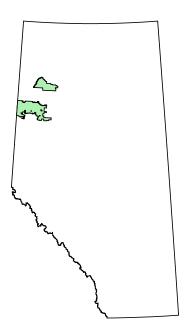


## Forest Management Plan Approval Decision

## **Forest Management Unit P19**

## Daishowa-Marubeni International Ltd.

# Forest Management Agreement #0900045 (West FMA)



Date: May 16, 2013 Effective: May 1, 2012 Approved by:

Original Signed By:

Darren Tapp, MBA, MF, RPF Executive Director, Forest Management Branch

The I	Cutive Summary Daishowa-Marubeni International Ltd. (DMI) Forest Management Plan (FMP) dated May 11, 2012 is oved subject to the satisfactory completion of the Approval Conditions presented in this document.
	Conditions herein are consistent with the terms of the Forest Management Agreement (FMA). Failure by to fulfill the direction provided in this Approval Decision will place the Company in default of its FMA.
depa	Forest Management Plan has been validated <sup>1</sup> by a Regulated Forestry Professional (RFP). The rtment recognizes RFP-validated work as complete, accurate, and prepared with professional due ence. The FMP has been reviewed and approved by Alberta Government RFPs.
J	

## Approval Decision Conditions

Approval Condition	Page	Requirement	Approval Authority	Date
6.1	2	Public Consultation	Area Manager, Peace Area	Ongoing
6.2	2	First Nations Consultation	Area Manager, Peace Area	Ongoing
7.1	3	VOITs	Senior Manager, Forest Planning	June 30, 2014
7.2	3	VOIT Status	Senior Manager, Forest Planning	June 30, 2014
8.1 3 Mountain Pin		Mountain Pine Beetle	Forestry Program Manager, Peace Area	Ongoing
10.1	4	Spatial Harvest Sequence	Senior Manager, Forest Planning; Forestry Program Manager, Peace Area	Ongoing
11.1	5	Woodland Caribou	Senior Manager, Forest Planning;	Ongoing
12.1	5	Non-frozen ground harvesting	Senior Manager, Forest Planning;	June 30, 2014
13.1	5	Forest condition assessments	Senior Manager, Forest Planning	September 30, 2014
14.1	6	Regenerating Landbase – ARIS Records Validation	Senior Manager, Reforestation	September 30, 2014
15.1	6	Growth and Yield Program	Senior Manager, Resource Analysis	January 31, 2014
16.1	6	Silviculture Matrix	Senior Manager, Reforestation	November 30, 2013
18.1	18.1 7 Regional Timber Supp Optimization		Executive Director, Forest  Management Branch	May 1, 2018
19.1	Delivered Ti		Senior Manager, Timber Production, Auditing and Revenue	December 31, 2013
20.1	20.1 8 Performance Monitoring		Senior Manager, Forest Planning	July 30, 2014
21.1 9 Future Forest Management Plans			Executive Director, Forest  Management Branch	May 1, 2019

### Approved Annual Allowable Cuts

The Approved Annual Allowable Cuts (AAC) for Periods 1 (May 1, 2012 - Apr. 30, 2014) and 2 (May 1, 2014 - Apr. 30, 2019) are as follows:

Primary coniferous AAC: 567,500 m³ per year
 Secondary coniferous AAC: 168,800 m³ per year
 Primary deciduous AAC: 491,500 m³ per year
 Secondary deciduous AAC: 187,600 m³ per year

The AACs for Periods 3 (May 1, 2019 – Apr. 30, 2024) and 4 (May 1, 2024 – Apr. 30, 2029) are as follows:

Primary coniferous AAC: 397,700 m³ per year
 Secondary coniferous AAC: 237,500 m³ per year
 Primary deciduous AAC: 491,500 m³ per year
 Secondary deciduous AAC: 103,600 m³ per year

Refer to Tables 1 and 6 for the Historical Allocations, Tables 2 and 7 for the Approved Annual Allowable Cuts, and Tables 3 and 8 for the Quadrant Allowable Cuts.

### Authorization

The Forest Management Plan for Forest Management Unit P19 dated May 11, 2012 is approved subject to the Approval Conditions and Annual Allowable Cuts (Tables 2 and 7) presented in this Approval Decision.

This Forest Management Plan replaces the FMP approved June 26, 2001 and the revision approved October 22, 2008.

The AACs are effective beginning May 1, 2012.

The SHS is effective beginning May 1, 2009.

The next FMP is due by May 1, 2019.

DMI shall prepare a Terms of Reference for its next FMP no later than December 1, 2016.

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### 1.0 Introduction

Forest Management Plans (FMPs) are prepared by forest industry companies to meet the Forest Management General Provisions of Forest Management Agreements (FMAs). Acceptable FMPs are approved by the Executive Director, Forest Management Branch (FMB), Forestry and Emergency Response Division, Department of Environment and Sustainable Resource Development (the department). This Approval Decision presents the Conditions of Approval for the Daishowa-Marubeni International Ltd. (DMI) FMP dated May 11, 2012.

The Conditions herein are consistent with the terms of the FMA. Failure by DMI to fulfill the direction provided in this Approval Decision will place the Company in default of its FMA. The Conditions are non-negotiable.

The FMP has been validated by a Regulated Forestry Professional (RFP). The department recognizes RFP-validated work as complete, accurate, and prepared with professional due diligence. The FMP has been reviewed and approved by Alberta Government RFPs.

### 2.0 Forest Management Planning Area

The forest management planning area under consideration is Forest Management Agreement #0900045, allocated to DMI through Order-in-Council (O.C. 392/2009), known as the West FMA.

The DMI West FMA (Forest Management Unit P19) is located in northwestern Alberta and spans the Central Mixedwood, Dry Mixedwood, Lower Boreal Highlands and Upper Boreal Highlands Natural Subregions. It falls within the Lower Peace and Upper Peace Land-use Framework regions.

