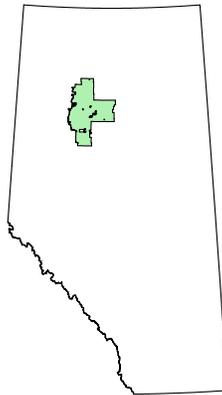


Forest Management Plan Approval Decision

Forest Management Unit P21

Daishowa-Marubeni International Ltd.

**Forest Management Agreement 0900044
“East FMA”**



Date: April 25, 2014

Effective: May 1, 2012

Approved by: Original signed

Darren Tapp, MBA, MF, RPF

Executive Director, Forest Management Branch

Executive Summary

The Daishowa-Marubeni International Ltd. (DMI) Forest Management Plan (FMP) dated May 11, 2012 is approved subject to the satisfactory completion of the Approval Conditions presented in this document.

The Conditions herein are consistent with the terms of the Forest Management Agreement (FMA). Failure by DMI to fulfill the direction provided in this Approval Decision will place the Company in default of its FMA.

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.

Approval Decision Conditions

Approval Condition	Page	Requirement	Approval Authority	Date
1.0	4	Public and First Nations Consultation	Approvals Manager, Peace Region	Ongoing
2.1 i	5	Values, Objectives, Indicators and Targets	Senior Manager, Forest Resource Management	November 30, 2014
2.2 i	5	Values, Objectives, Indicators and Targets Status	Senior Manager, Forest Resource Management	November 30, 2014
3.1 i	6	Mountain Pine Beetle	Approvals Manager, Peace Region	Ongoing
4.1	6	Spatial Harvest Sequence	Senior Manager, Forest Resource Management; Approvals Manager, Peace Region	Ongoing
5.1 i	7	Woodland Caribou	Senior Manager, Forest Resource Management	Ongoing
6.1 i & ii	7	Non-frozen ground harvesting	Senior Manager, Forest Resource Management	July 30, 2014
7.1 i	8	Forest Condition Assessments	Senior Manager, Forest Resource Management	December 31, 2014
8.1 i	8	Regenerating Landbase – Alberta Regeneration Information System Records Validation	Senior Manager, Forest Resource Management	January 30, 2015
9.1 i	9	Growth and Yield	Senior Manager, Forest Resource Analysis	January 31, 2015
10.1 i	9	Regional Timber Supply Optimization	Executive Director, Forest Management Branch	May 1, 2018
11.1 i	10	Delivered Timber Volume Reporting	Senior Manager, Timber Production, Auditing and Revenue	Ongoing
11.1 ii	10	Delivered Timber Volume Monitoring Program	Senior Manager, Timber Production, Auditing and Revenue	July 30, 2014
12.1 i	10	Performance Monitoring and Reporting	Senior Manager, Forest Resource Management	Ongoing
12.1 ii	10	Stewardship Report	Senior Manager, Forest Resource Management	December 30, 2014
13.1 i	10	Terms of Reference	Senior Manager, Forest Resource Management	December 1, 2016
13.1 ii	10	Future Forest Management Plans	Executive Director, Forest Management Branch	May 1, 2019

Approved Annual Allowable Cuts and Allocations

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

Primary coniferous AAC: 400,100 m³ per year

Secondary coniferous AAC: 264,200 m³ per year

Primary deciduous AAC: 852,600 m³ per year

Secondary deciduous AAC: 151,700 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 Table 12 for the deciduous AAC and allocation, subdivided by core and contingency landbase.

The department bases the allocation of AACs to FMA and quota holders on historical allocations, as entrenched in FMAs, quota certificates, and other authorized obligations. DMI and the quota holders in FMU P21 have agreed to an alternative allocation process, described in Chapter 9 of the East FMA 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.

Authorization

The FMP for Forest Management Unit P21 dated May 11, 2012 is approved subject to the Approval Conditions and AACs (Tables 2 and 7) presented in this Approval Decision.

This FMP 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 of Contents

Executive Summary	i
<i>Approval Decision Conditions</i>	ii
Approved Annual Allowable Cuts and Allocations	iii
Authorization	iii
Table of Contents	iv
Introduction.....	1
Forest Management Planning Area.....	1
Background.....	1
Approval Decision Scope	1
Watershed Management	2
Volume Supply Areas	2
Approved AACs and Allocations	3
Authorization	3
Forest Management Plan Approval Conditions.....	4
1.0 Public and First Nations Consultation	4
2.0 Values, Objectives, Indicators and Targets.....	5
3.0 Mountain Pine Beetle.....	5
4.0 Spatial Harvest Sequence.....	6
5.0 Woodland Caribou	7
6.0 Access	7
7.0 Forest Condition Assessments	7
8.0 Regenerating Landbase – Alberta Regeneration Information System Records Validation.....	8
9.0 Growth and Yield.....	8
10.0 Regional Timber Supply Optimization.....	9
11.0 Delivered Timber Volume Monitoring and Reporting	9
12.0 Performance Monitoring and Reporting	10
13.0 Future Forest Management Plans.....	10
Appendix A - ESRD’s Assessment of Daishowa-Marubeni International Ltd.’s Values, Objectives, Indicators and Targets for FMAs 0900044 and 0900045.....	A-1

