CHAPTER 1. INTRODUCTION, PHILOSOPHY, AND GOALS

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1.0 INTRODUCTION, PHILOSOPHY, AND GOALS

1.1 INTRODUCTION

Since 1993 Alberta-Pacific Forest Industries Inc. (Alberta-Pacific) has operated a world-class, 1,900 tonne-per-day bleached kraft pulp mill in northeastern Alberta. The kraft mill requires approximately 3,000,000 cubic metres (m^3) per year of deciduous and coniferous fibre. Alberta-Pacific markets pulp worldwide for use in a variety of photo, printing, writing, and communication-grade papers. Concurrently, the FMA area's four major conifer Quota Holders operate dimensional lumber sawmills and a veneer plant, partially supplied from FMA area wood fibre. Their lumber is marketed throughout North America.

Parallel to the operation of the pulp mill, Alberta-Pacific's woodlands group is responsible for fibre procurement from a variety of sources (Crown area timber, private wood purchases, and sawmill chips) and the responsible management of forestlands, primarily through a Forest Management Agreement (FMA) between Alberta-Pacific and the Province of Alberta. Woodlands groups from each major Quota Holder support these efforts. For the past 15 years, Alberta-Pacific has been a national leader in the implementation of sustainable ecosystem management on its 5.8-million-hectare FMA area. The following plan will detail the continued evolution of ecosystem management or sustainable forest management (SFM) on the FMA area.

Alberta-Pacific's commitment to a "Focus on Excellence" is a pledge to environmental performance as well as pulp quality. Alberta-Pacific's environmental policy is as follows:

ENVIRONMENTAL POLICY

Alberta-Pacific Forest Industries Inc. is committed to maintaining an internationally competitive and sustainable business enterprise, with minimal effect on the environment. To meet this commitment, Alberta-Pacific will work closely with government and the public to:

- apply ecologically sustainable forestry practices
- implement and maintain procedures to prevent pollution and to protect the environment from the release of harmful substances
- maintain a progressive approach in the development of new operational techniques and equipment
- operate our facilities diligently to ensure compliance with established environmental legislation and regulations, and other requirements to which the company subscribes

Alberta-Pacific Forest Industries Inc. will work to continually improve its environmental management systems through setting and reviewing goals and objectives. The protection of our environment is the responsibility of every person. At Alberta-Pacific, protection of the environment is more than a responsibility, it is an integral part of the way we conduct business.

1.2 FOREST MANAGEMENT PLAN

Management of an Alberta FMA area is outlined in a Forest Management Plan (FMP) prepared every five to 10 years. Alberta-Pacific is required by the FMA to produce a FMP that will replace the 2000 Detailed Forest Management Plan (DFMP); the 2000 DFMP was approved November 1998 and published January 2000. This FMP (and 2007 revision to meet AB SRD approval conditions) will direct forest management activities on the FMA area and in management units of the province's Northeast Boreal Forest Region inside and outside of the FMA area in a manner consistent with Alberta's sustainable forest management objectives.[1] This plan is valid until the FMP is renewed in 2016. The FMP continues to build upon the principle of ecosystem management or sustainable forest management instituted in the 2000 DFMP, with two new initiatives:

- mixedwood management, an approach to management of stands that contain both coniferous and deciduous species, and
- Integrated Landscape Management (ILM), a co-operative approach between renewable and non-renewable resource users to reduce cumulative effects on the forest ecosystem

1.3 FOREST MANAGEMENT PLAN PURPOSE

The purpose of the Forest Management Plan, as required under Paragraph 10(2) of the Forest Management Agreement is to:

- describe the methods to be approved by the Minister that the Forest Companies will follow in managing the forest resource located within and around the forest management area
- detail how the companies will manage on a sustainable forest management basis
- identify harvest levels (annual allowable cut or AAC) for a period equivalent to two forest rotations[2]

1.4 TERMS OF REFERENCE & GUIDING PRINCIPLES

The FMA was originally awarded to a joint venture of Crestbrook Forest Industries Limited, M.C. Forest Investment Incorporated and Kanzaki Paper Canada Incorporated on August 30, 1991 (O.C. 556/91) pursuant to Section 16(1) of the Forests Act. The agreement was revised May 6, 1998 (O.C. 193/98). In May of 1998, Alberta-Pacific Forest Industries Inc. became the duly authorized operator of the "Alberta-Pacific Project." Alberta-Pacific Forest Industries Inc. is the agent of Al-Pac Forest Products Inc. and in that capacity executes the FMA on their behalf.

[1] The FMP harvesting strategies also pertain to the non-FMA areas of the N.E. Boreal Forest Region inside the outer boundaries of the FMA area ("doughnut holes") these non-FMA areas (1.1 million hectares) are primarily addressed in the timber supply analysis. The FMA area "J-Units" represent 5.78 million hectares.

[2] Rotation age is the forestry term for the number of years required to establish and grow timber to maturity. Rotation age varies between species; for purposes of this plan two forest rotations is considered to be 200 years.

The FMA establishes the basic timber rights and management responsibilities for Alberta-Pacific over the agreement area in northeastern Alberta (see Figure 1.1). This area will continue to supply the majority of the deciduous and coniferous fibre requirements of the Company's bleached kraft pulp mill and a substantial portion of the conifer fibre supply for the Quota Holders and participants in the Commercial Timber Permit (CTP) and Miscellaneous Timber Use (MTU) programs of Alberta Sustainable Resource Development (SRD).

The key legislation governing forest management in Alberta is the Forests Act, which is elaborated in the pursuant Timber Management Regulations. The principal documents affecting FMA area management activities are: the Forest Management Agreement (FMA); the Forest Management Plan (FMP); the Operating Ground Rules (OGR); the General Development Plan (GDP); the Annual Operating Plan (AOP); and the Fire Protection Agreement (FPA).

Full details of the planning process are provided in the Alberta government's timber management website at http://www3.gov.ab.ca/srd/forests/managing/.

1.5 FOREST MANAGEMENT PLAN GOALS

The FMP will express how the activities of the Forest Companies in the FMA area provide opportunities for the region to:

