

Detailed Forest Management Plan Approval Decision



**Alberta-Pacific Forest Products Incorporated
Boyle, Alberta**

**Forest Management Agreement
#9100029**



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**Date: January 16, 2006
Effective: May 1, 2005**

**Approved by: *Original Signed by*
D. (Doug) A. Sklar, RPF
Executive Director
Forest Management Branch
Public Lands and Forests Division**

Executive Summary

The forest management plan dated September 2004 is approved subject to the satisfactory completion of the following approval conditions.

Approval Conditions

<i>Condition</i>	<i>Submission Document or Requirement</i>	<i>Approval Authority</i>	<i>Date</i>
<i>Approval Condition 8.1 (i)</i>	<i>Revised FMP</i>	<i>Senior Manager, Forest Planning Section</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.1 (ii)</i>	<i>Stewardship Report and FMP Revisions</i>	<i>Executive Director FMB</i>	<i>August 31, 2010</i>
<i>Approval Condition 8.1 (iii)</i>	<i>Updated FMP</i>	<i>Executive Director FMB</i>	<i>November 1, 2015</i>
<i>Approval Condition 8.2 (i)</i>	<i>Growth and Yield Program</i>	<i>Senior Manager, Resource Analysis Section</i>	<i>September 1, 2006</i>
<i>Approval Condition 8.3 (i)</i>	<i>Revised spatial harvest sequence (SHS)</i>	<i>Area Manager and Senior Manager, Forest Planning Section</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.4 (ii), (iii)</i>	<i>Reporting Pre-harvest and Post-harvest surveys</i>	<i>Area Manager in Annual Operating Plan</i>	<i>Annually</i>
<i>Approval Condition 8.5 (i), (ii)</i>	<i>Projected habitat for species and Timber Supply Analysis</i>	<i>Executive Director, FMB</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.6 (ii)</i>	<i>Structure Retention field assessment program</i>	<i>Senior Manager, Forest Planning Section</i>	<i>February 1, 2006</i>
<i>Approval Condition 8.7 (i)</i>	<i>Silviculture Strategy Options Table</i>	<i>Senior Manger, Harvesting and Renewal Section</i>	<i>February 1, 2006</i>
<i>Approval Condition 8.8 (i)</i>	<i>Watershed Assessment</i>	<i>Senior Manager, Forest Planning Section</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.8 (ii)</i>	<i>Steep Slopes Sensitivity Analysis</i>	<i>Executive Director FMB</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.8 (ii)</i>	<i>Slopes soils and Silviculture Review</i>	<i>Executive Director FMB</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.9 (i)</i>	<i>Community Protection Zones into SHS</i>	<i>Senior Manager, Forest Planning Section</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.10 (iv)</i>	<i>Salvage timber volume tracking and reporting system</i>	<i>Senior Manager, Timber Production, Auditing and Revenue Section</i>	<i>May 1, 2006</i>
<i>Approval Condition 8.10 (v)</i>	<i>TDA Compensation Use Verification Report</i>	<i>Senior Manager, Forest Planning Section</i>	<i>May 1, 2006</i>
<i>Approval Condition 8.11 (i)</i>	<i>Mineable Oil Sands Area salvage plan</i>	<i>Area Manager, Waterways Forest Area</i>	<i>May 1 of each year</i>
<i>Approval Condition 8.12 (i)</i>	<i>Mixedwood Management Reforestation Agreement</i>	<i>Senior Manager, Harvesting and Renewal Section and the Area Manager</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.12 (ii)</i>	<i>Comparison of Traditional vs. Mixedwood Management scenarios</i>	<i>Executive Director, FMB</i>	<i>December 31, 2006</i>

<i>Approval Condition 8.13 (i)</i>	<i>Revised public involvement program</i>	<i>Area Managers of Waterways and Lac La Biche Forest Areas</i>	<i>March 31, 2006</i>
<i>Approval Condition 8.14</i>	<i>Aboriginal Consultation Records</i>	<i>Executive Director, FMB</i>	<i>Ongoing</i>
<i>Approval Condition 8.15 (i)</i>	<i>Using alternative regeneration performance standards</i>	<i>Senior Manger, Harvesting and Renewal Section</i>	<i>May 1, 2011</i>
<i>Approval Condition 8.16</i>	<i>DFMP revisions consistent with Shared Responsibility for Forest Health</i>	<i>Executive Director, FMB</i>	<i>December 31, 2006</i>
<i>Approval Condition 8.17 (i)</i>	<i>Roads and Decking Areas monitoring and reporting program</i>	<i>Senior Manager, Forest Planning Section</i>	<i>By July 1, 2006</i>
<i>Approval Condition 8.18 (i)</i>	<i>Timber Supply Analysis for FMU vs. FMA AACs</i>	<i>Executive Director, FMB</i>	<i>December 31, 2006</i>

Authorization

The Detailed Forest Management Plan for the Al-Pac FMA area dated September 2004 is approved subject to the Approval Conditions being met, and the Annual Allowable Cuts presented in this Approval Decision.

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1. Introduction

The approval of forest management plans is the mandate of the Executive Director of the Forest Management Branch (FMB), Public Lands and Forests Division (PLFD) of the Department of Sustainable Resource Development (department). This Approval Decision documents the rationale, and conditions of approval for the Alberta-Pacific Forest Products Inc. (Al-Pac) Detailed Forest Management Plan (FMP) dated September 2004. This approval provides direction for the successful and efficient implementation of the FMP.

Al-Pac regulated forestry professionals have prepared the FMP, and it has also been reviewed by government professional staff (see Table 1). Professional validation indicates the FMP is accurate as well as practical and feasible and has been prepared with due diligence. I commend Al-Pac and those people who have contributed to the FMP for their efforts to address the complex issues of forest management.

The conditions in this Approval Decision are consistent with the terms of the Forest Management Agreement and failure by Al-Pac to fulfill the direction provided in this Approval Decision shall place the Company in default of its Forest Management Agreement.

2. Government of Alberta Participants: Detailed Forest Management Plan Appraisal

The following Government of Alberta staff participated in the appraisal of the Al-Pac FMP. Comments and recommendations from staff are addressed in this Approval Decision. I extend my thanks to staff for their personal and professional commitment to the task.

Table 1. Government of Alberta Participants

<u>Government Reviewer</u>	<u>Title</u>	<u>Registration</u>	<u>FMP Component</u>
Robert Stronach, RPF	Senior Forester, Lac La Biche Forest Area	CAPF # 514	All sections
Terry Friedrich, RPF	Area Forester, Lesser Slave Forest Area	CAPF # 554	All sections
Sara Schwartz, RPF	Area Forester, Lac La Biche Forest Area	CAPF # 534	All sections
Elizabeth Grilo, RPF	Senior Forester, Waterways Forest Area	CAPF # 721	All sections
Jamie Laird, RPF	Area Forester, Lac La Biche Forest Area	CAPF # 547	All section
Tom Hutchison,	Regional Forest Health Officer, NE Region		Forest Health
Stephen Wills, RPF	Forest Management Planning Forester, Forest Planning Section	CAPF # 628	All sections
Ken Yackimec, RPF	FMA Forester, Lac La Biche Forest Area	CAPF # 515	All sections
Karl Peck, RPFT	Senior Resource Analyst, Forest Resource Section	CAPFT # R960020	Timber Supply Analysis

Greg Greidanus, RPF	Growth and Yield Forester, Forest Biometrics Unit	CAPF # 671	Growth & Yield
Christine Found	Wildlife Biologist		Biodiversity and Habitat
Leonard Barnhardt	Site Manager, Alberta Tree Improvement and Seed Centre		Genetics
Sherra Quintilio, FIT	Landscape Fire Specialist, Forest Protection Division	FIT # 1367	Wildfire & FireSmart
Grant Klappstein, RPF	Biometrics Forester, Forest Biometrics Unit	CAPF # 768	Growth & Yield
Ken Greenway, RPF	Silviculture Specialist, Harvest and Renewal Section	CAPF # 644	Silviculture
Marty O'Byrne, RPF	Senior Forester, Silviculture Prescriptions, Harvest and Renewal Section	CAPF # 118	Silviculture
Scott Milligan, RPF	Senior Manager, Harvest and Renewal Section	CAPF # 434	All sections
Dave Morgan, RPF	Manager, Forest Biometrics Unit	CAPF # 270	Growth & Yield
Daryl Price, RPF	Senior Manager, Resource Analysis Section	CAPF # 081	Growth & Yield, Timber Supply Analysis
John Stadt, PBio	Forest Ecology Specialist	ASPB	Biodiversity and Habitat
Robert Stokes, RPF	Senior Manager, Forest Planning Section	CAPF # 500	All sections

CAPF – College of Alberta Professional Foresters

CAPFT - College of Alberta Professional Forest Technologists

ASPB – Alberta Society of Professional Biologists

3. Forest Management Plan Area

The area under consideration is the Forest Management Agreement (FMA) area of Alberta-Pacific Forest Products Incorporated (Al-Pac), FMA #9100029 allocated to the Company through Order-in-Council 193/98, dated June 8, 1989. The FMA area is within Forest Management Units (FMU) L1, L2, L3, L8, L11, S7, S11, S18, S22, A14 and A15

The FMA is located in the north eastern part of the province, and spans mainly the Central Mixedwood and Boreal Highlands natural sub-regions, with small portions of the Dry Mixedwood, Lower Foothills and Sub-Artic natural sub-regions included as well. Chapter 2, the *Landscape Patterns and Biodiversity* component of the FMP describes the FMA in greater detail.

4. FMP Background

The FMA required Al-Pac to submit a revised Detailed Forest Management Plan by March 1, 2001. The plan was not completed by that date, and in a letter dated October 25, 2001, the department recommended a new course of action be undertaken to integrate forest operations on the FMA area. The deadline for submission was extended to December 31, 2004.

The FMP was submitted in October of 2004 at which time the government review began. A cooperative effort between Al-Pac and the department allowed for the expedited revision and resubmission of components of the Timber Supply Analysis (TSA) to meet documentation requirements. The complete TSA submission was received in July 2005.

Department review of the FMP identified a number of issues to be addressed during the implementation of the FMP. These comprise the conditions of approval contained herein.

5. Public Involvement

FMA section 10(5) requires Al-Pac to conduct an acceptable public involvement process. FMP section 1.11, entitled “Public Involvement Plan” describes Al-Pac’s work in this regard. To solicit feedback and facilitate public awareness of its forest management activities, Al-Pac included public members, stakeholders, and department staff on its *Forest Management Task Force*. The focus of the group was the forest management plan and forest operations in general.

Al-Pac is expected to enhance its efforts to conduct meaningful public involvement throughout the FMP implementation. Meaningful consultation is characterized by sincere efforts to help stakeholders understand the implications of plans, sincere efforts to make the plans available at a time and in a manner sufficient for stakeholders to read and study, and sincere and accurate explanations of how the interests and concerns of stakeholders have been addressed.

Requirements regarding the public involvement program are further discussed in the Approval Conditions section of this document.

6. Research

Al-Pac’s leadership and participation in forestry research is noted in Appendix 3 of the FMP. The Company’s efforts and expenditures are significant. However, in the Company’s comparison of the 2000 FMP with the 2004 FMP (Executive Summary pp iii, iv) there is scant mention of how research results were used to formulate and support strategies and operational approaches presented in this plan.

By inference, the reader may garner an appreciation that new understandings from studies were the drivers for planning based on natural disturbance units, the single pass harvest system and block sizes. Likewise, targets for retention of structure in cutblocks, old forest targets and landscape-level biodiversity monitoring strategies may have similar origins. A more specific discussion of research integration is warranted.

I encourage the Company to continue collaborating with the scientific community but also to increase its efforts to ensure that there is a strong linkage to the operational forest planner and manager to ensure that current knowledge is used in planning and operational practice.

7. Approval Scope

This Approval Decision relates to the AI-Pac FMP dated September 2004. All coniferous and deciduous timber operators within the FMA area shall conduct their activities in accordance with the FMP and the approval conditions.

AI-Pac shall meet the requirements (dates and content) of the Approval Conditions unless the Executive Director, Forest Management Branch, agrees to alternate requirements in writing. AI-Pac will execute meaningful dialogue with the designated department decision-maker during the development of the required submissions. Where deadlines for submission are specified, AI-Pac shall submit the documents at least one month prior to the date in order to allow department staff sufficient time for review.

In this Approval Decision **bolded text** identifies specific timelines, requirements and the department manager responsible for the review. Non-bolded text provides the rationale for the condition and specific considerations to be addressed in meeting the condition.

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

8. Approval Conditions

8.1 FMP Revision and Submission Requirement

There are a number of comments from department staff that will be provided to AI-Pac under separate cover. These comments must be addressed to the satisfaction of the department and the results incorporated into the revised FMP. Department (SRD) logos and references to “partnerships” with SRD, unless otherwise covered by a formal agreement, shall be removed from the FMP. In addition to addressing the comments provided, the resubmission will incorporate products required by the conditions of this approval.

The department requires a Stewardship Report in five years that will be used to adapt forest management practises. I believe it prudent for AI-Pac to use the results of the Stewardship Report to revise the FMP prior to the renewal of the forest management agreement. I also believe this will resolve many concerns prior to the renewal of the FMA.

There is no specific date in the current FMA for a subsequent FMP. However the department policy requires that FMPs be resubmitted at least every ten years.

Approval Condition 8.1 - Revised FMP submission, Stewardship Report, and schedule for completing the next FMP.