List of Tables

Table 1. Historical Coniferous Allocations and Annual Allowable Cuts.....	11
Table 2. Approved Coniferous Allocations and Annual Allowable Cuts.....	12
Table 3. Coniferous Periodic Allowable and Quadrant Authorized Allowable Cuts.....	13
Table 4. Daishowa-Marubeni International Ltd. (East) FMA Coniferous Chargeability.....	15
Table 5. Daishowa-Marubeni International Ltd. (East) FMA Coniferous Utilization	16
Table 6. Historical Deciduous Allocations and Annual Allowable Cuts	17
Table 7. Approved Deciduous Allocations and Annual Allowable Cuts	18
Table 8. Deciduous Periodic Allowable and Quadrant Authorized Allowable Cuts.....	19
Table 9. Daishowa-Marubeni International Ltd. (East) FMA Deciduous Chargeability	20
Table 10. Daishowa-Marubeni International Ltd. (East) FMA Deciduous Utilization	21
Table 11. Fiber Transfer Agreements within the Daishowa-Marubeni International Ltd. (East) FMA Area	22
Table 12. Deciduous Allocations and Annual Allowable Cuts by Core & Contingency	23

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.

Forest Management Planning Area

The forest management planning area under consideration is FMA 0900044, allocated to DMI through Order-in-Council (O.C. 391/2009), known as the East FMA.

The DMI East FMA (Forest Management Unit P21) is located in northwestern Alberta and spans the Central Mixedwood, Dry Mixedwood, Lower Boreal Highlands and Upper Boreal Highlands Natural Sub-regions. The FMA also falls within the Lower Peace Land-Use Framework region.

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.

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.

Watershed Management

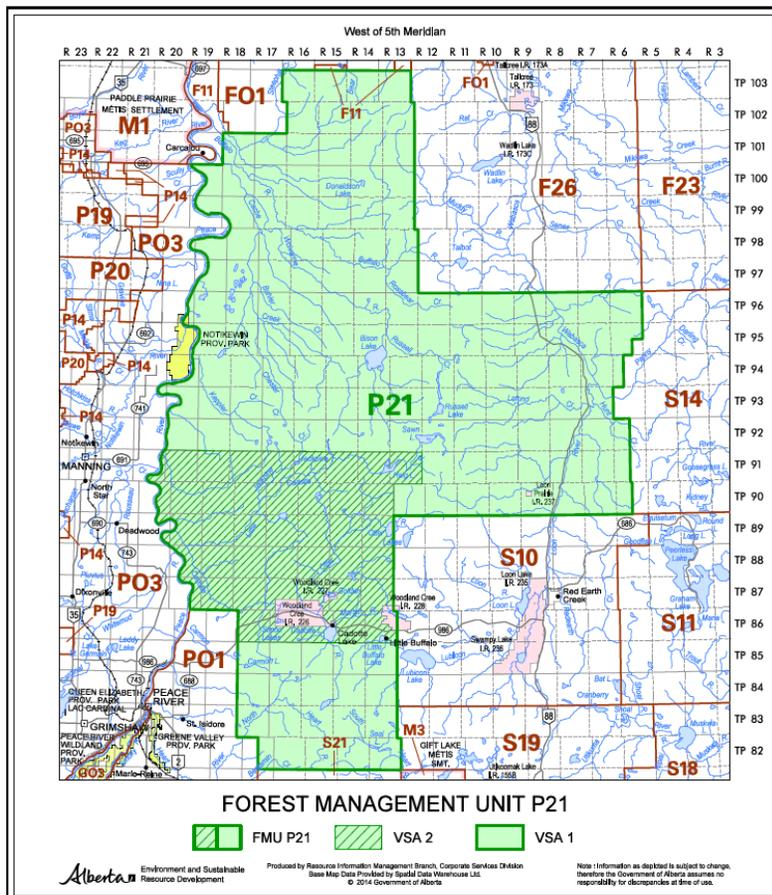
DMI incorporated Alberta's ECA model into their timber supply analysis, and constrained harvesting to minimize changes in hydrologic yield. All watersheds were assessed low risk, with predicted hydrologic yield increases of less than 20%.

Volume Supply Areas

During FMP development, there was agreement by all timber disposition holders to request amalgamation of Forest Management Unit (FMU) F1, P3, P4, P5 and S15 to create FMU P21. The single FMU is effective May 1, 2012 and allows for a higher level of operational flexibility to address current and future forest conditions. To accommodate coniferous quota holders' traditional working spheres of interest, two volume supply areas (VSAs) have been created (Figure 1):

- VSA 1 – Formerly FMU F1, P3, P5 and S15
- VSA 2 – Formerly FMU P4

Figure 1. Map illustrating FMU P21.