### 3.0 Background

The new FMP was prepared according to the *Alberta Forest Management Planning Standard (ver. 4.1, 2006;* hereafter, FMPS). The FMP introduces new information for planning, implementing and monitoring forestry operations on the FMA.

The publication of this Approval Decision concludes the department's appraisal of DMI's FMP.

### 4.0 Approval Decision Scope

This Approval Decision addresses the DMI FMP dated May 11, 2012. It supersedes previous FMPs, timber supply analyses, and their associated approval conditions. All timber operators within the FMA area shall conduct their activities in accordance with the approved FMP and the Conditions of this Approval Decision.

DMI shall meet the requirements of the Approval Decision Conditions unless the Executive Director, FMB, agrees to alternate requirements in writing.

In this document, **bolded text** identifies specific timelines, requirements, and the department senior manager accountable for the review. Non-bolded text presents the rationale for the condition and specific considerations to be addressed to meet the Condition.

In the event of an inconsistency between the FMP, the Approval Decision and existing, new or revised legislation or regulation, the legislation or regulation shall apply.

### 5.0 Forest Management Plan

The Approval Conditions direct DMI to complete additional work to enhance the information presented. The department posts approved FMPs on its website to support public access to plans. DMI remains obligated to make the approved FMP available to the public.

### 6.0 Public and First Nations Consultation

Alberta, through the FMA Order-in-Council and *Alberta's First Nations Consultation Guidelines on Land Management and Resource Development* delegates the responsibility for public and First Nations consultation on proposed FMPs to the FMA holder. Following meaningful consultations, the company is required to address the results of these consultations in the FMP.

DMI completed adequate aboriginal consultation on strategic-level planning decisions. It also engaged in reasonable and ongoing public and stakeholder consultation, and addressed the issues raised to the extent possible given the limited scope of the FMP. DMI is encouraged to maintain its efforts to conduct meaningful public and First Nations consultation throughout FMP implementation.

### Approval Condition 6.1 Public Consultation

All companies shall keep written documentation of the issues and comments raised by the public during operational plan consultation, as well as responses and actions to address the concerns.

### Approval Condition 6.2 First Nations Consultation

### All companies shall:

- i. Adhere to Alberta's First Nations Consultation Guidelines on Land Management and Resource Development for the following:
  - a. Continue to consult with First Nations (as identified by the department) during operational plan development.
  - b. Make specific enquiries during First Nations consultation (per the Guidelines, above) to identify how and where planned forest management activities may affect:
    - treaty rights to hunt, trap and fish for food; and
    - traditional use of the FMA area.
- ii. Document consultation efforts and activities, issues raised and company responses. This documentation shall be made available to the department upon request.

### 7.0 Values, Objectives, Indicators and Targets

Values, objectives, indicators and targets (VOITs) provide the foundation for FMP performance monitoring in Alberta. Required VOITs are defined by the FMPS, and additional VOITs can be introduced by the Organization to address its own concerns, or those raised during consultation.

The FMP VOITs do not fully meet the requirements of the FMPS. DMI shall amend existing VOITs, or prepare new VOITs, to address these deficiencies. A complete list is provided in Appendix "A".

### Approval Condition 7.1 VOITs

By June 30, 2014, in consultation with the department, DMI shall add to, update and refine its VOITs to ensure the requirements of the FMPS are addressed. The revised set of VOITs must be acceptable to the Senior Manager, Forest Planning. DMI may be required to engage in further consultation with First Nations on the amended VOITs.

Establishing the current status of VOITs supports evaluation of forest management performance relative to the targets identified by previous FMPs. It also sets a benchmark by which to evaluate future trends.

The FMP does not provide the current status of all VOITs, or where it does, neglects some timber operators. A complete list of VOITs lacking this information is provided in Appendix "A".

### Approval Condition 7.2 VOIT Status

- i. By June 30, 2014, DMI shall update all preferred forest management strategy forecasts for the VOITs developed to fulfill Approval Condition 7.1 to the satisfaction of the Senior Manager, Forest Planning.
- ii. By June 30, 2014, DMI shall report the performance of the 2009 VOITs to meet requirements of the FMPS to the Senior Manager, Forest Planning.

### **8.0 Mountain Pine Beetle**

The mountain pine beetle (MPB) infestation extends into the DMI FMA, which is classified as Inactive Holding Zone where successful mitigation is unlikely. Therefore, all companies must optimize the recovery of merchantable coniferous fibre from dead, infested and MPB-susceptible pine timber.

Each company's ongoing and timely communication with local department staff is essential to access affected timber and manage the MPB infestation. DMI is encouraged to continue its efforts to keep the public and stakeholders advised of its operational plans and accomplishments in addressing the MPB infestation.

### Approval Condition 8.1 Mountain Pine Beetle

All companies shall discuss priorities and coordinate efforts for mountain pine beetle control, timber salvage and forest renewal activities with the Area Manager, Peace Area.

### 9.0 Watershed Management

DMI incorporated Alberta's ECA model into their timber supply analysis, and constrained harvesting to minimize changes in hydrologic yield. All watersheds were assessed low risk, with predicted hydrologic yield increases less than 20%.

### 10.0 Spatial Harvest Sequence

The spatial (mapped) harvest sequence (SHS) is the most important output of the FMP as it implements the strategies timber operators must follow to achieve the forecasted future forest condition. While dependent on many factors, the future condition is strongly influenced by harvest patterns, intensity and schedules. It presents spatially and temporally how the integration of environmental, economic, and social values will be achieved on the FMA. Adherence to a properly planned harvest sequence is imperative. The department recognizes that changes to the SHS may be required to manage future mountain pine beetle infestations as they are found.

The introduction of the core and contingency planning supports the redefinition of contingency stands to core as economic conditions change. To support the evaluation of variance calculations, the department requires supporting information.

