



Mean Annual Increment Standards for Crown Forest Management Units

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January 2014

Technical Report Pub. No.: T/603 (2014)

ISBN No.: 978-1-4601-1511-4 (On-line Edition)

Suggested Report Citation:

Stadt, K.J., T. Nunifu, D. Aitkin. 2014. Mean Annual Increment Standards for Crown Forest Management Units. Government of Alberta, Environment and Sustainable Resource Development, Edmonton, Alberta. 38 pp.

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Edmonton, Alberta, Canada

January 2014

Executive Summary

The Reforestation Standard of Alberta (RSA) requires stratum-specific yield standards in the form of mean annual increments (MAI) for all openings harvested since 2001. These MAI standards must be derived from the yield curves used in the forest management plan (FMP) and are used as the basis for assessing reforestation success. On forest management units (FMUs) outside of industry-managed Forest Management Areas (FMA), the responsibility of setting yield standards resides with the province of Alberta (the Crown). This report presents MAI standards for Crown-managed FMUs.

Three approaches were used to set these standards. Seven Crown FMUs had a recent FMP and/or a set of yield curves developed. For these, the MAI standards were obtained directly from the yield curves, using area-weighted aggregation or disaggregation of yield curve strata to obtain MAIs for the provincial base-10 species composition strata and the broad cover group strata. For most of the remaining FMUs lacking yield curves, MAI standards were taken from the regional Timber Damage Assessment (TDA) MAI tables developed in 2010. Several FMUs had a set of MAI standards developed for an FMA portion of the FMU or for an adjacent FMU with similar composition of natural subregions, which was more suitable than the broader-scale TDA tables. In these cases, the MAI standards were obtained from the FMA or adjacent FMU.

Tables of MAI standards for deciduous and conifer components, for each broad cover group and base-10 species composition stratum, are provided for each Crown-managed FMU as a reference for assessing reforestation success.

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1.0 BACKGROUND

The Reforestation Standard of Alberta (RSA) requires that Forest Management Agreement (FMA) holders establish stratum-specific yield standards in the form of mean annual increments (MAI). These MAI standards must be derived from the yield curves used in the FMA's forest management plan (FMP) and are used as the basis for assessing reforestation success. On forest management units (FMUs) outside of FMA areas, the responsibility of setting yield standards resides with the Alberta government (the Crown). For these Crown or "non-FMA" FMUs, the objective is similar to FMAs, i.e. to define MAI standards based on the yield projections used to determine allowable harvest levels for the unit. This report presents such standards for Crown-managed FMUs.

Recent timber supply analyses (TSA) and/or yield curve development have been conducted in seven Crown FMUs. MAI standards were readily available for these, though some aggregation or dis-aggregation of yield classes was required to arrive at the base 10 and the broad cover group strata required under the Alberta Planning Standard and the RSA. Other FMUs had no recent yield projections, due to a lack of temporary and permanent sample plot data to build yield curves. In some cases, the inventory information was also outdated. These FMU's generally have a relatively small harvest level and are managed primarily for other purposes, such as the White (agricultural) Area FMU's¹ with Crown-owned forest remnants, or FMUs managed primarily for recreation, wildlife and fire protection. A number of Crown FMUs are fringe units on the edge of the White Area, which are administratively separated from larger FMUs for historical reasons. It should be noted that the annual allowable cuts in these FMUs were established prior to the development of RSA.

For these Crown FMUs which lack a current yield analysis, other methods of determining MAI standards were invoked. Regional yield estimates were used for many of these exceptions, using MAI's from yield tables developed in 2010 for the purpose of updating the Timber Damage Assessment (TDA) tables. These TDA tables are based on a large compilation of yield data from both industry and the Crown, and the Alberta Vegetation Inventory (AVI). Alternately, where there were adjacent FMU's in the same natural region and with more similar natural subregion composition than the regional curves, and which had approved yield curves developed by the Crown or industry, the MAI standards from these adjacent FMUs were used. In three cases (FMUs B9, S7, S19), there was a set of yield curves developed by industry for the FMA portion of the same FMU; MAI standards derived from these curves could be used.

¹ White (agricultural) Area FMUs are denoted by the letter "O" as the second character on provincial forest maps (e.g. B01, B02, CO1, CO2, FO1, GO1, GO2, GO3, GO4, LO1, PO1, PO2, PO3, RO1, SO1, SO2, WO1, WO2). However, the Alberta Reforestation Information System (ARIS) is unable to store the "O", and this letter is often confused when single-number FMUs are formatted with leading zeroes (eg. L01 for L1, which is a different FMU from LO1). This report uses the ARIS convention of the number "5" as the second character for white zone FMUs. In this report, the forest map FMUs above correspond to B51, B52, C51, C52, F51, G51, G52, G53 G54, L51, L52, P51, P52, P53, R51, S51, S52, W51, W52.

FMUs covered in this report are A6, A9, A10, A11, A12, A13, B9, B11, B51, B52, C4, C5, C51, C52, E8, E13, E9, E10, F10, F11, F14, F20, F23, F51, G9, G10, G11, G12, G13, G14, G51, G52, G53, G54, H1, L9, L51, P8, P14, P51, P52, P53, R11, R14, R51, S7, S10, S14, S16, S19, S51, S52, W51 and W52¹. This report describes the methods used and the resulting first approximation RSA base 10 species composition strata and broad cover group (BCG) MAI standards for each of the FMUs. MAI standards are presented at the same utilization standard as the original yield curves. Conversion factors for changing these to the RSA standard are given in the AESRD 2014 “Provincial Utilization Standard Conversion report”.

2.0 METHODS

Three methods were employed for this process of setting MAI standards, depending on the availability of data. 1) Where available and deemed relevant, FMU-specific yield estimates were used to define MAI standards for a unit. 2) Other FMUs used regional yield estimates to approximate their MAI standards. 3) Where 1) or 2) were not suitable (e.g. due to dissimilar natural subregion composition), FMUs used established MAI standards from FMA portions of the FMU or adjacent units to approximate theirs.

Prior to May 1, 2010, declarations to four broad cover groups (D, DC, CD, and C for deciduous, deciduous-leading mixedwoods, conifer-leading mixedwoods, and conifer) were required, based on inventory crown density calls with limits of $\geq 80\%$, 50% and 20% D cover. For openings harvested since May 1, 2010, the Alberta Planning Standard requires declarations to the base 10 strata. These are nested within the broad cover groups but denote the leading conifer species (P, Sw, Sb, Fd, for pine, white spruce, black spruce, and Douglas fir, respectively). Forest managers (companies or the Crown) may have also stratified yield curves in other ways, which were not always compatible with the base 10 strata. Area-weighted aggregation or simple disaggregation (using the same broader standard over more specific strata) was employed to estimate these standards. Some management plans removed particular strata (often 9-C-Sb) from their landbase. When this occurred, regional standards were used instead for the missing strata. In other plans, strata with minor area were aggregated with similar strata (e.g. 6-CD-Sb with 4-CD-Sw), in which case the same standard was used for both strata.

Details for each of these methods are provided in the following sections.

MAI Standards from FMU-Specific Yield Estimates

Forest management plans, timber supply analysis and / or yield curves have been developed recently for seven of the Crown FMUs. The annual allowable cuts (AAC) calculated from the approved yield curves for some of these FMUs are currently being used as a basis for harvesting. The yield curves for such FMUs are therefore valid and can be used for calculating the MAI standards. FMUs C5, E8, F11, F14, F23, P14, and S10 all used yield estimates specific to the FMU to derive MAI standards.

MAI Standards from Regional Yield Estimates

Data from a total of over 49,000 temporary and permanent sample plots contributed by forestry companies across the province were used to develop regional yield estimates for the Timber Damage Assessment Tables in 2010. This is a useful secondary source for yield standards.

These yield estimates were stratified by two natural regions, by a simplification of the 10 base strata, and by two groups of AVI crown density classes. Since data were insufficient to achieve full stratification of all natural subregions, base 10 species composition strata and crown density classes for the purpose of constructing yield estimates, the stratification variables were grouped. Natural subregions were aggregated into two groups, Boreal and Foothills, as specified in Table 1. Similarly, the base 10 strata were combined into six broader strata (“base-6”), as outlined in Table 2. Two groups of crown closure, or “density” calls in the AVI were also selected: “A” and “B” crown densities were combined into an “AB” class (relatively open stands), and “C” and “D” into a “CD” class (closed canopy stands).

Table 1. Mapping of natural subregions into regional yield curve groups.

Natural region	Natural subregions
Boreal	Central Mixedwood, Dry Mixedwood, Wetland Mixedwood, Sub-arctic, Peace River Lowlands, Boreal Highlands, Athabasca Plain, Kazan Upland, Foothills Parkland, Peace River Parkland
Foothills	Lower Foothills, Upper Foothills, Montane, Subalpine and Alpine

Table 2. Mapping of base 10 strata into “base 6” strata for the 2010 TDA exercise.

Base 6 stratum	Base 10 strata
1-D	1-D
2-Mx-P	2-DC-P, 5-CD-P
3-Mx-S	3-DC-Sx, 4-CD-Sw, 6-CD-Sb
7-C-Sw	7-C-Sw
8-C-P	8-C-P
9-C-Sb	9-C-Sb
None	10-C-Fd – Note these polygons had a limited area and there was insufficient PSP and TSP data for yield estimate construction. Strata 10 (C-Fd) was therefore deleted from the regional analysis

The TDA exercise generated average yield estimates (conifer and deciduous volume per hectare vs. stand age) for each natural region group (Boreal and Foothills), base 6 stratum and density group. A set of MAI values (volume divided by age) at culmination (i.e. the maximum MAI) was compiled from these curves in the 2010 exercise. Culmination was chosen at maximum deciduous MAI in the deciduous stratum, and at maximum conifer MAI in all other strata (Table 3). These regional MAI standards, plus the snapshot of the areas within these strata in the 2010

inventory are presented in section 4.2. These MAI standards were to the RSA utilization standard of 15/10/30/TL for both conifer and deciduous.²

For the present report, the MAI standards to be used for each FMU were chosen by the natural region in which the FMU was found. The final MAI standard was an area-weighted composite MAI of the standards for AB and CD density stands (inventory polygons). If an FMU covered more than one natural region, area-weighted means of the MAI standards for both natural regions were also used. Table 3 presents the landbase classification and the corresponding primary and incidental species.