Coniferous allocations have been specified to the VSA level. The spatial harvest sequence (SHS) was revised from what was included in the May 11, 2012 submission. The revision was completed to reflect the incorporation of the VSA concept while ensuring consistency with the allocations identified in the submission. An assessment of the revised SHS within the preferred forest management scenario found no significant impact to the long term sustainable annual allowable cut (AAC).

Approved AACs and Allocations

The AAC for Periods 1 (May 1, 2012 – April 30, 2014) and 2 (May 1, 2014 – April 30, 2019) are as follows:

Primary coniferous AAC: 400,100 m³ per year

Secondary coniferous AAC: 264,200 m³ per year

Primary deciduous AAC: 852,600 m³ per year

Secondary deciduous AAC: 151,700 m³ per year

Refer to Tables 1 and 6 for the Historical Allocations, Tables 2 and 7 for the Approved AACs, and Tables 3 and 8 for the Quadrant Allowable Cuts. Refer to Table 12 for the deciduous AAC and allocation, subdivided by core and contingency landbase.

The department bases the allocation of AACs to FMA and quota holders on historical allocations, as entrenched in FMAs, quota certificates, and other authorized obligations. DMI and the quota holders in FMU P21 have agreed to an alternative allocation process, described in Chapter 9 of the East FMA 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.

Authorization

The FMP for FMU P21 dated May 11, 2012 is approved subject to the Approval Conditions and AACs (Tables 2 and 7) presented in this Approval Decision.

This FMP 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.

Forest Management Plan Approval Conditions

The following 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.

1.0 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 First Nations 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 1.1 Public Consultation

- i. 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 1.2 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 Government of Alberta) 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 Government of Alberta upon request.**

2.0 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 2.1 VOITs

- i. By November 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 Resource Management. 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 2.2 VOIT Status

- i. By November 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 Resource Management.**

3.0 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 3.1 Mountain Pine Beetle

- i. All companies shall discuss priorities and coordinate efforts for MPB control, timber salvage and forest renewal activities with the Approvals Manager, Peace Region.**

4.0 Spatial Harvest Sequence

The spatial (mapped) harvest sequence (SHS) is the most important output of the FMP as it provides the implementation strategy 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.

Approval Condition 4.1 Spatial Harvest Sequence

- i. All companies shall follow the mapped twenty-year harvest sequence as presented in the FMP.**
- ii. Timber disposition holders may modify the SHS by deleting and replacing stands from the net landbase, provided the deletions include no more than 20% of the total sequenced area in each compartment per decade. Stands may be added from the passive landbase subject to department approval. Harvesting may not exceed 100% of the total area within the SHS by compartment, by decade.**
- iii. When replacing deleted stands, preference shall be given to stands from the second ten-year period of the SHS (years 2019-2029). Where this is not feasible, replacements may be from any other stands identified in the approved net or passive landbase of the FMP, subject to department approval, with priority given to pine stands that are ranked highly susceptible to MPB infestations.**
- iv. Should companies exceed the variance described in (ii), the Approvals Manager, Peace Region, may require the completion of a Compartment Assessment and the Senior Manager, Forest Resource Management, may recommend the adjustment of the approved AAC to reflect the impact of the variance.**
- v. The department requires the variance from the SHS to be reported annually. The five-year Stewardship Report will include an analysis of the cumulative variance from the SHS, describing the impacts of the variance on forecasts made in the FMP.**
- vi. Generally, the department will not request a modification to the approved harvest sequence unless required by a change in legislation or a policy approved by the Minister.**

5.0 Woodland Caribou

The DMI East FMA falls within the range of the Red Earth caribou herd. Alberta is preparing range plans for woodland caribou. When a range plan encompassing the Red Earth herd has been approved, the FMP and operational plans shall be revised to align with it.

Approval Condition 5.1 Woodland Caribou

- i. Alberta is preparing range plans for woodland caribou. When applicable plans are approved, DMI shall review its plan with the department to ensure its alignment and compliance with any new requirements.**

6.0 Access

A road corridor plan consistent with the detail provided in a Phase I plan, as described by the 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 6.1 Non-frozen ground harvesting

- i. By July 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 Resource Management**
- ii. By July 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 Resource Management.**

7.0 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 7.1 Forest condition assessments

- i. By December 31, 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 Resource Management.**

8.0 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). Harvest openings without complete and accurate reforestation information will not contribute to the net landbase and annual allowable cut. Consequently, a decrease in available harvestable volume is likely.

Approval Condition 8.1 Regenerating Landbase – ARIS Records Validation

- i. By January 30, 2015, 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, Forest Resource Management.**

9.0 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 9.1 Growth and Yield Program

- i. **By January 31, 2015, 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, Forest Resource Analysis.**

10.0 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 10.1 Regional Timber Supply Optimization

- i. **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.**

11.0 Delivered Timber Volume Monitoring and Reporting

DMI used a novel approach in the classification of its landbase and timber supply analysis 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 deciduous 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.

