

1 Determination of Harvest Levels

Calculation of gross harvest levels was complicated by an accelerated coniferous harvest that started part way through the second period. From November 18, 2000 (model reference date) to April 30, 2007, the harvest level was assumed to be at that level generated by the 2005 DFMP submission (Appendix 4.3A). There were no reconciliation volumes. Table 1–1 summarizes the proposed gross harvest levels, generated using the procedures outlined in this section.

Table 1–1 Proposed Gross Harvest Levels (m³/yr)

Volume	May 1, 2007 – Nov 17, 2025	Nov 18, 2025 – Nov 17, 2160
Conifer	1,037,961	478,967
Deciduous	312,182	
Total	1,350,143	791,149

1.1 Conifer

Conifer underwent an accelerated harvest for ~18.5 years, effective May 1, 2007 (~3.5 years into the second period) extending to the end of the fifth period (November 17, 2025). As such, calculation of the harvest level required period 2 to be split into accelerated and non-accelerated harvest levels. The following process was used.

1. Determine the allocated conifer volume from period 2, from Appendix 4.3A of the December 2005 DFMP submission.
 - 2,676,160 m³
2. There are 529 days between November 18, 2005 (start of second period) and May 1, 2007 (start of accelerated harvest). The entire 5-year period is 1,825 days. Therefore, multiply the DFMP harvest level by (529/1825) to determine how much volume would presumably have been harvested in period 2 up to May 1, 2007 (~1.5 years) if harvesting at the DFMP allocated level.
 - $2,676,160 \text{ m}^3 * 529/1825 = 775,720 \text{ m}^3$
3. Determine the allocated conifer volume from period 2 of the PFMS.
 - 4,368,002 m³
4. Subtract the volume presumed to be harvested (from point 2 above) from the Period 2 PFMS volume (from point 3 above) to determine the portion of the PFMS allocated volume that is left to be harvested in the last ~3.5 years of period 2 (i.e., during the accelerated primary conifer harvest period)
 - $4,368,002 \text{ m}^3 - 775,720 \text{ m}^3 = 3,592,283 \text{ m}^3$
5. Sum the allocated conifer harvest from periods 3-5, which are part of the accelerated conifer harvest period.
 - $5,220,863 \text{ m}^3 + 5,220,835 \text{ m}^3 + 5,220,903 \text{ m}^3 = 15,662,602 \text{ m}^3$
6. Add the harvest volumes determined in points 4 and 5 together to determine how much volume is being harvested during the ~18.5-year accelerated conifer harvest period.

- $3,592,283 \text{ m}^3 + 15,662,602 \text{ m}^3 = 19,254,884 \text{ m}^3$
7. Divide the harvest volume determined in point 6 by 18.55 years (the accelerated harvest period) to determine the average annual **conifer harvest level, effective May 1, 2007 to November 17, 2025**.
 - $19,254,884 \text{ m}^3 / 18.55 \text{ years} = 1,037,961 \text{ m}^3/\text{yr}$
 8. Determine the post-surge average conifer harvest by summing the PFMS allocations from period 6 to 32 and dividing by the remaining 135 years of the planning horizon. This represents the **primary conifer harvest level, effective November 18, 2025 to November 17, 2160** (end of the planning horizon)
 - $64,660,599 \text{ m}^3 / 135 \text{ years} = 478,967 \text{ m}^3/\text{yr}$

Table 1–2 Gross Primary Conifer Harvest Level Determination

Period 1	DFMP Allocation	2,314,307
Period 2	DFMP Allocation	2,676,160
	DFMP to May 1, 2007	775,720
	PFMS allocation	4,368,002
	less DFMP 3-yr = PFMS surge volume	775,720 3,592,283
Period 3-5	PFMS alloc (surge)	15,662,602
Total surge volume		19,254,884
Time span (years)		18.55
Average surge volume (m3/yr)		1,037,961
Period 6-32	PFMS allocation	64,660,599
	Time span (years)	135
Average post-surge volume (m3/yr)		478,967

1.2 Deciduous

Deciduous volume does not undergo an accelerated harvest, thus the average harvest level from May 1, 2007 to the end of the planning horizon can be used to determine the proposed harvest levels. The following process was used.

1. Determine the allocated deciduous volume from period 2 from Appendix 4.3A of the December 2005 DFMP submission.
 - $1,496,702 \text{ m}^3$
2. There are 529 days between November 18, 2005 (start of second period) and May 1, 2007 (start of accelerated harvest). The entire 5-year period is 1,825 days. Therefore, multiply the DFMP harvest level by (529/1825) to determine how

much volume would have been harvested in period 2 up to May 1, 2007 if harvesting at the DFMP allocated level.

- $1,496,702 \text{ m}^3 * 529/1825 = 433,839 \text{ m}^3$
3. Determine the allocated deciduous volume from period 2 of the PFMS.
 - $1,824,868 \text{ m}^3$
 4. Subtract the volume already harvested (from point 3 above) to determine the portion of the PFMS allocated volume that is left to be harvested in the last ~1.5 years of period 2.
 - $1,824,868 \text{ m}^3 - 433,839 \text{ m}^3 = 1,391,030 \text{ m}^3$
 5. Sum the allocated deciduous harvest from periods 3-32 and add it to the volume left to be harvested in the last ~1.5 years of the first period (from point 4).
 - $46,544,680 \text{ m}^3 + 1,391,030 \text{ m}^3 = 47,935,710 \text{ m}^3$
 6. Divide the total deciduous harvest determined in point 5 by the 153.55 years remaining in the planning horizon from May 1, 2007. This represents the **deciduous harvest level, effective May 1, 2007 to November 17, 2160** (end of the planning horizon).
 - $47,935,710 \text{ m}^3 / 153.55 \text{ years} = \mathbf{312,182 \text{ m}^3/\text{yr}}$

Table 1–3 Gross Deciduous Harvest Level Determination

Period 1	DFMP Allocation	1,597,940
Period 2	DFMP Allocation	1,496,702
	DFMP to May 1, 2007	433,839
	PFMS Allocation	1,824,868
	Less DFMP harvest = PFMS volume	433,839 1,391,030
Period 3-32	PFMS allocation	46,544,680
Total Volume (post May 1, 2007)		47,935,710
Divided by # of years remaining		153.55
Average volume (m3/yr)		312,182

1.3 Grazing/Non-FMA

Net harvest levels for grazing areas determined in the previous DFMP submission were carried forward to this analysis. Although conifer harvest was accelerated in the model, grazing harvest levels remained at the values shown in Table 1–4.

Table 1–4 Net Harvest Levels within Non-FMA Grazing Areas

Disposition	Deciduous	Conifer
DTAR120001	20,402	-
CTQR120005	-	20,669

Although the quota holders would be entitled to a portion of both the FMA and non-FMA conifer harvests, the quota holder operating areas do not extend into the grazing areas. Therefore, the net grazing harvest levels were treated as fixed volume allocations for Weyerhaeuser only. The non-FMA portion of the conifer harvest that would be allocated to quota holders was taken from the FMA portion instead. The grazing harvest levels were subtracted from the total Weyerhaeuser harvest levels to derive separate grazing and non-grazing harvest levels.

The associated timber allocation tables are available in Appendix 5.