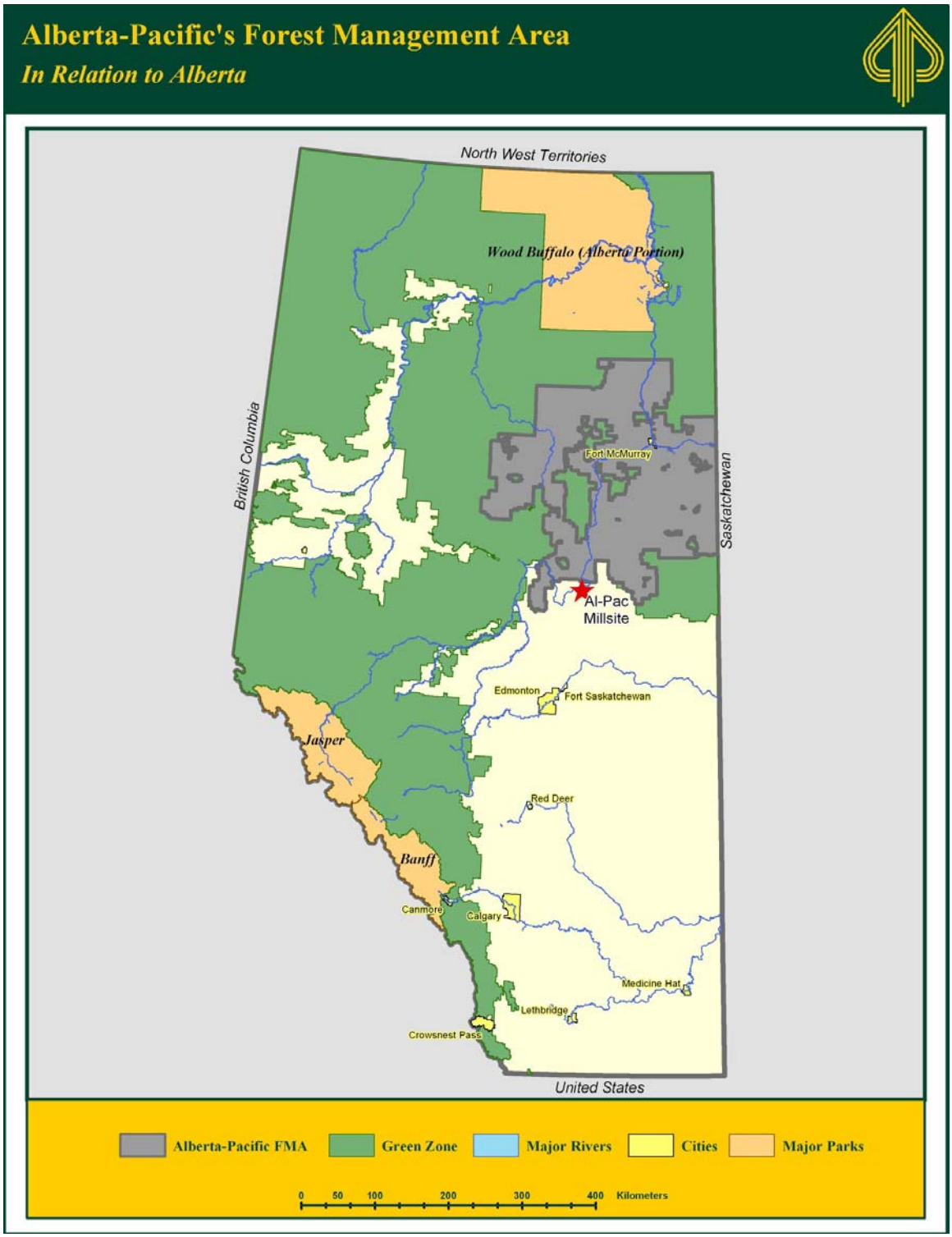
- meet economic needs
- maintain the integrity of the boreal forest ecosystem, and
- respect societal values

For the Forest Companies and Alberta Sustainable Resource Development (SRD), there are two main FMP goals that will drive the forest ecosystem management program:

1. maintain the economical supply of deciduous and coniferous fibre to meet the needs of the current industrial infrastructure
2. manage for biodiversity (natural biological diversity*)* within the framework of ecosystem management at the regional and landscape levels

Ecosystem management is the careful and skilful use of ecological, economic, social and managerial principles in managing human activities within forest ecosystems to produce, restore or sustain ecosystem integrity and desired conditions, uses, products and services over the long term (Alberta-Pacific DFMP 2000). For this management plan, the term ecosystem management will now be referred to as sustainable forest management (SFM).

Figure 1.1: Key Map – Alberta-Pacific Forest Management Agreement Area



Implementation of a sustainable forest management regime recognizes stands and landscapes with the emphasis on ecological site processes and functions. Stand-level management will require an improved understanding of forest site components and how they interact to provide forest growth, yield, and biodiversity. Landscape-level[3] management (e.g. FMUs) involves assessment and analysis of the spatial and temporal patterns of landscape development, the processes leading to maintenance of the landscape mosaic, and the interactions, fluxes, and influences of these processes on biotic and abiotic components.

It is the challenge of this FMP to set the stage for landscape management of the boreal forest with a marriage of stand level (site) determinants and regional timber supply analysis (TSA) forest level objectives. The forest must be managed as an entity to ensure that all its values are retained.

The FMP is intended to be dynamic and flexible, reflecting society's changing needs and values and the increasing knowledge of the boreal ecosystems. This management plan presents the objectives and strategies that will be applied by all forest companies operating within the FMA area including Quota Holders and companies operating under Commercial Timber Permit (CTP) and Miscellaneous Timber Use (MTU) programs of Alberta SRD.

Differences in philosophies and approaches to forest management exist between companies. The FMP recognizes these differences and accepts each company's right to manage according to their own forest management strategies, providing that these strategies fall within the framework of sustainable forest management (SFM) strategies described in this FMP.

1.6 SUSTAINABLE FOREST MANAGEMENT - PREFERRED FOREST MANAGEMENT STRATEGY FOR THE ALBERTA-PACIFIC FMA AREA

For Alberta-Pacific, the Quota Holders, and participants in the Alberta Sustainable Resource Development (SRD) Miscellaneous Timber Use (MTU) program, the preferred forest management strategy to meet the FMP's goals is sustainable forest management (SFM). This strategy is the conglomeration of objectives and strategies that have been identified by the Forest Companies and the multi-stakeholder Forest Management Task Force (established by Alberta-Pacific in 1992). The essential elements of the agreed strategy include:

- Utilization of a coarse-filter approach following the natural disturbance model
    - Maintenance of landscape patterns
    - Maintenance of core areas
    - Retention of structure at the stand level
    - Retention of older forest stands

[3] "Landscape" in this document refers to a geographic and ecological unit large enough to be self-sustaining, both economically and ecologically. The eleven Forest Management Units (FMUs) in the FMA area are approximately the scale of landscapes, and "landscape-level" management generally refers to management at the FMU level. The half-million-hectare average size of the FMUs is also about the size of the largest natural disturbances (fires) to have affected the FMA area in recorded history. The landscape is an intermediate scale between the "stand" (a community of trees sufficiently uniform in species, age, arrangement and condition to be distinguishable as a group in the forest) and the "region" (a large administration area with broadly similar ecological and economic characteristics, such as the northeastern Alberta boreal region).

  - Utilization of the concept of a suitable and practical natural (historic) range of variability
  - Fine filter analysis of selected wildlife species (Note: Chapter 3 details the species that were assigned to the forest companies by Alberta SRD for Habitat modeling)

- Mixedwood management, an approach to management of stands that contain both coniferous and deciduous species
- Maintenance of the boreal forest mosaic
- Aggregated harvest systems
- Management of two Forest Management Units (FMUs) under a mixedwood regime
- Management of FMU A15 under the MOSA principles
- Until mixedwood is implemented, a continued management of eight FMUs under an integrated conifer and deciduous planning system on the divided (discrete) FMA area landbase
- Development of Alternative Regeneration System (ARS) [4]
- Co-ordination on a landscape level to reduce the cumulative effects of human activity through Integrated Landscape Management (ILM) strategies
- Monitoring of forest management programs, including research and monitoring of biodiversity
- Implementation of innovations through an active adaptive management process
- Contributing towards the economic good of the region
- Evaluation of the effectiveness of the forest companies' programs through external third-party certification programs
- Support of the Alberta Bio-monitoring Program (ABMP)
- Implementation of forest protection activities and monitoring
- Management of the FMA area under a TRIAD approach

Many of the goals and objectives laid out below in Section 1.6 are operational in nature; some are directed at socio-economic values, while others are targeted at ecological values. The figure in the executive summary illustrates the three-tiered breakdown of all 29 objectives. Section 3.15 – Timber Supply Analysis details the annual allowable cuts resulting from application of the strategies. The following summaries are provided to illustrate some of the major elements of the preferred forest management strategy.

[4] Alternative Regeneration Standards (ARS) or also called landscape-level monitoring is a management-by-objective (MBO) system that strives to fulfill the overall objective of sustained yield.