In the East FMA, coniferous volume is not divided into core and contingency volume.

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 11.1 Delivered Timber Volume Monitoring Program

- i. All delivered deciduous 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. All delivered coniferous timber volume shall be reported to the TPRS based on primary and secondary volumes.**
- ii. By July 30, 2014, 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.**

12.0 Performance Monitoring and Reporting

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

Approval Condition 12.1 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 December 30, 2014, in consultation with the department, a Stewardship Report current to April 30, 2014 and acceptable to the Senior Manager, Forest Planning shall be prepared for department review.**

13.0 Future Forest Management Plans

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

Approval Condition 13.1 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.**

Table 1. Historical Coniferous Allocations and Annual Allowable Cuts

FMU	Company Name	Disposition Number	Landbase Management Type	Source	Cover Group / Species	Primary Disposition Allocation (%)	Primary Coniferous AAC (m ³) 15+/11/30 cm	Total Approved AAC (m ³)
F1	Tolko Industries Ltd.	CTQF010001	Separate Distinct	All-FMU	C, CD, DC	100.0000%	35,646	35,646
FMU F1 Total							35,646	35,646
P3	Gordon Buchanan Enterprises Ltd.	CTQP030008	Separate Distinct	All-FMU	C, CD, DC	68.6800%	34,028	34,028
P3	1113341 Alberta Ltd.	CTQP030009	Separate Distinct	All-FMU	C, CD, DC	27.4500%	13,600	13,600
P3	CTPP	CTPP	Separate Distinct	All-FMU			1,917	1,917
FMU P3 Total							49,545	49,545
P4	Boucher Bros. Lumber Ltd.	CTQP040006	Separate Distinct	All-FMU	C, CD, DC	42.7200%	24,279	24,279
P4	Gordon Buchanan Enterprises Ltd.	CTQP040007	Separate Distinct	All-FMU	C, CD, DC	43.2800%	24,595	24,595
P4	CTPP	CTPP	Separate Distinct	All-FMU	C, CD, DC		7,957	7,957
FMU P4 Total							56,831	56,831
P5	Seehta Forest Products Ltd.	CTQP050001	Separate Distinct	All-FMU	C, CD	100.0000%	70,000	70,000
FMU P5 Total							70,000	70,000
S15	Gordon Buchanan Enterprises Ltd.	CTQS150004	Separate Distinct	All-FMU	C, CD	24.0600%	20,728	20,728
S15	Seehta Forest Products Ltd.	CTQS150009	Separate Distinct	All-FMU	C, CD	75.9400%	65,423	65,423
FMU S15 Total							86,151	86,151
FMA Total							298,173	298,173

Notes:

Effective date: May 1, 2008

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 (m ³) 15+/11/30 cm	Secondary Coniferous AAC (m ³) 15+/11/30 cm	Total Approved AAC (m ³)
P21	Daishowa-Marubeni International Ltd.	FMA0900044	Single Combined	FMA-only	VSAs 1 and 2	P5, S15 - deciduous landbase - DC, D P3, P4, F1 - deciduous landbase - D			264,200	264,200
P21	Boucher Bros. Lumber Ltd.	CTQP210001	Single Combined	FMA-only	VSA 2	P4 - coniferous landbase - C, CD, DC	10.2299%	40,930		40,930
P21	West Fraser Mill Ltd.	CTQP210002	Single Combined	FMA-only	VSA 1	P5, S15 - coniferous landbase - C, CD P3, F1 - coniferous landbase - C, CD, DC	15.4284%	61,729		61,729
P21	West Fraser Mill Ltd.	CTQP210002	Single Combined	FMA-only	VSA 2	P4 - coniferous landbase - C, CD, DC	10.3617%	41,457		41,457
P21	1113341 Alberta Ltd.	CTQP210003	Single Combined	FMA-only	VSA 1	P5, S15 - coniferous landbase - C, CD P3, F1 - coniferous landbase - C, CD, DC	3.9800%	15,924		15,924
P21	Seehta Forest Products Ltd.	CTQP210004	Single Combined	FMA-only	VSA 1	P5, S15 - coniferous landbase - C, CD P3, F1 - coniferous landbase - C, CD, DC	19.7563%	79,045		79,045
P21	Tolko Industries Ltd.	CTQP210005	Single Combined	FMA-only	VSA 1	P5, S15 - coniferous landbase - C, CD P3, F1 - coniferous landbase - C, CD, DC	19.0500%	76,219		76,219
P21	Seehta Forest Products Ltd.	CTQP210006	Single Combined	FMA-only	VSA 1	P5, S15 - coniferous landbase - C, CD P3, F1 - coniferous landbase - C, CD, DC	17.2837%	69,152		69,152
P21	CTPP	CTPP	Single Combined	FMA-only	VSA 1	P5, S15 - coniferous landbase - C, CD P3, F1 - coniferous landbase - C, CD, DC		15,644		15,644
FMU P21 Total								400,100	264,200	664,300

Notes:

Requested primary and secondary AACs of 401,944 m³ and 265,401 m³, as reported in Table 22, DMI East DFMP East Targets & Implementation, have been adjusted as follows:

1. A 0.44% reduction was applied to account for use of an incomplete hydrological layer, as calculated in Table 3, page 12-7, East Forecasting Document.
2. The results of the first step were reduced to the nearest one hundred.