- i. AI-Pac shall submit a revised FMP incorporating the comments provided by the department and the approval conditions herein, that is acceptable to the Senior Manager, Forest Planning Section by December 31, 2006.**

- ii. **AI-Pac shall submit a Stewardship Report and FMP revisions acceptable to the Executive Director, FMB by August 31, 2010. The Stewardship Report shall report on all the objectives and strategies in Table 5 of this Approval Decision, including an analysis of the significance of any variance and an appropriate management response and corrective action.**
- iii. **By November 1, 2015, AI-Pac shall submit an updated FMP acceptable to the Executive Director, FMB.**

8.2 Growth and Yield Monitoring Program

During the department's review, concerns were raised with regards to predicted pine yields. AI-Pac responded by reducing the empirical pine yield curves by 10%. This is a prudent approach by AI-Pac, however, a credible Growth and Yield Program is imperative to collecting information for use in future timber supply analyses as well as for verifying current FMP yield and mixedwood management assumptions.

Approval Condition 8.2 – Growth and Yield Program

- i. **By September 1, 2006, AI-Pac shall submit a Growth and Yield Program, acceptable to the Senior Manager, Resource Analysis Section that supports the approved FMP and directs sampling and data analysis activities to be used in subsequent FMPs.**

8.3 Spatial Harvest Sequence

The spatial (mapped) harvest sequence (SHS) is the most important output as it implements the strategies the companies must follow to achieve the predicted future forest condition. The future forest condition, while dependent on many factors, 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 to achieving the predicted future forest.

The harvest sequence presented in the FMP is inadequate for a number of reasons.

1. The SHS was not developed or reviewed in consultation with department staff, or the planning team prior to its submission in the FMP. This has led to unanswered questions and concerns regarding to scheduling and intensity of timber removals.
2. I do not believe the SHS for FMU A15 can be implemented as it currently exists.
3. The sequencing and variance tracking requirements of the FMP are predicated on a 15-year sequence (2001 – 2016) and 4 years of harvesting have already occurred.

Approval Condition 8.3 – Spatial Harvest Sequence

- i. **By December 31, 2006 AI-Pac shall revise the spatial harvest sequence (SHS), in consultation with department staff and forest operators, and resubmit the completed SHS for the approval of the Area Manager and Senior Manager, Forest**

Planning Section. The revised SHS shall identify 15-years of post approval harvest volume for all forest operators (September 2006 to August 2021 inclusive).

- ii. Al-Pac shall develop a Cover Type Summary Table (CTST) summarizing the major cover types (D, Sw, Pj, Sb) based on the revised SHS. All operators shall adhere to the CTST subject to allowable variance described in (iv) below.**
- iii. All stands that comprise the revised 15-year SHS shall be harvested, subject to allowable variance described in (iv) below.**
- iv. To address operational planning concerns, all timber disposition holders are authorized to modify the SHS by deleting no more than 20% of one third of the 15-year SHS, by major cover type (D, Sw, Pj, Sb), by FMU during implementation of the revised harvest sequence.**
- v. Replacements may be made from any other stand identified in the approved net landbase of the FMP, as long as variances in (iv) above, are not exceeded.**
- vi. Where timber operators exceed the variance described in (iv), the Forest Area Manager, may require the completion of a compartment assessment and the Senior Manager, Forest Planning Section may recommend the adjustment of the approved AAC to reflect the impact of the variances.**
- vii. The department requires the variance from the SHS to be reported annually, and the 5-year Stewardship Report to analyze the variance from the SHS.**
- viii. The department will generally not request a modification of the approved harvest sequence for the first 15 years of the planning period unless required by a change in legislation or a policy approved by the Minister.**

8.4 Coniferous Understorey Management

The topic of coniferous understorey was a contentious matter during the FMP discussions. Al-Pac, in response, completed an inventory to quantify and stratify the coniferous understorey on the FMA. Al-Pac chose 600 stems per hectare as the lower limit for those stands that transition from a D to a CD covertype. Stands containing less than 600 stems/ha are regenerated to a D(C) yield curve.

The FMP documents the results of the inventory and the net landbase includes stands with coniferous understoreys. The preferred forest management strategy makes assumptions regarding understorey growth and development and incorporates strategies to protect it. However, the absence of empirical growth response data requires that the Company be diligent in monitoring those strategies.

Approval Condition 8.4 – Coniferous Understorey Management

- i. All future understorey inventories shall meet Alberta’s interpretation standards for coniferous species under a deciduous canopy.**

- ii. **Pre-harvest and post-harvest surveys must be completed on understorey protection harvest areas using methods as agreed to by the Senior Manager, Harvesting and Renewal Section. Reports must be submitted to the department annually indicating success rates.**
- iii. **A 5-year Stewardship Report must be submitted describing the success of the understorey protection strategies. If the strategies and/or the transition assumptions made in the FMP are found to be inaccurate, the department may require the Company to recalculate the harvest levels and AACs may be adjusted.**
- iv. **Al-Pac's Growth and Yield Monitoring Program must include a methodology for verifying the coniferous understorey transition assumptions made in the FMP.**

8.5 Predicted Future Forest

Al-Pac uses the coarse-filter approach to maintain species diversity based on a wildfire dominated natural disturbance regime. The Timber Supply Analysis contains descriptions of the future forest for each of the FMUs. The department will assume the FMP levels for Old Interior Forest, Seral Stages, and Patch Size Distribution to be the targets the Companies will achieve during implementation, and analyze for variance in the Stewardship Report.

Despite the department's requirement for habitat assessments, the FMP does not include any attempt at completing such necessary fine-filter assessments. Although the coarse filter approach is deemed to be effective, proof is necessary. This is provided by a prediction of habitat availability for selected species throughout the planning horizon. The objective is to ensure that habitat for selected species does not disappear during the planning horizon.

The lack of habitat projections for caribou is a significant shortcoming, given the widespread concern about maintaining caribou habitat. Although it is accepted that caribou populations are significantly affected by factors that are beyond the scope of an FMP (e.g. other industrial uses, predators), it is the role of an FMP to ensure that sufficient habitat is available. Maintenance of caribou habitat often has significant impacts on timber supplies. There is little reason to be optimistic that the AACs in this FMP will be maintained when caribou habitat strategies are implemented. This issue must be addressed very quickly.

A related matter is the adoption of the concept of "aggregate" harvest areas. Although recent literature advocates this design for various reasons, it is important to continue to communicate that the SHS will be implemented, and will result in large "aggregate" harvest areas. Efforts must be made to ensure that stakeholders are meaningfully consulted and that they are made aware of the implications of this strategy by comparing the aggregate, to traditional harvest patterns.

Approval Condition 8.5 – Predicted Future Forest

- i. **Al-Pac shall use the coarse filter metrics reported in the TSA as measurable targets for implementation and report progress toward achieving these targets in the Stewardship Report.**
- ii. **Al-Pac shall project habitat for species indicated in Table 2 and modify the timber supply analysis to ensure that habitat is maintained throughout the planning horizon. The modified timber supply analysis shall be included in the revised FMP.**
- iii. **In the event that the modified timber supply analysis is not acceptable to the Executive Director, FMB the AACs approved herein will be reduced by 20%, effective May 1, 2005.**
- iv. **The revised FMP must contain evidence that stakeholders have been meaningfully consulted on the SHS incorporating aggregate harvest areas.**

Table 2. Required Fine Filter Assessments

Species	Reason For Including	*Model Source
Caribou	Species At Risk	Alberta Caribou Committee
Moose	Social	SRD, Fish and Wildlife Division
Canadian Toad	Indicator	CEMA-SEWG
Warblers	Indicator	Boreal Ecosystems Research Ltd
Barred Owl	Indicator	SRD, Fish and Wildlife Division
Goshawk	Indicator	SRD, Fish and Wildlife Division
Brown Creeper	Indicator	SRD, Fish and Wildlife Division

*Recommendations only, alternative sources may be used as some HSI/RSF are still under development by Fish and Wildlife Division.

8.6 Structure Retention in Harvested Areas

Throughout the province, forest industries practise green tree retention within harvested areas to create residual (post harvest) stand structure. The department has approved detailed forest management plans that propose structure retention targets ranging between 1% and 15% of merchantable volume, with the view that a variety of retention targets will provide a range of forest conditions to facilitate refinement of the targets in the future. Al-Pac's strategy to maintain 5% of the merchantable volume within stands falls within this range.

The FMP presents two standards for structure retention based on timber tenure. Al-Pac (FMA holder) commits to 5% merchantable coniferous retention, while the quota holders commit to 1% merchantable structure retention. I believe there is little reason for two standards and view the 5% value as being a reasonable target for all operations. I am not prepared to accept this value as a reduction in the approved AACs, since I believe that this deflects attention to the value rather than the effectiveness of the retained volumes in maintaining stand level biodiversity. Rather, the 5% value is to be viewed as a target, and the retained volumes are to be reasonably assessed and reported as chargeable production for cut control purposes. Through further research, the Company is expected to evaluate the marginal utility of various levels of structure retention.

This strategy requires a practical and cost-effective tracking and reporting mechanism to be developed for timber harvest production reconciliation. Consultation amongst all affected operators will be necessary to devise an efficient system.

Approval Condition 8.6 – Structure Retention Levels and Monitoring

- i. All operators on the FMA will plan and carryout their operations to achieve a residual structure retention target of up to 5% of the AAC. Merchantable and non-merchantable coniferous and deciduous timber shall be used to meet this requirement in harvest areas within each FMU. Representative species and timber profile of the original stand condition shall be retained to achieve acceptable biodiversity results. Non-merchantable timber may be used to a greater degree where it occurs in sufficient quantity, pattern and profile to achieve the desired condition.**
- ii. By February 1, 2006, Al-Pac shall submit a field assessment program for structure retention monitoring and reporting acceptable to the Senior Manager, Forest Planning Section. Failure to meet this deadline shall result in a reduction of the FMA AAC by 5% effective May 1, 2005. This Structure Retention Monitoring Program must quantify the structure retained, report the cumulative results and trends annually, and evaluate the utility of the results in the Stewardship Report.**
- iii. Retained merchantable volume shall be chargeable as AAC production in each cut control period.**

8.7 Silviculture Strategy

Defining the silvicultural practices that will be used to establish managed stands and the expected future timber yields is important. FMPs must clearly define the reforestation strategies proposed to achieve the projected timber yields from the regenerated stands. Silvicultural practices must be appropriate for the local range of conditions.

Some of the strategies proposed are not seen to be reasonable, and therefore, not acceptable. An example of such is the use of seeding as a primary reforestation strategy for black spruce. In this area of the province planting has proven more successful and is an acceptable strategy for this species. In addition, the tables must outline the hierarchy of treatments. This should outline the most likely treatment to be implemented and successful, to the least likely treatment to be implemented and therefore, least likely to be successful.

The Silviculture table must present a reasonable summary of the silvicultural tactics to be used to regenerate the future forest. Application of these practices is expected once they are approved in the FMP. All timber operators will use the prescriptions included in the table. Therefore, it is important that full discussion occurs with timber operators to ensure their practices are represented.

Approval Condition 8.7 – Silviculture Strategy

- i. By February 1, 2006 following consultation with timber operators, Al-Pac shall submit a revised Silviculture Strategy Options Table acceptable to the Senior Manager, Harvest and Renewal Section.**

8.8 Watershed Management

Watershed assessments are an important step in the determination of the appropriateness of the SHS and associated area of disturbance. Al-Pac has completed a watershed assessment of the FMA area using the equivalent clearcut area (ECA) assessment model at the FMU level. The Company has also indicated that watershed research studies are underway that will provide assessments of timber harvesting impacts on the FMA by the completion of the revised FMP.

An additional and related concern has been raised regarding the area excluded due to steep slopes. This timber supply analysis excludes far less area for steep slopes than previous analysis. A further examination of these areas is required.

Approval Condition 8.8 – Watershed Assessment

- i. The revised FMP shall include an assessment of the effects of timber harvesting on water quality and quantity. The watershed assessment shall be acceptable to the Senior Manager, Forest Planning Section.**
- ii. The revised FMP shall include, a sensitivity analysis that assesses the impacts of steep slopes on the net landbase. The areas to be assessed are those identified in the development of the previous inventory (Phase 3) for the area. During plan implementation, Al-Pac and the embedded operators shall assess these areas for sensitive soils and as necessary, evaluate alternative silviculture systems. (i.e. Selection Harvest)**

8.9 FireSmart Community Protection Zones

FireSmart planning for the protection of communities is an important consideration in forest management planning and the SHS. Areas that are currently identified for FireSmart activities must be included in the FMP and SHS.

Forest Protection Division (FPD) is leading this initiative and Al-Pac shall support the division by participating, planning, cooperating and conducting its operations to achieve the desired results.

Approval Condition 8.9 – FireSmart Community Protection Zones

- i. Where community protection planning has been finalized or is nearing completion, Al-Pac shall incorporate FireSmart activities within community protection zones that FPD identifies into the revised FMP.**

8.10 Industrial Salvage

Accounting for timber volume drain resulting from non-forestry industrial operations is critical to ensure the approved AACs are not exceeded.

TDA payments are received by Al-Pac to compensate for damage to timber from the energy and utility industry operations on the forest management area. The FMA directs how this compensation may be used and permits the Minister to request verification of its use.