Coarse-Filter Approach

The coarse-filter approach is a research and management concept that assumes that by maintaining vegetative communities and landscape patterns and processes within the limits of natural variability will result in the maintenance of a full compliment of native plant and animal species (biodiversity). It contrasts with the fine-filter approach of managing for a single species or ecosystem characteristic. The FMA area course filter will be supported by fine filter analysis of wildlife species that have been selected by Alberta SRD.

Biodiversity means, in its broadest sense, the distribution and abundance of living organisms and the ecological complexes of which they are part. Disturbances from forest fires, wind, insects or disease can cause rapid change, affecting very small to extremely large forest areas. In the boreal forest, where these larger-scale disturbances are common, species and ecosystem diversity undergoes a continual change across the landscape.

The understanding and the approximation of natural disturbance processes (fire patterns, stand structure, succession) in forest management activities will act as a mechanism to conserve biodiversity.

Old Forest Retention

The age-class distribution of forest stands is an important forest diversity factor because of the general relationship between stand age and stand structure. The primary age-class concern in the FMA area is maintaining representation of older (over-mature) age-class stands within the natural range of variation. Distribution and patch size of old forests will vary through time, being dependent on the occurrence and development of different forest cover types, wildfire, human land-uses and the selection of stands for harvest. In the timber supply analysis, retention of older forest stands will be monitored throughout the FMA area for five major forest types: deciduous, mixedwood, white spruce, black spruce, and pine.

Mixedwood Management

The mixedwood management philosophy is based upon the idea of working within the natural successional patterns of the boreal forest and utilizing natural forest processes to achieve silvicultural success. Mixedwood management embraces multiple silvicultural options on how to manage stands, depending on site, successional stage, and species mix. Two examples of mixedwood management are understory planting (e.g., conifer seedlings within a near-mature deciduous stand) and understory protection (ensuring that immature conifer trees are not damaged during harvest of a mature stand).

Mixedwood management strives to maintain the naturally occurring mixedwood forest stands in which either coniferous or deciduous species may predominate at any given time. It also maintains other non-timber values such as biodiversity. Additionally, silvicultural practices that approximate natural patterns and processes can be utilized. The results may include increased protection of juvenile white spruce from insects and disease and a potential increase in overall forest productivity.

Forest Protection

Fires and other natural disturbances are the key ingredients in the development of the boreal forest. Fire is the predominant natural disturbance in the boreal forests; however large catastrophic fires can have devastating affects on human life, communities, natural resources, and infrastructure developments. It is critical then to manage fire and possibly other natural disturbances, such as forest insects, disease, and invasive plants (restricted and noxious weeds), to reduce the negative impacts on values at risk on the FMA area.

Integrated Mixedwood Landbase

One of the main objectives of this FMP is to evolve the FMA area from discrete coniferous and deciduous landbase definitions towards an integrated landbase system more in harmony with the dynamics of the boreal forest. An integrated landbase involves all the forest companies' plans, from the strategic to the tactical level, including silviculture, and the monitoring of growth and yield and silviculture through the ARS monitoring system. ARS is a management-by-objective system rather than block-based regulatory targets. The two-mixedwood management FMUs (L1 and L11) are initial case studies in how this approach may evolve for the FMA area

Integrated Landscape Management (ILM)

The Forest Companies are committed to minimizing the effect of road developments at all levels of planning throughout the FMA area. Approaches to minimizing the effects of roads on the landscape include: regional long-term planning, route selection planning (permanent and temporary), road construction and reclamation, management of human use on roads (i.e., access management), and soils research. ILM is co-ordinated land-use to create the smallest and softest human footprint on the landscape. It is based on the recognition that one sector's activities affect other sector's activities and recognizes that the integrity of the FMA area's functioning ecosystems require user co-ordination on a landscape level. The Forest Companies are continuing to monitor all activities on the landbase through forest inventory updates and modeling.

Monitoring

The major goal of forest ecosystem management is to utilize the forest for products and non-timber values while maintaining biodiversity. Thus it is critical to devise methods of monitoring biodiversity over the long-term. If proper monitoring is not conducted, significant deviations may go undetected, or conversely, changes in species abundance may be mistakenly associated with forest practices. The forest companies will continue to implement a suite of monitoring programs targeted at biodiversity, forest renewal, research programs, and timber flows to evaluate changes in landscape pattern, forest growth and yield, habitat structure and plant species diversity. Monitoring also involves the preparation of a stewardship report.

Additionally, the Alberta Biomonitoring Program (ABMP) [5] is a developing program that has the potential to integrate biodiversity monitoring at large scales. Al-Pac is committed to the development of these biodiversity protocols within the FMA area.

Part of the monitoring program will be to continue to achieve Forest Stewardship Council (FSC) certification for the FMA area.

TRIAD APPROACH

The Alberta Forest Legacy (1998) describes the approach to sustainable forest management (SFM) adopted by the government after extensive consultation with experts and the public. A key recommendation was that various levels of intensity should be practiced in managing Alberta's forestlands. In some areas, where the primary goal is conservation or recreation, there would ideally be no industrial activity; these "protected" areas include those designated by government regulation. In other areas, harvesting will consider ecological concerns and the need to co-exist with multiple uses of both renewable and non-renewable resources.

To offset the reduced commercial utilization of productive forestland due to protected area commitments and multiple-use management, the government recognized that certain other lands could be managed "intensively" with growing commercial timber as the primary goal.

This three-pronged approach to sustainable forest management is known as the "triad"[6] because it has three main categories – protected areas, multiple-use areas for sustainable forest management, and intensive management for timber. Within the SFM area the objective is to have a long-term economical supply of fibre available while maintaining FMA area ecosystems. However, there is a wide range of management intensities possible under the triad approach. Additionally, the triad approach does not mean that each pillar is balanced on a hectare basis throughout the FMA area.

Collectively, these three components comprise all of the FMA area. Ecological benchmarks and other protected areas currently represent about 400,000 hectares in and near the FMA area, while intensive management may be carried out within some FMUs (after a detailed feasibility plan) and agro-forestry to grow poplar is currently carried out on private lands. Figure 1.2 is a simplistic illustration of the TRIAD approach.

SUSTAINABLE FOREST MANAGEMENT (SFM)

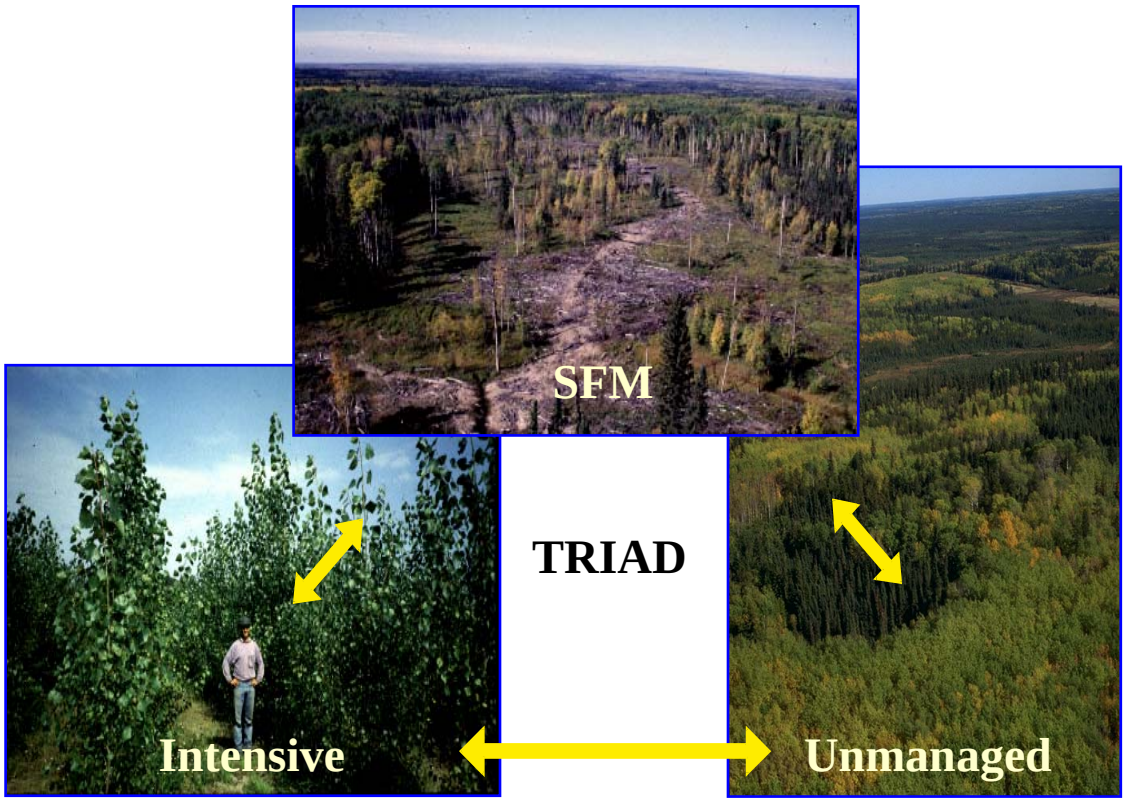
The sustainable forest management (SFM) program is based on the fact that the boreal forest is shaped by natural disturbances such as fire, wind, disease, and insects. Consequently, boreal forest plants and animals are adapted to the changes created by these natural disturbances.