The Cover Group/Species designation is described in Table 7-4 of the DMI East Net Landbase Document, and references pre-amalgamation FMU numbers.

Primary allocation percentages sourced from Figure 7, Chapter 9, DMI East DFMP East Targets & Implementation.

VSA 1 = FMUs F1, P3, P5 and S15.

VSA 2 = FMU P4.

The coniferous AAC is **not** characterized by core and contingency.

Effective April 3, 2014, CTQP030008, CTQP040007 and CTQS150004 were assigned to West Fraser Mills Ltd. from Gordon Buchanan Enterprises Ltd and have been amalgamated into CTQP210002.

Table 3. Coniferous Periodic Allowable and Quadrant Authorized Allowable Cuts

3.1	P21	Daishowa-Marubeni International Ltd.	Disposition: FMA0900044						
	Period Start: 1-Jul-09		Period End: 30-Apr-14						
	Period Segment Start Date	Period Segment End Date	Years in Period Segment	Primary Approved Harvest Level (m³/yr)	Secondary Approved Harvest Level (m³/yr)	Primary PAC Contribution (m³)	Secondary PAC Contribution (m³)	Total PAC Contribution (m³)	Notes
	1-Jul-09	30-Apr-12	2.8328767123	0	0	0.0000	0.0000	0.0000	
01-May-12	30-Apr-14	2.0000000000	0	264,200	0.0000	528,400.0000	528,400.0000		
Periodic Reconciliation Volume (m ³)						0	200,256	200,256	Unharvested sequenced volume from May 1, 2009 to April 30, 2012. The calculation used a historical secondary conifer annual allocation to DMI of 193,510 m ³ , as per the December 3, 2009 letter from FMB Acting Executive Director Robert Stokes to Steve Luchkow.
PAC Total						0	728,656	728,656	
3.2	P21	Boucher Bros. Lumber Ltd.	Disposition: CTQP210001						
	Quadrant Start: 1-May-12		Quadrant End: 30-Apr-16						
	Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m³/yr)	Secondary Approved Harvest Level (m³/yr)	Primary Quadrant Contribution (m³)	Secondary Quadrant Contribution (m³)	Total Quadrant Contribution (m³)	Notes
	1-May-12	30-Apr-16	4.0000000000	40,930	0	163,720.0000	0.0000	163,720.0000	CTQP040006 was moved into CTQP210001 effective May 1, 2012, reflecting the amalgamation of FMUs F1, P3, P4, P5 and S15.
Quadrant Reconciliation Volume (m ³)						30,522	0	30,522	(49,953 m ³ 2009-2012 un-harvested sequenced volume) + (24,279 m ³ CTQP040006 2011-2012 AAC available volume) - (43,710 m ³ CTQP040006 audited production up to April 30, 2012).
QAAC Total						194,242	0	194,242	
3.3	P21	West Fraser Mills Ltd.	Disposition: CTQP210002						
	Quadrant Start: 1-May-12		Quadrant End: 30-Apr-16						
	Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m³/yr)	Secondary Approved Harvest Level (m³/yr)	Primary Quadrant Contribution (m³)	Secondary Quadrant Contribution (m³)	Total Quadrant Contribution (m³)	Notes
	1-May-12	30-Apr-16	4.0000000000	103,186	0	412,744.0000	0.0000	412,744.0000	CTQP030008, CTQP040007 and CTQS150004 were moved into CTQP210002 effective May 1, 2012, reflecting the amalgamation of FMUs F1, P3, P4, P5 and S15.
Quadrant Reconciliation Volume (m ³)						70,524	0	70,524	(71,505 m ³ 2009-2012 un-harvested sequenced volume) + (34,028 m ³ CTQP030008 2011-2012 AAC available volume) + (24,595 m ³ CTQP040007 2011-2012 AAC available volume) + (20,728 m ³ CTQS150004 2011-2012 AAC available volume) - (80,332 m ³ CTQP030008 unaudited production up to May 1, 2012).
QAAC Total						483,268	0	483,268	
3.4	P21	I113341 Alberta Ltd.	Disposition: CTQP210003						
	Quadrant Start: 1-May-12		Quadrant End: 30-Apr-16						
	Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m³/yr)	Secondary Approved Harvest Level (m³/yr)	Primary Quadrant Contribution (m³)	Secondary Quadrant Contribution (m³)	Total Quadrant Contribution (m³)	Notes
	1-May-12	30-Apr-16	4.0000000000	15,924	0	63,696.0000	0.0000	63,696.0000	CTQP030009 was moved into CTQP210003 effective May 1, 2012, reflecting the amalgamation of FMUs F1, P3, P4, P5 and S15.
Quadrant Reconciliation Volume (m ³)						20,572	0	20,572	(6,972 m ³ 2009-2012 un-harvested sequenced volume) + (13,600 m ³ CTQP030009 2011-2012 AAC available volume).
QAAC Total						84,268	0	84,268	