### Approval Condition 10.1 Spatial Harvest Sequence

- i. All companies shall follow the mapped twenty-year harvest sequence as presented in the FMP.
- ii. The designation of core and contingency stands is fixed until the submission of the next FMP.
- iii. To address operational planning concerns, all timber disposition holders are authorized to modify the SHS by deleting and replacing from the net landbase, no more than 20% of the total sequenced area in each compartment per decade, while harvesting no more than 100% of the total area within the SHS by compartment, by decade.
- iv. Preference shall be given to selecting stands from the second ten-year period of the SHS (years 2021-2030) when replacing deleted stands (from ii above). Where this is not feasible, replacements may be from any other stands identified in the approved net landbase of the FMP, with priority given to pine stands that are ranked highly susceptible to MPB infestations.
- v. Should companies exceed the variance described in (ii), the Forestry Program Manager, Peace Area may require the completion of a Compartment Assessment and the Senior Manager, Forest Planning may recommend the adjustment of the approved annual allowable cut (AAC) to reflect the impact of the variance.
- vi. The department requires the variance from the SHS to be reported annually and for the five-year Stewardship Report to analyze the cumulative variance from the SHS and describe the potential impacts of the actual variance on the forecasts made in the FMP.
- vii. The department will generally not request a modification to the approved harvest sequence unless required by a change in legislation or a policy approved by the Minister.

### 11.0 Woodland Caribou

The DMI West FMA falls within the range of the Chinchaga caribou herd. Alberta has published, "A Woodland Caribou Policy for Alberta", with which this plan aligns. When more specific caribou habitat management guidelines are established, the FMP and operational plans shall be revised to align with the guidelines.

### Approval Condition 11.1 Woodland Caribou

Alberta is preparing caribou habitat management guidelines. In the event these are approved and published, DMI shall review its plan with the department to ensure its alignment and compliance with any new requirements.

### 12.0 Access

A road corridor plan consistent with the detail provided in a Phase I plan, as described by Public Lands Operational Handbook is required. The FMP plans to increase harvesting on non-frozen ground conditions, but it does not identify the magnitude of this increase. The road plan, as submitted, does not provide adequate support for a significant increase. The impact of forest operations on a site are influenced by ground conditions, and the ability of equipment to operate with minimal ground impact.

### Approval Condition 12.1 Non-frozen ground harvesting

- i. By June 30, 2014, DMI will identify subunits (operating areas) of the net landbase that may be eligible for non-frozen ground harvesting, and amend its road plan to demonstrate that planned access will support non-frozen ground operations without significant site impacts. The submission must be acceptable to the Senior Manager, Forest Planning.
- ii. By June 30, 2014, DMI will identify mitigation procedures that will be employed during non-frozen ground harvesting, roading and silviculture operations to protect sites. The submission must be acceptable to the Senior Manager, Forest Planning.

### 13.0 Forest Condition Assessments

The assessment of select non-timber values, including FireSmart indicators, and habitat modeling for species identified during the FMP process, is required. The company prepares VOITs based on these assessments that support maintenance or improvement of habitat over the period of the FMP. In its January 20, 2009 letter to DMI, the department took responsibility for completing these assessments. However, DMI did not provide the necessary inputs.

### Approval Condition 13.1 Forest condition assessments

By September 30, 2014, DMI will work with the department to complete all remaining forest condition assessments required by the FMPS, and use this work to inform the development of VOITs identified in approval condition 7.1. The assessments will be appended to the completed plan. The completed forest condition assessments shall be acceptable to the Senior Manager, Forest Planning.

### 14.0 Regenerating Landbase – Alberta Regeneration Information System Records Validation

Making reliable forecasts during forest management planning is contingent on using complete and accurate source data. Therefore, the Department requires all timber disposition holders demonstrate the data used in the regenerating landbase is consistent with the complete and accurate records contained in the Alberta Regeneration Information System (ARIS).

### Approval Condition 14.1 Regenerating Landbase – ARIS Records Validation

By September 30, 2014, ARIS records and the FMP regenerating landbase data found to be inconsistent with the requirements of the December 2, 2009 document *Regenerating landbase – ARIS records validation procedures* shall be resolved and ARIS records updated to the satisfaction of the Senior Manager, Reforestation.

### 15.0 Growth and Yield

DMI, the department and other forest companies are cooperating on the Provincial Growth and Yield Initiative, investigating a new ecology-based system which will alter permanent sample plot requirements. DMI has proposed continuing its previously approved growth and yield program until the new requirements are in place.

The department agrees with this proposal. However, if the initiative fails to produce new requirements in a timely manner, DMI will amend its program to achieve consistency between its growth and yield program; landbase; and FMP.

### Approval Condition 15.1 Growth and Yield Program

By January 31, 2014, independent of the success of the Provincial Growth and Yield Initiative, DMI will submit a revised growth and yield plan consistent with department requirements, acceptable to the Senior Manager, Resource Analysis.

### 16.0 Silviculture Matrix

DMI revised its FMP submission with a new growth and yield package. The silviculture matrix requires updates to maintain consistency with the revised FMP.

### Approval Condition 16.1 Silviculture Matrix

By November 30, 2013, in consultation with the department, DMI will submit an updated silviculture matrix consistent with the approved FMP, acceptable to the Senior Manager, Reforestation.

### 17.0 Approved AACs and Allocations

The Approved Annual Allowable Cuts<sup>2</sup> (AAC) for Periods 1 (May 1, 2012 – Apr. 30, 2014) and 2 (May 1, 2014 – Apr. 30, 2019) are as follows:

• Primary coniferous AAC: 567,500 m3 per year

• Secondary coniferous AAC: 168,800 m3 per year

• Primary deciduous AAC: 491,500 m3 per year

• Secondary deciduous AAC: 187,600 m3 per year

The AACs for Periods 3 (May 1, 2019 – Apr. 30, 2024) and 4 (May 1, 2024 – Apr. 30, 2029) are as follows:

<sup>&</sup>lt;sup>2</sup> Structure retention is AAC chargeable.