Table 3. Landbase classes and the corresponding primary and secondary species designations.

Yield Stratum	Broad Cover group	Landbase Category	Primary species	Incidental species
1-D	D	Deciduous	Deciduous	Conifer
2-DC-P	DC	Conifer	Conifer	Deciduous
3-DC-Sx			Conifer	Deciduous
4-CD-Sw			Conifer	Deciduous
5-CD-P	CD		Conifer	Deciduous
6-CD-Sb			Conifer	Deciduous
7-C-Sw	C		Conifer	Deciduous
8-C-P			Conifer	Deciduous
9-C-Sb			Conifer	Deciduous
10-C-Fd			Conifer	Deciduous

In the compilation supporting this report, MAI standards were matched to each inventory polygon using natural region, base 6 stratum and density group as the criteria. The polygon MAIs were then summarized by the FMU and either base 10 stratum or broad cover group (D, DC, CD, C) they belonged to, weighting by the polygon area. MAI standards for each of the strata within each FMU are thus area-weighted averages of the base MAI standards provided by the TDA exercise and will generally be intermediate between these. Also note that though the deciduous-leading (DC) and conifer-leading (CD) mixedwood strata share the same MAI standards (due to the “base 6” aggregation in the TDA exercise), the final standards for the FMU will generally be different for DC and CD strata due to the distribution of natural regions and density calls in the inventory. In some cases, the standards will appear anomalous in the CD vs the DC cover groups or in base 10 mixedwood strata with the same leading conifer species due to the distribution of crown density groups in the data. For example, more open stands in CD vs DC groups may cause the conifer MAI to be lower in the CD stand vs the DC.

² The RSA specification for MAI standards is based on a utilization standard of 15/10/30/TL. This specification represents a minimum outside bark stem diameter (cm) at stump height / the inside bark stem diameter (cm) near the top of the tree above which the rest of the stem is cut off / the stump height (cm) / processing type (TL = tree length, CTL = cut to length where the log length is also specified in cm). However, yield curves are constructed using the standard associated with the management plan, so are reported with the standard they were calculated. Another ESRD report (Provincial Utilization Standard Conversion Factors, 2014) gives conversion factors for changing other utilization standards to the RSA specification of 15/10/30/TL.

The regional yield estimate approach was used for FMUs G9, G10, G11, G12, G13, G14, G51, G52, G53, G54, L9, L51, P51, P52, P53, R51, S14, S16, S51, S52, W51 and W52.

MAI Standards from Adjacent FMUs

Regional yield standards are not necessarily the best alternative if FMU-specific yield analysis has not been done. Since the regionalization was only to Boreal vs. Foothills regions, some FMU's contain more unproductive natural subregions than the broader natural region. For example, R11 contains Montane, Upper Foothills, Subalpine and Alpine subregions, and has no area in the more productive Lower Foothills subregion. By contrast, the overall Foothills region has the largest portion of its area the in Lower Foothills subregion. An adjacent FMU with a similar topographic position and mix of subregions will likely provide more realistic MAI standards.

Most of the FMUs which fell into this category had little harvesting activity, due to their location in the White Area (FMUs with second digit "5", e.g. C51), in a special management zone (e.g. near the mountain parks), or being small, fringe FMUs which persist for historical reasons (e.g. community timber harvesting). Some FMUs are partially managed under an FMA, but have some area which falls outside the FMA, where the Crown is responsible. These FMUs typically also have an older inventory. While less desirable, the low level of harvest and restrictions on harvest level, mean there is little risk in using MAI standards from similar adjacent FMUs or from a company FMA within another part of the FMU.

MAI standards were chosen from the most similar adjacent FMU in terms of natural subregions. FMUs A6, A9, A10, A11, A12, A13, B9, B11, B51, B52, C4, C51, C52, E9, E10, E13, F10, F20, F51, H1, P8, R11, R14, S7, and S19 were assigned standards in this way.

3.0 CAVEAT

The approaches used in this document for determining FMU specific yield standards are mostly *ad hoc*. Using regional yield curves to set the MAI standards for instance, should be treated as temporary measure and where opportunities exists, these standards should be revised using FMU specific data when the annual allowable cuts in these FMUs are revised.

4.0 RESULTS

Summaries of FMU-specific methods, data and yield curve sources are presented below. Each section describes how the MAI standards were obtained for a single FMU or group of FMUs and presents tables of the calculated MAI standards by strata. MAI standards are reported with the same number of decimal places they were originally presented, to a maximum of 4 places.

FMU-Specific MAI Standards

FMU C5

The yield standards for FMU C5 are derived from yield curves developed in 2005 for a TSA exercise in C5. The AAC based on these curves was approved May 1, 2010. In this exercise, the Mixedwood strata DC and CD were not separated by the leading conifer species, so base 10 strata within DC or within CD share the same standards. Also, white spruce and black spruce stands were aggregated for yield curve development and therefore have the same MAI standard. Table 4 presents the culmination MAIs for the original strata at a utilization standard of 15/10/30/TL for both conifer and deciduous, plus the strata areas. The final yield standards derived using an area-weighted average are presented by broad cover groups and base 10 strata in Table 5.

Table 4. Culmination MAIs for FMU C5 based on the 2005 yield curves.

Original Yield Stratum	Stratum area (ha)	Culmination Age (years)	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Base-10 Strata	Broad Cover Group
10 D-All	23,586	85	0.3184	1.1003	1-D	D
9 DC-All	23,586	80	0.3230	1.0938	2-DC-P 3-DC-Sx	DC
8 CD-All	3,301	65	1.4421	0.6750	4-CD-Sw 5-CD-P 6-CD-Sb	CD
1 C-Fd-All	22,663	50	2.0850	0.0616	10-C-Fd	C
2 C-PI-All-M	37,170	50	1.9818	0.0616	8-C-P	
3 C-PI-AB-SA	17,385	50	1.8118	0.0616		
4 C-PI-CD-SA	82,537	55	2.4508	0.0763		
5 C-Sx-All-M	13,594	60	3.0264	0.0903	7-C-Sw 9-C-Sb	
6 C-Sx-AB-SA	42,400	50	1.8415	0.0616		
7 C-Sx-CD-SA	26,598	55	2.1597	0.0763		

Table 5. MAI Standards for FMU C5 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.3184	1.1003	1-D	0.3184	1.1003
DC	0.3230	1.0938	2-DC-P	0.3230	1.0938
			3-DC-Sx	0.3230	1.0938
CD	1.4421	0.6750	4-CD-Sw	1.4421	0.6750
			5-CD-P	1.4421	0.6750
			6-CD-Sb	1.4421	0.6750
C	2.1789	0.0701	7-C-Sw	2.1390	0.0711
			8-C-P	2.2426	0.0705
			9-C-Sb	2.1390	0.0711
			10-C-Fd	2.0850	0.0616

FMU E8

The yield standards for E8 were derived from yield curves developed in 2007 to support a TSA exercise in the Unit; the AAC using these curves was approved May 1, 2007. MAI standards were obtained by plotting the volume vs age curves in the “Yield Curve Documentation” provided with the E8 FMP, and selecting the maximum MAI values (at deciduous culmination for the D stratum, conifer culmination for all others). When these curves were developed, the strata within each mixedwood broad cover group (DC and CD) were not separated by the leading conifer, and therefore share the same MAI standard. Table 6 presents the culmination MAIs for the original strata at a utilization standard of 13/7/30/TL for both conifer and deciduous. These were mapped to the four broad cover groups and the 10 base strata as shown in the last two columns of Table 6. The final yield standards derived using area-weighted average MAI standards are presented by broad cover group and base 10 stratum in Table 7.

Table 6. Culmination MAIs for FMU E8.

Original Yield Stratum	Stratum Area (ha)	Culmination age (yrs)	Original MAI (m ³ /ha/yr) 13/7/30/TL		Base 10 Stratum	Broad Cover Group
			Conifer	Deciduous		
DAwalal	5,697	105	0.4204	1.8627	1-D	D
DCMxalal	2,847	100	1.7719	1.3426	2-DC-P 3-DC-Sx	DC
CDMxalal	2,672	100	2.2472	0.8008	4-CD-Sw 5-CD-P 6-CD-Sb	CD
CSwalal	14,931	120	1.8470	0.0000	7-C-Sw	C
CSwalalS	8,076	120	1.1211	0.0000		
CPIABF	14,685	90	1.6597	0.0000	8-C-P	
CPIABMG	8,959	90	1.8684	0.0000		
CPIABMGS	4,446	90	1.4686	0.0000		
CPICDF	50,685	90	2.3217	0.0000		
CPICDMG	27,750	90	2.5304	0.0000		
CSbalal	9,192	90	1.1848	0.0000	9-C-Sb	

Table 7. MAI Standards for FMU E8 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 13/7/30/TL	Dec. MAI (m ³ /ha/yr) 13/7/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 13/7/30/TL	Dec. MAI (m ³ /ha/yr) 13/7/30/TL
D	0.4204	1.8627	1-D	0.4204	1.8627
DC	1.7719	1.3426	2-DC-P	1.7719	1.3426
			3-DC-Sx	1.7719	1.3426
CD	2.2472	0.8008	4-CD-Sw	2.2472	0.8008
			5-CD-P	2.2472	0.8008
			6-CD-Sb	2.2472	0.8008
C	2.0404	0.0000	7-C-Sw	1.5922	0.0000
			8-C-P	2.2111	0.0000
			9-C-Sb	1.1848	0.0000

FMU F11

The yield standards for F11 were derived from yield curves developed in 2011 to support a TSA exercise. At this time, the AAC based on these curves has not yet met final approval. The previous AAC approval documentation is no longer available (sent to provincial archive). Based on annual reports, it appears this AAC was approved in 1997. However, there is no area documentation with the previous yield curves (developed in 1996) which is required for building area-weighted MAI targets for broad cover groups or base 10 strata. Therefore, the MAI standards derived from the 2011 yield curves are the best approximation available.