3.5	P21	Seehta Forest Products Ltd.	Disposition: CTQP210004							
		Quadrant Start	1-May-12	Quadrant End	30-Apr-16					
		Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m ³ /yr)	Secondary Approved Harvest Level (m ³ /yr)	Primary Quadrant Contribution (m ³)	Secondary Quadrant Contribution (m ³)	Total Quadrant Contribution (m ³)	Notes
		1-May-12	30-Apr-16	4.0000000000	79,045	0	316,180.0000	0.0000	316,180.0000	CTQP050001 was moved into CTQP210004 effective May 1, 2012, reflecting the amalgamation of FMUs F1, P3, P4, P5 and S15.
		Quadrant Reconciliation Volume (m ³)					97,135	0	97,135	(27,135 m ³ 2009-2012 un-harvested sequenced volume) + (70,000 m ³ CTQP050001 2011-2012 AAC available volume).
		QAAC Total					413,315	0	413,315	

3.6	P21	Tolko Industries Ltd.	Disposition: CTQP210005							
		Quadrant Start	1-May-12	Quadrant End	30-Apr-17					
		Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m ³ /yr)	Secondary Approved Harvest Level (m ³ /yr)	Primary Quadrant Contribution (m ³)	Secondary Quadrant Contribution (m ³)	Total Quadrant Contribution (m ³)	Notes
		1-May-12	30-Apr-17	5.0000000000	76,219	0	381,095.0000	0.0000	381,095.0000	CTQF010001 was moved into CTQP210005 effective May 1, 2012, reflecting the amalgamation of FMUs F1, P3, P4, P5 and S15.
		Quadrant Reconciliation Volume (m ³)					167,221	0	167,221	(121,719 m ³ 2009-2012 AAC un-harvested sequenced volume) + (45,502 m ³ 2007-2012 reconciliation volume).
		QAAC Total					548,316	0	548,316	

3.7	P21	Seehta Forest Products Ltd.	Disposition: CTQP210006							
		Quadrant Start	1-May-12	Quadrant End	30-Apr-16					
		Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m ³ /yr)	Secondary Approved Harvest Level (m ³ /yr)	Primary Quadrant Contribution (m ³)	Secondary Quadrant Contribution (m ³)	Total Quadrant Contribution (m ³)	Notes
		1-May-12	30-Apr-16	4.0000000000	69,152	0	276,608.0000	0.0000	276,608.0000	CTQS150009 was moved into CTQP210006 effective May 1, 2012, reflecting the amalgamation of FMUs F1, P3, P4, P5 and S15.
		Quadrant Reconciliation Volume (m ³)					76,610	0	76,610	(11,187 m ³ 2009-2012 AAC un-harvested sequenced volume) + (65,423 m ³ CTQS150009 2011-2012 available volume).
		QAAC Total					353,218	0	353,218	

3.8	P21	CTPP	Disposition: CTPP							
		Quadrant Start	1-May-12	Quadrant End	30-Apr-16					
		Quadrant Segment Start Date	Quadrant Segment End Date	Years in Quadrant Segment	Primary Approved Harvest Level (m ³ /yr)	Secondary Approved Harvest Level (m ³ /yr)	Primary Quadrant Contribution (m ³)	Secondary Quadrant Contribution (m ³)	Total Quadrant Contribution (m ³)	Notes
		1-May-12	30-Apr-16	4.0000000000	15,644	0	62,576.0000	0.0000	62,576.0000	
		Quadrant Reconciliation Volume (m ³)					0	0	0	
		QAAC Total					62,576	0	62,576	

Table 4. Daishowa-Marubeni International Ltd. (East) 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	See Quota Holder Retention Strategies, Targets & Implementation document, page 271, section 17.	AAC has not been reduced to account for structure retention. Structure retention is AAC chargeable. Targets & Implementation document, page 225, section 11.3.	See FMP Net Landbase Documentation	Deletions and deferrals do not contribute to the AAC.	All industrial salvage volumes are AAC chargeable. Targets & Implementation document, page 225, section 11.1.