Primary coniferous AAC: 397,700 m3 per year

Secondary coniferous AAC: 237,500 m3 per year

• Primary deciduous AAC: 491,500 m3 per year

• Secondary deciduous AAC: 103,600 m3 per year

Refer to Tables 1 and 6 for the Historical Allocations, Tables 2 and 7 for the Approved Annual Allowable Cuts, and Tables 3 and 8 for the Quadrant Allowable Cuts. Refer to Tables 12 and 13 for the coniferous and deciduous annual allowable cuts and allocations, subdivided by core and contingency landbase.

The department acknowledges the coniferous AACs forecasted for succeeding periods are based on healthy pine harvest strategies to capture pine volume that is threatened by mountain pine beetle, and accepts the fibre flow proposed in the Preferred Forest Management Scenario for the Forest Management Unit. The following AAC declines are forecast:

- Total deciduous AAC:
  - o Period 1 693,300 m<sup>3</sup>
  - $\circ$  Period 2 605,500 m<sup>3</sup>
- Total coniferous AAC:
  - o Period 1 751,800 m<sup>3</sup>
  - $\circ$  Period 2 648,600 m<sup>3</sup>

ESRD bases the allocation of AACs to FMA and quota holders on historical allocations, as entrenched in forest management agreements, quota certificates, and other authorized obligations. DMI and the quota holders in P19 have agreed to an alternative process, described in Chapter 9 of the P19 Targets & Implementation section of the FMP.

The department agrees with the process, and has used these alternative proportions when allocating the AAC in this approval.

### 18.0 Regional Timber Supply Optimization

Alberta anticipates changing pressures on the regional timber supply in northwest Alberta, based on the completion of the Lower Peace and Upper Peace Land-use Framework Regional Plans, the development of caribou range plans, and changes in mill operation and capacity. Companies have an opportunity to investigate ways to minimize the impact of these pressures, prior to the preparation of DMI's next FMP.

### Approval Condition 18.1 Regional Timber Supply Optimization

By May 1, 2018, DMI shall complete a comprehensive assessment and optimization of the FMA timber supply, in consultation with ESRD and with the active participation of regional sawmill operators. Timber supply optimization shall include mill operator general agreement on recommendations for timber allocations; fiber flows; opportunities to support industry diversification; operating areas and conditions; and business agreements.

### 19.0 Delivered Timber Volume Monitoring and Reporting

DMI used a novel approach in the classification of its landbase and TSA design, introducing the concepts of core and contingency supply. Core supply is a sustainable portion of the wood supply at specific levels of cost (harvest, transport) and quality (piece size, height, volume per hectare) that is available to the companies. Contingency supply is the sustainable portion of the wood supply that meets requirements for quality and is available for use in the event of changes in markets, operations and/or economic conditions.

The approved AAC is divided into primary and secondary volumes from core and contingency supplies. Effective monitoring of sustainable harvesting requires accurately reporting delivered timber volumes according to these same categories.

Delivered timber volumes must be monitored and reported to allow comparisons of forecasted volumes with harvested volumes. Collection and analysis of this information will be used in conjunction with Permanent Sample Plot data to adjust yield forecasts.

### Approval Condition 19.1 Delivered Timber Volume Monitoring Program

- i. All delivered timber volume shall be reported to the Timber Production and Revenue System (TPRS) based on primary core and contingency volumes; and secondary core and contingency volumes.
- ii. By December 31, 2013, DMI shall develop a program that compares delivered timber volumes to harvested area yield forecasts. Results will be reported annually and periodically in the Stewardship Report. This program must be acceptable to the Senior Manager, Timber Production, Auditing and Revenue.

### **20.0** Performance Monitoring and Reporting

Annual Reports and 5-year Stewardship Reports are used to monitor the successful implementation of FMPs.

### Approval Condition 20.1 Performance Monitoring

- i. DMI shall prepare Annual Reports and Stewardship Reports that document the operational performance of each timber operator's activities implementing the FMP. Where variances from the planned outcomes exist, analyses shall discuss the reasons for the variances and describe each timber operator's corrective action, taken or proposed.
- ii. By July 30, 2014 a Stewardship Report current to April 30, 2014 and acceptable to the Senior Manager, Forest Planning shall be prepared for department review.

### 21.0 Future Forest Management Plans

In accordance with section 10(1) of the FMA (O.C. 392/2009), DMI shall prepare an updated Forest Management Plan for department review in 2019, unless otherwise approved by the Minister.

### Approval Condition 21.1 Future Forest Management Plans

- i. DMI shall prepare a Terms of Reference for its next FMP no later than December 1, 2016.
- ii. By May 1, 2019 DMI shall prepare an updated FMP for department review that meets the FMPS unless otherwise approved by the Minister.

### 22.0 Authorization

The Forest Management Plan for Forest Management Unit P19 dated May 11, 2012 is approved subject to the Approval Conditions and Annual Allowable Cuts (Tables 2 and 7) presented in this Approval Decision.

This Forest Management Plan replaces the FMP approved June 26, 2001 and the revision approved October 22, 2008.

The AACs are effective beginning May 1, 2012.

The SHS is effective beginning May 1, 2009.

The next FMP is due by May 1, 2019.

DMI shall prepare a Terms of Reference for its next FMP no later than December 1, 2016.