Table 8 presents the culmination MAIs for the original strata at 15/11/30/TL utilization for conifer and 15/10/30/TL for deciduous. The desire to track A-density deciduous stands separately and decide if they should be harvested resulted in sub-stratifying the pure deciduous strata into A-density vs. BCD-density. However, for setting yield standards by the base 10 strata and the four broad cover groups, these sub-strata were amalgamated and represented with area-weighted average MAIs. The Mixedwood strata were separated into pine, white spruce or black spruce as the leading conifer, but not by the relative dominance of conifer vs. deciduous (i.e. no DC vs CD). Therefore, in the base 10 MAI standards, 2-DC-P and 5-CD-P share a standard, as do 3-DC-Sx, 4-CD-Sw and 6-CD-Sb. The final yield standards, derived using area-weighted averaging of MAI by broad cover groups and the base 10 strata, are presented in Table 9.

Table 8. Culmination MAIs for FMU F11.

Original Stratum	Strata area (ha)	Culmination age (yrs)	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Base 10 Stratum	Broad Cover Group
1-D-A	24,617	95	0.2876	1.2089	1-D	D
1-D-BCD	106,695	80	0.3495	2.2789		
2-MX-P	4,291	95	1.3578	0.5809	2-DC-P 5-CD-P	DC/CD
3-MX-Sx	25,866	100	1.2585	0.8902	3-DC-Sx 4-CD-Sw 6-CD-Sb	
7-C-Sw	28,695	100	1.6864	0.5041	7-C-Sw	C
8-C-P	23,681	50	1.5547	0.2439	8-C-P	
9-C-Sb	460	150	0.5545	0.0587	9-C-Sb	

Table 9. MAI Standards for FMU F11 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/11/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.3379	2.0783	1-D	0.3379	2.0783
DC	1.2726	0.8462	2-DC-P	1.3578	0.5809
			3-DC-Sx	1.2585	0.8902
CD	1.2726	0.8462	4-CD-Sw	1.2585	0.8902
			5-CD-P	1.3578	0.5809
			6-CD-Sb	1.2585	0.8902
C	1.6175	0.3836	7-C-Sw	1.6864	0.5041
			8-C-P	1.5547	0.2439
			9-C-Sb	0.5545	0.0587

FMU F14

Similar to F11, the yield standards for F14 were derived from yield curves developed in 2011 to support a TSA exercise. At this time, the AAC based on these curves has not yet met final approval. The previous AAC approval documentation is no longer available (was sent to the provincial archive). Based on annual reports, it appears this AAC was approved in 1997. However, there is no area documented with the previous curves (developed in 1996) which is required for building area-weighted MAI targets for broad cover groups or base 10 strata. Therefore, the MAI standards derived from the 2011 yield curves are the best approximation available and were used here.

Table 10 presents the culmination MAIs for the original strata at 15/11/30/TL utilization for conifer and 15/10/30/TL for deciduous. The desire to track A-density deciduous stands separately and decide if they should be harvested, resulted in sub-stratifying the pure deciduous strata into A-density vs. BCD-density. However, in setting yield standards by the base 10 strata and the four broad cover groups, these sub-strata were amalgamated and represented with area-weighted average MAIs. The Mixedwood strata were separated into pine, white spruce or black spruce as the leading conifer, but not by the relative dominance of conifer vs. deciduous (i.e. no separation of DC vs CD). Therefore, in the base 10 MAI standards, 2-DC-P and 5-CD-P share a standard, as do 3-DC-Sx, 4-CD-Sw and 6-CD-Sb. The final yield standards derived using area-weighting by broad cover groups and the base 10 strata are presented in Table 11.

Table 10. Culmination MAIs for FMU F14.

Original Stratum	Strata area (ha)	Culmination age (yrs)	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Base 10 Stratum	Broad Cover Group
1-D-A	13,480	70	0.1390	0.7269	1-D	D
1-D-BCD	77,735	75	0.1609	1.8342		
2-MX-P	2,055	115	1.2394	0.3472	2-DC-P 5-CD-P	DC/CD
3-MX-Sx	14,012	85	1.1636	1.1504	3-DC-Sx 4-CD-Sw 6-CD-Sb	
7-C-Sw	27,718	65	1.8596	0.3162	7-C-Sw	C
8-C-P	3,251	85	1.7591	0.6892	8-C-P	
9-C-Sb	428	70	0.7127	0.2277	9-C-Sb	

Table 11. MAI Standards for FMU F14 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.1577	1.6706	1-D	0.1577	1.6706
DC	1.1733	1.0477	2-DC-P	1.2394	0.3472
			3-DC-Sx	1.1636	1.1504
CD	1.1733	1.0477	4-CD-Sw	1.1636	1.1504
			5-CD-P	1.2394	0.3472
			6-CD-Sb	1.1636	1.1504
C	1.8336	0.3536	7-C-Sw	1.8596	0.3162
			8-C-P	1.7591	0.6892
			9-C-Sb	0.7127	0.2277

FMU F23

The yield standards for F23 were derived from yield curves developed in 2001 by Timberline Forest Inventory Consultants using temporary sample plot data collected by Tolko Industries Ltd. in the years 1995-1998 and 2000 within FMU F23. Also included in the data used for yield curve development were TSP data from F24, due to otherwise inadequate data. The AAC based on these curves was approved May 1, 2010. The yield strata used in the yield curve development are presented in Table 12 at a utilization standard of 15/11/30/TL for conifer and 15/10/30/TL for deciduous.

Table 12. Description of yield strata for used for 2001 yield curves for F23.

Original Stratum	Strata area (ha)	Culmination age (yrs)	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Base 10 Stratum	Broad Cover Group
1-Aw-B 2-Aw-CD-NP 3-Aw-CD-P	16,581 114,436 31,148	80 75 110	0.425 0.641 0.231	1.075 1.554 1.912	1-D	D
4-AwMx-BCD	18,174	65	0.763	0.620	2-DC-P 3-DC-Sx	DC
5-ConMx-BCD	14,669	55	1.367	1.050	4-CD-Sw 5-CD-P 6-CD-Sb	CD
6-Sw-B 7-Sw-CD	68,776 33,624	75 90	1.672 1.677	0.451 0.435	7-C-Sw	C
8-Pj-BCD	12,961	65	1.875	0.364	8-C-P	
9-Sb-CD	9,999	155	0.844	0.126	9-C-Sb	

Yield standards for the base 10 strata and the 4 broad cover groups were derived from the culmination MAIs of the original yield strata (Table 12) using area-weighted MAIs. Original strata 1, 2 and 3 were, respectively, B-density aspen, C&D-density aspen-not pure (i.e. possessing a conifer understory), and C&D-density aspen-pure (no conifer understory). These were aggregated to provide the Deciduous BCG and base 10 MAI standards. Stratum 4 and stratum 5, respectively, directly provided the BCG and base 10 DC and CD standards; though since the secondary conifer species was not distinguished, these MAI standards were spread over the base-10 strata nested within the DC and CD cover groups. Stratum 6 and 7 were aggregated to estimate the 7-C-Sw base 10 standard. Strata 8 and 9 respectively directly provided the base 10 8-C-P and 9-C-Sb MAI standards. Strata 6 – 9 were aggregated with area-weighting for the BCG C standards. The area-weighted final yield standards are presented in Table 13.

Table 13. MAI Standards for FMU F23 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.5402	1.5738	1-D	0.5402	1.5738
DC	0.7630	0.6200	2-DC-P	0.7630	0.6200
			3-DC-Sx	0.7630	0.6200
CD	1.36700	1.0500	4-CD-Sw	1.3670	1.0500
			5-CD-P	1.3670	1.0500
			6-CD-Sb	1.3670	1.0500
C	1.6283	0.4118	7-C-Sw	1.6736	0.4457
			8-C-P	1.8750	0.3640
			9-C-Sb	0.8440	0.1260

FMU P14

The yield standards for P14 were derived from yield curves built using local data to support the 2009 – 2018 FMP for the FMU with an AAC approval date of May 1, 2010. The initial MAI standards given in Table 14 were obtained from yield curves generated from coefficients in the October 27, 2009 “MAI Standards of P14 2009-2018 FMP” document, with an adjustment of the conifer standard for two-years of regeneration lag which was missed in the first analysis ($CMAI_{final} = CMAI_{no\ lag} \times \text{culmination age} / [\text{culmination age} + 2]$). Note that in the original yield curve document, the Mixedwood cover types CD and DC were not split by leading conifer species. Table 15 identifies the Mixedwood cover types by leading conifer species but assigned the same standards to each conifer leading strata within the same cover group. Pine stands were aggregated with white spruce stands for yield curve development, so 7-C-Sw and 8-C-P share the same base 10 standards. The limited pure black spruce area is excluded from the managed timber supply; consequently it was not considered in calculating the conifer broad cover group MAIs. The final yield standards at a utilization standard of 15/11/30/TL for conifer and 15/10/30/TL for deciduous by broad cover groups and the base 10 strata are presented in Table 15.

Table 14. MAI standards generated by the P14 2009 yield curve exercise.

Original Stratum	Stratum area (ha)	Culmination age (yrs)	MAI (m ³ /ha/yr)			Assigned to:	
			No lag Conifer 15/11/30/TL	2 yr lag Conifer 15/11/30/TL	No lag Deciduous 15/10/30/TL	Base-10 Stratum	Broad Cover Group
D	3479	61	0.20	0.1937	2.02	1-D	D
DC	1231	140	1.50	1.4789	1.21	2-DC-P 3-DC-Sx	DC
CD	1469	52	1.65	1.5889	0.35	4-CD-Sw 5-CD-P 6-CD-Sb	CD
C-Sw / C-P	1141	102	1.68	1.6477	0.40	7-C-Sw 8-C-P	C
C-Sb	*	121	1.72	1.6920	0.27	9-C-Sb	*

*No managed area

Table 15. MAI Standards for FMU P14 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.1937	2.0200	1-D	0.1937	2.0200
DC	1.4789	1.2100	2-DC-P 3-DC-Sx	1.4789 1.4789	1.2100 1.2100
CD	1.5889	0.3500	4-CD-Sw 5-CD-P 6-CD-Sb	1.5889 1.5889 1.5889	0.3500 0.3500 0.3500
C	1.6477	0.4000	7-C-Sw 8-C-P 9-C-Sb	1.6477 1.6920 1.6920	0.4000 0.2700 0.2700

FMU S10

Table 16 presents the yield standards for S10. The standards are based on yield curves developed for the FMU in 2004 using local volume sampling data collected from the FMU between 1990 and 1994 by Daishowa Marubeni International Peace River Pulp Division. The AAC based on these curves was approved May 1, 2011. Ideally, for openings cut prior to May 1, 2011, standards based on the previous set of yield curves (from 2001) should be used; however, the documentation provided with these curves does not give the area in each yield curve stratum, and area-weighted standards cannot be calculated. Therefore, the standards derived from the 2011 AAC approval date are to be used as a best approximation for openings harvested prior to 2011 as well.