[5] The Alberta Biodiversity Monitoring Program is being developed by natural resource management and research organizations in Alberta to help government and industry meet commitments to report on the status and trends of biological diversity. Co-ordinated implementation is intended, with participation of the natural resources sector (government and industry) and National Parks. For further information and updates, see http://www.abmi.biology.ualberta.ca Chapter 4 also provides more details.

[6] The triad concept as it relates to forest ecology has its roots in the writings of Hunter and Calhoun (*A Triad Approach to Land Use Allocation In Biodiversity in Managed Landscapes*, 1996) and Odum (*The Strategy of Ecosystem Development*, 1969) and is now incorporated in national and provincial forest management strategies.

Thus, the closer that the Forest Companies can come to approximating natural disturbances through their harvesting techniques, the more likely we are to maintain ecosystem function and the diversity of the boreal forest's landscape patterns, plants and animals. This management approach also recognizes that other human activities in addition to forestry are occurring on the landscape and addresses multiple-uses and the “cumulative effects” of all disturbances on the ecosystem.

Figure 1.2: Sustainable Forest Management Triad



UNMANAGED - ECOLOGICAL BENCHMARKS AND OTHER PROTECTED AREAS

Ecological benchmarks and other protected areas with minimal forest management operations are considered “unmanaged,” although fire prevention and control are practised. These areas are used as "controls" to monitor the effects of forestry in ecologically similar areas. The protected areas can provide data that is intended to be representative of the FMA area as a whole. (See Chapter 2 - Table 2.4 for more details.)

INTENSIVE MANAGEMENT

Intensive management is required to maintain a sustainable wood supply, offsetting losses incurred from landbase deletions for protected areas and other industrial users, and fibre losses related to the practice of sustainable forest management (e.g. stand structure, old forest retention).

Intensive poplar plantations or "poplar farms" are currently located on private land in the agricultural White Area of Alberta. They are being developed by Alberta-Pacific to provide a long-term hardwood fibre supply and allow increased flexibility of timber harvesting on the public landbase. The goal is to have a cost-effective, sustainable annual supply of hardwood fibre available on intensively managed lands.

Intensive management of conifers is also referred to as enhanced forest management or EFM. The Alberta Forest Legacy considers EFM another part of the intensive pillar. Conifer EFM will only be explored on the FMA area after a conceptual case-study.

1.7 OBJECTIVES FOR SUSTAINABLE FOREST MANAGEMENT IN THE ALBERTA-PACIFIC FMA AREA:

These objectives are primarily addressed in chapter 3 and 4, and they are shown in order of appearance in the document, as noted in brackets. Appendix 13, "2007 FMP – Alberta-Pacific FMA Area – Objectives / Strategies / Monitoring Matrix", details all 29 objectives and the associated 192 strategies and indicators, plus the measurement criteria and monitoring activity to achieve plan compliance. The "Commitment Matrix" also lists the subsequent reporting document for each strategy or indicator.

This FMP shows how the Forest Companies will upon plan approval:

1. Continue community engagement initiatives (also referred to as public involvement) and consultative processes which involve stakeholders in the management planning process and encourage public input at all stages of planning (Chapter 1 - Section 1.10; and appendix 1).

2. Upgrade the Alberta Vegetation Inventory and continue to provide sound data for planning (Section 3.1).

3. To salvage suitable timber that can be utilized recognizing economic and ecological constraints. (Section 3.2).

4. Support Alberta Sustainable Resource Development (SRD) in its strategies to minimize losses from epidemics of forest insects, diseases and infestations of restricted noxious weeds, large catastrophic fires on the FMA. (Section 3.3).

5. 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 (Section 3.4).

6. To ensure that human development, use and management of roads take into account the safety of all users (industrial, recreational, Aboriginal) and mitigates the potential negative environmental effects associated with access (Section 3.4).

7. To utilize soils research in the FMA area to minimize in-block road and harvest equipment impacts and ensure vigorous post harvest regeneration (Section 3.4).

8. Protect species identified as "at risk" or as socially important and meet Alberta government guidelines and ground rules relevant to concerns over specific species (Section 3.5). [7]

9. Manage eight FMUs under an integrated (empirical yield curve set) planning system on the discreet landbase, two FMUs under a mixedwood (mixedwood yield curve set) landbase system to maintain or increase both coniferous and deciduous fibre flows from the FMA area and, FMU A15 through MOSA. (Section 3.6).

10. Provide the opportunity to investigate / evaluate the feasibility of improving fibre supply through Intensive Conifer Forest Management (i.e. EFM) in the FMA area (Section 3.6).

11. Maintain forest cover patterns by designing and implementing landscape level harvest plans, including aggregated harvesting systems, that more closely resemble natural disturbance patterns at the landscape level (Section 3.6).

12. Retain forest structure in harvested cutblocks, in varying amounts across the FMA area landscape (Section 3.6).

13. Utilize reforestation treatments that provide for vigorous forest regeneration to meet or exceed regeneration standards to achieve yield objectives as set out in the TSA. (Section 3.6).

14. Continue the maintenance and enhancement of a block-level silvicultural record-keeping system that is compatible with Alberta SRD requirements (Section 3.6).

15. Replace incidental[8] conifer by regenerating or protecting sufficient conifer growing stock to produce an equivalent volume of conifer at rotation (Section 3.6).

16. 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 (Section 3.6).

17. Alberta-Pacific, the Quota Holders and the Alberta Sustainable Resource Development will design and implement an ARS program for FMA area forest growth and yield at the FMU level (Section 3.7).

[7] Includes a "fine filter" analysis on a suite of six species that were selected by Alberta SRD.
[8] Incidental conifer refers to conifer that occurs in a predominately deciduous stand. Likewise, incidental deciduous refers to deciduous trees that occur in a predominately coniferous stand.

18. Continue to explore models that reflect succession and silvicultural treatments (Section 3.8).

19. Contribute towards the economic good of the region, and the responsible use and protection of the many social and cultural values (Section 3.11).

20. Identify a series of ecological benchmarks representative of the habitat diversity of the FMA area (Section 3.12).

21. 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 (Section 3.13).