**Table 1. Historical Coniferous Allocations and Annual Allowable Cuts** 

FMU	Company Name	Disposition Number	Landbase Management Type	Source	Volume Supply Area	Cover Group / Species	Primary Disposition Allocation (%)	Primary Coniferous  AAC  (m³)  15+/11/30 cm	Total Approved AAC (m <sup>3</sup> )
P19	Daishowa-Marubeni International Ltd.	FMA0900045	Separate Distinct	All-FMU	VSA 1 and 2	C, CD, DC, D		58,513	58,513
P19	Tolko Industries Ltd.	CTQP100001	Separate Distinct	All-FMU	VSA 1	C, CD, DC, D	11.7977%	40,972	40,972
P19	Canadian Forest Products Ltd.	CTQP190001	Separate Distinct	All-FMU	VSA 2	C, CD, DC, D	61.0114%	211,886	211,886
P19	Zavisha Sawmills Ltd.	CTQP190002	Separate Distinct	All-FMU	VSA 2	C, CD, DC, D	10.3424%	35,918	35,918
	FMU P19 Total							347,289	347,289

Notes:

Effective date - May 1, 2010

The DMI East FMA (O.C. 392/2009 Section 7(1)(b)) allocates up to 32.83 percent of the conifer AAC from VSA1 and up to 13.44 percent of the conifer AAC from VSA2 to DMI.

**Table 2. Approved Coniferous Allocations and Annual Allowable Cuts** 

Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Landbase Management Type	Source	Volume Supply Area	Cover Group / Species	Primary Disposition Allocation (%)	Primary Coniferous  AAC  (m³)  15+/11/30 cm	Secondary Disposition Allocations (%)	Secondary Coniferous AAC (m³) 15+/11/30 cm	Total Approved AAC (m <sup>3</sup> )
P19	Daishowa-Marubeni International Ltd.	FMA0900045	Single Combined	FMA-Only	VSA 1 and 2	C, CD, DC, D		97,610		31,363	128,973
P19	Tolko Industries Ltd.	CTQP100001	Single Combined	FMA-Only	VSA 1	C, CD, DC, D	13.0200%	73,889	17.7998%	30,046	103,935
P19	Canadian Forest Products Ltd.	CTQP190001	Single Combined	FMA-Only	VSA 2	C, CD, DC, D	59.6700%	338,627	54.3998%	91,827	430,454
P19	Zavisha Sawmills Ltd.	CTQP190002	Single Combined	FMA-Only	VSA 2	C, CD, DC, D	10.1100%	57,374	9.2204%	15,564	72,938
	FMU P19 Total							567,500		168,800	736,300

Requested primary and secondary AAC totals of 579,417 and 172,422 m³, obtained from Table 26, DMI West DFMP P19 Targets & Implementation, have been adjusted as follows: 1. A 2.05% reduction was applied to account for use of an incomplete hydrological layer, as calculated in Table 5, page 12-7, West Forecasting Document.

- 2. The results of the first step were reduced to the nearest one hundred.

Allocation percentages sourced from Table 19, DMI West DFMP P19 Targets & Implementation.

The DMI East FMA (O.C. 392/2009 Section 7(1)(b)) allocates up to 32.83 percent of the conifer annual allowable cut from VSA1 and up to 13.44 percent of the conifer AAC from CSA2 to DMI.

The AAC is further characterized by core and contingency; please refer to Table 12.

Table 3. Coniferous Periodic Allowable and Quadrant Authorized Allowable Cuts

3.1	P19	Dais	howa-Marubeni Iı	nternational Ltd.	Disposition:	FMA0900045					
			Period Start:	1-Jul-09	Period End:	30-Apr-14					
			Period Segment Start Date	Period Segment	Years in Period Segment	Primary Approved Harvest Level	Secondary Approved Harvest Level (m³/yr)	Primary PAC Contribution (m³)	Secondary PAC Contribution (m³)	Total PAC Contribution (m <sup>3</sup> )	Notes
		1	01-Jul-09	30-Apr-12	2.8328767123	58,513		165,760.1151	0.0000	165,760.1151	
		2	01-May-12	30-Apr-14	2.0000000000	97,610	31,363	195,220.0000	62,726.0000	257,946.0000	
			Periodic Reconciliati	on Volume (m <sup>3</sup> )				117,291	94,089		Unharvested sequenced volume from May 1, 2009 to April 30, 2012 as per the 'DMI West DFMP 2009-2018'.
			PAC Total					478,271	156,815	635,086	
3.2	P19	Tolk	o Industries Ltd.		Disposition:	CTQP100001					
0.2			Quadrant Start		Quadrant End	30-Apr-14					
				Quadrant Segment End Date		Primary Approved Harvest Level	Approved Harvest	Primary Quadrant Contribution (m³)	Secondary Quadrant Contribution (m <sup>3</sup> )	Total Quadrant Contribution (m³)	Notes
		4			1.0000000000		Level (m³/yr)	` '			
		2	01-May-11 01-May-12	-	2.0000000000	40,972 73,889	30,046	40,972.0000 147,778.0000	0.0000	40,972.0000 207,870.0000	
		_	Quadrant Reconcilian		2.000000000	73,007	30,010	98,751	90,138		Unharvested sequenced volume from May 1, 2009 to April 30, 2012 as per the 'DMI West DFMP 2009-2018'.
			<b>QAAC Total</b>					287,501	150,230	437,731	
3.3	P19	Can	adian Forest Produ	nets I td	Disposition:	CTQP190001					
3.3	11)	Can	Quadrant Start		Quadrant End	30-Apr-14					
						Primary Approved	Secondary	D. January O. and January	G 1 O 1 4	Tatal One law 4	
			Quadrant Segment Start Date	Quadrant Segment End Date	Segment	Harvest Level (m³/yr)	Approved Harvest Level (m³/yr)	Primary Quadrant Contribution (m <sup>3</sup> )	Secondary Quadrant Contribution (m <sup>3</sup> )	Contribution (m <sup>3</sup> )	Notes
		1	01-May-10			211,886	0	423,772.0000		423,772.0000	
		2	01-May-12	30-Apr-14	2.0000000000	338,627	91,827	677,254.0000	183,654.0000	860,908.0000	
			Quadrant Reconcilia	tion Volume (m <sup>3</sup> )				436,024	275,481		380,223m <sup>3</sup> primary and 275,481m3 secondary unharvested sequenced volume from May 1, 2009 to April 30, 2012 + ((as per December 15, 2010 letter) 4,144m3 primary from CTQP130002 + 14,072m3 primary from CTQP130004 + 37,585m3 primary from CTQP170002).
			<b>QAAC Total</b>					1,537,050	459,135		
3.4	P19	7.9v	sha Sawmills Ltd.		Disposition:	CTQP190002					
J. <b>-</b>	11)	Zavi	Quadrant Start		Quadrant End	30-Apr-14					
				Quadrant Segment	Vacuation Occading and	Primary Approved Harvest Level	Secondary Approved Harvest Level (m³/yr)	Primary Quadrant Contribution (m <sup>3</sup> )	Secondary Quadrant Contribution (m³)	Total Quadrant Contribution (m <sup>3</sup> )	Notes
		1	01-May-10	30-Apr-12	2.0000000000	(m /yr) 35,918		71,836.0000	0.0000	71,836.0000	
		2	01-May-12		2.0000000000	57,374				145,876.0000	
	Quadrant Reconciliation Volume (m <sup>3</sup> )							57,416	46,692	104,108	64,368m³ primary and 46,692m3 secondary unharvested sequenced volume from May 1, 2009 to April 30, 2012 + ((as per the letter dated December 8, 2010) 10,021m3 primary from CTQP130005 - 16,973m3 primary from CTQP170001
			<b>QAAC Total</b>					244,000	77,820	321,820	