The utilization standard for these standards was 15/10/30/TL for both conifer and deciduous. The yield strata were re-aligned with the base 10 strata as shown in Table 16, by aggregating or splitting the yield strata used for S10.

Table 16. Culmination MAIs by FMP stratum for FMU S10.

Original Yield Stratum	Stratum area (ha)	Culmination age (years)	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Assigned to:	
					Base 10 Stratum	Broad Cover Group
1-C-Pine	5,473	100	1.34	0.15	8-C-P	C
2-C-Sb	1,455	120	1.06	0.15	9-C-Sb	
3-C-Sw-Open 4-C-Sw-Closed	14,167 19,829	120 120	1.45 1.68	0.67 0.86	7-C-Sw	
5-CD-Open 6-CD-Closed	3,502 9,759	100 100	1.04 1.28	1.02 1.34	4-CD-Sw 5-CD-P 6-CD-Sb	CD
7-DC-Open 8-DC-Closed	3,146 12,413	120 120	0.76 1.36	0.56 1.17	2-DC-P 3-DC-Sx	DC
9-D-Switch 10-D-Open 11-D-Closed	32,502 18,165 66,740	80 80 80	0.40 0.06 0.27	1.41 1.91 2.73	1-D	D

Standards for original strata 1-C-Pine and 2-C-Sb were simply transferred to base 10 8-C-P and 9-C-Sb respectively. The rest of the strata had their MAI standards aggregated on an area-weighted basis. Original strata 3-C-Sw-Open and 4-C-Sw-Closed were aggregated into the 7-C-Sw base 10 stratum. Stratum 9-D-Switch, 10-D-Open and 11-D-Closed were aggregated into the 1-D base 10 stratum. The mixedwood strata (CD and DC), were each aggregated within their BCG on an area-weighted basis, then these values were assigned identically among the base 10 strata within the DC or CD BCGs. The broad cover group and base 10 stratum MAI standards are presented in Table 17.

Table 17. MAI Standards for FMU S10 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.2735	2.2377	1-D	0.2735	2.2377
DC	1.2387	1.0467	2-DC-P	1.2387	1.0467
			3-DC-Sx	1.2387	1.0467
CD	1.2166	1.2555	4-CD-Sw	1.2166	1.2555
			5-CD-P	1.2166	1.2555
			6-CD-Sb	1.2166	1.2555
C	1.5329	0.6740	7-C-Sw	1.5842	0.7808
			8-C-P	1.3400	0.1500
			9-C-Sb	1.0600	0.1500

FMU MAI Standards from Regional Yield Estimates

For FMUs G9, G10, G11, G12, G13, G14, G51, G52, G53, G54, L9, L51, P51, P52, P53, R51, S14, S16, S51, S52, W51 and W52, regional yield estimates from the 2010 Timber Damage Assessment exercise were used to establish MAI standards as a best first approximation. The base MAI standards for the Boreal and Foothills region, by aggregated base 6 strata and crown density groups (see Methods), and the area of each FMU in these strata are shown in Table 18. These data were then summarized to FMU-specific MAI standards, given each FMU's distribution of natural regions and canopy density groups. Some strata within some FMUs did not have any area in the 2010 inventory. Since the inventory could change and stands of these strata appear, we estimated MAI standards for these strata from the average of the base MAIs for the natural region, weighted by the area in open (A or B density) and closed (C or D density) stands. Also note that due to the initial aggregation of mixedwood strata and the distribution of canopy density, some CD and DC BCGs or strata may have anomalous MAI standards (e.g. conifer MAI lower in CD vs DC stands; see Methods). These natural region and stratum MAI standards are presented in Table 20. All regional yield estimates have a utilization standard of 15/10/30/TL for both conifer and deciduous MAI.

Table 18. Culmination MAI and area within each FMU for regional yield estimates. FMUs: G9, G10, G11, G12, G13, G14, G51, G52, G53, G54, P51, P52, P53.

Natural Region	Stratum	Density	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Area (ha)												
					G9	G10	G11	G12	G13	G14	G51	G52	G53	G54	P51	P52	P53
Boreal	D	AB	0.3830	1.5576	6991.0	1250.7	2776.5	1847.7	6426.7	338.7	4488.8	43.6	149.3	1822.9	8875.5	7404.2	21633.5
Boreal	D	CD	0.4448	2.4653	7407.0	1091.5	5068.3	14632.3	8340.6	3767.4	37904.1	16.5	213.1	4112.1	22135.3	63836.4	85862.6
Boreal	DC-P	AB	1.2204	0.6352	209.5	0.0	48.2	1.6	31.6	0.0	0.0	0.0	0.0	0.0	135.2	473.0	148.5
Boreal	DC-P	CD	1.5467	1.2534	333.8	2.3	423.9	82.2	0.0	0.0	52.2	0.0	2.6	0.0+	566.9	1739.9	137.6
Boreal	DC-Sx	AB	1.0172	0.8898	460.2	33.5	12.4	225.1	183.8	42.3	168.2	1.2	8.7	102.0	1666.9	799.3	2484.2
Boreal	DC-Sx	CD	1.5077	1.4554	608.1	94.0	106.5	428.1	210.9	196.7	494.8	0.7	2.2	271.6	2230.8	6108.8	8734.2
Boreal	CD-Sw	AB	1.0172	0.8898	278.7	7.9	86.4	34.3	278.3	56.4	25.8	0.9	56.2	45.7	1185.1	616.7	1407.9
Boreal	CD-Sw	CD	1.5077	1.4554	572.8	0.0	150.9	445.0	231.0	122.1	282.3	1.0	0.1	229.9	1048.4	1536.2	4007.4
Boreal	CD-P	AB	1.2204	0.6352	209.2	0.0	7.5	0.0	89.6	0.0	6.7	0.0	0.0+	0.0	136.1	242.6	96.1
Boreal	CD-P	CD	1.5467	1.2534	238.1	0.0	280.4	87.9	12.3	0.0	32.3	0.0	0.0+	0.0	278.2	1113.4	94.4
Boreal	CD-Sb	AB	1.0172	0.8898	0.0	0.0	0.0	11.7	27.8	0.0	19.2	0.0	0.0	0.0	281.4	76.3	223.8
Boreal	CD-Sb	CD	1.5077	1.4554	0.0	0.0	3.6	46.4	8.5	0.0	51.1	0.0	0.0	7.4	22.4	65.0	168.5
Boreal	C-Sw	AB	1.4812	0.5020	2479.5	488.3	331.2	219.6	561.4	19.4	105.8	1.4	203.5	19.6	1855.0	2396.3	5008.0
Boreal	C-Sw	CD	2.0967	0.6621	1302.3	18.7	423.9	1650.1	196.9	129.5	747.2	0.2	150.2	99.1	1035.4	4248.1	8609.8
Boreal	C-P	AB	1.1293	0.1698	402.9	0.0	37.9	52.2	594.6	0.0	18.8	0.0	0.5	0.1	221.5	1403.7	707.2
Boreal	C-P	CD	1.7509	0.3059	1170.3	0.0	348.9	602.0	202.2	0.0	63.0	0.0	0.1	0.1	565.2	4357.2	899.5
Boreal	C-Sb	AB	0.5884	0.0844	1157.7	0.0	643.5	1448.0	2237.7	374.6	1142.9	0.2	10.1	123.2	10364.1	7828.7	3047.0
Boreal	C-Sb	CD	0.8764	0.0963	524.2	0.0	455.8	2834.8	1613.7	187.7	2373.9	0.3	13.3	748.1	5734.8	4329.9	3529.8
Foothills	D	AB	0.4780	1.6750	0.0	0.0	876.9	660.9	0.0	0.0	13.3	0.0	6.1	0.0	0.0	4311.6	332.8
Foothills	D	CD	0.5363	2.6056	0.0	0.0	985.3	2050.2	0.0	0.0	692.6	0.0	29.0	0.0	0.0	6967.1	2305.3
Foothills	DC-P	AB	1.4413	0.8339	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0
Foothills	DC-P	CD	1.8202	1.3686	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0
Foothills	DC-Sx	AB	1.2393	1.0151	0.0	0.0	111.2	4.1	0.0	0.0	0.0	0.0	0.0+	0.0	0.0	532.9	25.4
Foothills	DC-Sx	CD	1.6447	1.5012	0.0	0.0	44.8	28.8	0.0	0.0	0.1	0.0	0.0+	0.0	0.0	655.0	117.5
Foothills	CD-Sw	AB	1.2393	1.0151	0.0	0.0	0.0+	4.5	0.0	0.0	0.0	0.0	0.0+	0.0	0.0	282.2	100.1
Foothills	CD-Sw	CD	1.6447	1.5012	0.0	0.0	47.7	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	365.9	57.8
Foothills	CD-P	AB	1.4413	0.8339	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0	0.0	102.4	0.0
Foothills	CD-P	CD	1.8202	1.3686	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0
Foothills	CD-Sb	AB	1.2393	1.0151	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.5	8.0
Foothills	CD-Sb	CD	1.6447	1.5012	0.0	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3	4.4
Foothills	C-P	AB	1.6545	0.1347	0.0	0.0	12.8	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.1	0.0
Foothills	C-P	CD	2.5110	0.2138	0.0	0.0	4.5	175.3	0.0	0.0	5.0	0.0	0.0+	0.0	0.0	174.1	0.0
Foothills	C-Sw	AB	1.7043	0.2611	0.0	0.0	218.4	69.2	0.0	0.0	4.3	0.0	2.5	0.0	0.0	1775.6	33.5
Foothills	C-Sw	CD	2.1888	0.3239	0.0	0.0	119.9	215.7	0.0	0.0	4.0	0.0	0.0+	0.0	0.0	1200.6	71.2
Foothills	C-Sb	AB	0.6890	0.0513	0.0	0.0	286.0	120.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	540.4	74.2
Foothills	C-Sb	CD	1.0972	0.0692	0.0	0.0	85.9	248.7	0.0	0.0	7.5	0.0	1.0	0.0	0.0	223.2	7.4

+Area is present in this stratum but is <0.05 ha

Table 19. Culmination MAI and area within each FMU for regional yield estimates. FMUs: L9, L51, R51, S14, S16, S51, S52, W51, W52.