22. Continue to develop and refine a system for predicting where heritage resources are potentially located; and develop a process for incorporating potentially sensitive sites into operational planning (Section 3.14).

23. Identify spatially explicit, sustainable harvest levels (Timber Supply Analysis - Annual Allowable Cut Calculation – AAC) that are sufficient for FMA area timber users and attempt to sustain the environmental and social values of the FMA area (Section 3.15).

24. Within the gross FMA area, retain old-forest stand (over-mature forest stand) areas for each of the five main forest cover types within +/-25 per cent of the mean of the natural range of variation (NRV) (Section 3.16).

25. 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 (Section 4.2).

26. Implement biodiversity, forest renewal, and forest monitoring systems to evaluate changes in landscape pattern, forest growth and yield, habitat structure and species diversity (Section 4.3).

27. Continue to participate in SRD compliance audits (Section 4.4).

28. Alberta-Pacific will maintain ISO 14001 and FSC certification of all applicable FMA lands (Section 4.5).

29. 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 (Section 4.6).

1.8 INTEGRATED PRACTICES WITHIN SUSTAINABLE FOREST MANAGEMENT

An ideal sustainable forest management program must bring together, in a co-ordinated process, at least the following resource management systems: sustained-yield timber management, wildlife management, management of aquatic systems, protected area strategies, fire management and general land-use management. All of these areas are closely related components of forest management.

Sustainable forest management provides the forest companies with an approach for integrating these disparate resource management systems. Based on ecological patterns and processes, and considering ecological, social, cultural, and economic needs, it enables individual concerns to be viewed in a larger framework. The forest companies' sustainable forest management program continues to evolve. In this planning period, there is a new emphasis on boreal mixedwood management and Integrated Landscape Management (ILM).

Mixedwood management focuses on maintaining mixedwood forests for biodiversity and fibre supply and through the regeneration of the forest by using a flexible and more natural system. This system will require a range of regeneration strategies and monitoring, on a landscape rather than a stand level.

The cumulative impacts of various land-uses on the FMA area have created a great deal of forest fragmentation. An ILM program has already had some success in improving landuse practices, but must remain a major SFM focus in order to sustain many of the forest's values.

1.9 BOREAL FORESTS

The boreal forest is the largest forest in the world and comprises the majority of Canada's and Alberta's forest landbase. The boreal forest in the FMA area is complex, dynamic and diverse -- spatially, compositionally, temporally and structurally. It comprises a broad range of ecosystems with various successional stages represented by pure deciduous stands, variably mixed deciduous-conifer or conifer-deciduous stands and nearly pure coniferous (white spruce, black spruce and pine) stands.

These forests must be managed as dynamic, functioning ecosystems. The dominant species, aspen and white spruce, are the critical sources of fibre and timber for the forest products industry and are vitally important to the economic sustainability of the region's communities and mills and to biodiversity and ecological health.

Approximately one-third of the boreal forest in the FMA area can actually be classed, as a productive forest comprised of sites that can produce commercially valuable trees.[9] The Forest Companies are embarking on the next steps within sustainable forest management within the productive forest: implementing mixedwood management in selected areas, continuing traditional silviculture methods, and integrated planning with the energy sector.

[9] Two-thirds of the FMA area is unproductive forestlands and wetlands. Of the one-third of the total FMA area that is productive forestland, 11 % is classified as mixedwood, 37 % conifer, and 52 % deciduous forest types. (See Chapter 3, Section 3.15)

1.10 INTEGRATED LANDSCAPE MANAGEMENT (ILM)

ILM is land use that is co-ordinated in such a way as to create the smallest and softest human footprint on the landbase. It is based on the recognition that one sector's activities affect other sector's activities and recognizes that the integrity of the FMA area's functioning ecosystems require user co-ordination on a landscape level to reduce the cumulative effects of human activity.

Unprecedented growth in Alberta's natural resource industries has led to cross-sector conflict and public concern over cumulative effects on the environment. With over $100-billion worth of new energy investments projected for northeastern Alberta over the next 10-20 years, the impacts of these new projects and their associated infrastructure require identification and co-ordination of all access and timber extraction activities. This co-ordination will not only have ecological benefits but also cost savings as redundancies are identified and eliminated.

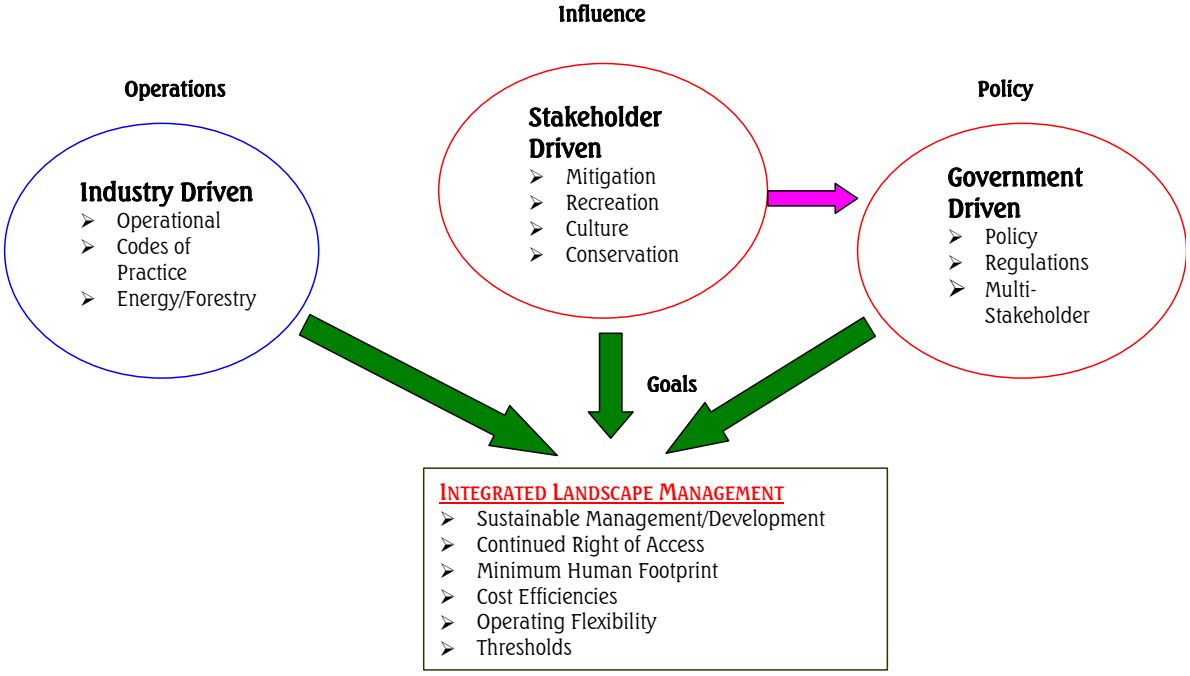
A modeling system called “A Landscape Cumulative Effects Simulator” (ALCES) has demonstrated the magnitude of cumulative effects that industrial users have in northern Alberta. The model indicates that the landbase is undergoing fundamental changes, largely due to linear disturbances such as roads, seismic cutlines, utility corridors and pipelines.

In the past, there have been some efforts to integrate industrial activities, primarily in the co-ordination of access planning. However, because industries continue to operate independently and resource development remains focused on individual projects, a more expanded vision and more co-ordinated planning are required. Industrial strategies evolve as companies adopt new practices and include others in their planning processes.

ILM represents a bold new attempt to capitalize on economic opportunities in a proactive approach to manage cumulative effects. Figure 1.3 shows how ILM co-ordinates the goals of various interests.