Table 4. Daishowa-Marubeni International Ltd. (West) FMA Coniferous Chargeability

Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Coniferous Species Used in AAC	Species NOT Chargeable to AAC	Rights to Species NOT Chargeable to AAC	Structure Retention (%)	Structure Retention (%) Accounted for in AAC	Net Landbase Deletions and Deferrals	Net Landbase Deletions and Deferrals: Rights to Timber	Industrial Salvage Chargeability Strategy
All dispositions and FMUs (unless otherwise noted)			All	None	N/A	S	AAC has not been reduced to account for tructure retention. Structure retention is AAC chargeable. Targets & mplementation document, page 223, 1.3.		Deletions and deferrals do not contribute to the $\triangle \triangle C$	All industrial salvage volumes are AAC chargeable. Targets & Implementation document, page 223, 11.1.
P19	Daishowa-Marubeni International Ltd.	FMA0900045				15				
P19	Tolko Industries Ltd.	CTQP100001				1				
P19	P19 Canadian Forest Products Ltd. CTQP190001					1 & 15*	·			
P19	Zavisha Sawmills Ltd.				2	·				

Notes: Canfor is targeting retention of 1% of the harvested area in pine leading stands (> 40% pine), and 15% of the harvested area in conifer stands with < 40% pine, applied at the landscape level.

## Table 5. Daishowa-Marubeni International Ltd. (West) FMA Coniferous Utilization

Effective Date: May 1, 2012

			Utilization used to determine Harvest Level in PFMS				Operational Utilization						
FMU Company Name Disposition Number AAC Type Cover Group / Species						Stump Diameter (cm)	Minimum Length (m)		Top Diameter (cm)	_	Minimum Length (m)	Height	Coniferous Harvest Level (m³/yr) based on Operational Utilization
All disp	All dispositions, FMUs and AAC types (unless otherwise noted)  All  All				11	15+	3.66	30	N/A	N/A	N/A	N/A	N/A

**Table 6. Historical Deciduous Allocations and Annual Allowable Cuts** 

FMU	Company Name	Disposition Number	Landbase Management Type	Source	Cover Group / Species	Primary Deciduous AAC (m³) 15+/10/11 cm	Total Approved AAC (m <sup>3</sup> )
P19	Daishowa-Marubeni International Ltd.	FMA0900045	Single Combined	FMA-Only	C, CD, DC, D	413,604	413,604
P19		Local Use	Single Combined	FMA-Only	C, CD, DC, D	2,078	2,078
P19	FMA AAC Subtotal	FMA0900045	Single Combined	FMA-Only	C, CD, DC, D	415,682	415,682
	FMU P19 Total					415,682	415,682

Notes: Effective date - May 1, 2010

**Table 7. Approved Deciduous Allocations and Annual Allowable Cuts** 

Effective Date: May 1, 2012

FMU	Company Name	Company Name  Disposition Number  Management Type		Source	Cover Group / Species	Primary Deciduous  AAC  (m³)  15+/10/30 cm	Secondary Deciduous AAC (m³) 15+/10/30 cm	Total Approved AAC (m <sup>3</sup> )
P19	Daishowa-Marubeni International Ltd.	FMA0900045	Single Combined	FMA-Only	C, CD, DC, D	489,042	186,662	675,704
P19	Luc.	Local Use	Single Combined	FMA-Only	C, CD, DC, D	2,458	938	3,396
P19	FMA AAC Subtotal FMU P19 Total	FMA0900045	Single Combined	FMA-Only	C, CD, DC, D	491,500 <b>491,500</b>	,	,
	FMA Total					491,500	•	

Requested primary and secondary AAC totals of 501,843 and 191,517 m³, sourced from Table 26, DMI West DFMP P19 Targets & Implementation, have been adjusted as follows: 1. A 2.05% reduction was applied to account for use of an incomplete hydrological layer, as calculated in Table 5, page 12-7, West Forecasting Document.

- 2. The results of the first step were reduced to the nearest one hundred.

Local use is 0.5% as per O.C. 392/2009 (FMA0900045 Section 8(2)(a).

The AAC is further characterized by core and contingency; please refer to Table 13.