Natural Region	Stratum	Density	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Area (ha)								
					L9	L51	R51	S14	S16	S51	S52	W51	W52
Boreal	D	AB	0.3830	1.5576	362.1	88640.0	31858.0	24374.1	5873.3	22983.8	2120.4	1891.0	56599.4
Boreal	D	CD	0.4448	2.4653	3851.3	300264.2	57404.6	78479.9	3464.1	59959.0	2987.1	3943.5	113570.8
Boreal	DC-P	AB	1.2204	0.6352	367.4	2074.4	530.4	1177.8	37.7	506.8	0.0+	30.5	683.4
Boreal	DC-P	CD	1.5467	1.2534	566.1	2380.6	701.8	2385.7	123.9	1050.4	0.0	103.8	405.6
Boreal	DC-Sx	AB	1.0172	0.8898	62.9	7582.4	2994.8	2507.4	483.4	2627.7	146.0	304.6	3109.9
Boreal	DC-Sx	CD	1.5077	1.4554	124.4	8070.1	5770.1	5075.9	368.2	2959.0	14.0	380.8	6227.6
Boreal	CD-Sw	AB	1.0172	0.8898	53.8	4176.6	1540.2	2513.7	623.7	977.6	39.1	135.4	941.8
Boreal	CD-Sw	CD	1.5077	1.4554	33.4	3013.9	1935.4	3375.1	78.9	1988.8	44.5	391.2	2069.8
Boreal	CD-P	AB	1.2204	0.6352	658.1	2645.4	543.7	1931.1	0.0+	481.1	0.0	23.1	741.5
Boreal	CD-P	CD	1.5467	1.2534	414.5	2591.5	1111.5	1969.3	6.6	545.5	0.0	143.0	491.6
Boreal	CD-Sb	AB	1.0172	0.8898	55.2	2743.8	305.9	258.5	23.3	680.0	0.0	40.6	1437.3
Boreal	CD-Sb	CD	1.5077	1.4554	17.4	2039.0	237.8	281.0	12.4	343.9	0.0	27.6	805.1
Boreal	C-Sw	AB	1.4812	0.5020	739.2	14673.5	1215.8	11140.1	1265.3	4781.3	61.5	290.5	1403.3
Boreal	C-Sw	CD	2.0967	0.6621	278.3	8009.8	1596.1	10887.8	220.2	2728.7	85.2	552.3	2629.4
Boreal	C-P	AB	1.1293	0.1698	5695.7	14003.6	818.9	18933.3	99.1	3498.1	0.0	219.2	704.6
Boreal	C-P	CD	1.7509	0.3059	2843.8	13359.4	933.9	19917.0	21.7	2830.2	0.0	517.8	2223.4
Boreal	C-Sb	AB	0.5884	0.0844	13862.6	93330.1	4732.7	91447.0	2138.2	17429.1	1.1	2207.5	13808.5
Boreal	C-Sb	CD	0.8764	0.0963	5181.9	57246.9	5111.1	30617.2	1288.2	17127.1	7.8	1057.2	19236.0
Foothills	D	AB	0.4780	1.6750	0.0	0.0	11190.5	0.0	0.0	0.0	0.0+	14766.5	3208.5
Foothills	D	CD	0.5363	2.6056	0.0	0.0	18224.5	0.0	0.0	0.0	2.5	32030.1	5567.1
Foothills	DC-P	AB	1.4413	0.8339	0.0	0.0	903.9	0.0	0.0	0.0	0.0	260.0	2.7
Foothills	DC-P	CD	1.8202	1.3686	0.0	0.0	678.8	0.0	0.0	0.0	0.0	859.2	96.1
Foothills	DC-Sx	AB	1.2393	1.0151	0.0	0.0	2540.1	0.0	0.0	0.0	0.0+	2004.3	165.9
Foothills	DC-Sx	CD	1.6447	1.5012	0.0	0.0	2573.6	0.0	0.0	0.0	0.0+	4164.1	202.6
Foothills	CD-Sw	AB	1.2393	1.0151	0.0	0.0	1377.4	0.0	0.0	0.0	0.0+	2109.6	138.6
Foothills	CD-Sw	CD	1.6447	1.5012	0.0	0.0	1255.5	0.0	0.0	0.0	0.0+	2522.8	215.7
Foothills	CD-P	AB	1.4413	0.8339	0.0	0.0	756.8	0.0	0.0	0.0	0.0	208.1	0.0
Foothills	CD-P	CD	1.8202	1.3686	0.0	0.0	727.0	0.0	0.0	0.0	0.0	593.0	18.1
Foothills	CD-Sb	AB	1.2393	1.0151	0.0	0.0	123.7	0.0	0.0	0.0	0.0+	140.0	5.8
Foothills	CD-Sb	CD	1.6447	1.5012	0.0	0.0	19.3	0.0	0.0	0.0	0.0	144.7	26.3
Foothills	C-Sw	AB	1.7043	0.2611	0.0	0.0	1234.5	0.0	0.0	0.0	0.0+	1700.8	228.8
Foothills	C-Sw	CD	2.1888	0.3239	0.0	0.0	1212.3	0.0	0.0	0.0	0.0+	4219.1	118.7
Foothills	C-P	AB	1.6545	0.1347	0.0	0.0	1975.3	0.0	0.0	0.0	0.0	677.9	0.0+
Foothills	C-P	CD	2.5110	0.2138	0.0	0.0	2159.9	0.0	0.0	0.0	0.0	3150.1	48.7
Foothills	C-Sb	AB	0.6890	0.0513	0.0	0.0	6084.7	0.0	0.0	0.0	0.0	7564.5	735.0
Foothills	C-Sb	CD	1.0972	0.0692	0.0	0.0	5083.2	0.0	0.0	0.0	0.0+	15892.4	987.9

+Area is present in this stratum but is <0.05 ha

Table 20. Average MAI standards for base 10 strata within natural regions.

Natural Region	Base 10 Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
Boreal	1-D	0.4300	2.2484
	2-DC-P	1.4291	1.0307
	3-DC-S	1.3188	1.2376
	4-CD-Sw	1.3273	1.2474
	5-CD-P	1.4024	0.9800
	6-CD-Sb	1.1778	1.0750
	7-C-Sw	1.7441	0.5704
	8-C-P	1.4406	0.2379
	9-C-Sb	0.6876	0.0885
Foothills	1-D	0.5168	2.2940
	2-DC-P	1.6866	1.1800
	3-DC-S	1.4500	1.2678
	4-CD-Sw	1.4435	1.2600
	5-CD-P	1.6745	1.1630
	6-CD-Sb	1.3866	1.1917
	7-C-Sw	1.8806	0.2840
	8-C-P	2.2356	0.1884
	9-C-Sb	0.8898	0.0601

FMU G9

A regional yield estimate approach was used to define the MAI standards for G9. The Boreal group of regional MAI standards were used for this FMU. The resulting area-weighted broad cover group and base 10 MAI standards are presented in the following table.

Table 21. MAI Standards for FMU G9 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4148	2.0246	1-D	0.4148	2.0246
DC	1.3384	1.1454	2-DC-P	1.4209	1.0150
			3-DC-Sx	1.2964	1.2117
CD	1.3633	1.1649	4-CD-Sw	1.3472	1.2703
			5-CD-P	1.3941	0.9643
			6-CD-Sb	1.1778*	1.0750*
C	1.4279	0.3811	7-C-Sw	1.6931	0.5571
			8-C-P	1.5917	0.2710
			9-C-Sb	0.6781	0.0881

*No area was found in the 2010 AVI for this stratum. In case this is needed, the average Boreal regional standard given here for this stratum is to be used instead.

FMU G10

A regional yield estimate approach was used to define the MAI standards for G10. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 22. MAI Standards for FMU G10 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4118	1.9806	1-D	0.4118	1.9806
DC	1.3818	1.3059	2-DC-P	1.5467	1.2534
			3-DC-Sx	1.3789	1.3068
CD	1.0172	0.8898	4-CD-Sw	1.0172	0.8898
			5-CD-P	1.4024*	0.9800*
			6-CD-Sb	1.1778*	1.0750*
C	1.5039	0.5079	7-C-Sw	1.5039	0.5079
			8-C-P	1.4406*	0.2379*
			9-C-Sb	0.6876*	0.0885*

*No area was found in the 2010 AVI for this stratum. In case this is needed, the average Boreal regional standard given here for this stratum is to be used instead.

FMU G11

A regional yield estimate approach was used to define the MAI standards for G11. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 23. MAI Standards for FMU G11 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4394	2.1485	1-D	0.4394	2.1485
DC	1.4714	1.2157	2-DC-P	1.5134	1.1904
			3-DC-Sx	1.3993	1.2593
CD	1.4606	1.2643	4-CD-Sw	1.3819	1.2916
			5-CD-P	1.5400	1.2382
			6-CD-Sb	1.3740	1.2361
C	1.2698	0.2619	7-C-Sw	1.8420	0.4964
			8-C-P	1.6981	0.2867
			9-C-Sb	0.7269	0.0807

FMU G12

A regional yield estimate approach was used to define the MAI standards for G12. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 24. MAI Standards for FMU G12 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4497	2.3656	1-D	0.4497	2.3656
DC	1.3779	1.2675	2-DC-P	1.5729	1.2563
			3-DC-Sx	1.3509	1.2691
CD	1.4858	1.3900	4-CD-Sw	1.4768	1.4145
			5-CD-P	1.5467	1.2534
			6-CD-Sb	1.4751	1.3865
C	1.2605	0.2538	7-C-Sw	2.0306	0.5990
			8-C-P	1.8693	0.2758
			9-C-Sb	0.7937	0.0900

FMU G13

A regional yield estimate approach was used to define the MAI standards for G13. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 25. MAI Standards for FMU G13 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4179	2.0703	1-D	0.4179	2.0703
DC	1.2749	1.1508	2-DC-P	1.2204	0.6352
			3-DC-Sx	1.2793	1.1920
CD	1.2368	1.0707	4-CD-Sw	1.2397	1.1463
			5-CD-P	1.2599	0.7099
			6-CD-Sb	1.1319	1.0220
C	0.9249	0.1700	7-C-Sw	1.6410	0.5436
			8-C-P	1.2871	0.2043
			9-C-Sb	0.7090	0.0894

FMU G14

A regional yield estimate approach was used to define the MAI standards for G14. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 26. MAI Standards for FMU G14 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4397	2.3904	1-D	0.4397	2.3904
DC	1.4209	1.3554	2-DC-P	1.4291*	1.0307*
			3-DC-Sx	1.4209	1.3554
CD	1.3528	1.2768	4-CD-Sw	1.3528	1.2768
			5-CD-P	1.4024*	0.9800*
			6-CD-Sb	1.1778*	1.0750*
C	0.9633	0.2041	7-C-Sw	2.0166	0.6413
			8-C-P	1.4406*	0.2379*
			9-C-Sb	0.6845	0.0883

*No area was found in the 2010 AVI for this stratum. In case this is needed, the average Boreal regional standard given here for this stratum is to be used instead.