Approval Condition 8.10 – Industrial Salvage Timber

- i. All timber depleted (salvaged and unsalvaged merchantable timber) by non-forestry operations shall be reported as production for cut control purposes, except in the case of low impact seismic programs where average width is less than 2.0 metres and no width is greater than 2.5 metres.**
- ii. The volumes used shall be those stated in timber damage assessment tables.**
- iii. The volumes shall be charged to each timber disposition proportional to the allocation of the AAC by covergroup (C, CD, DC, D).**
- iv. By May 1, 2006, Al-Pac shall implement a salvage timber volume tracking and reporting system acceptable to the Senior Manager, Timber Production, Auditing and Revenue Section.**
- v. By May 1, 2006 Al-Pac shall provide a report summarizing Al-Pac's use of TDA compensation in a format acceptable to the Senior Manager, Forest Planning Section.**

8.11 Mineable Oil Sands Area (MOSA) in Forest Management Unit A15

FMU A15 contains the Mineable Oil Sands Area (MOSA). The area is expected to be largely developed for oil sands operations in the next decade or two, and the FMP assumes that the timber in the area will be salvaged and not reforested. Progressive reclamation is the responsibility of the oil sands operators when the mining operations are completed. The two timber operators affected are Al-Pac and Northland Forest Products Ltd. These companies are cooperating in the salvaging of timber prior to oil sands developments. Al-Pac has rights to 35.46 % of the coniferous volume and 100% of the deciduous volume and Northlands has rights to 64.54% of the coniferous volume. The details of the salvage operations are subject to the timing of oil sands development so it is

difficult to be more definitive in the FMP. However, there are important principles that must be followed in any agreement between the two companies, as follows:

1. Each company will utilize the salvage volume proportionate to their share of the timber supply and will utilize the full profile of timber types and tree sizes proportionate to their share of the timber supply. This will involve sharing the coniferous timber supply volume based on 35.46% (Al-Pac) and 64.54% (Northland).
2. Stands to be salvaged prior to issuance of dispositions to oil sands operators (salvage stands) are those located within the MOSA and included in the net landbase of the A15 timber supply analysis and where the approved vegetation inventory (AVI) indicates the stand height to be 16 metres or greater. I recognize that using the AVI to segregate eligible stands from ineligible stands result in some operational challenges, but I believe it is important to develop a spatial harvest sequence that clearly defines operable stands to be harvested by the forest companies.
3. Salvage operations within MOSA are to be undertaken prior to harvest on areas outside of the MOSA in FMU A15.
4. All plans are to be prepared using the AVI for the MOSA.
5. Timber Harvest Planning and Operating Ground Rules for riparian buffers and stand retention apply if oil sands activities are not scheduled to begin within 5 years of harvest.
6. All MOSA timber salvage volumes are chargeable as production for cut control. In the event an operator declines to utilize stand(s) in their allocation, the volume of the stand(s) derived from the salvage stands as described in item #2 will be treated as chargeable production to the operator that has declined the volume. Volumes will be calculated based on the appropriate FMP yield curve and age class the specific stand area.
7. In the event that chargeable salvage volumes cause an operator to exceed the authorized harvest for any cut control period, the overcut will not be deducted from future harvest in the non-MOSA portion of FMU A15.
8. Any timber volumes harvested by the oil sands operator from stands that are not defined as salvage stands will not be chargeable for cut control.
9. By May 1 of each year, Al-Pac and Northlands shall submit a cooperative salvage plan for the MOSA that adheres to the principles described herein to the Area Manager, Waterways Area.
10. Reforestation will be waived on salvage operations in the MOSA.
11. In articulating and adopting these principles, the department expects the forest companies will provide consent to energy companies as a matter of routine.

The execution of these principles will require very effective co-operation between the PLFD Area staff, the timber operators, and the oil sands operators.

Approval Condition 8.11 – Mineable Oil Sands Area in Forest Management Unit A15

- i. **By May 1 of each year, Al-Pac shall submit a salvage plan for the MOSA that adheres to the principles (1 – 11) herein, and is acceptable to the Area Manager, Waterways Area.**

8.12 Mixedwood Management in Forest Management Unit L1

The department has several concerns with the management strategy employed in FMU L1. Al-Pac has recommended it receive a share of primary AAC when it only has rights to incidental coniferous. It is also unclear as to how the reforestation obligations will be administered. For example, there is a commitment to engage in under-planting but no description on who will do it, and what the standards will be. These details need to be defined in a binding agreement between the operators. In order to evaluate the appropriateness of the strategy, it is necessary to have a comparison to the more standard strategy employed in other FMUs.

Approval Condition 8.12 – Mixedwood Management in Forest Management Unit L1

- i. The revised FMP shall contain an agreement between the operators describing in detail the administration of reforestation responsibilities that is acceptable to the Senior Manager, Harvesting and Renewal Section and the Area Manager, Lac La Biche Area.**
- ii. The revised FMP shall contain a management scenario using the same strategies as have been used in other FMUs and a comparison of this strategy to the mixedwood strategy.**

8.13 Public Involvement Program

I believe Al-Pac needs to investigate opportunities to re-design its public involvement program. There has been some indication that the Forest Management Task Force in its current configuration and mandate does not ensure meaningful involvement of the public in forest management planning on the FMA. This is a persistent problem for FMA holders, but one that must be addressed to ensure the public's interests are brought to the planning table in an open, inclusive and effective manner.

Approval Condition 8.13 – Public Involvement Program

- i. Al-Pac shall submit a revised public involvement program that is acceptable to the Area Managers of Waterways and Lac La Biche Forest Areas by March 31, 2006. The revised program is to be designed to ensure meaningful and culturally appropriate public involvement.**
- ii. The revised program shall be used to complete consultation with the public on the revised FMP prior to submission.**

8.14 Aboriginal Consultation

The Government of Alberta is currently developing policy outlining Alberta's role in consultation with First Nations. Future government policy regarding Alberta's role may require amendments to the public involvement strategies articulated in the FMP. Activities undertaken to date for this FMP are adequate.

Approval Condition 8.14 – Aboriginal Consultation

- i. Al-Pac shall keep complete and accurate written records of its consultations with First Nations; i.e., comments received, and how concerns identified have been addressed and incorporated into forest management planning. This information shall be reported in the Stewardship Report and future FMPs.**
- ii. When Alberta’s policy for First Nation’s consultation is complete, the Company shall work with the department in identifying necessary action plans, and if required, sections within the FMP that shall be amended.**

8.15 Alternative Regeneration Standards

The Regeneration Survey Manual establishes provincial reforestation performance standards (provincial survey standard) that are intended to create fully stocked natural stand yields. These standards shall be used until alternative regeneration performance standards are developed that relate to each yield projection used in the FMP.

Approval Condition 8.15 – Alternative Regeneration Standards

- i. By May 1, 2011, Al-Pac must be using alternative regeneration performance standards acceptable to the Senior Manager, Harvesting and Renewal Section.**

8.16 Forest Health

Al-Pac’s FMP contains several objectives related to the goal of maintaining a healthy forest. Unfortunately the FMP tends to indicate the primary responsibility for forest health is SRD. This does not align with the department’s current policy.

Approval Condition 8.16 - Forest Health

- i. To ensure that there is an integrated approach in achieving this goal Al-Pac shall adhere to the “*Alberta Forest Health Strategy and the Shared Roles and Responsibilities between SRD and the Forest Industry*” document. The FMP shall be revised to acknowledge this shared commitment.**

8.17 Roads, Decking, and Processing Areas

Accounting for land base losses due to unsuccessful reclamation of roads, decking and processing areas is critical to ensure the harvest level is sustainable. Monitoring programs have been limited and quantifiable data on the performance of reforested areas on roads and landings is not readily available. Empirical data is needed to verify the true impacts to site productivity.

Al-Pac commits to the development of an impact rating system for FMA soils. This is commendable, but additional monitoring must occur to demonstrate that these areas are being successfully reforested and TSA growth assumptions are, in fact, realized.

Approval Condition 8.17 – Roads, Decking, and Processing Areas

- i. By July 1, 2006, Al-Pac shall develop a monitoring and reporting program to quantify productive forest land base losses due to roads and decking areas, acceptable to the Senior Manager, Forest Planning Section.**

8.18 Non-J FMU Issues

The are large portions of forest management units A15, A14, L1, L11, and S22 that lie outside the FMA boundaries but contain landbase that contribute to the annual allowable cut for that unit. These areas have been called “non-J” areas and the areas within the FMA and the FMU have been called “J” FMUs, referring back to the original joint venture FMA. Rationalization and expression of the official allocations is difficult because some of the allocations are sourced from the entire FMU, while others are sourced entirely from the FMA landbase. In order to facilitate FMP approval, the AAC within these units has been allocated proportionally based on the net landbase hectares inside and outside the FMA within each FMU.

A related concern is that while these areas contribute to the AAC they do not appear to be scheduled for operations. The department believes it may be prudent to amalgamate the non-J FMUs into one single FMU. The department will revisit this option prior to the submission of the FMP in 2006. Alternate management strategies for these units, acceptable to the department, may also be considered at that time.

Approval Condition 8.18 - Non-J FMU Issues

- i. The revised FMP shall contain analyses acceptable to the Senior Manager, Resource Analysis Section that calculate the timber supply for the non-J FMU and the areas in the J-FMUs.**
- ii. If required by the Senior Manager, Resource Analysis Section, Al-Pac will provide the AAC analysis information necessary to amalgamate the non-J portions into a new forest management unit.**

10. Approved Annual Allowable Cuts

Refer to **Table 3., Allocations and Approved Annual Allowable Cuts**

Refer to **Table 4., Periodic and Quadrant Allowable Cuts**

9. Authorization

The Detailed Forest Management Plan for the Al-Pac FMA area dated September 2004 is approved subject to the Approval Conditions being met, and the Annual Allowable Cuts presented in this Approval Decision. Annual Allowable Cuts are effective as of May 1, 2005.

Table 3. Alberta-Pacific Forest Products Inc. - Allocations and Approved Annual Allowable Cuts Effective Date of AACs - May 1, 2005.

FMU	Company Name	Disposition Number	Stand Type / Source	Landbase Management Type	Primary Deciduous (m ²)	Secondary Deciduous (m ²)	Total Deciduous AAC (m ² /yr)	FMU Coniferous AAC (m ² /yr)	FMU Inside FMA AAC (m ² /yr)	Non-FMA Landbase Reduction (%)	Coniferous Allocation (%) of FMU	Coniferous Allocation (m ² /yr)	Coniferous Secondary/ Incidental Volumes (m ² /yr)
A14	Al-Pac Forest Products Inc. Millar Western Forest Products Ltd.	FMA9100029 CTQA140001 CTQA140002 CTPP 1% of FMA for local use Non-FMA Landbase Reduction	old A1 - Conifer - C, CD old A1 - Decid - DC, D A14 excl. A1 - Conifer C, CD, DC A14 excl. A1 - Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase			283,886 2,868	270,098	259,834	3.8000%	N/A 43.5000% 9.1700% 2.2000% 0.4133% 3.8000%	110,515 117,493 24,768 5,942 1,116 10,264	45,159
		FMU Total			216,478	70,275	286,753				100.0000%	270,098	45,159
A15	Al-Pac Forest Products Inc. Northland Forest Products Ltd.	FMA9100029 CTQA150001 CTPP 1% of FMA for local use Non-FMA Landbase Reduction	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase			478,036 4,829	306,912	284,170	7.4100%	N/A 53.1700% 11.3700% 0.2805% 7.4100%	85,228 163,185 34,896 861 22,742	77,077
		FMU Total			394,198	88,666	482,864				100.0000%	306,912	77,077
L1	Al-Pac Forest Products Inc. Vanderwell Contractors (1971) Ltd.	FMA9100029 CTQL010005 CTPP 1% of FMA for local use Non-FMA Landbase Reduction	Conifer - C, CD; Decid - DC, D	Single Landbase Single Landbase Single Landbase Single Landbase			188,270 1,902	111,173	111,173		N/A 53.4000% 26.7000% 0.1988%	21,902 59,366 29,683 221	
		FMU Total			190,172	N/A	190,172				100.0000%	111,173	
L2	Al-Pac Forest Products Inc. Spruceland Millworks Inc. Spruceland Millworks Inc. Vanderwell Contractors (1971) Ltd.	FMA9100029 CTQL020018 CTQL020019 CTQL020022 CTPP 1% of FMA for local use	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase Divided Landbase			174,130 1,759	85,712	85,712		N/A 14.3000% 27.5800% 58.0500% 0.0700%	85,228 12,257 23,639 49,756 60	30,523
		FMU Total			148,436	27,453	175,889				100.0000%	85,712	30,523
L3	Al-Pac Forest Products Inc. Millar Western Forest Products Ltd.	FMA9100029 CTQL030014 CTPP 1% of FMA for local use	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase			109,039 1,101	151,951	151,951		N/A 93.6600% 6.3400%	142,317 9,634	21,077
		FMU Total			76,286	33,854	110,140				100.0000%	151,951	21,077
L8	Al-Pac Forest Products Inc. St. Jean Lumber 1984 Ltd.	FMA9100029 CTQL080002 CTPP 1% of FMA for local use	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase			69,775 705	29,366	29,366		83.2900% 16.7100%	24,459 4,907	9,482
		FMU Total			58,622	11,858	70,480				100.0000%	29,366	9,482
L11	Al-Pac Forest Products Inc.	FMA9100029 CTPP 1% of FMA for local use Non-FMA Landbase Reduction	Conifer - C, CD; Decid - DC, D	Single Landbase Single Landbase Single Landbase			421,755 4,260	251,816	244,690	2.8300%	N/A N/A 0.91213% 2.8300%	227,393 15,000 2,297 7,126	N/A
		FMU Total			426,015	N/A	426,015				100.0000%	251,816	
S7	Al-Pac Forest Products Inc.	FMA9100029 CTPP 1% of FMA for local use	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase			113,508 1,147	29,926	29,926		100.0000%	29,926	12,701
		FMU Total			97,851	16,803	114,655				100.0000%	29,926	12,701
S11	Al-Pac Forest Products Inc. S11 Logging Company Ltd.	FMA9100029 CTQS110003 Unallocated 1% of FMA for local use	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase			181,729 1,836	87,566	87,566		91.8600% 8.1400%	80,438 7,128	29,531
		FMU Total			148,934	34,631	183,565				100.0000%	87,566	29,531
S18	Al-Pac Forest Products Inc. Alberta Plywood Ltd. Vanderwell Contractors (1971) Ltd.	FMA9100029 CTQS180004 CTQS180002 1% of FMA for local use	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase			283,369 2,862	159,580	159,580		77.1500% 22.8500%	123,116 36,464	49,461
		FMU Total			227,618	58,613	286,231				100.0000%	159,580	49,461
S22	Al-Pac Forest Products Inc. Vanderwell Contractors (1971) Ltd.	FMA9100029 CTQS220001 Unallocated CTPP 1% of FMA for local use Non-FMA Landbase Reduction (See note below)	Conifer - C, CD, DC; Decid - D	Divided Landbase Divided Landbase Divided Landbase Divided Landbase Divided Landbase Divided Landbase			475,543 4,803	94,656	88,693	6.3000%	N/A 48.0000% 21.1300% 3.0900% 0.1320% 6.3000%	26,172 45,436 20,000 2,923 125 0	43,058
		FMU Total			385,398	94,948	480,346				100.0000%	94,656	43,058
		FMU Total					2,807,110	1,578,756	1,519,053			1,578,756	318,069

Notes:
Percentage reduction for non-FMA coniferous landbase based on Al-Pac's representation of L11 coniferous landbase consisting of C & CD stands and A14 & A15 coniferous landbase consisting of C, CD & DC stands. Percentage of non-FMA stand areas calculated as a percentage of the entire FMU as per stated landbase designations.