Table 8. Deciduous Periodic Allowable and Quadrant Authorized Allowable Cuts

8.1	P19	Dais	howa-Marubeni Iı	nternational Ltd.	Disposition:	FMA0900045					
•			Period Start:	1-Jul-09	Period End:	30-Apr-14					
		Period Segment Start Date Period Segment End Date			Years in Period Segment		Approved Harvest		Secondary PAC Contribution (m³)	Total PAC Contribution (m <sup>3</sup> )	Notes
		1	01-Jul-09	30-Apr-12	2.8328767123	415,682	0	1,177,575.8575	0.0000	1,177,575.8575	
		2	01-May-12	30-Apr-14	2.0000000000	491,500	187,600	983,000.0000	375,200.0000	1,358,200.0000	
			Periodic Reconciliati	ion Volume (m <sup>3</sup> )				227,454	562,800	790,254	Sequenced volume from May 1, 2009 to April 30, 2012 as per the 'DMI West DFMP 2009-2018'.
			<b>PAC Total</b>					2,388,030	938,000	3,326,030	

Table 9. Daishowa-Marubeni International Ltd. (West) FMA Deciduous Chargeability

Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Deciduous Species Used in AAC	Species NOT Chargeable to AAC	Rights to Species NOT Chargeable to AAC	Structure Retention (%)	Structure Retention (%)	Net Landbase Deletions and Deferrals	Net Landbase Deletions and Deferrals: Rights to Timber	Industrial Salvage Chargeability Strategy
All disp	ositions and FMUs (unless otherwise noted)		All	None	N/A	15	AAC has not been reduced to account for structure retention. Structure retention is AAC chargeable. Targets & Implementation document, page 223, 11.3.	See FMP Net Landbase Documentation	Deletions and deferrals do not contribute	All industrial salvage volumes are AAC chargeable. Targets & Implementation document, page 223, 11.1.

## Table 10. Daishowa-Marubeni International Ltd. (West) FMA Deciduous Utilization

Effective Date: May 1, 2012

				Utilization used to determine Harvest Level in PFMS				Operational Utilization					
FMU	Company Name	Disposition Number	ААС Туре	Cover Group / Species	Top Diameter (cm)	•	Minimum Length (m)		Top Diameter (cm)		Minimum Length (m)	Height	Deciduous Harvest Level (m³/yr) based on Operational Utilization
All dispositions, FMUs And AAC Types(unless otherwise noted) All All			All	10	15+	3.66	30	N/A	N/A	N/A	N/A	N/A	

Table 11. Fiber Transfer Agreements within the Daishowa-Marubeni International Ltd. (West) FMA Area

Source Company	Source Dispositon Number	Transfer Type	Company Directed To	Species Group	Volume (m³/yr)	Comments
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 12. Coniferous Allocations and Annual Allowable Cuts by Core & Contingency

Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Pri	mary Coniferous A	AAC	Seco	Total Approved AAC (m <sup>3</sup> )		
			Core	Contingency	Total	Core	Contingency	Total	
P19	Daishowa-Marubeni International Ltd.	FMA0900045	72,911	24,699	97,610	27,877	3,486	31,363	128,973
P19	Tolko Industries Ltd.	CTQP100001	55,192	18,697	73,889	26,707	3,339	30,046	103,935
P19	Canadian Forest Products Ltd.	CTQP190001	252,943	85,684	338,627	81,621	10,206	91,827	430,454
P19	Zavisha Sawmills Ltd.	CTQP190002	42,856	14,518	57,374	13,833	1,731	15,564	72,938
	FMU P19 Total		423,902	143,598	567,500	150,038	18,762	168,800	736,300

### Notes:

This table is provided to support reconciliation of harvesting against planned volumes. Table 2 has precedence for the establishment of coniferous annual allowable cuts and allocations. Relative proportions for core and contingency taken from Table 20, DMI West DFMP P19 Targets & Implementation, and adjusted to match the total primary and secondary figures in Table 2 of this approval.

Table 13. Deciduous Allocations and Annual Allowable Cuts by Core & Contingency

Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Pri	imary Deciduous A	AAC	Sec	Total Approved AAC (m³)		
			Core	Contingency	Total	Core	Contingency	Total	
P19	Daishowa-Marubeni International Ltd.	FMA0900045	414,826	76,674	491,500	161,783	25,817	187,600	679,100
	FMU P19 Total		414,826	76,674	491,500	161,783	25,817	187,600	679,100

Notes:
This table is provided to support reconciliation of harvesting against planned volumes. Table 7 has precedence for the establishment of coniferous annual allowable cuts and allocations. Relative proportions for core and contingency taken from Table 21, DMI West DFMP P19 Targets & Implementation, and adjusted to match the total primary and secondary figures in

## Appendix A - ESRD's Assessment of Daishowa-Marubeni International Ltd.'s Values, Objectives, Indicators and Targets for FMAs 0900044 and 0900045.

### **VOIT: 1.1.1.1**

**Objective Text:** Maintain biodiversity by retaining the full range of cover types and seral stages.

**Indicator:** Area of old, mature, and young forest in each DFA subunit by cover class.

### **VOIT Recommendation:**

### DMI Indicator #2

a. Provide quantifiable targets for the gross and net landbases.

- b. Identify realistic variance targets; "none" is not acceptable considering the forecast indicates targets not being met in some periods.
- c. Document age definitions used for each of the seral stage classes. Identify the target for the maximum area of young forest.

### **VOIT: 1.1.1.2 Indicator a)**

**Objective Text:** Maintain biodiversity by avoiding landscape fragmentation

**Indicator:** a) Range of patch sizes by subunit and entire DFA

### **VOIT Recommendation:**

### DMI Indicator #4

- a. Ensure targets are meaningful, and reflect the analysis provided. A minimum of twenty hectares of harvest in each of the four size classes during each 5-year period does not approximate patterns created by natural disturbances.
- b. Confirm targets are correct and not a typographical error, or placeholder for future content that was not included.