FMU G51

A regional yield estimate approach was used to define the MAI standards for G51. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 27. MAI Standards for FMU G51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4398	2.3727	1-D	0.4398	2.3727
DC	1.3952	1.3077	2-DC-P	1.5467	1.2534
			3-DC-Sx	1.3833	1.3119
CD	1.4533	1.3657	4-CD-Sw	1.4667	1.4081
			5-CD-P	1.4906	1.1471
			6-CD-Sb	1.3738	1.3010
C	1.0385	0.2011	7-C-Sw	2.0195	0.6388
			8-C-P	1.6602	0.2712
			9-C-Sb	0.7834	0.0924

FMU G52

A regional yield estimate approach was used to define the MAI standards for G52. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 28. MAI Standards for FMU G52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4000	1.8070	1-D	0.4000	1.8070
DC	1.1919	1.0912	2-DC-P	1.4291*	1.0307*
			3-DC-Sx	1.1919	1.0912
CD	1.2660	1.1767	4-CD-Sw	1.2660	1.1767
			5-CD-P	1.4024*	0.9800*
			6-CD-Sb	1.1778*	1.0750*
C	1.3563	0.4121	7-C-Sw	1.5527	0.5206
			8-C-P	1.4406*	0.2379*
			9-C-Sb	0.7769	0.0922

*No area was found in the 2010 AVI for this stratum. In case this is needed, the average Boreal regional standard given here for this stratum is to be used instead.

FMU G53

A regional yield estimate approach was used to define the MAI standards for G53. A mix of Boreal and Foothills MAI standards were used for this FMU, though, as most area is in the Boreal, these values are heavily weighted toward the Boreal standards. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 29. MAI Standards for FMU G53 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4287	2.1224	1-D	0.4287	2.1224
DC	1.2012	1.0538	2-DC-P	1.5467	1.2534
			3-DC-Sx	1.1176	1.0055
CD	1.0187	0.8913	4-CD-Sw	1.0183	0.8910
			5-CD-P	1.5598	1.2478
			6-CD-Sb	1.1778*	1.0750*
C	1.6792	0.5367	7-C-Sw	1.7423	0.5678
			8-C-P	1.2148	0.1885
			9-C-Sb	0.7656	0.0903

*No area was found in the 2010 AVI for this stratum. In case this is needed, the Boreal regional standard given here for this stratum is to be used instead.

FMU G54

A regional yield estimate approach was used to define the MAI standards for G54. The Boreal group of MAI standards were used for this FMU. The resulting area weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 30. MAI Standards for FMU G54 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4258	2.1865	1-D	0.4258	2.1865
DC	1.3738	1.3010	2-DC-P	1.5467	1.2534
			3-DC-Sx	1.3738	1.3010
CD	1.4284	1.3640	4-CD-Sw	1.4263	1.3615
			5-CD-P	1.4024*	0.9800*
			6-CD-Sb	1.5077	1.4554
C	0.9748	0.1595	7-C-Sw	1.9949	0.6356
			8-C-P	1.4582	0.2418
			9-C-Sb	0.8356	0.0946

*No area was found in the 2010 AVI for this stratum. In case this is needed, the average Boreal regional standard given here for this stratum is to be used instead.

FMU L9

A regional yield estimate approach was used to define the MAI standards for L9. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 31. MAI Standards for FMU L9 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4394	2.3872	1-D	0.4394	2.3872
DC	1.4057	1.0528	2-DC-P	1.4183	1.0101
			3-DC-Sx	1.3431	1.2655
CD	1.3240	0.8995	4-CD-Sw	1.2050	1.1064
			5-CD-P	1.3465	0.8742
			6-CD-Sb	1.1347	1.0253
C	0.9016	0.1420	7-C-Sw	1.6496	0.5458
			8-C-P	1.3363	0.2151
			9-C-Sb	0.6667	0.0876

FMU L51

A regional yield estimate approach was used to define the MAI standards for L51. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 32. MAI Standards for FMU L51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4307	2.2584	1-D	0.4307	2.2584
DC	1.2977	1.1336	2-DC-P	1.3948	0.9656
			3-DC-Sx	1.2701	1.1814
CD	1.2722	1.0715	4-CD-Sw	1.2228	1.1269
			5-CD-P	1.3819	0.9412
			6-CD-Sb	1.2263	1.1309
C	0.9112	0.1621	7-C-Sw	1.6985	0.5585
			8-C-P	1.4328	0.2362
			9-C-Sb	0.6978	0.0889

FMU P51

A regional yield estimate approach was used to define the MAI standards for P51. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 33. MAI Standards for FMU P51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4271	2.2055	1-D	0.4271	2.2055
DC	1.3263	1.2014	2-DC-P	1.4839	1.1344
			3-DC-Sx	1.2979	1.2135
CD	1.2544	1.1175	4-CD-Sw	1.2474	1.1553
			5-CD-P	1.4395	1.0503
			6-CD-Sb	1.0534	0.9316
C	0.8739	0.1645	7-C-Sw	1.7017	0.5594
			8-C-P	1.5759	0.2676
			9-C-Sb	0.6909	0.0886

FMU P52

A regional yield estimate approach was used to define the MAI standards for P52. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 34. MAI Standards for FMU P52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4487	2.3544	1-D	0.4487	2.3544
DC	1.4579	1.3196	2-DC-P	1.4768	1.1204
			3-DC-Sx	1.4527	1.3743
CD	1.4260	1.2342	4-CD-Sw	1.3906	1.2925
			5-CD-P	1.5065	1.1370
			6-CD-Sb	1.2923	1.1732
C	1.2922	0.2665	7-C-Sw	1.8825	0.5060
			8-C-P	1.6264	0.2697
			9-C-Sb	0.6979	0.0867

FMU P53

A regional yield estimate approach was used to define the MAI standards for P53. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 35. MAI Standards for FMU P53 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4346	2.2875	1-D	0.4346	2.2875
DC	1.4007	1.3214	2-DC-P	1.3774	0.9326
			3-DC-Sx	1.4013	1.3312
CD	1.3707	1.2827	4-CD-Sw	1.3804	1.3051
			5-CD-P	1.3821	0.9416
			6-CD-Sb	1.2326	1.1344
C	1.5009	0.4204	7-C-Sw	1.8716	0.6009
			8-C-P	1.4773	0.2460
			9-C-Sb	0.7427	0.0903

FMU R51

A regional yield estimate approach was used to define the MAI standards for R51. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 36. MAI Standards for FMU R51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4454	2.1686	1-D	0.4454	2.1686
DC	1.4016	1.2223	2-DC-P	1.5173	1.0300
			3-DC-Sx	1.3781	1.2613
CD	1.4000	1.1685	4-CD-Sw	1.3517	1.2229
			5-CD-P	1.5281	1.0719
			6-CD-Sb	1.2447	1.1254
C	1.1875	0.1583	7-C-Sw	1.8835	0.4530
			8-C-P	1.9109	0.1957
			9-C-Sb	0.8107	0.0740

FMU S14

A regional yield estimate approach was used to define the MAI standards for S14. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 37. MAI Standards for FMU S14 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4301	2.2502	1-D	0.4301	2.2502
DC	1.3754	1.1983	2-DC-P	1.4388	1.0491
			3-DC-Sx	1.3455	1.2684
CD	1.3298	1.1117	4-CD-Sw	1.2983	1.2140
			5-CD-P	1.3852	0.9474
			6-CD-Sb	1.2727	1.1844
C	0.9632	0.1791	7-C-Sw	1.7854	0.5811
			8-C-P	1.4480	0.2395
			9-C-Sb	0.6606	0.0873

FMU S16

A regional yield estimate approach was used to define the MAI standards for S16. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 38. MAI Standards for FMU S16 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4059	1.8943	1-D	0.4059	1.8943
DC	1.2678	1.1303	2-DC-P	1.4705	1.1091
			3-DC-Sx	1.2293	1.1344
CD	1.0820	0.9623	4-CD-Sw	1.0723	0.9533
			5-CD-P	1.5467	1.2534
			6-CD-Sb	1.1873	1.0859
C	0.9682	0.2203	7-C-Sw	1.5725	0.5257
			8-C-P	1.2412	0.1943
			9-C-Sb	0.6966	0.0888

FMU S51

A regional yield estimate approach was used to define the MAI standards for S51. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 39. MAI Standards for FMU S51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4276	2.2137	1-D	0.4276	2.2137
DC	1.3126	1.1595	2-DC-P	1.4405	1.0522
			3-DC-Sx	1.2770	1.1894
CD	1.3223	1.1679	4-CD-Sw	1.3461	1.2690
			5-CD-P	1.3938	0.9637
			6-CD-Sb	1.1820	1.0798
C	0.9706	0.1815	7-C-Sw	1.7048	0.5602
			8-C-P	1.4073	0.2306
			9-C-Sb	0.7311	0.0903

FMU S52

A regional yield estimate approach was used to define the MAI standards for S52. The Boreal group of MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 40. MAI Standards for FMU S52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4192	2.0887	1-D	0.4192	2.0887
DC	1.0601	0.9393	2-DC-P	1.2204	0.6352
			3-DC-Sx	1.0601	0.9393
CD	1.2783	1.1909	4-CD-Sw	1.2783	1.1909
			5-CD-P	1.4024*	0.9800*
			6-CD-Sb	1.2393	1.0151
C	1.7817	0.5664	7-C-Sw	1.8388	0.5950
			8-C-P	1.4406*	0.2379*
			9-C-Sb	0.8397	0.0948

*No area was found in the 2010 AVI for this stratum. In case this is needed, the average Boreal regional standard given here for this stratum is to be used instead.