The ILM program recognizes that many parties -- industry, various levels of government, or the public -- share a common set of goals based around the idea of sustainable management and development. However, each party has different interests and different motivations. While everyone wants long-term access to natural resources for economic, recreational or cultural reasons, the efforts of each will necessarily be focused in different areas. Some of these broader societal concerns are addressed through the province’s Integrated Resource Management program.

Figure 1.3: The ILM Program



The current ILM program focuses on the integration of industrial operations through the use of several tools: a projected development map incorporated into the provincial landuse referral process; increased participation in mitigative action plans, and recognition of overlapping landuse practices. The keys to ILM are communications and commitment. The economic benefits are shared among participants. To-date, the ILM program has resulted in many win/win situations, such as reduced widths of seismic lines, integrated planning with oil sands and SAGD producers, and road sharing agreements with energy sector companies.

Individual corporate strategies already involve dialogue and planning exercises with other stakeholders that are effective and meet individual corporate goals. However by introducing ILM, which recognizes the benefits of co-ordinated development and management amongst industrial players, many economic, societal and ecological goals can be achieved.

1.11 COMMUNITY ENGAGEMENT STRATEGY

INTRODUCTION

The Forest Companies are committed to involvement of the public in the forest planning process. Combined with the companies' technical expertise, public input will help ensure that forest management plans and forest operations are carried out in a manner that is responsible and environmentally sound.

Community engagement (or Public Involvement) is and continues to be a major component in the development of a Forest Management Plan (FMP) for the Al-Pac FMA Area. The purpose of a CE strategy is to ensure consistency, coordination, efficiencies and effectiveness of community engagement activities that are initiated by Alberta-Pacific Forest Industries (Al-Pac).

For Alberta-Pacific community engagement is a core value and a central ingredient of the company's corporate business plan, where maintaining an environmental edge to meet the triple bottom-line of Environmental / Social / Economic goals is integral to the success of Alberta-Pacific. The CES includes focusing resources for implementing programs, and practices where and as appropriate for the benefit of both the company and communities.

Definition of Community Engagement

Community engagement is supporting, informing, partnering and / or involving people or groups of people who are affected by, or can influence Al-Pac's operations and are identified with any or a combination of the following criteria:

- Geographic proximity to Al-Pac operations (i.e. within North- eastern Alberta),
- Special interests or needs (i.e. outfitters and trappers),
- Commonly shared values (i.e. environmental groups)

Community engagement or Public Involvement can also be defined as the process for involving people in the decision-making process. Public involvement is an umbrella term that includes public consultation, public participation, surveys, focus groups, and feedback on discussion documents, dialogue, and workshops, advisory boards to partnerships.

OBJECTIVE (#1):

Continue community engagement and consultative processes which involve stakeholders in the management planning process and encourage public input at all stages of planning.

STRATEGIES:

The objectives and associated strategies developed for the CES are outlined in Appendix 1. Portions of CES are framed within the context of the Canadian Standards Association (CSA) (Z809-02) Sustainable Forest Management (SFM) system. The objectives were developed in such a manner that stakeholders had informed, inclusive and fair (timely) consultation through a consultation process that includes public communication and information transfer, stakeholder meetings and the continuance of an advisory group.

The Community Engagement Strategy (CES) is an innovative approach to informing the public; receiving their perspectives, opinions and suggestions; and involving the public and various stakeholders in the development of forest plans, strategies, and practices. The CES strategy has four components:

1. Community Relations
2. Public and Stakeholder Involvement
3. Aboriginal Relations (See section 1.12)
4. Regional Government Relations

The CES process should have participation from stakeholders and communities of interest that could be affected by the decisions that will ultimately be made. The stakeholders and communities that may be consulted are:

- Forest Quota Holders
- Miscellaneous Timber Operators
- Oil and Gas Sector
- Hunting and Fishing Outfitters and Groups
- Environmental NGOs
- Recreational users
- Municipalities
- Aboriginal Communities
- Regional business community / Chamber of Resources / CAPP / EUB
- Trappers
- Chamber(s) of Commerce / Service clubs
- Regional Elected Officials
- Educators (Regional)

Through the course of the CES, others may be identified as participants and may be helpful to the CES process.

1.12 ABORIGINAL AFFAIRS

INTRODUCTION

Alberta-Pacific is committed to proactive co-operative initiatives with Aboriginal Peoples on the FMA area. Various programs are delivered through the business of Alberta-Pacific. This initiative involves working with First Nations and Métis people to facilitate and support capacity building, education and training, economic development and consultation on land management and resource development.

Key to this initiative is alignment with "Alberta's Aboriginal Consultative Strategy" (Appendix 1 outlines the Alberta strategy).

Alberta-Pacific is committed to plan, organize, direct and monitor the activities necessary to ensure the implementation of the Alberta-Pacific Aboriginal Affairs Strategy within the FMA area. Each year Alberta-Pacific's Aboriginal Affairs Strategy 10 will address the following four-part focus. This FMP will not lay out the explicit strategies for implementation and monitoring of the Aboriginal affairs program. Alberta-Pacific is responsible for the implementation, results and monitoring as part of its business operations.

The four-part focus of the Alberta-Pacific Aboriginal affairs strategy is as follows:

CONSULTATION WITH ABORIGINAL PEOPLES

Alberta-Pacific recognizes its responsibility to consult with Aboriginal people and is committed to enhance consultation with Aboriginal people through regular, ongoing contact. This contact will provide an avenue for informing, monitoring and exchanging information about the effects of Alberta-Pacific business on Aboriginal people and communities.

BUSINESS BUILDING

Alberta-Pacific will promote, facilitate and create an environment for business opportunities with Aboriginal people. This is presently being done through:

- partnerships
- sharing information about opportunities
- supporting Aboriginal people in becoming business partners
- negotiating agreements for contracts or joint ventures
- assisting in evaluating the success of enterprises with Aboriginal people

[10] The Aboriginal Affairs Strategy and supporting documentation are available to interested parties. The plan articulates the full Aboriginal affairs strategy. The major Quota Holders and Alberta SRD are not involved in the design of this strategy. For information, please call Al-Pac at 1-800-661-5210.

EMPLOYMENT, EDUCATION AND TRAINING

Alberta-Pacific is committed to enhancing the employment opportunities of Aboriginal people in all aspects of Alberta-Pacific's business.

- providing and notifying Aboriginal people of employment and contracting opportunities
- providing education and training opportunities directly and through partnerships with education providers
- creating scholarship programs
- implementing student or special hiring programs

ADMINISTRATION

Alberta-Pacific will plan, organize, direct and monitor activities necessary to ensure the relevance of policy and the effective implementation of Alberta-Pacific's Aboriginal strategy. Alberta-Pacific also has an internal Aboriginal caucus to provide policy and strategic direction in all areas of Alberta-Pacific's business. [11]

1.13 POPLAR FARMS

Alberta-Pacific has a poplar fibre enhancement program, or agro-forestry, (Poplar Farms) on non-FMA private land in the agricultural White Zone of Alberta. Through this program, Al-Pac is assisting the province and the energy sector in addressing the loss of Crown forest productivity. Alternative fibre farms should lessen the pressure on the provincial forest resource and thus potentially lessen the cumulative effects on the ecosystem.

The primary objective of this program is to provide a secure, long-term, and high-quality fibre source from private land. Alberta-Pacific's poplar farms represent a portion of the intensive management pillar of the forest ecosystem management triad. [12] Income received by Alberta-Pacific from timber damage assessments (TDA) is used to support our poplar farm program.

Poplar Farms provides opportunities for local farmers and landowners that want to utilize their land for poplar fibre farms. A hybrid poplar fibre farm can provide a diversified farm income to complement traditional farming operations. Poplar fibre farms can be managed either as a lease agreement or as a grower agreement. Through a lease agreement, the landowner is eligible to contract his or her services to provide timely maintenance on the poplar farm. Alberta-Pacific's fibre farms team provides professional agro-forestry services to landowners ensuring they are properly supported while developing a poplar farm.