1 % of FMA for local use is based on the FMA holder's share of the AAC within the FMA.

11.37% unallocated is based on FMU AAC

Quota percentages are applied to FMU level AAC.

AACs stated include volumes required to meet Structure Retention objective.

S22 Landbase Reduction - As per SRD/Al-Pac agreement letter of December 19, 2005, Alpac shall have access to 26,297 m³. The FMA stipulates 1% Local Use (125 m³) sourced from within the FMA portion of FMU S22. For the purpose of this analysis it is assumed that Vanderwell, Unallocated and CTPP are accessing the entire timber flow from the Non-J portion of FMU S22 with the balance of those allocations being sourced from within the FMA portion of FMU S22. In meeting Approval Condition 8.18, this assumption will be further refined in consultation with the quota operators.

The table values (AAC) may require revision at the completion of the revised Forest Management Plan in December 2006.

Table 4. Periodic and Quadrant Allowable Cuts

Company Name	Disposition Number	FMU	Approved Quadrant Coniferous Reconciliation Volume (m ³)	Approved Quadrant Deciduous Reconciliation Volume (m ³)	Deciduous Quadrant Allowable Cut (m ³)	Primary Coniferous Quadrant Allowable Cut (m ³)	Secondary Coniferous Quadrant Allowable Cut (m ³)	Comments
Al-Pac Forest Products Inc.	FMA9100029	A14			1,180,983	598,531	60,378	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 218,790 m ³ deciduous (123,061 m ³ primary coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 283,886 m ³ deciduous (110,515 m ³ coniferous). Assuming 1.337 yrs at 45,159 m ³ incidental coniferous per year
Millar Western Forest Products Ltd.	CTQA140001	A14	19,554			611,579		Assuming 4 yrs at 118,633 m ³ + 1 yr at 117,493 m ³ + 19,554 m ³ reconciliation volume
	CTQA140002	A14				49,768		Assuming 1 yrs at 25,000 m ³ + 1 yr at 24,768 m ³
	CTPP	A14				29,966		Assuming 4 yrs at 6,006 m ³ + 1 yr at 5,942 m ³
	1% of FMA for local use	A14			2,868	1,116		Assuming 1 yr at 2,868 m ³ deciduous and 1,116 m ³ coniferous
Al-Pac Forest Products Inc.	FMA9100029	A15			2,060,671	462,971	103,052	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 388,080 m ³ deciduous (95,283 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 478,036 m ³ deciduous (85,228 m ³ coniferous). Assuming 1.337 yrs 77,077 m ³ incidental coniferous per year
Northland Forest Products Ltd.	CTQA150001	A15	60,171			835,436		Assuming 2 yrs at 142,855 m ³ + 3 yrs at 163,185 m ³ + 60,171 m ³ AAC reconciliation volume
	CTPP	A15				157,100		Assuming 4 yrs at 30,551 m ³ + 1 yr at 34,896 m ³
	1% of FMA for local use	A15			4,829	861		Assuming 1 yr at 4,829 m ³ deciduous and 861 m ³ coniferous

Table 4. Periodic and Quadrant Allowable Cuts

Company Name	Disposition Number	FMU	Approved Quadrant Coniferous Reconciliation Volume (m ³)	Approved Quadrant Deciduous Reconciliation Volume (m ³)	Deciduous Quadrant Allowable Cut (m ³)	Primary Coniferous Quadrant Allowable Cut (m ³)	Secondary Coniferous Quadrant Allowable Cut (m ³)	Comments
Al-Pac Forest Products Inc.	FMA9100029	L1			848,980	29,283		Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 163,053 m ³ deciduous (0 m ³ - coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 188,270 m ³ deciduous (21,902 m ³ coniferous)
Vanderwell Contractors (1971) Ltd.	CTQL010005	L1	89,263			282,213		Assuming 4 yrs at 33,396 m ³ and 1 yr at 59,366 m ³ + 89,263 m ³ AAC reconciliation volume
	CTPP	L1				115,815		Assuming 4 yrs at 21,533 m ³ + 1 yr at 29,683 m ³
	1% of FMA for local use	L1			1,902	221		Assuming 1 year at 1,902 m ³ deciduous and 221 m ³ coniferous
Al-Pac Forest Products Inc.	FMA9100029	L2			678,855		40,809	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 121,770 m ³ deciduous (0 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 174,130 m ³ deciduous. Assuming 1.337 yr at 30,523 m ³ incidental coniferous per year
Vanderwell Contractors (1971) Ltd.	CTQL020022	L2	8,312			55,934		Assuming 1 yr at 49,756 m ³ minus 2,134 m ³ /yr (permit volume harvest (2001-2003) prior to converting volume to a quota in 2004) + 8,312 m ³ AAC reconciliation volume.
Spruceland Millworks Inc.	CTQL020018	L2	8,538			55,111		Assuming 4 yrs at 8,579 m ³ and 1 yr at 12,257 m ³ + 8,538 m ³ AAC reconciliation volume.
Spruceland Millworks Inc.	CTQL020019	L2				89,839		Assuming 4 yrs at 16,550 m ³ and 1 yr at 23,639 m ³
	CTPP	L2				224		Assuming 4 yrs at 41 m ³ and 1 yr at 60 m ³
	1% of FMA for local use	L2			1,759			Assuming 1 yr at 1,759 m ³ deciduous

Table 4. Periodic and Quadrant Allowable Cuts

Company Name	Disposition Number	FMU	Approved Quadrant Coniferous Reconciliation Volume (m ³)	Approved Quadrant Deciduous Reconciliation Volume (m ³)	Deciduous Quadrant Allowable Cut (m ³)	Primary Coniferous Quadrant Allowable Cut (m ³)	Secondary Coniferous Quadrant Allowable Cut (m ³)	Comments
Al-Pac Forest Products Inc.	FMA9100029	L3			530,180		28,180	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 104,940 m ³ deciduous (0 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 109,039 m ³ deciduous. Assuming 1.337 yrs at 21,077 m ³ incidental coniferous per year
Millar Western Forest Products Ltd.	CTQL030014	L3				591,865		Assuming 4 yrs at 112,387 m ³ + 1 yr at 142,317 m ³
	CTPP	L3				34,046		Assuming 4 yrs at 6,103 m ³ + 1 yr at 9,634 m ³
	1% of FMA for local use	L3			1,101			Assuming 1 yr at new AAC at 1,101 m ³
Al-Pac Forest Products Inc.	FMA9100029	L8			270,981		12,677	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 48,510 m ³ deciduous (0 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 69,775 m ³ deciduous. Assuming 1.337 yrs at 9,482 m ³ incidental coniferous per year.
St. Jean Lumber 1984 Ltd.	CTQL080002	L8				117,826		Assuming 1 yr at 19,990 m ³ + 4 yrs at 24,459 m ³
	CTPP	L8				20,947		Assuming 4 yrs at 4,010 m ³ + 1 yr at 4,907 m ³
	1% of FMA for local use	L8			705			Assuming 1 yr at 705 m ³
Al-Pac Forest Products Inc.	FMA9100029	L11			1,775,094	831,709		Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 330,660 m ³ deciduous (144,000 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 421,755 m ³ deciduous (227,393 m ³ coniferous)
	CTPP	L11				75,000		Assuming 5 yrs at 15,000 m ³ /yr as per the FMA agreement.
	1% of FMA for local use	L11			4,260	2,297		Assuming 1 yr at 4,260 m ³ deciduous and 2,297 m ³ coniferous

Table 4. Periodic and Quadrant Allowable Cuts

Company Name	Disposition Number	FMU	Approved Quadrant Coniferous Reconciliation Volume (m ³)	Approved Quadrant Deciduous Reconciliation Volume (m ³)	Deciduous Quadrant Allowable Cut (m ³)	Primary Coniferous Quadrant Allowable Cut (m ³)	Secondary Coniferous Quadrant Allowable Cut (m ³)	Comments
Al-Pac Forest Products Inc.	FMA9100029	S7			445,134		16,981	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 80,091 m ³ deciduous (0 m ³ conifer) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 113,508 m ³ deciduous. Assuming 1.337 year at 12,701 m ³ incidental coniferous per year
	CTPP	S7/S7J				79,846		Assuming 4 yrs at 12,480 m ³ + 1 yr at 29,926 m ³
	1% of FMA for local use	S7			1,147			Assuming 1 yr at 1,147 m ³
Al-Pac Forest Products Inc.	FMA9100029	S11			783,301		39,483	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 147,510 m ³ deciduous (0 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 181,729 m ³ deciduous. Assuming 1.337 year at 29,531 m ³ incidental coniferous per year
S11 Logging Company Ltd.	CTQS110003	S11				187,010		Assuming 2 yrs at 53,286 m ³ + 1 yr at 80,438 m ³
Unallocated		S11				26,016		Assuming 4 yrs at 4,722 m ³ and 1 year at 7,128 m ³
	1% of FMA for local use	S11			1,836			Assuming 1 yr at 1,836 m ³
Al-Pac Forest Products Inc.	FMA9100029	S18			1,220,332		66,129	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 229,721 m ³ deciduous (0 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 283,369 m ³ deciduous. Assuming 1.337 yr at 49,461 m ³ incidental coniferous per year
Alberta Plywood Ltd.	CTQS180004	S18	55,791			547,419		Assuming 4 yrs at 92,128 m ³ and 1 yr at 123,116 m ³ plus an AAC reconciliation volume of 55,791 m ³
Vanderwell Contractors (1971) Ltd.	CTQS180002	S18	32,958			178,582		Assuming 4 yrs at 27,290 m ³ and 1 yr at 36,464 m ³ plus an AAC reconciliation volume of 32,958 m ³
	1% of FMA for local use	S18			2,862			Assuming 1 year at 2,862 m ³

Table 4. Periodic and Quadrant Allowable Cuts

Company Name	Disposition Number	FMU	Approved Quadrant Coniferous Reconciliation Volume (m ³)	Approved Quadrant Deciduous Reconciliation Volume (m ³)	Deciduous Quadrant Allowable Cut (m ³)	Primary Coniferous Quadrant Allowable Cut (m ³)	Secondary Coniferous Quadrant Allowable Cut (m ³)	Comments
Al-Pac Forest Products Inc.	FMA9100029	S22			1,941,294	62,930	57,569	Assuming 3.663 yrs (Sept 1, 2001 to April 30, 2005) at 356,400 m ³ deciduous (7,627 m ³ coniferous) and 1.337 yrs (May 1, 2005 to August 31, 2006) at 475,543 m ³ deciduous (26,172 m ³ coniferous). Assuming 1.337 year at 43,058 m ³ incidental coniferous per year
Vanderwell Contractors (1971) Ltd.	CTQS220001	S22	52,036			240,831		Assuming 3 yrs at 32,641 m ³ + 2 yrs at 45,435 m ³ plus an AAC reconciliation volume of 52,036 m ³
	CTPP	S22				33,851		Assuming 4 yrs at 7,732 m ³ + 1 yr at 2,923 m ³
	Unallocated	S22				100,000		Assuming 5 yrs at 20,000 m ³
	1% of FMA for local use	S22			4,603	125		Assuming 1 yr at 4,603 m ³ deciduous and 125 m ³ coniferous