FMU W51

A regional yield estimate approach was used to define the MAI standards for W51. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 41. MAI Standards for FMU W51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.5076	2.2963	1-D	0.5076	2.2963
DC	1.5237	1.3140	2-DC-P	1.7044	1.2303
			3-DC-Sx	1.4906	1.3293
CD	1.4839	1.2707	4-CD-Sw	1.4521	1.2829
			5-CD-P	1.6839	1.2190
			6-CD-Sb	1.4009	1.2344
C	1.2821	0.1329	7-C-Sw	2.0290	0.3434
			8-C-P	2.2313	0.2104
			9-C-Sb	0.9309	0.0664

FMU W52

A regional yield estimate approach was used to define the MAI standards for W52. A mix of Boreal and Foothills MAI standards were used for this FMU. The resulting area-weighted base 10 and broad cover group MAI standards are presented in the following table.

Table 42. MAI Standards for FMU W52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.4287	2.1684	1-D	0.4287	2.1684
DC	1.3523	1.2282	2-DC-P	1.3809	0.9061
			3-DC-Sx	1.3488	1.2676
CD	1.3103	1.1496	4-CD-Sw	1.3682	1.2820
			5-CD-P	1.3573	0.8888
			6-CD-Sb	1.1986	1.0974
C	0.9407	0.1538	7-C-Sw	1.8815	0.5807
			8-C-P	1.6162	0.2722
			9-C-Sb	0.7643	0.0898

FMU MAI Standards from Adjacent FMUs

Where information was unsuitable to make estimates specific to an FMU, either based on yield estimates for the FMU or by applying representative regional curves to the available landbase, MAI standards from adjacent FMUs or FMA areas were used as a best approximation.

FMU A6, A9, A10, A11, A12, & A13

The MAI standards for the Alpac Forest Products Inc. northern FMA area (A14, A15, S11, S22) are to be used for A6, A9, A10, A11, A12, and A13 as a best approximation. The AAC associated with these standards was approved May 1, 2005. These MAIs have a utilization standard of 15/11/30/TL for the conifer and 15/10/30/TL deciduous components. The MAI standards are presented in the following table.

Table 43. MAI Standards for FMUs A6, A9, A10, A11, A12, & A13 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.38	2.26	1-D	0.38	2.26
DC	1.00	1.45	2-DC-P	1.21	0.97
			3-DC-Sx	0.95	1.57
CD	0.98	0.74	4-CD-Sw	0.89	0.65
			5-CD-P	1.21	0.97
			6-CD-Sb	0.89	0.65
C	1.49	0.30	7-C-Sw	1.89	0.47
			8-C-P	1.27	0.16
			9-C-Sb	1.03	0.22

FMU B9 & B52

The MAI standards for Spray Lakes Sawmills 2007 FMA in FMU B9 are to be used for Crown managed portions of B9 and the adjacent B52, as a best approximation. These MAIs have a utilization standard of 15/11/30/TL for both the conifer and deciduous components. The MAI standards are presented in the following table. Since Spray Lakes FMP aggregated white spruce with Douglas fir conifer stands, we used the same MAI standards for white spruce and Douglas fir stands. Conifer stands with black spruce leading were removed from the Spray Lakes FMP landbase, so Foothills regional yield standards were used for 9-C-Sb stands.

Table 44. MAI Standards for FMUs B9 & B52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/11/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL*	Dec. MAI (m ³ /ha/yr) 15/11/30/TL*
D	0.78	0.95	1-D	0.78	0.95
DC	1.14	0.91	2-DC-P	1.14	0.91
			3-DC-Sx	1.14	0.91
CD	1.14	0.91	4-CD-Sw	1.14	0.91
			5-CD-P	1.14	0.91
			6-CD-Sb	1.14	0.91
C	1.63	0.18	7-C-Sw	1.66	0.18
			8-C-P	1.65	0.19
			9-C-Sb	0.8898*	0.0601*
			10-C-Fd	1.66**	0.18**

*The Spray Lakes Sawmills FMP removes 9-C-Sb stands from the landbase. Foothills regional yield standards are to be used instead. These have a different utilization standard of 15/10/30/TL (vs. the rest of the strata which use 15/11/30/TL).

**Spray Lakes yield strata aggregate fir and white spruce, so the 7-C-Sw standards are to be used for 10-C-Fd.

FMU B11 & B51

The MAI standards for Spray Lakes Sawmills 2007 FMA in FMU B10 are to be used for B11 and B51 as a best approximation. These MAIs have a utilization standard of 15/11/30/TL for both the conifer and deciduous components. The MAI standards are presented in the following table. Since Spray Lakes FMP aggregated white spruce with Douglas fir conifer stands, we used the white spruce MAI standards for Douglas fir stands. Conifer stands with black spruce leading were removed from the Spray Lakes FMP landbase, so Foothills regional yield standards were used for 9-C-Sb stands.

Table 45. MAI Standards for FMUs B11 & B52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/11/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL*	Dec. MAI (m ³ /ha/yr) 15/11/30/TL*
D	0.78	0.95	1-D	0.78	0.95
DC	1.14	0.91	2-DC-P	1.14	0.91
			3-DC-Sx	1.14	0.91
CD	1.14	0.91	4-CD-Sw	1.14	0.91
			5-CD-P	1.14	0.91
			6-CD-Sb	1.14	0.91
C	1.63	0.18	7-C-Sw	1.64	0.12
			8-C-P	1.60	0.19
			9-C-Sb	0.8898*	0.0601*
			10-C-Fd	1.64**	0.12**

*The Spray Lakes Sawmills FMP removes 9-C-Sb stands from the landbase. Foothills regional yield standards are to be used instead. These have a different utilization standard of 15/10/30/TL (vs. the rest of the strata which use 15/11/30/TL).

**Spray Lakes yield strata aggregate fir and white spruce, so the 7-C-Sw standards are to be used for 10-C-Fd.

FMU C4, C51, & C52

The MAI standards for C5 are to be used for C4, C51 and C52 as a best approximation. These are in the far southwest corner of Alberta, at the extreme south of the Foothills region. The adjacent C5 FMU would provide the closest approximation for these FMUs' productivity. The AAC approval date for C5 is May 1, 2010. These MAIs have a utilization standard of 15/10/30/TL for both the conifer and deciduous components. The MAI standards are presented in the following table.

Table 46. MAI Standards for FMUs C4, C51, & C52 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/10/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.3184	1.1003	1-D	0.3184	1.1003
DC	0.3230	1.0938	2-DC-P	0.3230	1.0938
			3-DC-Sx	0.3230	1.0938
CD	1.4421	0.6750	4-CD-Sw	1.4421	0.6750
			5-CD-P	1.4421	0.6750
			6-CD-Sb	1.4421	0.6750
C	2.1789	0.0701	7-C-Sw	2.1390	0.0711
			8-C-P	2.2426	0.0705
			9-C-Sb	2.1390	0.0711
			10-C-Fd	2.0850	0.0616

FMU E9, E13 & H1

E9 and H1 are small FMUs surrounding the town of Hinton. E13 is a narrow FMU between Jasper National Park and the West Fraser Mills (Hinton) FMA. E13 includes Whitehorse Wildland Provincial Park and the Coal Branch Forest Land Use Zone. The management of these FMUs is primarily for recreation, wildlife and fire protection. The MAI standards for Westfraser Mills’ (Hinton) FMA area surrounding these FMUs are to be used for E9, E13 and H1 as a best approximation for openings which have a reforestation obligation. The AAC approval date for these standards is 1998. These MAIs have a utilization standard of 10/8/15/TL for both the conifer and deciduous components. The MAI standards are presented in the following table.

Table 47. MAI Standards for FMUs E9, E13, & H1 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 10/8/15/TL	Dec. MAI (m ³ /ha/yr) 10/8/15/TL	Stratum	Con. MAI (m ³ /ha/yr) 10/8/15/TL*	Dec. MAI (m ³ /ha/yr) 10/8/15/TL*
D	0.56	2.52	1-D	0.56	2.52
DC	1.30	1.36	2-DC-P	1.31	1.37
			3-DC-Sx	1.26	1.32
CD	1.93	0.60	4-CD-Sw	1.50	0.17
			5-CD-P	2.13	0.80
			6-CD-Sb	1.50	0.17
C	3.07	0.00	7-C-Sw	2.09	0.00
			8-C-P	3.16	0.00
			9-C-Sb	0.8898*	0.0601*

*No standard was specified for stratum 9-C-Sb so, if needed, the Foothills regional standards for this stratum are to be used, but note stratum 9-C-Sb therefore has a utilization standard of 15/10/30/TL (vs. 10/8/15/TL for the rest of the strata).

FMU E10

The MAI standards for E8 are to be used for E10 as a best approximation. The AAC approval date for these cut levels is May 1, 2007. E8 and E10 are adjacent and have similar topographical position on the eastern slopes. These MAIs have a utilization standard of 13/7/30/TL for both the conifer and deciduous components. The MAI standards are presented in the following table.

Table 48. MAI Standards for FMU E10 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 13/7/30/TL	Dec. MAI (m ³ /ha/yr) 13/7/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 13/7/30/TL	Dec. MAI (m ³ /ha/yr) 13/7/30/TL
D	0.4204	1.8627	1-D	0.4204	1.8627
DC	1.7719	1.3426	2-DC-P	1.7719	1.3426
			3-DC-Sx	1.7719	1.3426
CD	2.2472	0.8008	4-CD-Sw	2.2472	0.8008
			5-CD-P	2.2472	0.8008
			6-CD-Sb	2.2472	0.8008
C	2.0404	0.0000	7-C-Sw	1.5922	0.0000
			8-C-P	2.2111	0.0000
			9-C-Sb	1.1848	0.0000

FMU F10 & F20

F10 and F20 are at the northern border of Alberta, and at the northern extreme of Alberta's Boreal region. The MAI standards for Tolko/Footner joint FMA area in the adjacent FMU F26 to the west are to be used for F10 & F20 as a best approximation. The AAC approval date for the cut associated with these standards is May 1, 2002. These MAIs have a utilization standard of 15/11/30/TL for the conifer and 15/10/30/TL for the deciduous components. The MAI standards are presented in the following table.

