS**

**Klinse-za / Twin Sisters Park
Woodlot Licence 0263**

**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 Woodlot Licence 0263 (W0263) 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, after this expansion, 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, Saulneau 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 W0263, the Dawson Creek Timber Supply Area (TSA), Mackenzie TSA, and Tree Farm Licence 48. This rationale pertains to the park's impact on W0263.

Statutory framework

Within four months of the effective date of the designation of the Klinse-za / Twin Sisters Park, Part 2 Section 5 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 W0263 described under Part 15 Section 185 of the *Forest Act*. The chief forester must also identify the profile of timber in the TFL before and after the park was designated, identifying the differences in the timber profile. Under Section 7 of the Deletions and Expropriations 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 an approximated timber harvesting land base (THLB) was 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 December 31, 2023. The THLB is an estimate of the land where timber harvesting is considered both acceptable and economically feasible, 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 that the woodlot licence holder used in their last approved Management Plan (MP) completed in 2013. 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 W0263. 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 used in the calculation was obtained from the 2013 AAC determination and the THLB was a replication of the THLB used in the last approved timber supply analysis including adjustments made by the district manager at the time of the determination. These adjustments included applying a two-year regeneration delay and an eight percent wildlife tree retention requirement.

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 inventory 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 W0263 are presented in Table 1.

Table 1. W0263 area statistics

W0263 Area Summary			
W0263 Total Area (ha)	W0263 Total THLB Area (ha)	Total Area - Park Overlap (ha [%])	THLB Area - Park Overlap (ha [%])
649	506	156 [24.0]	133 [26.2]

The species composition of W0263 before and after the removal of the Klinse-za / Twin Sisters Park is presented in Table 2. The THLB within the park contains 47.6 percent of W0263's deciduous-leading merchantable growing stock, while overlapping with 0.0 percent of the coniferous-leading merchantable growing stock.

Table 2. W0263 species composition by merchantable growing stock before and after removal of the Klinse-za / Twin Sisters Park

WL 0263 Merchantable Growing Stock			
Species Category	Before Park Removal (m³)	Park Overlap (m³ [%])	After Park Removal (m³)
Coniferous-leading	36,384	-	36,384
Deciduous-leading	69,912	33,286 [47.6]	36,626

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 overlaps with the 141 to 250 age class.

Table 3. W0263 merchantable growing stock by age class

WL0263 Merchantable Growing Stock			
Age Class	Before Park Removal (m³)	Park Overlap (m³ [%])	After Park Removal (m³)
1-20	-	-	-
21-40	-	-	-
41-60	-	-	-
61-80	-	-	-
81-100	-	-	-
101-120	-	-	-
121-140	-	-	-
141-250	106,296	33,286 [31.3]	73,010
250+	-	-	-

Timber Supply Impacts

The AAC for W0263 was determined by the district manager on May 1, 2013, at 1945 cubic metres per year, with a term of 10 years. An updated MP was submitted to the district manager of the Peace Natural Resource District on March 18, 2021. The proposed AAC in the new management plan was 1467 cubic metres per year, with a 750 cubic metres per year conifer partition and a 717 cubic metres per year deciduous partition. On January 21, 2022, the district manager rejected the new MP as it overlapped with Central Mountain Caribou Zone B3, which was subject of Ministerial Order M249, and because it inadequately reflected non-timber values and recent disturbances within the tenure boundary. The current AAC for W0263 is 1945 cubic metres, remaining unchanged until an updated MP is submitted for approval. I am concerned that the current AAC may not provide an accurate representation of the current available timber supply on the woodlot. However, as the new MP has not been approved, I must use the current AAC of 1945 cubic metres in my AAC reduction determination.

The Klinse-za / Twin Sisters Park contains 133 hectares of THLB that contribute towards the timber supply of W0263. The THLB ratio method indicated that removing the park results in an AAC impact reduction of 26.3 percent, while the volume contribution method suggested a 31.3 percent reduction.

Table 4. W0263 AAC impact summary

THLB Ratio Method						Volume Contribution Method				
W0263 AAC (m ³)	Park Overlap THLB (ha)	W0263 THLB (ha)	Percent Overlap (%)	AAC Reduction (m ³)	New AAC (m ³)	Park Overlap Volume (m ³)	W0263 Volume (m ³)	Percent Overlap (%)	AAC Reduction (m ³)	New AAC (m ³)
1,945	133	506	26.3%	513	1,432	33,286	106,296	31.3%	609	1,336

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 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 woodlot. However, the park overlaps with mature stands, 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.

The AAC is not partitioned within the approved 2013 MP, however, the new proposed MP does contain conifer- and deciduous-partitions. Should the district manager implement a conifer- or deciduous-partition, the AAC reduction should be applied to the deciduous-leading portion of the woodlot, as the park overlaps with deciduous-leading merchantable growing stock. I note that the current AAC remains at an elevated level, and I strongly encourage the redetermination of the AAC that includes the removal of the Klinse-za / Twin Sisters Park and addresses the deficiencies that the district manager noted in their January 21, 2022, letter to the licence holder. If this reduction were applied against the AAC in the most recent licensee MP analysis, the AAC reduction resulting from this park removal would be lower at approximately 460 cubic metres per year.

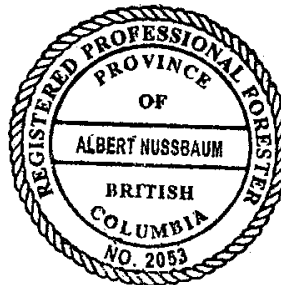
Pursuant to Section 185(1)(b) of the *Forest Act*, it is my determination that the AAC for W0263 is reduced by 609 cubic metres. Effective June 20, 2024, the new AAC for W0263 is 1336 cubic metres.

Pursuant to Section 185(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.



Albert Nussbaum, RPF
Deputy Chief Forester

October 18, 2024



Appendix 1: Information Sources

In considering all the factors required under Part 15, Division 3 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/>
- Woodlot Licence 0263 Management Plan. March 25, 2013 – March 24, 2018.
- Woodlot Licence 0263 Management Plan Approval Letter. January 13, 2014.
- Woodlot Licence 0263 Management Plan. March 17, 2021.
- Woodlot Licence 0263 Management Plan Rejection Letter. January 21, 2022.