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Objective 1 SOCIAL FMP Section 1.1								
To continue public involvement (e.g. Forest Management Task Force (FMTF)) and consultative processes, which encourage input at the early stages of planning.	1. Consensus Building Program (Forest Management Task Force) <i>Reevaluate the PAC to improve the public perception of its usefulness</i>	Number of FMTF meeting / year; caucus meetings / year ; documented minutes <i>Develop process to gauge satisfaction of public involvement group members</i>	# / yr			X		
	2. Information/Participation Program	Number of AOP open houses; participation in community trade shows	# / yr		X			
Objective 2 ECOLOGICAL FMP Section 3.1								
To update the AVI inventory and continue to provide sound data for planning.	1. <i>Maintain the AVI through a photo-based update and field program</i> (See # 3 below)	Number of township equivalents completed each quadrant vs. planned; Corresponding upgrade of FMU photo library	% Variance from target # of townships		X	X		
	2. Continue to utilize leaf-off colour-infrared photography to enhance the identification of conifer understorey and crown components in mixedwood stands and map to AVI standards.	Number of CIR photos used in AVI; Utilization of CIR understorey information to enhance TSA and AOP - # of detailed block plans.	<i>Number of hectares inventoried for the presence or absence of understorey</i>	X		X		
	3. Update one tenth of the FMA (approximately 65 townships) every year.	Number of township equivalents completed each quadrant vs. planned using SAVI inventory system.	% Variance from target # of townships		X	X		
	4. Systematically update depletions, natural disturbances and land use. The FMA area harvest and disturbance depletions will be updated annually through remote sensing, and land use activities (roads, etc) will be updated on a five-year cycle using Al-Pac's remote sensing products.	Annually - 100% of reported forest company depletions are updated in AVI; Quadrant - 50% of FMA area landuse depletions are updated in AVI. <i>Work on only 50% may not be appropriate</i>	% Variance from target # of hectares / yr		X	X		
	5. Supplement the temporary sample plot program with additional samples to ensure representative and statistically sound data for each of the common forest cover strata.	Number of TSPs measured / year in selected strata	<i># Plots / yr as determined in G&Y plan</i>			X		
	6. Continue to establish and maintain the current network of permanent sample plots to monitor and measure growth and succession in forest types.	Quadrant report on status of PSPs - continuing measurements and new PSPS (# of plots)	# Plots / yr			X		
	7. Prepare a growth and yield strategy (business plan) within one-year of plan approval to meet future growth and yield needs.	Approved growth and yield strategy (PSP / TSP targets)	Approved Plan - Y/N				X	Growth & Yield Strategy
	8. Continue Alberta-Pacific's participation in the Western Boreal Growth and Yield Cooperative (WESBOGY).	Dues Payment; Annual Report from U of A	Membership -Y/N				X	UofA WESBOGY Annual Report

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Objective 3 ECONOMIC FMP Section 3.2								
To salvage suitable timber that can be utilized recognizing economic and ecological constraints.	1. Promptly evaluate fire-killed, wind-thrown or insect and disease damaged timber for salvage.	Percent of hectares salvaged from the net merchantable landbase; actual delivered volume vs. forecasted FHP volume in salvage area.	ha salvaged / fire / net landbase: m3 Variance - planned vs. actual		X			
	2. Purchase industrial salvage (from pipelines, seismic lines, etc.) and assist industrial users in feasibility and salvage plans. Ensure all salvage is charged to timber production (cut control), with the exception of volumes from LIS programs where average width is less than 2.0 metres and no width exceeds 2.5 metres	Gross Volume (m3) / year . # of Purchase agreements / year - if requested. (effective system in place to charge salvage/unsalvaged merchantable volume to cut control)	m3 / yr. # of plans		X			
	3. Purchase salvage from agricultural land clearing.	# of fibre purchase agreements / quadrant; volume / quadrant	# of agreements / yr; m3 / yr		X			
	4. Follow the provincial fire salvage policy (Alberta SRD, Forest Operations Branch 2002): a) at the FMU level plan to leave a minimum of 10% of the merchantable black timber in patches > 100 ha. b) at the planning unit level, leave on average 10% of merchantable black timber in patches > 10 hectares and a minimum of 5% merchantable black timber in small patches and single trees according to loggers choice.	New salvage protocols incorporated into new regional OGRs - QH and SRD cooperation.	Actual fire metrics - ha in patches (stand / planning unit level) Actual vs. target variance	X	X		X	OGRs
	5. Evaluation of the effects of salvage logging on boreal forest landscapes should be undertaken by the forest companies. (Conifer and deciduous landscapes)	Summary report on conifer and deciduous salvage logging. Actual volumes vs. planned vs. TSA volume estimates (All forest companies activities)	Complete an evaluation - Y/N; Hectares Harvested within fires				X	Research Summary Stewardship Appendix
	6. Incorporate into the next OGRs new fire planning protocols - landscape and stand structure retention, utilization and timelines.	New and approved OGR protocols.	Y/N				X	OGRs
Objective 4 ECONOMIC FMP Section 3.3								
Support SRD in its mandate to minimize losses from epidemics of forest insects, diseases and infestations of restricted noxious weeds, and large catastrophic fires on the FMA area.	1. Identify outbreaks of insects / disease / weeds to SRD, as per Forest Management Branch directives	Number of outbreaks identified by staff / year - provided to SRD	# outbreaks / yr - reported to SRD	X	X			
	2. Continue to train AI-Pac and forest companies' personnel in pest identification	Number of trained woodlands staff; documentation on training program.	# of trained personnel			X		
	3. Cooperate in the Northeast Boreal Co-operative Weed Management Committee	Number of meetings attended / year Some measure of effectiveness for weed control is necessary	# meetings attended / yr			X		
	4. Cooperate in the Northeast Boreal Integrated Pest Management Working Group	Number of meetings attended / year	#			X		
	5. Promote public awareness of fire through prevention and detection discussions during tours, on signs, and in advertisements.	Documentation on prepared awareness publications.	# of communication vehicles				X	Fire Control Plan
	6. Ensure continued awareness of staff and contractors to fire conditions and the importance of fire precautions during operations.	Demonstration on what has been done and of how this is communicated. Provide list of training and attendees. (See #2 above)	Y/N				X	Fire Control Plan
	7. Provide Woodlands personnel and contractors with adequate training to initiate action on newly discovered fires and to assist with the suppression of fires during emergencies on the FMA area.	Provide list of trainees.	List to SRD				X	Fire Control Plan
	8. Experienced personnel will obtain "Industry Dozer Boss" (or equivalent) level training through courses provided by Alberta SRD.	Provide list of trainees.	List to SRD				X	Fire Control Plan

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	9. Provide fire fighting personnel and equipment as outlined in the Fire Control Agreement and annual plans. During fire season, equipment caches will be located near operating crews and Alberta-Pacific and contractor vehicles will carry fire-fighting equipment: as identified in Section 5 of the Forest and Prairie Protection Regulations 135/72.	Number and map of caches;	Map in Fire Control Plan				X	Fire Control Plan	
	10. After plan approval, prepare a pilot study on landscape fire management for one FMU in the FMA area.	Completion & documentation on an FMU landscape plan.	Completed study by 2011				X	FireSmart Strategy Plan	
Objective 5	FMP Section 3.4								
ECOLOGICAL									
To develop an efficient road network for log deliveries throughout the FMA area, that minimizes the amount, distribution and duration of the roading footprint, and to mitigate the effects of roads on fish and wildlife, and sustaining ecosystem functions.	1. Continue to develop an access development map (AD-map) of expected future roading needs to facilitate government and industry synergy in road corridor planning (Appendix 5).	Completion of the "AD-MAP" for insertion in the FMP. Publication of the Map for all users reference.	Map included with FMP. Adherence to the plan or tracking of deviation from plan	X	X	X			
	2. The forest companies expect not to exceed an additional 1,500 km of permanent road in the FMA area throughout the duration of the approved harvest sequence. (3 TSA periods)	Kilometres of forest companies LOC roads / quadrant	# of Km / quadrant - variance to target			X			
	3. The forest companies will not build more than 3,000 km/year of temporary road in the FMA area throughout the duration of the approved harvest sequence.	Kilometres of forest companies temporary roads / year	# of Km / quadrant - variance to target			X			
	4. Implement and support an aggressive ILM program to maximize synergies among industrial users and government agencies to reduce the human footprint on the landscape. (See Objective # 21)	Number of forest industry road km under a co-operative road-use agreement vs. total number of road km	Km in agreements & % of total roads.			X			
	5. Locate and design main haul roads to: (1) minimize total hauling and maintenance costs, (2) avoid duplication of existing road corridors, (3) maintain the highest level of safety.	Remain within forest companies road's budgets. Number of penalties for not meeting OGR road specifications. Number of safety infractions by forest industry vehicles / year.	# OGR penalties / quad. # of safety infractions / yr		X	X			
	6. Minimize development within key wildlife areas (as agreed upon between the forest companies and Alberta Sustainable Resource Development) and negative environmental effects, including effects on soil, water, wildlife habitat and populations, and losses in productive forest growth. The companies will continue to work with Alberta Sustainable Resource Development staff to ensure effective mitigative processes are undertaken for negative environmental effects.	Number of Km of forest company temporary and LOC roads constructed in key wildlife zones.	Km / quadrant in wildlife zones; Km reclaimed / quadrant			X			
	7. Utilize temporary roads to access cutblocks from the main haul roads, and identify those temporary roads that will see recurrent use so that modified reclamation procedures can be implemented that will minimize erosion potential and costs.	km of temp roads vs. km of reclaimed temp roads / quadrant. Set target for roads reclaimed	Km built / reclaimed / quadrant			X			
	8. Utilize signs to notify the public of the temporary nature of access roads.	Number of signs/km of temp road. Is this practical?	# of signs			X			
	9. Continued co-operation and compliance with the Boreal Caribou Committee guidelines.	# of outstanding grievances with BCC guidelines; # of range plans developed & implemented.	# of grievances; # of plans; # of plans implemented			X			

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	10. Investigate efficient road planning with innovative spatial forest planning tools at the TSA level throughout the life of this plan.	Completion of a case-study on a road module within a TSA	Completed Case-study by 2011				X	Case-Study
Objective 6 ECOLOGICAL FMP Section 3.4								
To ensure that human development, use and management of the roads take into account the safety of all users (industrial, recreational, Aboriginal) and mitigates the potential negative environmental effects associated with access.	1. Areas with high public use will have appropriate signage in place to caution and inform people about harvesting activities to minimize the potential for accidents.	# of signs in FMA area.	# of signs			X		
	2. Access controls such as barriers, berming, bridge removals, and roll back will be utilized on a site-specific basis and may be addressed in the "Operating Ground Rules for the Alberta-Pacific FMA area."	# of barriers / berms / bridge removals / quadrant	total # / quadrant			X		
	3. The forest companies working with SRD will investigate the feasibility of the establishment of "No Hunting Zone" corridors (possibly 0.4 km on each side of centre) on all new permanent roads for three years following construction. After this period the need for the no hunting corridors would be reviewed in consultation with local community groups within the scope of an overall wildlife management strategy. Trapping activities would not be affected. (Note: Alberta SRD is primary manager of all F&W resources)	Criteria has been developed and received stakeholder support, including full ratification and operational support by Alberta SRD.	Feasibility Analysis with FMTF and Alberta SRD				X	
	4. The company will facilitate research in an adaptive management approach to understand the effects of human access and ways to mitigate such effects (e.g. landscape models).	Research summary	# research projects			X		Research Summary Stewardship Appendix
Objective 7 ECOLOGICAL FMP Section 3.4								
Utilize soils research in the FMA area to minimize in-block road and harvest equipment impacts to ensure vigorous post harvest regeneration.	1. Utilize the existing soil guidelines (2000 OGRs) until a new system is developed.	# of non-compliance reports	# of grievances / yr			X		
	2. Develop an impact rating system for FMA soils and summer operating protocols for harvesting and road construction.	Prepared document on protocols. Protocols acceptable to SRD by 2006	Completed report by 2011, Report on protocols 2006				X	OGRs
	3. Develop a slash hazard protocol for the FMA area. Follow SRD policy	Prepared document on protocols. Follow SRD policy	Completed report by 2011, Compliance measure				X	OGRs