Table 49. MAI Standards for FMUs F10 & F20 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.55	2.18	1-D	0.55	2.18
DC	1.32	0.96	2-DC-P	1.32	0.96
			3-DC-Sx	1.32	0.96
CD	1.32	0.96	4-CD-Sw	1.32	0.96
			5-CD-P	1.32	0.96
			6-CD-Sb	1.32	0.96
C	1.65	0.43	7-C-Sw	1.87	0.54
			8-C-P	1.87	0.54
			9-C-Sb	0.98	0.10

FMU F51

The MAI standards for the adjacent FMU F11 are to be used for F51 as a best approximation. The AAC associated with these standards is not yet approved; however the earlier standards could not be calculated (see F11). These MAIs have a utilization standard of 15/11/30/TL for conifer and 15/10/30/TL for deciduous. The MAI standards are presented in the following table.

Table 50. MAI Standards for FMU F51 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.3379	2.0783	1-D	0.3379	2.0783
DC	1.2726	0.8462	2-DC-P	1.3578	0.5809
			3-DC-Sx	1.2585	0.8902
CD	1.2726	0.8462	4-CD-Sw	1.2585	0.8902
			5-CD-P	1.3578	0.5809
			6-CD-Sb	1.2585	0.8902
C	1.6175	0.3836	7-C-Sw	1.6864	0.5041
			8-C-P	1.5547	0.2439
			9-C-Sb	0.5545	0.0587

FMU P8

The MAI standards for the adjacent Manning Diversified Forest Products FMA area with P9 standards for pure conifer strata are to be used for P8 as a best approximation. The AAC approval date was May 1, 2007. These MAIs have a utilization standard of 15/11/30/TL for the conifer and 15/10/30/TL for the deciduous components. In the 2006 Manning FMP, the small area in the 6-CD-Sb stratum was aggregated with the 9-C-Sb stratum for yield curve development; therefore these strata share MAI standards. The MAI standards are presented in the following table.

Table 51. MAI Standards for FMU P8 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.24	1.88	1-D	0.24	1.88
DC	1.08	1.50	2-DC-P	1.07	1.51
			3-DC-Sx	1.07	1.51
CD	1.99	0.76	4-CD-Sw	1.99	0.76
			5-CD-P	1.99	0.76
			6-CD-Sb	1.09	0.28
C	1.66	0.38	7-C-Sw	2.22	0.48
			8-C-P	1.56	0.20
			9-C-Sb	1.09	0.28

FMU R11

R11 is a high elevation FMU grading from the alpine regions of the front ranges to Montane and Upper Foothills subregions. It is primarily managed for recreation, wildlife and fire protection. There is no current reforestation obligation for R11, though there are a few older openings which still require a survey and MAI standards. Four potential options for MAI standards were available: Foothills regional yield standards, or FMA standards for either Spray Lakes (B9), Sundre Forest Products (R10), or Weyerhaeuser Drayton Valley (R12). Of these, B9 has most similar in topographic position but is further south, R10 and R12 share a border with R11 but are lower elevation. The regional yield standards are intermediate among these. Since R11 has none of the productive Lower Foothills subregion which is common in R10 and R12 and a large portion of the Foothills region, it should share the lower productivity of the high elevation B9 FMU. The MAI standards associated with this FMU (computed in the Spray Lake Sawmills FMP with an AAC approval date of May 1, 2007) were adopted as a best approximation. Table 51 contains these MAI standards for R11 at their reported 15/11/30/TL utilization standard for both conifer and deciduous. R11 contains no pure Douglas fir stands.

Table 52. MAI Standards for FMU R11 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/11/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL*	Dec. MAI (m ³ /ha/yr) 15/11/30/TL*
D	0.78	0.95	1-D	0.78	0.95
DC	1.14	0.91	2-DC-P	1.14	0.91
			3-DC-Sx	1.14	0.91
CD	1.14	0.91	4-CD-Sw	1.14	0.91
			5-CD-P	1.14	0.91
			6-CD-Sb	1.14	0.91
C	1.63	0.18	7-C-Sw	1.66	0.18
			8-C-P	1.65	0.19
			9-C-Sb	0.8898*	0.0601*

*The Spray Lakes Sawmills FMP for B9 removed 9-C-Sb stands from the landbase. The Foothills regional yield standards given here are to be used when required, but note these have a different utilization standard of 15/10/30/TL (vs. the rest of the strata which use 15/11/30/TL).

FMU R14

The MAI standards for the adjacent Weyerhaeuser Drayton Valley FMA area (FMU R12) are to be used for R14 as a best approximation. The AAC approval date was May 1, 2000. These MAIs have a utilization standard of 15/11/15/TL for the conifer and 15/10/15/CTL244 for the deciduous component. In the 2005 Weyerhaeuser FMP for R12, acceptable conifer stands (pure or mixed) included pine, white and black spruce. However, the yield curves did not distinguish the leading species; therefore BCG standards are used for all base 10 strata. The MAI standards are presented in the following table.

Table 53. MAI Standards for FMU R14 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/15/TL	Dec. MAI (m ³ /ha/yr) 15/10/15/CTL244	Stratum	Con. MAI (m ³ /ha/yr) 15/11/15/TL	Dec. MAI (m ³ /ha/yr) 15/10/15/CTL244
D	0.721	2.373	1-D	0.721	2.37
DC	1.283	1.705	2-DC-P	1.283	1.71
			3-DC-Sx	1.283	1.71
CD	1.625	1.078	4-CD-Sw	1.625	1.08
			5-CD-P	1.625	1.08
			6-CD-Sb	1.625	1.08
C	2.112	0.308	7-C-Sw	2.112	0.308
			8-C-P	2.112	0.308
			9-C-Sb	2.112	0.308

FMU S7

S7 is a complex FMU, with portions managed by the Crown, Vanderwell Contractors Ltd., and Alpac Forest Products Inc. The MAI standards for the Alpac southern FMA area would be a good approximation and are to be used for the Crown-managed portions of S7. The AAC approval date was May 1, 2005. These MAIs have a utilization standard of 15/11/30/TL for the conifer and 15/10/30/TL for the deciduous component. White and black spruce leading mixedwoods were aggregated together when Alpac developed its first approximation MAI standards in 2008, therefore stratum 6-CD-Sb and 4-CD-Sw share the same standards. The MAI standards are presented in the following table.

Table 54. MAI Standards for FMU S7 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.38	2.26	1-D	0.38	2.26
DC	1.48	1.61	2-DC-P	1.21	0.97
			3-DC-Sx	1.51	1.68
CD	1.37	1.44	4-CD-Sw	1.39	1.50
			5-CD-P	1.21	0.97
			6-CD-Sb	1.39	1.39
C	1.49	0.30	7-C-Sw	1.89	0.47
			8-C-P	1.27	0.16
			9-C-Sb	1.03	0.22

FMU S19

S19 is a spatially-separated FMU with four portions: one is north of Lake Utikuma, another (the “Salt” portion) is on the northwest shore of Lesser Slave Lake, the “Whitemud” portion encloses a section of the Smoky River, and there is a narrow portion further west called the “Birch” portion. Tolko Industries (High Prairie) has a separate management plan for each of these sections. The Crown is responsible for the management of the part of S19 which is adjacent to Tolko’s Utikuma section. The Tolko High Prairie Utikuma standards were therefore the best approximation for the Crown portion of S19. The AAC approval date was May 1, 2002. These standards are presented in the following table. Utilization standards for this region were 15/11/30/TL for conifers and 15/10/30/TL for deciduous.

Table 55. MAI Standards for FMU S19 by broad cover group and base 10 stratum.

Broad Cover Group MAI Standards			Base 10 Strata MAI Standards		
Cover Group	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL	Stratum	Con. MAI (m ³ /ha/yr) 15/11/30/TL	Dec. MAI (m ³ /ha/yr) 15/10/30/TL
D	0.37	2.30	1-D	0.37	2.30
DC	0.59	1.76	2-DC-P	0.59	1.76
			3-DC-Sx	0.59	1.76
CD	1.33	0.78	4-CD-Sw	1.33	0.78
			5-CD-P	1.33	0.78
			6-CD-Sb	1.33	0.78
C	1.76	0.61	7-C-Sw	1.99	0.85
			8-C-P	2.01	0.25
			9-C-Sb	0.68	0.00

Appendix A. Metric Conversion Chart

1 cm	=	0.39370 in.
1 m	=	3.28083 ft.
1 m	=	1.09361 yards
1 ha	=	2.47105 acres
1 m ²	=	10.76385 ft ²
1 m ³	=	35.31435 ft ³
1 m ² /ha	=	4.3560 ft ² /acre
1 m ³ /ha	=	14.2913 ft ³ /acre
1 ha	=	10000 m ²
1 km	=	1000 m
1 km	=	0.62137 miles
1 km ²	=	100 ha
1 km ²	=	0.3861 miles ²
1 in.	=	2.5400 cm
1 ft.	=	0.3048 m
1 acre	=	0.4047 ha
1 ft ²	=	0.09290 m ²
1 ft ³	=	0.02832 m ³
1 ft ² /acre	=	0.2296 m ² /ha
1 ft ³ /acre	=	0.06997 m ³ /ha
1 mile	=	1.6093 km
1 mile ²	=	2.5898 km ²
1 mile ²	=	258.9846 ha
1 fbm	=	1 ft. × 1 ft. × 1 in.
1 fbm	=	0.0023597 m ³
1 Mfbm	=	1000 foot board measure (fbm)
1 Mfbm	=	2.3597 m ³
1 township	=	6 miles × 6 miles = 36 mile ²
1 township	=	9.6558 km × 9.6558 km = 93.2345 km ²
1 township	=	9323.45 ha
1 m ³ log	≈	233 board feet lumber (provincial average conversion factor)
1 Mfbm	≈	4.3 m ³ log (provincial average conversion factor)

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