### DMI Indicator #5

a. Provide a measurable target for the indicator that approximates patterns created by natural disturbances.

### DMI Indicator #6

- a. Describe the methodology used to calculate interior forest.
- b. Document the definition used for seral stages.
- c. Ensure the target is set using one of the methods described in the Forest Management Planning Standard (FMPS).
- d. Redefine allowed variance to be consistent with the FMPS.

### **VOIT: 1.1.1.2 Indicator b)**

**Objective Text:** Maintain biodiversity by avoiding landscape fragmentation

Indicator: b) Area of old interior forest of each cover class by subunit and entire DFA

### **VOIT Recommendation:**

DMI Indicator #4

See 1.1.1.2 Indicator a).

DMI Indicator #5

See 1.1.1.2 Indicator a).

DMI Indicator #6

See 1.1.1.2 Indicator a).

### **VOIT: 1.1.1.3**

**Objective Text:** Maintain biodiversity by minimizing access

**Indicator:** Open seasonal / temporary forestry road length by DFA

### **VOIT Recommendation:**

DMI Indicators C1 and C2

a. Restate the target in units of km/km<sup>2</sup>.

b Provide the 2009 status of the indicator

### **VOIT: 1.1.1.3**

**Objective Text:** Maintain biodiversity by minimizing access

**Indicator:** Open all-weather forestry road density by subunit

### **VOIT Recommendation:**

DMI Indicators C1 and C2

See 1.1.1.3.

### **VOIT: 1.1.1.4**

**Objective Text:** Maintain plant communities uncommon in DFA or province

Indicator: Area or occurrence of each uncommon plant community within DFA

### **VOIT Recommendation:**

DMI Indicator C3

a. Provide a list of uncommon plant communities that might reasonably be found in the FMA, with reference to the landscape assessment.

- b. Revise the target to be consistent with the FMPS.
- c. Consider reviewing indicator 5.13 in the 2007 DFMP revision, which cites material that appears to be relevant.

Note that Alberta does not have responsibility for identifying uncommon plant communities, as suggested by the text.

### **VOIT: 1.1.1.6**

**Objective Text:** Retain ecological values and functions associated with riparian zones

**Indicator:** Compliance with OGR

### **VOIT Recommendation:**

DMI Indicator C6

- a. Revise the target to 100% compliance with the Operating Ground Rules.
- b. Clarify the monitoring section by noting that FOMP warnings and non-compliances identified by operators' internal monitoring systems contribute to variance. The original target text suggests that only penalties will be included.

### **VOIT: 1.1.2.1**

**Objective Text:** Retain stand level structure

**Indicator:** a) % area / volume / stems residual structure (both living and dead), within a harvest area, representative of the status (live / dead), sizes, and species of the overstorey trees by subunit and entire DFA

### **VOIT Recommendation:**

DMI Indicator #7

- a. Revise the VOIT to achieve consistency with sections 16 and 17 of the forecasting document (e.g., West p.259 and p.269). The numbers and units are not the same.
- b. Clarify Canfor's structure retention target, with reference to their July 16, 2009 letter.
- c. Clarify whether the proportions identified in Table 5 are being applied to the area, or the volume.
- d. Provide the current status for quota operators.
- e. Document the definition of pine beetle blocks to support confirmation of operational achievement of retention policies.
- f. Revise the response for exceeding variance to include an operation-level response.

### DMI Indicator #8

a. Provide targets and current status for conifer operators.

### **VOIT: 1.1.2.1**

Objective Text: Retain stand level structure

**Indicator:** b) Percentage of harvested area by subunit with downed woody debris equivalent to preharvest conditions

### **VOIT Recommendation:**

DMI Indicator #7

See 1.1.2.1.

DMI Indicator #8

See 1.1.2.1.

### **VOIT: 1.2.1.1**

**Objective Text:** Maintain habitat for identified high value species (i.e., economically valuable, socially valuable, species at risk, species of management concern)

**Indicator:** Area (ha) of suitable habitat within the DFA or subunit OR Specific population parameter(s) (e.g. trends, distribution, absolute size, recruitment) for the DFA or subunit

### **VOIT Recommendation:**

DMI Indicator 9

- a. Revise the target to manage habitat instead of populations.
- b. Confirm targets are correct and not a typographical error, or placeholder for future content that was not included.
- c. Note that satisfaction of VOIT 1.2.1.1 could be addressed by completion of DMI Indicator 15.

### **VOIT: 1.3.1.2**

**Objective Text:** Retain wild forest genetic resources through ex-situ conservation

**Indicator:** Number of provenances and genetic lines in ex-situ gene banks and trials

### **VOIT Recommendation:**

DMI Indicator 18

- a. Revise the indicator to assess the inventory of ex situ conservation work and effort, demonstrating attention to biodiversity conservation as a necessary component of sustainable forest management.
- b. To support the indicator, provide a revised seed plan.

### **VOIT: 2.1.2.2**

**Objective Text:** Recognize lands affected by insects, disease or natural calamities

Indicator: Amount of area affected

### **VOIT Recommendation:**

### DMI Indicator 22

- a. Revise the target to provide an achievable goal.
- b. Complete the current status table.
- c. Provide the allowable variance for all operators.
- d. Revise the monitoring section to include the operators' own identification efforts.

### **VOIT: 2.1.3.1**

**Objective Text:** Control non-native plant species (weeds)

**Indicator:** Noxious weed program

### **VOIT Recommendation:**

### DMI Indicator C7

- a. Provide a list of the invasive species present on the FMA, with reference to the Weed Control Regulation Schedule of Noxious Weeds.
- b. Provide the current status and forecasted targets.
- c. Complete the indicator monitoring plan, referencing field inventories.