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Objective 8 SOCIAL FMP Section 3.5								
Protect species identified "at risk" or as socially important and meet Alberta government guidelines and ground rules relevant to concerns over specific species.	1. Administer a trapper monitoring program throughout the FMA area. Review the program every 3 years to determine future requirements of the program.	# of trappers on program vs. total # of trappers	# of trappers in program: Program review document			X		
	2. For fish habitat protection, continue to refine and implement "best practices" with regard to road/stream crossings. Implement practices to protect fish habitat. OGRs will document best practices for protection	Documented best-practices protocols; Non-compliance reports, Incidence of poor or non-compliance crossings	Compliance with OGRS		X		X	OGRs
	3. The forest companies will consult with regional stakeholders and the FMTF to assist in identifying species recognized as "at risk" or socially important.	Continued FMTF participation in F&W strategies-documented in minutes of FMTF.	FMTF review of F&W issues				X	FMTF Minutes
	4. Moose-Continue to follow Alberta's Fish and Wildlife Moose Guidelines and where applicable modify operational harvest plans to meet these guidelines (Chapter 2). Manage habitat in manners to ensure acceptable levels of moose habitat.	OGR non-compliance-infractions/year, Amount of habitat available.	# of hectares of habitat			X	X	OGRs
	5. Woodland Caribou-Continue to follow provincially approved landuse guidelines for industrial operations in caribou range. Participate in habitat modeling exercises and meet guidelines developed through individual range planning processes under the auspices of the Boreal Caribou Committee and/or the provincial caribou recovery plan (once the latter is approved by the Minister of Sustainable Resource Development).	OGR non-compliance-infractions/year; Participation in habitat modeling exercises; Range plans developed and implemented.	# of grievances / yr; # of meetings / yr; # of range plans developed and implemented.			X	X	OGRs; Provincial Caribou Range Plans (under development)
	6. Trumpeter Swan-Continue to follow Alberta's Fish and Wildlife Trumpeter Swan Guidelines and where applicable modify operational harvest plans to meet these guidelines.	OGR non-compliance-infractions/year	# of grievances / yr			X	X	OGRs
	7. Colonial Waterbirds- Follow OGRs developed for the protection of colonial waterbirds.	OGR non-compliance-infractions/year	# of grievances / yr			X	X	OGRs
	8. Owls- Coarse filter ecosystem management protocols (Objective 11) will be followed to ensure a range of habitat is maintained that falls within the natural range of variability (see also Objective 24 regarding maintenance of old forest).	Maintenance of old-forest stand (over-mature forest seral stage) areas for each of the five main forest cover types within +/-25 per cent of the mean of the natural range of variation (NRV).	% of forest in old (over-mature) state; Variance from TSA - @ GDP quadrant report	X		X	X	OGRs
	9. Raptors-Coarse filter ecosystem management protocols (Objective 11) will be followed to ensure a range of habitat is maintained that falls within the natural range of variability (see also Objective 24 regarding maintenance of old forest). There is insufficient data to develop accurate models for Northern Goshawk habitat in northeastern Alberta.	Maintenance of old-forest stand (over-mature forest seral stage) areas for each of the five main forest cover types within +/-25 per cent of the mean of the natural range of variation (NRV).	% of forest in old (over-mature) state; Variance from TSA - @ GDP quadrant report	X		X	X	OGRs
	10. Warblers-Coarse filter ecosystem management protocols (Objective 11) will be followed to ensure a range of habitat is maintained that falls within the natural range of variability.	Maintenance of old-forest stand (over-mature forest seral stage) areas for each of the five main forest cover types within +/-25 per cent of the mean of the natural range of variation (NRV).	% of forest in old (over-mature) state; Variance from TSA - @ GDP quadrant report	X		X	X	OGRs
	11. Amphibians-Coarse filter ecosystem management protocols (Objective 11) will be followed to ensure a range of habitat is maintained that falls within the natural range of variability (see also Objective 24 regarding maintenance of old forest). There is insufficient data to develop accurate models for Canadian Toad habitat in northeastern Alberta.	Maintenance of old-forest stand (over-mature forest seral stage) areas for each of the five main forest cover types within +/-25 per cent of the mean of the natural range of variation (NRV).	# of hectares of cover groups vs. TSA - quadrant report	X		X	X	OGRs

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	12. Cavity Nesters-Coarse filter ecosystem management protocols (Objective 11) will be followed to ensure a range of habitat is maintained that falls within the natural range of variability (see also Objective 24 regarding maintenance of old forest). Post-fire habitat is recognized as an important habitat for some cavity nesting species. See section 3.3 for strategies to maintain habitat on the landscape for fire-associated species.	Maintenance of old-forest stand (over-mature forest seral stage) areas for each of the five main forest cover types within +/-25 per cent of the mean of the natural range of variation (NRV).	% of forest in old (over-mature) state; Variance from TSA - @ GDP quadrant report	X		X	X	OGR
Objective 9	ECONOMIC FMP Section 3.6							
Manage nine FMUs under an integrated landbase system and two FMUs under a mixedwood common landbase system to maintain or increase both coniferous and deciduous fibre flows from the FMA area.	1. Continue amalgamation of the FMA area FMUs into larger sustainable zones under distinct TSA landbase scenarios.	Currently - 11 FMUs, Move towards single sustained forest management unit.	# of FMUs	X				
	2. Optimize the fibre volume (coniferous and deciduous) flow from the FMA area.	TSA for 11 FMUs. - % Harvest / quadrant vs. approved AAC. (m3) Hectare variance by AAC profile. Cut control is used to determine volume summaries.	m ³ /quad AAC Variance - in GDP: Ha variance / quadrant		X	X		
	3. Utilize the existing approved AACs (Al-Pac DFMP 2000) as the baseline for maintenance of all fibre allocations	Completed TSA for gross FMA area (6.8 million ha)	Y/N - used in TSA	X				
	4. Include all the FMA regional landbase exclusions or "donuts" in the TSA	Completed TSA for gross FMA area (6.8 million ha)	Y/N	X				
	5. Continue to explore TSA / Forest Management simulation models that can perform forest succession and calculate an AAC.	Approved AAC from modeled forecasts.	Y/N	X				
	6. Continue to develop successional yield curves for mixedwood sites and refine empirical yield curves. (See Forest Inventory Section 3.1)	Approved yield curves for FMA area: empirical and mixedwood.	Y/N	X				
	7. Through modeling, investigate the impact of the energy sector's activities on the FMA area (see Objective # 24).	Case-study within TSA	Y/N	X			X	Case-Study
	8. Implement silvicultural treatments on all cutblocks (See Objective # 15) to provide vigorous forest regeneration to meet or exceed silvicultural guidelines.	SR vs. NSR blocks. Variance from FMP silviculture table / operator.	ha Variance @ quadrant				X	Silviculture Report
	9. Adopt mixedwood management landscape strategies, harvesting techniques, silviculture, and successional yield curves. (See Table 3.6 and Forest Renewal Section 3.6)	Two FMUs have an approved mixedwood TSA for duration of the FMP.	Y/N	X	X		X	Silviculture Report
	10. Utilize basic harvesting techniques and standard silviculture under a traditional monitoring system.	Nine FMUs have an approved empirical TSA - meets silviculture regulations.	Y/N	X	X		X	Silviculture Report
	11. Operate under the approved OGR protocols and future amendments.	Approved AOP; # of non-compliance penalties / annum	Y/N # of grievances / yr		X	X		
Objective 10	ECONOMIC FMP Section 3.6							
Provide the opportunity to investigate/evaluate the feasibility of improving fibre supply through Intensive Conifer Forest Management (i.e. EFM) in the FMA area.	1. Prepare a conceptual Intensive Conifer Forest Management "case-study" within SRD enhanced forest management technical protocols.	One case-study prepared and presented to the forest companies, SRD and the FMTE.	Y/N - prepared by a Quota Holder					EFM Case-Study

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Objective 11 ECOLOGICAL	FMP Section 3.6							
Maintain forest cover patterns by designing and implementing landscape level harvest plans, including aggregated harvesting system, that more closely resemble natural disturbance patterns at the landscape level.	1. Maintain existing forest cover patterns at the landscape level by implementing landscape level harvest plans involving aggregated harvest plans (i.e. single-pass systems), as outlined in the OGRs.	Adherence to spatial sequence (% variance from TSA target) ;Adherence to major cover group harvest profile (% variance from TSA target); Pre-industrial TSA case-study for selected FMUs; Compliance with OGRs with respect to stand boundaries. Measure unplanned areas.	Unplanned areas measured and recorded. Case-study Analysis		X	X		Case-Study
	2. Landscape level harvest plans and cutblocks are planned and harvested by following natural stand boundaries and stand types.	Approved harvest plans following natural stand types.	Y/N			X		
	3. Where human activities have fragmented forest cover patterns, the companies may examine the pre-industrial pattern as a template for future landscapes.	Analysis on pre-industrial pattern	Y/N				X	Case-Study
	4. Clustering of cutblocks within a disturbance or planning unit based on the natural disturbance model. Average cutblock size may be similar, but not limited to, the historical average that varied from 15 to 26.4 hectares that was encountered under the two-pass system that was used prior to FMA initiation and in the first 8 years of FMA area management.	Actual average cutblock size (all forest companies & MTU) versus historical average hectare block size (variance) - measured on a quadrant basis.	% Variance of avg. ha cutblock vs. historical average			X		
	5. An increase in the variation of patch or cutblock size and shape that should more closely approach the naturally existing variation on the landscape.	Average actual block-size vs. pre-industrial case-study analysis - % variance from study metrics.	% increase in avg. cutblock size / quadrant			X		
	6. Maximum allowable cutblock size of 500 hectares.	Size of largest cutblock - empirical systems	# cutblocks @ 500 ha / quadrant			X		
	7. Variation in disturbance unit size and distribution; within a FMU.	Approved AOP with increased variation vs. historical AOP planning unit size (1993-2004) - % change	Range & variance of planning unit sizes		X	X		
	8. The forest companies expect that 45% of the area harvested to be in disturbance units less than 500 hectares in size.	Number of units <500 ha versus total # of units - quadrant basis.	% units Variance / target		X	X		
	9. The forest companies expect to combine 20% of the area cut in aggregated disturbance units between 500 and 10,000 hectares in size.	Number of units 500 - 10,000 ha versus total # of units - quadrant basis.	% units Variance / target		X	X		
	10. The forest companies expect to combine 35% of the area harvested in aggregated disturbance units between 10,000 and 30,000 hectares in size.	Number of units 10,000 - 30,000 ha versus total # of units - quadrant basis.	% units Variance / target		X	X		
	11. No aggregated disturbance units larger than 30,000 hectares.	Number of units > 30,000 ha. = 0	% units greater than target		X	X		
	12. Manage for a range of older-forest stands (over-mature) on the FMA area landscape (See Section 3.16 – Old Forest Retention in the Boreal Forest)	Compliance to TSA - retain older age class within +/- 25% of the target NRV for each major stratum (D, Mixedwood, Sw, Pj, Sb) - % variance from target.	% Variance of actual ha vs. TSA			X		
	13. Model the distribution and amount of juvenile, immature and mature seral stages in each major stratum at 10, 50, 100 and 200 years while gradually moving towards a regulated (equal) distribution through the 200 year planning horizon.	Variance in hectares from the current state of the FMA area forest (based on AVI)	Quadrant status of seral stages - variance from initial TSA situation			X		
	14. Model the amount of mature/old interior forest patches at current, 10 and 50 years within the gross FMA forest area, and retain 75% of the current mature/old interior forest patch size. (as per the Alberta Vegetation Inventory hectares).	Within the TSA - Area (ha) in mature/old interior forest at 10, & 50 years; Measure variance at each quadrant end with current status.	Quadrant status of patches - variance from initial TSA situation			X		
	15. Model the distribution of forest patches at current, 10 and 50 years within the gross FMA forest area, for the mesic strata (deciduous, mixedwood and white spruce), jack pine strata and black spruce strata and remain within +/- 25% of the total patch landscape of the mesic, Pj and Sb strata.	Within the TSA - Area (ha) in mature/old interior forest at 10, & 50 years; Measure variance at each quadrant end with current status.	Quadrant status of patches - variance from initial TSA situation			X		

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Objective 12 ECOLOGICAL FMP Section 3.6								
Retain forest structure at the stand level, where amounts of forest structure will vary from cutblock to cutblock across the landscape.	1. Live wildlife trees and snags are left standing in order to maintain habitat for cavity nesting species and to facilitate natural stand dynamics.	Annual harvest block summary of structure retention metrics - all operators; Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Estimate of structure		X			
	2. Trees in clumps of varying sizes or individual stems are left throughout the block. Stand structuring also includes utilizing block features by avoiding damage to patches of understorey shrubs and wet areas (draws, water sources) and leaving large windfirm conifer (also a valuable seed source). Site-specific practices will be dependent on initial stand and site characteristics and desired block-to-block variation.	Annual harvest block summary of structure retention metrics - all operators; Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Summary of retention - ha / block / yr		X			
	3. Structuring of larger blocks may include a greater range in clump sizes or treed corridors to provide wildlife linkages and feathered edges on the windward side of blocks. (See Alberta-Pacific Stand Structure Guidelines)	Annual harvest block summary of structure retention metrics - all operators; Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Summary of retention - ha / block / yr		X			
	4. In the L1 mixedwood management FMU, an average of 5% of the deciduous merchantable volume and 5% of the merchantable conifer volume will be retained in Al-Pac's cutblocks in addition to unmerchantable structure.	Annual harvest block summary of retention metrics - all operators - ha/yr/FMU; Quadrant summary in Stewardship report. Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Summary of retention - ha / block / yr; Target variance		X	X		
	5. In the L1 mixedwood management FMU, an average of 5% of the deciduous merchantable volume and 5% of the merchantable conifer volume will be retained in Al-Pac cutblocks. An average of 5% of the coniferous merchantable volume and 5% of the merchantable deciduous volume will be retained in Quota holder and MTU coniferous cutblocks. Merchantable structure is in addition to unmerchantable structure	Annual harvest block summary of retention metrics - all operators - ha/yr/FMU; Quadrant summary in Stewardship report. Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Summary of retention - ha / block / yr; Target variance		X	X		
	6. In the nine standard silviculture FMUs, an average of 5% of deciduous merchantable volume will be kept on deciduous cutblocks and on Al-Pac conifer cutblocks in addition to unmerchantable structure.	Annual harvest block summary of retention metrics - all operators - ha/yr/FMU; Quadrant summary in Stewardship report. Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Summary of retention - ha / block / yr; Target variance		X	X		
	7. In the nine standard silviculture FMUs, on the Quota Holder and MTU coniferous cutblocks, an average of 5% conifer and 5% of deciduous will be retained on all cutblocks in addition to unmerchantable structure.	Annual harvest block summary of retention metrics - all operators - ha/yr/FMU; Quadrant summary in Stewardship report. Operator Stand Structure audits on a sample of blocks. (Statistically significant sample)	% blocks audited; Summary of retention - ha / block / yr; Target variance					
	8. Review the stand structure guidelines to align them with the mixedwood landbase paradigm and new research findings.	New guidelines for next OGR review - documented	Y/N - new guidelines by 2011			X		
	9. Leave coarse woody debris in the form of rotting logs, aspen tops and large limbs that provide habitat for a number of plant and animal species. Falling, skidding, delimiting and decking will be conducted in such a way as to provide such material.	# of blocks with debris vs. # of blocks with debris burning - variance from total annual blocks.	Total # blocks with debris vs. total blocks		X			
	10. Slash from delimiting will usually be retained in piles but may be spread out for access control or habitat purposes, and forest protection initiatives, provided it will not significantly impact regeneration (see Section 3.4 - Forest Protection - Slash Hazard Abatement). (New slash protocols may be developed under subsequent OGRs).	Silviculture report - # blocks NSR due to slash.	NSR report				X	Silviculture Report
	11. Develop process/protocols for measuring stand structure effectiveness in maintaining biodiversity values.							