Table 5. Daishowa-Marubeni International Ltd. (East) FMA Coniferous Utilization
Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	AAC Type	Cover Group / Species	Utilization used to determine Harvest Level in PFMS				Operational Utilization				
					Top Diameter (cm)	Stump Diameter (cm)	Minimum Length (m)	Stump Height (cm)	Top Diameter (cm)	Stump Diameter (cm)	Minimum Length (m)	Stump Height (cm)	Coniferous Harvest Level (m ³ /yr) based on Operational Utilization
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 (m ³) 15+/10/30 cm	Secondary Deciduous AAC (m ³) 15+/10/30 cm	Total Approved AAC (m ³)
<i>F1/P3/P4/P5/S15</i>	<i>Daishowa-Marubeni International Ltd.</i>	<i>FMA0900044</i>	<i>Separate Distinct</i>	<i>FMA-Only</i>	<i>C, CD, DC, D</i>	<i>439,790</i>	<i>104,240</i>	<i>544,030</i>
<i>F1/P3/P4/P5/S15</i>		<i>Local Use</i>	<i>Separate Distinct</i>	<i>FMA-Only</i>	<i>C, CD, DC, D</i>	<i>2,210</i>	<i>524</i>	<i>2,734</i>
F1/P3/P4/P5/S15	FMA AAC Subtotal	FMA0900044	Separate Distinct	FMA-Only	C, CD, DC, D	442,000	104,764	546,764
FMU F1/P3/P4/P5/S15 Total						442,000	104,764	546,764

Notes:

Effective date: May 1, 2008

Table 7. Approved Deciduous Allocations and Annual Allowable Cuts
Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Landbase Management Type	Source	Cover Group / Species	Primary Deciduous AAC (m ³) 15+/10/30 cm	Secondary Deciduous AAC (m ³) 15+/10/30 cm	Total Approved AAC (m ³)
P21	Daishowa-Marubeni International Ltd.	FMA0900044	Single Combined	FMA-Only	C, CD, DC, D	848,337	150,942	999,279
P21		Local Use	Single Combined	FMA-Only	C, CD, DC, D	4,263	758	5,021
P21	FMA AAC Subtotal	FMA0900044	Single Combined	FMA-Only	C, CD, DC, D	852,600	151,700	1,004,300
FMU P21 Total						852,600	151,700	1,004,300

Notes:

Requested primary and secondary AACs of 856,460 m³ and 152,452 m³, as reported in Table 22, DMI East DFMP East Targets & Implementation, have been adjusted as follows:

1. A 0.44% reduction was applied to account for use of an incomplete hydrological layer, as calculated in Table 3, page 12-7, East 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. 391/2009 [FMA0900044 Section 8(2)(a)].

The AAC is further characterized by core and contingency; see Table 12.

Table 8. Deciduous Periodic Allowable and Quadrant Authorized Allowable Cuts

8.1	P21	Daishowa-Marubeni International Ltd.	Disposition: FMA0900044							
		Period Start: 1-Jul-09	Period End: 30-Apr-14							
		Period Segment Start Date	Period Segment End Date	Years in Period Segment	Primary Approved Harvest Level (m ³ /yr)	Secondary Approved Harvest Level (m ³ /yr)	Primary PAC Contribution (m ³)	Secondary PAC Contribution (m ³)	Total PAC Contribution (m ³)	Notes
1		1-Jul-09	30-Apr-12	2.8328767123	442,000	104,764	1,252,131.5068	296,783.4959	1,548,915.0027	
2		01-May-12	30-Apr-14	2.0000000000	852,600	151,700	1,705,200.0000	303,400.0000	2,008,600.0000	
Periodic Reconciliation Volume (m ³)							1,225,641	140,106	1,365,747	Un-harvested sequenced volume from May 1, 2009 to April 30, 2012.
PAC Total							4,182,973	740,289	4,923,262	

Table 9. Daishowa-Marubeni International Ltd. (East) 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 (%) 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	Structure Retention Target is 15%. See DMI Retention Strategy located in the Targets & Implementation document, page 256, section 16.	AAC has not been reduced to account for structure retention. Structure retention is AAC chargeable. Targets & Implementation document, page 223, section 11.3.	See FMP Net Landbase Documentation	Deletions and deferrals do not contribute to the AAC.	All industrial salvage volumes are AAC chargeable. Targets & Implementation document, page 225, section 11.1.

Table 10. Daishowa-Marubeni International Ltd. (East) FMA Deciduous Utilization
Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	AAC Type	Cover Group / Species	Utilization used to determine Harvest Level in PFMS				Operational Utilization				
					Top Diameter (cm)	Stump Diameter (cm)	Minimum Length (m)	Stump Height (cm)	Top Diameter (cm)	Stump Diameter (cm)	Minimum Length (m)	Stump Height (cm)	Deciduous Harvest Level (m ³ /yr) based on Operational Utilization
All dispositions, FMUs and AAC Types (unless otherwise noted)			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. (East) FMA Area