[11] Contact Alberta-Pacific at 1-800-661-5210 for information on these programs and studies. This program is not examined within this FMP.

[12] The poplar farms program does not encompass intensive conifer forest management programs – Objective # 10.

These additional fibre resources are being developed to compensate for a number of actively occurring or potential land use decisions and deletions:

- permanent FMA area deletions for oil and gas activities
- land claims
- other industrial activity
- protected areas expansion
- agricultural expansions and grazing leases
- natural disturbance events (such as catastrophic wildfire not accounted for in the timber supply analysis)

POPLAR FARMS - TREE IMPROVEMENT RESEARCH

Alberta-Pacific's tree improvement trials are located adjacent to the mill site. To date, most plantation fields have been experiments to test growth performance, over-winter survival, and disease resistance on a variety of indigenous and hybrid poplar species. The types of trees being grown in these fields are a mixture of native aspen and poplar, as well as exotic hybrid poplars that have been imported from Europe and Asia, and grown along-side our native poplars. The goal is to see if these trees will exhibit superiority in growth and wood quality, compared to natural stand growth. There are no genetically modified organisms (GMOs) used in this conventional hybrid tree research.

POPLAR FARMS - FERTILIZATION RESEARCH

Since 1996, Alberta-Pacific has been researching alternative ways to fertilize plantations using mill by-products. Bio-solids are an organic residue produced through the mill's wastewater treatment plant that consists mainly of pulp fibres and micro-organisms. Fly-ash is wood ash produced from incineration of wood waste products, such as bark, that occurs in the company's power generator. In combination, research has shown that bio-solids and fly-ash provide a rich soil enhancement. Research trials have shown that these mill by-products can stimulate growth for three to five years. The mill by-products are spread with the approval of the Government of Alberta, Environment Protection Branch, and have met environmental standards.

Trials in co-operation with the University of Alberta and the University of Lethbridge have demonstrated a significant growth increase in diameter and height of one-year old trees, and yield increases in agricultural crops. The trials tested Alberta-Pacific's hybrid poplars and agricultural crops on various combinations of bio-solids and ash from the pulp mill's boilers.

The soil research and enhancement results have been supported by other trials and research conducted across Canada, the United States, and Europe. The soil research and enhancement program will continue and expand as more land is contracted for poplar farm production.

1.14 MAJOR PROCESSING FACILITIES

PULP MILL FACILITIES AND EQUIPMENT

Alberta-Pacific's bleached kraft pulp mill is situated near the Athabasca River in township 69, range 19, west of the 4th meridian -- about 52 kilometres by road in a northeast direction from Athabasca and 69 kilometres in a west-northwest direction from Lac La Biche.

The general design of the pulp mill is a single-line configuration that accommodates the newest proven technology available to the industry. Optimum use is made of the Extended Modified Continuous Cook (EMCC) digester system. This system treats the pulp in a longer, gentler cook, which achieves a far higher degree of separation of fibre from lignin than was previously possible. By eliminating more lignin, there is no need to use elemental chlorine in the bleaching process to obtain high-quality pulp. The design includes on-site wood preparation, environmentally sound, state-of-the-art effluent and air emission controls, on-site power generation and cost-effective, energy-efficient processing.

FIBRE SUPPLY

The deciduous wood (trembling aspen and balsam poplar) is supplied in logs delivered by truck and rail to the mill site. Coniferous wood (spruce, pine, fir) is delivered primarily as chips. Logs are unloaded by two overhead cranes and stacked in storage prior to debarking and chipping.

The logs are debarked by one drum debarker and by four mechanical ring debarkers. One drop-feed, bottom-discharge, large-disc chipper processes the logs from the drum debarker. Two horizontal-feed, bottom-discharge, large-disc chippers chip the logs from the ring debarkers. Chips undergo scalping or screening for oversized chips prior to storage in open piles.

A chip-thickness screening system separates overly thick chips for slicing and re-screening. Acceptable chips are further screened to remove fines, which are separated into unacceptable fines and pin chips; the latter, being suitable for pulping, are then reintroduced to the good chips. This chip-handling system provides optimal fibre use and the best possible fibre supply for the pulping process.

Purchased chips are delivered by self-dumping trucks and are stored in outdoor chip piles. Both the deciduous and coniferous chip piles are maintained at an adequate size to minimize seasonal variation in chip quality. The deciduous piles are appropriately sized in order to minimize pitch formation.

Trembling aspen and balsam poplar are commonly affected by fungus and bacteria, which cause stain (incipient decay) and rot. The design criteria for the pulping process and wood preparation facilities are based on a maximum of 10 per cent rot in the chips entering the pulping process. The stain and rot level in the fibre supply to the pulp mill is managed by means of balancing the quality of the logs supplied and/or controlled blending of higher and lower grade fibre.

PULPING PROCESS

In general terms, the pulping process involves the separation of wood cellulose fibres, the pulp, from a substance called lignin, a natural wood glue that binds the fibres together. The key stages of the pulping process are digestion, oxygen delignification and purification or bleaching. The objective in all three stages is to remove lignin. The process starts with wood chips being fed into the digester, where under heat and pressure, the chips are broken down by a "white liquor" solution of caustic soda and sodium sulphide. There are four distinct injections of white liquor as the chips move slowly down through the cooking zone in the twenty storey-high digester.

The pulp is then washed and moves to the oxygen delignification stage, where pure oxygen (under pressure and at high temperatures) breaks down more of the lignin. Up to this stage, all materials used for removing lignin (the chemicals and the water) are recycled in a closed loop recovery system within the plant. None of this material or the lignin solution (black liquor) becomes part of the mill effluent.

The third stage is the purification or bleaching stage, which removes the remaining lignin in order to create the highest quality pulp. Unlike older conventional mills, Alberta-Pacific does not use elemental chlorine for this process. The desired quality is achieved by using sodium hydroxide, chlorine dioxide, oxygen and hydrogen peroxide at different stages of the process. The hydrogen peroxide is added to achieve the brightness required for market pulp.

After bleaching, the pulp resembles cotton batten. Pulp then goes to the finishing machine where it is compressed, formed into sheets and dried for baling and shipping.

ENERGY SUPPLY

The pulp mill energy requirements are met from the burning of black liquor in the recovery boiler and wood wastes in the power boilers. The wood wastes are blended with sludge from the effluent treatment facilities and incinerated to produce steam. Natural gas is available as an auxiliary fuel to ensure a continuous, reliable supply of energy from the power boiler.

The electrical power supply comes from two 40-megawatt steam turbine generators. Startup and emergency power needs are supplied through an electrical tie-line to the local utility. Under normal operating conditions, the pulp mill is capable of producing up to 26 megawatts of excess power that is sold onto the provincial grid.

WATER QUALITY

The past few years have seen an environmental revolution. Through written and visual media presentations, the public has been sensitized to environmental issues facing all sectors of private and public businesses.

Issues range from the management of the world's renewable resources to the establishment of disposal facilities for society's waste materials and, among the most vital, the issue of clean water. Pulp mills around the world have faced tremendous opposition from the public and environmental groups. This is due to the many years when companies discharged untreated effluent into receiving waters. Increased awareness regarding long-term effects and persistence of toxic

compounds in these environments resulted in the development of process and treatment technologies that reduce and eliminate these compounds.

At Alberta-Pacific, the use of an EMCC digester (Extended Modified Continuous Cook) system, an oxygen delignification stage and a bleaching process that is free of elemental chlorine, has virtually eliminated these persistent compounds.