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Objective 13 ECOLOGICAL	FMP Section 3.6							
Utilize reforestation treatments (silviculture) that provide for vigorous forest regeneration to meet or exceed silvicultural regulations.	1. Use sound silviculture practices as laid out in the FMA area's Operating Ground Rules.	Silviculture Report - ha variance to FMP treatment table; SR vs. NSR variance - @ quadrant	NSR vs. SR / quadrant; Variance from table	X			X	Silviculture Report
	2. Follow provincially regulated silvicultural guidelines and practices to regenerate 100% of all cutblocks.	OGR Compliance - # of penalties; Approved AOP.	NSR vs. SR / quadrant; Variance from table. Tie to SRD business Plan Performance Indicator		X			
	3. Site / species dependent: -Traditional Reforestation Methods -Alternative Silviculture Systems	Silviculture Report - ha variance to FMP treatment table; SR vs. NSR variance - @ quadrant	NSR vs. SR / quadrant; Variance from table	X			X	Silviculture Report
Objective 14 ECONOMIC	FMP Section 3.6							
Continue the maintenance and enhancement of a block-level silvicultural record keeping system that is compatible with Alberta SRD requirements.	1. Continue to utilize and maintain the current Woodlands Information System (WIS).	Described in Silviculture Report - Y/N	Y/N - Implement WIS				X	Silviculture Report
	2. Explore and implement a new information system and evaluate existing systems.	Described in Silviculture Report - Y/N	Y/N				X	Silviculture Report
Objective 15 ECONOMIC	FMP Section 3.6							
Replace incidental conifer by regenerating or protecting sufficient conifer growing stock to produce an equivalent volume of conifer at rotation.	1. Replace conifer from deciduous stands (D and D(C)) by increasing the conifer component in reforested stands (D, D(C), DC, CD). For every 200m ³ of conifer harvested from D and D(C) stands, an equivalent of one hectare conifer growing stock will be replaced in the FMU of origin.	Number of hectares reforested to equivalent conifer volumes. NSR report of incidental conifer planting sites. Adherence with strategy approved by SRD by 2006	# of Ha treated / yr				X	Silviculture Report
	2. Replace incidental conifer from DC (FMU dependent) stands in accordance with Alberta Sustainable Resource development regeneration standards.	Strata balance +/- 5% - as per SRD silviculture directives	NSR vs. SR / quadrant;				X	Silviculture Report
	3. Use retained post-harvest conifer (e.g. high effort understorey protection) to contribute to growing stock required for incidental conifer reforestation.	# of ha of understorey protection contributing to conifer growing stock	# of Ha treated / yr			X	X	Silviculture Report
	4. Balancing of conifer replacement will be in accordance with Alberta SRD policy and directive 2005-01 and reported in the Annual Operating Plan (AOP).	Compliance with directives, approved AOP	Compliance - Y/N		X		X	Silviculture Report
	5. By 2011 use an Alternative Regeneration Standard (ARS) where total growing stock from all cover groups contributes to future stocking objectives (see Objective # 17).	Implement an approved "ARS"	ARS presented to SRD. System is acceptable to SRD					

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Objective 16 ECONOMIC FMP Section 3.6								
Continual integration of all forest management activities by Quota Holders, Alberta-Pacific and the Alberta SRD administered Conifer Timber Permit (CTP) program through the co-operative implementation of forest management strategies on the FMA area.	1. Continue regular Quota Holder / Alberta-Pacific / Alberta SRD meetings to advance the integration agenda.	# of meetings / year; # of integrated harvest plans, # of FHPs that required the Area manager to intervene	# / yr - minutes available; # of integrated plans / quadrant				X	Auxiliary Report
	2. Work with all forestry companies to ameliorate other industrial users activities (i.e., ILM).	# of cooperative ILM plans / harvest plans per quadrant.	# of AOP - ILM plans / quadrant				X	Auxiliary Report
	3. Prepare data-sharing agreements between Alberta-Pacific and all quota holders, and Alberta SRD by 2006.	# of data-sharing agreements.	# of agreements				X	Auxiliary Report
	4. Investigate a collective planning system for selected FMUs (i.e. one planning team).	# of meetings - minutes; finalized system.	# / yr - minutes available				X	Auxiliary Report
	5. Explore the initiation of timber supply zone based silviculture liability accounts and/or joint reforestation working groups.	# of meetings - minutes; initiation of a joint liability account.	# / yr - minutes available				X	Auxiliary Report
	<i>More concrete measures of integration is necessary</i>							
Objective 17 ECONOMIC FMP Section 3.7								
Alberta-Pacific, the Quota Holders and the Alberta SRD will design and implement a landscape monitoring program for forest growth and yield at the FMU level.	1. The forest companies will design a landscape accounting system (monitoring) acceptable to SRD for forest management that ties block-level actions to the TSA.	Approved monitoring system	Program presented to SRD - Y/N	X				
	2. Design a silviculture / growth and yield monitoring program acceptable to SRD by approval decision deadline.	Approved monitoring protocols	Y/N	X				
	3. In cooperation with the Mixedwood Management Association, design a boreal forest silvicultural / harvest guide.	Silviculture Guide	Y/N	X				
	4. Strengthen stand level successional growth and yield modeling for alternative silviculture systems and proposed intensive conifer systems.	New Data / Models - renewed successional yield curves - approved - Y/N	Y/N - new curves developed	X				
	5. Strengthen empirical growth and yield projections with additional data. (See Forest Inventory section)	# of TSPs / PSPs per quadrant - approval of improved empirical yield curves	Y/N - new curves developed	X				
	6. Utilize "Landscape Monitoring " in the two mixedwood timber FMUs (L1 and L11) acceptable to SRD by approval decision deadline.	Use of "Landscape Monitoring" in two FMUs; Approved AOP.	Y/N		X	X		
Objective 18 ECONOMIC FMP Section 3.8								
Alberta-Pacific and the Quota Holders will continue to explore forest simulation models that reflect successional and silvicultural treatment reality and landscape dynamics.	1. Continue to investigate stand-based forecasts with simulation models (e.g. FORECAST, TASS, SORTIE, and the Mixedwood Growth Model (MGM)) - the design of future forest growth simulation models.	Research summary	Y/N			X		Research Summary Stewardship Appendix
	2. Empirical yield curves will still be utilized and enhanced through additional field data plots for pine, black spruce, and managed conifer strata - mostly pure strata. (See Section 3.1)	# of TSPs / PSPs per quadrant; approval of improved empirical yield curves	Y/N	X				
	3. The forest companies will continue to pursue the next generation of TSA spatial simulation models married to stand-based G&Y forecasts.	Research summary	Y/N			X		Research Summary Stewardship Appendix

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Objective 19 SOCIAL FMP Section 3.11									
Contribute towards the socio-economic good of the region, and the responsible use, protection and practical monitoring of the many social and cultural values.	1. Working with all stakeholders, examine and develop realistic and practical criteria and indicators that measure and monitor FMA area economic and social benefits acceptable to SRD .	Research summary and progress reports by socio-economic research teams	Y/N - Socio-economic indicators report prepared by 2011			X		Research Summary Stewardship Appendix	
	2. Support regional interest groups in the identification and development of the FMA area's recreational and tourist potential. The forest companies will continue to work with recognized recreational groups to facilitate recreational	# of meetings / quadrant & # of grievances, satisfaction rating	# of groups supported			X			
	3. Co-ordinate harvest planning with recreational user groups and commercial tourism operations to protect or enhance their opportunities. Where there are high tourism values (e.g., around lakes and permanent roads) and identified wilderness values, harvesting would be carried out in a manner that could maintain the visual quality.	# of meetings / quadrant & # of grievances, satisfaction rating	# of stakeholders informed; # of plans changed			X			
	4. Work with trappers, local lodge operators, outfitters and interest groups to identify significant wilderness areas and minimize the effects of harvesting activities and duration on these areas.	# of meetings / quadrant & # of grievances, satisfaction rating	# of stakeholders informed			X			
	5. When an appropriate course is developed the forest companies will provide training opportunities for selected field staff in the identification and documentation of historic and cultural sites and plants.	# of trained staff	# of trained staff			X			
	6. Continue to offer Global Positioning System (GPS) services for Traditional Land Use studies or upgrades of studies in existence.	# of requests for assistance	# of TLUS assisted with GPS			X			
	7. Continue co-operative initiatives with non-government organizations (e.g. Ducks Unlimited - Ducks and Trees Program).	participation in initiatives	# of co-operative MOUs			X			
	8. Participate in the Boreal Conservation Project (BCP) with Ducks Unlimited.	Ongoing MOU with DU	Co-operative MOU			X			
	9. Participate in management planning initiatives affecting the Athabasca and Clearwater River valleys, and other significant ecological and environmental initiatives affecting the FMA area.	# of meetings / quadrant	# of meetings / quadrant			X			
Objective 20 ECOLOGICAL FMP Section 3.12									
Identify a series of ecological benchmarks representative of the habitat diversity of the FMA area	1. Complete protected area gap analysis for the FMA area.	Completion of gap analysis.	Completed Report				X	Protected Area gap report	
	2. In association with interested and informed stakeholders, assess existing protected areas (See Chapter 2 - Wildland Parks summary) and unmanaged areas with limited industrial activity for inclusion in a network of ecological benchmark areas within or adjacent to the FMA area.	Assessment report on protected areas	Completed Report				X	Protected Area Assessment Report	
	3. Establish a program that will utilize ecological benchmarks to monitor biological diversity and ecosystem function by comparing harvested vs. non-harvested landscapes as part of an active adaptive management system (See Objective # 26)	Initiation of a biological monitoring program - Alberta Biomonitoring Program (ABMP).	# plots monitored				X	ABMP Report	
	4. Monitor biological diversity and ecological processes (as defined by the AFBMP) over time on ecological benchmarks and areas under sustainable forest management.	Continued implementation of a biological monitoring program - Alberta Biomonitoring Program (ABMP).	# plots monitored				X	ABMP Report	

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	5. Potential areas may be deferred from the harvest sequence while the forest companies work with interested stakeholders in order to gain legislative protection for sites.	TSA has deferral areas - # of hectares / AAC effect.	# Hectares Deferred in TSA	X					
	6. Complete a High Conservation Value Forest (HCVF) assessment for the FMA area and develop management strategies for High Conservation Value Forests, as required.	HCVF Management Plan	Completed Report				X	HCVF Plan	
Objective 21	FMP Section 3.14								
	ECOLOGICAL								
Minimize, through integration of industrial activities on the FMA area, the industrial footprint in terms of its size, intensity, distribution, and duration on the landbase.	1. Apply the ILM philosophy to the entire FMA area.	# of ILM plans vs. total plans, % reduction of linear disturbance, % of programs of low impact seismic, productive lands deleted from the gross landbase.	# of plans			X			
	2. Utilize dynamic landscape models to assist in the identification of priority opportunities and the assessment of the impacts of integration and non-integration.	Analysis of cumulative effects	Completed Report			X		Impacts Report	
	3. From the model, examine potential energy sector landbase scenarios on the TSA model to examine potential long-term sustainability (see TSA section).	Approved TSA amendments	Y/N	X					
	4. At the AOP level continue to identify and implement operational inter- and intra-industry integration opportunities.	# of approved ILM plans	# of Plans			X			
	5. Support the ILM Research Chair Position at the U of A.	Research summary	Y/N			X	X	Research Summary Stewardship Appendix	
	6. Continue to comply and support development of Integrated Resource Management Plans for N.E. Alberta.	Meeting with SRD officials - minutes	Y/N				X	Minutes	
Objective 22	FMP Section 3.15								
	SOCIAL								
Continue to develop and refine a system for predicting where heritage resources are potentially located; and, develop a process for identification of sensitive sites into operational planning.	1. Continue to develop and refine a heritage resources system with the assistance of a qualified archaeologist to comply with the Alberta Historical Resources Act.	ACD approved plan / Archaeology certificate	AOP approval		X	X			
	2. Through a heritage resources model continue to develop impact conditions for the FMA area landscape.	ACD approved plan / Archaeology certificate	AOP approval		X	X			
	3. Prepare heritage protection prescriptions in areas with high heritage potential with the assistance of a qualified archaeologist.	ACD approved plan / Archaeology certificate	AOP approval		X	X			
	4. Use current land-use data (GIS), aerial photography, and cultural studies to assist in identifying heritage resources and sensitive sites.	ACD approved plan / Archaeology certificate	AOP approval		X	X			
	5. Ensure known (in digital format) sensitive sites are not impacted by the harvest sequence.	# of sites in netdown.	# sites incorporated in AOP	X	X				
	6. With the assistance of Alberta ACD and SRD develop a program to train forest companies' staff in the identification of historical and sensitive sites.	Approved training program ; # of trained staff	Y/N Program, # of trained staff			X			
	7. Prepare sensitive site OGRs at the next OGR instalment.	Approved sensitive site OGRs.	New OGRs				X	OGRs	