Source Company	Source Disposition Number	Transfer Type	Company Directed To	Target Disposition Number	Volume Supply Area	Species Group	Proportion of Secondary AAC(%)	Volume (m ³ /yr)	Comments
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	Boucher Bros. Lumber Ltd.	CTQP210001	VSA 1	Secondary coniferous	11.6712%	30,835	
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	Boucher Bros. Lumber Ltd.	CTQP210001	VSA 2	Secondary coniferous	11.7829%	31,130	
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	West Fraser Mills Ltd.	CTQP210002	VSA 1	Secondary coniferous	23.1427%	61,143	
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	West Fraser Mills Ltd.	CTQP210002	VSA 2	Secondary coniferous	8.9909%	23,754	
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	Seehta Forest Products Ltd.	CTQP210004	VSA 1	Secondary coniferous	7.9924%	21,116	
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	Seehta Forest Products Ltd.	CTQP210006	VSA 1	Secondary coniferous	17.0518%	45,051	
Daishowa-Marubeni International Ltd.	FMA0900044	FMA	Tolko Industries Ltd.	CTQP210005	VSA 1	Secondary coniferous	19.3681%	51,171	
Total							100.0000%	264,200	

Notes:

Reference FMA clauses 7(1)(b) and 20 for secondary coniferous rights and obligations.

The following table illustrates how the proportion of the secondary annual allowable cut has been calculated due to the amalgamation of historic FMUs into the newly created FMU P21:

Company	Historic FMU	FMA Allocation	Volume by Historic FMU (m ³)	Amalgamated FMU	Target Disposition Number	VSA	Proportion of Secondary AAC
Tolko Industries Ltd.	F1	100%	51,170	P21	CTQP210005	1	19.3681%
West Fraser Mills Ltd.	P3	100%	37,150	P21	CTQP210002	1	14.0614%
Boucher Bros. Lumber Ltd.	P4	56.72%	31,130	P21	CTQP210001	2	11.7829%
West Fraser Mills Ltd.	P4	43.28%	23,754	P21	CTQP210002	2	8.9909%
Seehta Forest Products Ltd.	P5	34.24%	21,116	P21	CTQP210004	1	7.9924%
Boucher Bros. Lumber Ltd.	P5	50.00%	30,835	P21	CTQP210001	1	11.6712%
West Fraser Mills Ltd.	P5	15.76%	9,719	P21	CTQP210002	1	3.6788%
West Fraser Mills Ltd.	S15	24.06%	14,273	P21	CTQP210002	1	5.4025%
Seehta Forest Products Ltd.	S15	75.94%	45,051	P21	CTQP210006	1	17.0518%
Total			264,200				100.0000%
<i>Note: West Fraser Mills Ltd. CTQP210002 (VSA 1) is comprised of 14.0614% + 3.6788% + 5.4025% = 23.1427%</i>							

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

Effective Date: May 1, 2012

FMU	Company Name	Disposition Number	Primary Deciduous AAC (m ³)			Secondary Deciduous AAC (m ³)			Total Approved AAC (m ³)
			Core	Contingency	Total	Core	Contingency	Total	
P21	Daishowa-Marubeni International Ltd.	FMA0900044	521,610	330,990	852,600	68,755	82,945	151,700	1,004,300
FMU P21 Total			521,610	330,990	852,600	68,755	82,945	151,700	1,004,300

Notes:

Requested primary and secondary AACs of 856,460 m³ and 152,452 m³, as reported in Table 22, DMI East DFMP East Targets & Implementation, have been adjusted as follows:

1. A 0.44% reduction was applied to account for use of an incomplete hydrological layer, as calculated in Table 3, page 12-7, East Forecasting Document.
2. The results of the first step were reduced to the nearest one hundred.

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 10, page 178, DMI East DFMP Targets & Implementation, and adjusted to match the total primary and secondary figures in Table 7 of this approval.

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

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

DMI Indicator #6

- d. Describe the methodology used to calculate interior forest.
- e. Document the definition used for seral stages.
- f. Ensure the target is set using one of the methods described in the Forest Management Planning Standard (FMPS).
- g. 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

- h. Restate the target in units of km/km².
- i. 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

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

- k. Revise the target to be consistent with the FMPS.
- l. 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

- m. Revise the target to 100% compliance with the Operating Ground Rules.
- n. 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

- o. 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.
- p. Clarify Canfor's structure retention target, with reference to their July 16, 2009 letter.
- q. Clarify whether the proportions identified in Table 5 are being applied to the area, or the volume.
- r. Provide the current status for quota operators.
- s. Document the definition of pine beetle blocks to support confirmation of operational achievement of retention policies.
- t. Revise the response for exceeding variance to include an operation-level response.

DMI Indicator #8

- u. 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

- v. Revise the target to manage habitat instead of populations.
- w. Confirm targets are correct and not a typographical error, or placeholder for future content that was not included.
- x. 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

- y. 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.
- z. 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

- aa. Revise the target to provide an achievable goal.
- bb. Complete the current status table.
- cc. Provide the allowable variance for all operators.
- dd. 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

- ee. Provide a list of the invasive species present on the FMA, with reference to the Weed Control Regulation Schedule of prohibited noxious and noxious weeds.
- ff. Provide the current status and forecasted targets.
- gg. Complete the indicator monitoring plan, referencing field inventories.