In addition to the process modifications, an activated sludge effluent treatment system was designed to treat the wastewater from the pulping process. This treatment system has effectively removed between 95 per cent and 99.9 per cent of the characteristic pulp mill wastes. Since startup, the mill has been well within the license limits (among the most stringent in the world) and is performing very well.

Monitoring to detect change from the baseline references for the Athabasca River is required on an ongoing basis. Water quality, sediment chemistry and benthic invertebrate (water bug) surveys are conducted every three years. To date, the surveys have shown no significant change from the baseline study.

AIR QUALITY

Many people associate pulp mills with the rotten egg smell of hydrogen sulphide, often a problem with older mills. Most people can smell hydrogen sulphide odours in concentrations of four to eight parts per billion (ppb). Ongoing monitoring two kilometres from the mill has revealed that emission levels are well within acceptable standards.

In order to control the odour from the mill, a non-condensable gas collection system and extensive chlorine dioxide scrubbing equipment have been installed on various stacks at the site. Since operations began, Alberta-Pacific has consistently operated well below the allowable discharge level for total reduced sulphur (TRS) and has not exceeded the allowable discharge for sulphur dioxide (S02). Monthly data reports are made available to local libraries.

All emissions from the source (stacks) are monitored on a continuous basis so that at any point during a twenty-four-hour period air emissions data can be retrieved. In addition to the stack monitors, there are two remote ambient air monitoring stations located approximately two kilometres from the mill site that collect information on wind speed, wind direction, and total reduced sulphur.

Information from the monitoring stations will be used in a new study that will compare data with an air plume dispersion study that was completed prior to startup. That study identified the potential extent of the air plume as well as the occurrence of the various gases (TRS, S02) at different distances from the mill site before operations began. The mill occasionally experiences problems that result in odours that can be detected by area residents. In response, the Company has formed a Fugitive Emissions Committee whose mandate is to refine air abatement control measures in the mill to further reduce the release of odours.

PULP MILL PRODUCTION AND FIBRE REQUIREMENTS

The mill capacity, based on performance to date, is expected to be upwards of 1,900 air-dried metric tonnes (ADt) of deciduous pulp or 1,330 ADt of coniferous pulp per day. At these rates the mill output will be approximately 551,000 ADt of bleached deciduous pulp and 62,000 ADt of bleached coniferous pulp per year. The average annual wood requirements and supply are summarized in Table 1.1.

Table 1.1: Projected Annual Pulp Production and Wood Requirements
(Based on 2006 Actuals)

	Deciduous	Conifer	Total
Annual Pulp Production (ADt/yr)	550,996	62,426	613,422
~Fibre Requirements (m^3/yr)	2,645,000	365,750	3,010,750

(*Note*: Deciduous Yield ~ 4.8 m^3 / ADt; Coniferous Yield ~ 5.86 m^3 / ADt)

PULP PRODUCT AND MARKETS

Alberta-Pacific is producing high-quality, elemental-chlorine-free (ECF) bleached kraft pulp for the manufacture of fine papers. World market studies indicate a healthy long-term demand for this product. The pulp is marketed worldwide, with consumption to date being approximately 40 per cent North American, 40 per cent Asian (Korea, Japan, Taiwan) and 20 per cent European.

QUOTA HOLDER SAWMILL FACILITIES

Four large sawmills hold conifer quotas in the FMA area. They are as follows:

ALBERTA PLYWOOD (SLAVE LAKE)

Alberta Plywood Ltd., with mills located in both Slave Lake and Edmonton, is a subsidiary of West Fraser Mills. The Slave Lake mill is a veneer plant with dimensional studs, chips and landscape ties as by-products. The Edmonton facility is a plywood lay-up and finishing plant. Alberta Plywood Ltd. produces 250 million square feet of 3/8th–inch equivalent veneer and approximately 25 million board feet (Mfbm) of “two-by-four” framing studs annually. The mills employ 475 personnel full time with approximately 250 seasonal jobs and an estimated 800-900 indirect positions. Alberta Plywood Ltd. is currently a quota holder in the S18 Forest Management Unit, which supplies Alberta Plywood’s mill with about one-quarter of the company’s annual wood supply.

MILLAR WESTERN FOREST PRODUCTS - BOYLE SAWMILL

Millar Western is one of Western Canada's largest privately held forest products companies and operates two sawmills in Alberta, at Boyle and Whitecourt. The Boyle sawmill was acquired by Millar Western in 1993, and modernized and re-opened in 1994. The mill has seen $14 million in upgrades to more than double its capacity to 100 million board feet of spruce, pine and fir

dimension lumber per year. Approximately 150 people are employed at the Boyle sawmill operation, including forest management staff. Millar Western is currently a quota holder in the L3, A14 and L1 *(pending SRD approval)* Forest Management Units.

Millar Western's two sawmills produces up to 10 percent of Alberta's spruce, pine and fir dimension lumber, with a total capacity of 280 million board feet of lumber and value-added wood products per year. Additionally, Millar Western was the first Alberta forest company to be certified under FOREST*CARE*, the Alberta forest industry's monitoring of practices governing care of the forest, environment and communities.

VANDERWELL CONTRACTORS 1971 LTD. (SLAVE LAKE)

Vanderwell Contractors (1971) Ltd. operates a modern sawmill/planer complex located in Mitsue Industrial Park, east of Slave Lake. The sawmill operates three log lines. Two lines are HewSaws, and one line is a curvilinear saw that saws a lumber profile with the centre of the tree. The mill complex includes three drying kilns and a modern high-speed planer. The products are two-by-six, two-by-four, two-by-three and one-by-four inch lumber in random lengths between 6 and 16 feet. Chips are produced from slabs, edgings and unmerchantable logs and sold to pulp mills. Vanderwell has also installed a bagging plant and pellet plant to utilize the wood waste. The shavings produced are sold for medium density fiberboard (MDF) and to the agriculture and equestrian community for livestock and horse bedding. Vanderwell is currently a quota holder in the L1 *(pending transfer to MWI in 2008)* L2, S18 and S22 Forest Management Units.

The sawmill/planer mill complex employs approximately 270 full-time employees directly on a three-shift basis and about 250 people on a contractual basis for activities such as harvesting, reforestation, construction and transportation.

NORTHLAND FOREST PRODUCTS LTD. (FORT MCMURRAY)

Northland Forest Products Ltd. operates a modern sawmill/planer mill complex 20 kilometres north of Fort McMurray, adjacent to Highway 63 and the Athabasca River. A full range of dimension lumber is produced in widths up to 12 inches from two sawmill lines. The mill produces up to 350,000 board feet in a single shift. The complex produces approximately 75 million board feet of softwood dimension lumber per year, for the North American and world markets, and 45,000 oven-dry metric tonnes of conifer woodchips, which are sold to Alberta-Pacific. Northland operates on a single-shift basis, employing 85 people on a year-round basis at the sawmill complex. An additional 200 people are employed on a contractual basis in logging, log-haul, road construction and forest renewal. Northlands is currently a quota holder in the A15 Forest Management Unit and a signatory to the Mineable Oil-sands Area (MOSA) memorandum of understanding with Al-Pac and Alberta SRD.

OTHER FMA AREA CONIFER QUOTAS AND DIRECTED CONIFER TIMBER PERMITS

1. St. Jean Lumber (1984) Ltd., Breynat - allocations in L8.
2. Ed Bobocel Lumber (1993) Ltd., Lac La Biche – allocations in L1
3. S-11 Logging, Trout Lake – CTP in S11.
4. Spruceland Millworks Ltd., Fort Assiniboine - allocations in L2
5. Ghost Lake Timber (quota pending) - allocations in S7