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Objective 23 ECONOMIC FMP Section 3.16								
Identify spatially explicit sustainable harvest levels (Timber Supply Analysis - Annual Allowable Cut (AAC) Calculation) that are sufficient for FMA area timber users and sustain the environmental and social values of the FMA area.	1. Complete a detailed landbase netdown for all 11 FMUs.	Approved netdown process	SRD Approval	X				
	2. Utilize approved empirical and mixedwood yield curves sets.	Approved Yield Curves (2 sets)	SRD Approval	X				
	3. Utilize the Woodstock/Stanley and Patchworks timber supply models (TSA Appendix).	Approved TSA	SRD Approval	X				
	4. Maximize the coniferous and deciduous AACs.	Approved TSA / % Utilization of AAC - quadrant level	% AAC actual vs. TSA - GDP report			X		
	5. Develop a fully spatial harvest sequence for the first 15 years of harvest .	Variance from TSA strata and sequenced area in AAC forecast (hectares)	SRD Approval		X	X		
	6. Allocate the conifer harvest sequence based on the AAC leading conifer species profile (white spruce, black spruce and pine).	Harvest sequence based on profile - hectares / species/ quadrant	SRD Approval		X	X		
	7. Maintain the current proportions of coniferous, mixedwood and deciduous broad cover-groups throughout the FMA area; within a range of +/- 15% of the current AVI status.	Variance from targets at the FMA area level	% Variance from TSA D / DC / CD / C - reported in GDP		X	X		
	8. Avoid increased fragmentation and excess roading (access) of the FMA area landscape using an aggregated harvest system that will create a range of opening sizes that should sustain larger tracts of contiguous forest habitat (See objective # 11)	Variance from targets in objective # 11.	# of aggregated harvest plans / yr			X		
	9. Maximum block size of 500 hectares.	Implemented in the empirical TSA.	# of 500 ha blocks			X		
	10. Design harvest plans that follow natural landscape disturbance patterns and stand boundaries.	See Objective # 11						
	11. Concentrate the forest companies' harvest plans in areas that are fragmented by the existing two-pass harvest pattern	Implemented in the TSA harvest sequence	SRD Approval	X				
	12. Model and retain old forest stands on the FMA area landscape within +/- 25% of the mean of the natural range of variation (NRV). (See Objective # 24)	See Objective # 24	% Variance of actual ha vs. target - quadrant			X		
	13. Deciduous stands from the Athabasca-Clearwater river valleys will not be included in the TSA landbase.	Approved TSA	Excluded from TSA Netdown	X				
	14. Prior to the next TSA, assess the impact on the conifer AAC of netting out all productive forest stands in the Athabasca-Clearwater river valleys.	TSA scenario analysis / case-study	Report Prepared				X	Case-study
	15. "Donuts" will be amalgamated with their associated FMA unit for AAC calculations; deciduous stands from these non-J areas will not be sequenced to the forest companies.	Approved TSA	SRD Approval	X				
	16. For "donut" areas without AVI, Phase III inventory will be employed	Approved TSA	SRD Approval	X				
	17. Through modeling, assess man-made disturbances and wildfire, and possible effects on the AAC (to be assessed after the TSA is completed / approved).	TSA scenario analysis / case-study	Report Prepared				X	Case-study
	18. Continue the development and enhancement of future AACs through the use of Patchworks for selected FMUs.	# of FMUs utilizing Patchworks.	# of FMUs	X				

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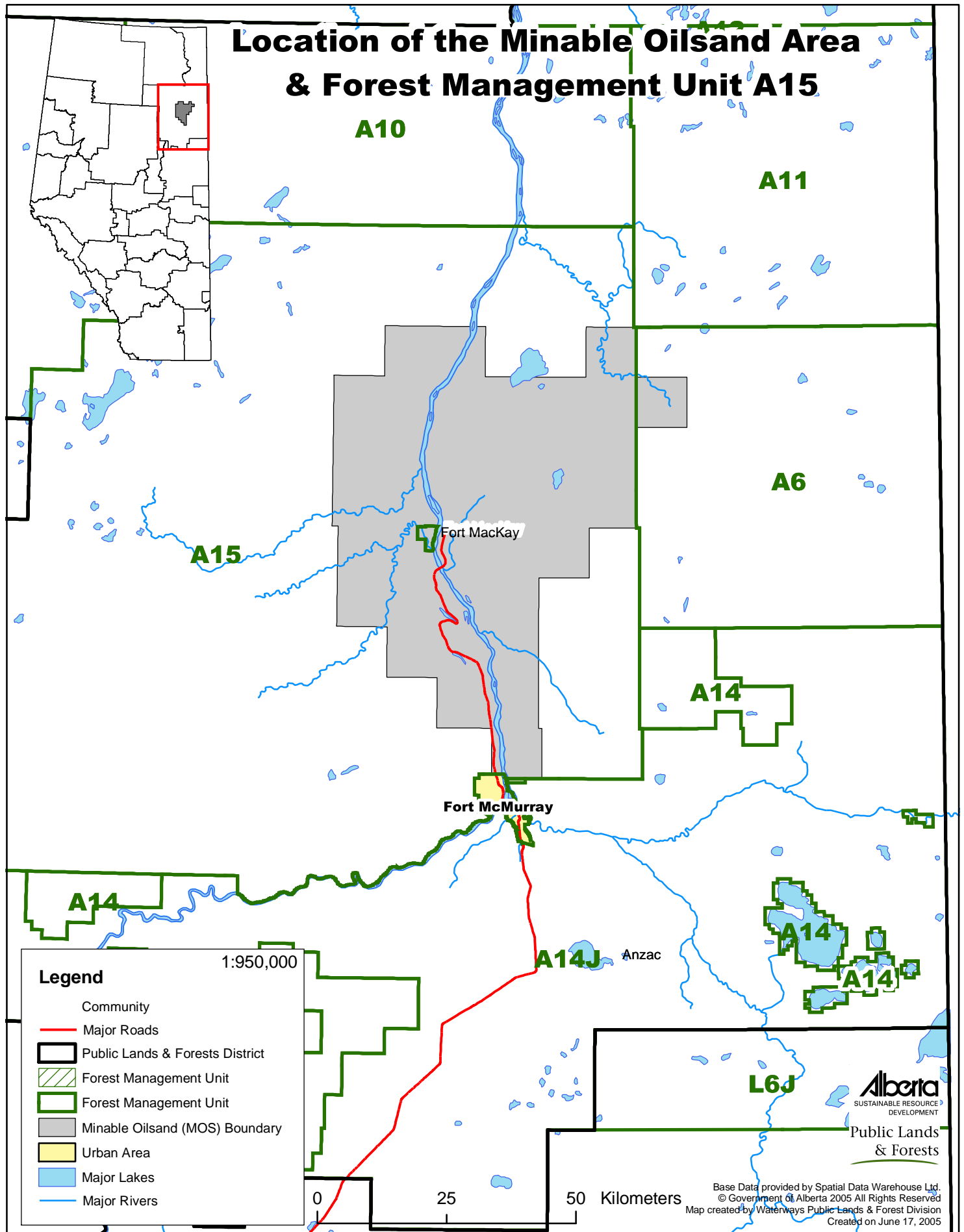
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Objective 24 SOCIAL FMP Section 3.16								
Within the gross FMA area retain old-forest stand (over-mature forest stands) areas for each of the five main forest cover group types within +/- 25% of the mean of the natural range of variation (NRV).	1. Utilize the entire forested area (productive and non-productive) of the FMA area to predict the old forest stands.	Approved TSA	Yes - documented in TSA	X				
	2. Use a timber supply model (Woodstock) to predict old-forest occurrence and distribution for all five major strata and track where they fall within the NRV ranges in the first 200 years.	Approved TSA	Yes - documented in TSA	X				
	3. Utilizing a random landscape NRV model (Andison, 2003), manage each major strata for the old forest seral stage within the +/- 25% range of the stratum's NRV mean.	Approved TSA	Yes - documented in TSA	X				
	4. Ensure the old-forest area for each stratum remains within the NRV by having a 10 per cent "step-down" of the annual allowable cut at year 60 for all strata in all 11 Forest Management Units.	Approved TSA	Yes - documented in TSA	X				
	5. Predict the distribution and amount of old forest in each strata at 10, 50, 100 and 200 years.	Approved TSA	Yes - documented in TSA	X				
	6. Continue to explore NRV and landscape models to assist in characterizing the amount, limits, size and core area of old forest stands in the FMA area.	TSA scenario analysis / case-study	Report Prepared				X	Case-study
	7. Investigate changes in fire regimes (e.g. fire return intervals) and fire suppression activities that could affect old-forest dynamics.	TSA scenario analysis / case-study	Report Prepared				X	Case-study
	8. Investigate anthropogenic landscape changes (e.g. energy sector activities, including land-use expansion and "best practices" reclamation) to help quantify old-forest projections.	TSA scenario analysis / case-study	Report Prepared				X	Case-study
Objective 25 ECOLOGICAL FMP Section 4.2								
Continue to conduct and facilitate research and development and implement innovations realized from R&D and other sources of input (e.g., operational experience, traditional knowledge studies, regulatory change) through an active adaptive management process.	1. Cooperate with partners in research and development: a) Industry partners b) Educational institutions c) Government departments d) Stakeholder groups e) Aboriginal communities f) Independent research organizations	Research summary	# of programs			X		Research Summary Stewardship Appendix
	2. Follow the attributes of the Active Adaptive Management process .	Research summary	# of programs utilizing Active Adaptive Management			X		Research Summary Stewardship Appendix

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Objective 26 ECOLOGICAL FMP Section 4.3								
Implement biodiversity, forest renewal, and forest monitoring systems to evaluate changes in landscape pattern, forest growth and yield, habitat structure and species diversity.	Monitoring Programs led by Alberta-Pacific -Alberta Vegetation Inventory (AVI) -Permanent Sample Plots (PSP's) -Retrospective Study of the Adaptive Management Experiment (AME) Team. -Lake Fisheries Program -Stream Inventory	Forest Inventory - See Section 3.1 (above) Trapper Program (See Above) Lake Fisheries / Stream Inventory / Research programs	# of programs			X		Research Summary Stewardship Appendix
	Monitoring Programs led by the forest companies -Forest Renewal Monitoring -Timber Monitoring -Mixedwood Management Monitoring Plots	Forest Renewal (Silviculture) - See Above (3.6) Timber Monitoring (Scaling) Mixedwood Management - See Forest Inventory (3.1)	# of programs		X			
	Monitoring Programs where Alberta-Pacific and the Quota Holders participate (but do not lead). -Boreal Caribou Research Program (BCRP) -Bird Community Monitoring -Wetland and Waterbird Monitoring -Environmental Effects Monitoring (EEM) -Regional Aesthetics Monitoring (RAMP)	Records of meetings / in-kind & financial support	# of programs			X		Research Summary Stewardship Appendix
	Monitoring Programs where the forest companies do not participate, but have access to data. -Provincial Wildlife Surveys	N/A	N/A					
Objective 27 SOCIAL FMP Section 4.4								
The forest companies will continue to participate in LFD-SRD compliance audits and self-audits.	1. Participate in all SRD compliance audits.	Participation in audit - pass/fail; # of grievances	Y/N : # audits / yr				X	Audit Report
	2. Alberta-Pacific requests that a public member of the Forest Management Task Force participates in the Alberta -Pacific SRD audit and report.	Participation in audit	Y/N - # of people involved				X	Audit Report
	3. In the absence of third-party audit and certification programs, Alberta-Pacific will conduct self-audits that primarily deal with harvesting and silviculture operations.	Completion of audit - # / quadrant - pass/fail; # of outstanding non-compliance items.	Y/N # of grievances				X	Audit Report
Objective 28 SOCIAL FMP Section 4.5								
Alberta-Pacific will maintain ISO 14001 and proceed with FSC certification of all FMA lands.	1. Alberta-Pacific to maintain ISO 14001 program through annual audits.	Completion of audit - ISO pass/fail; # of outstanding non-compliance items.	Y/N - ISO retained				X	Audit Report
	2. Alberta-Pacific will undertake a Forest Stewardship Council (FSC) certification audit.	Initiation of the audit in 2004	Audit Completed - Y/N				X	Audit Report

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Objective 29 SOCIAL FMP Section 4.6								
Continue to develop a stewardship reporting program that provides stakeholders with a review of the forest companies' forest management activities and performance on its forest management plan commitments.	1. Develop an annual update sheet of identified Stewardship statistics.	Completion of update sheet	Report prepared by 2005			X		
	2. Produce a Stewardship Report every 5 years just after the timber quadrant is complete. The second full Stewardship Report will be targeted for completion in late 2006.	Completed report	Report prepared by 2006			X		
	3. Input the Quota Holders forest management activities in the Stewardship Report.	Quota Holder activities reported in 2006 Stewardship Report	Report prepared by 2006			X		

Location of the Movable Oilsand Area & Forest Management Unit A15



Legend

- Community
- Major Roads
- Public Lands & Forests District
- Forest Management Unit
- Forest Management Unit
- Minable Oilsand (MOS) Boundary
- Urban Area
- Major Lakes
- Major Rivers

1:950,000

0 25 50 Kilometers

Alberta
SUSTAINABLE RESOURCE
DEVELOPMENT

Public Lands
& Forests

Base Data provided by Spatial Data Warehouse Ltd.
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Map created by Waterways Public Lands & Forest Division
Created on June 17, 2005