

1.0 Introduction

1.1 Background

Tembec, Pine Falls Operations (Tembec) has developed a Forest Stewardship Plan (FSP) for the 20 year period of 2010 to 2029 inclusive, to set out strategic long-term direction and in fulfillment of requirements of the Province of Manitoba, for the Forest Resource Management (FRM), Pine Falls Operations of the Company and other parties operating on the area of Manitoba known as Forest Management License (FML) 01. This plan, identified as the Forest Management Licence 01, 2010-2029 Forest Stewardship Plan, has been developed using an integrated approach to include the assessment of potential environmental impacts within the overall scope of the FSP itself. In this regard this Environmental Impact Statement (EIS) is included as one of several supporting documents for the FSP Document. This approach has enabled the Company to more fully utilize the FSP and Environmental Impact Assessment (EIA) processes in combination to consider the potential impact of various aspects of its planning and operating processes. In addition, Tembec has achieved registration of their Environmental Management System (EMS) to the International Organization for Standardization (ISO) 14001 standard, which forms an integral component of the FSP and EIA and is contained in Section 10 to 14. Tembec also achieved Forest Stewardship Council (FSC) certification for FML 01 in 2001, which achieved a corporate commitment to certify all lands in Canada under Tembec's sole managements to the FSC standard. Audit reports, prepared by the FSC certifier SmartWood, are available for viewing or download on the Pine Falls FRM web site at www.tembec-frm-manitoba.ca. The application of these processes in unison has allowed for integration of environmental considerations up-front in the development of policies, departmental procedures and work instructions to be implemented in planning and operations.

In preparing this EIS, and the corresponding summary of environmental implications for incorporation into the FSP, the policies, departmental procedures and work instructions of Tembec have been reviewed and modified throughout the process to take into account the potential consequences of forest management activities upon social, economic and environmental values of the forests of FML 01. Frequent reference is made to these sources in describing the processes and actions that are in place to alleviate these potential concerns. Natural processes and characteristics inherent in the boreal forest setting in which Tembec operates and the guidelines and regulations of Canada and the Province of Manitoba also serve to allay potential outcomes. In describing these processes and actions the term *mitigation*, commonly associated with EIA, is frequently utilized throughout this EIS with reference to the manner in which potential consequences of the implementation of the FSP are alleviated. Mitigation includes actions to eliminate, reduce or control identified likely adverse environmental effects including restoration measures. As called for in the *Guidelines for the Preparation of the Environmental Impact Statement for the PFPC Sustainable Forest Management Plan 2001-2010* (ME 2000), contained in Appendix 4, and the *Guidelines for the Preparation of the Environmental Impact Statement for the Tembec 2009-2028 Forest Stewardship Plan* (MC 2009), contained in Appendix 5, discussion of the mitigation actions proposed in conjunction with the implementation of the FSP has been included.

1.2 Criteria and Indicators Approach to Sustainable Forest Management

Tembec has developed their FSP within the framework outlined for Sustainable Forest Management (SFM) in Canada utilizing an approach based upon the Criteria and Indicators (C&I) framework. This approach, as described in a series of documents published by the Canadian Council of Forest Ministers (CCFM 1995; CCFM 1997a; CCFM 1997b; CCFM 2003), was formulated to provide a basis for moving towards management of Canada's forests as ecosystems and for monitoring of progress towards this goal. These criteria and indicators thereby provide a framework for the formulation of forest management planning, operating and monitoring approaches relative to the goals and strategic directions outlined in *Sustainable Forests: A Canadian Commitment* (CCFM 1992).

The six criteria identified by the CCFM include:

- Conservation of biological diversity
- Maintenance and enhancement of forest ecosystem condition and productivity
- Conservation of soil and water resources
- Forest ecosystem contributions to global ecological cycles
- Multiple benefits to society
- Accepting society's responsibility for sustainable development

Each of these criteria can be viewed in the context of several elements (CCFM 2003). Within the C & I framework developed in preparing the FSP, the elements associated with the national criteria have been utilized to represent values of the forest, including those associated with social, economic and environmental segments. Within each element or value one or more indicators has been developed to measure progress towards meeting the goals related to the applicable values and criteria. These indicators essentially outline "areas of concern" for measurement (Zundel *et al* 1996), that in addition to some items more local to FML 01 will be referred to as forest components for this EIS. As such, this framework of criteria, elements (values) and indicators (components) provides a good framework for the assessment of potential environmental impacts related to the implementation of the Tembec Forest Stewardship Plan. Local Level Indicators (LLI) were developed for FML 01 under the Manitoba Model Forest (MBMF) and annual LLI reports have been produced since 2002 and are available on the Pine Falls FRM web site at <http://www.tembec-frm-manitoba.ca>.

The application of the C & I framework in developing and implementing their Forest Stewardship Plan has enabled Tembec to incorporate the policies and principles encompassed within a variety of Provincial and Canadian documents regarding biodiversity and other elements of SFM. Recognition of these documents, including those as provided under the *Sustainable Development Strategy for Manitoba, Manitoba's Forest Plan...Towards Ecosystem Based Management, The Canada Forest Accord, The Canadian Biodiversity Strategy* and others as listed in the EIS guidelines, has assisted in providing a framework for forest management in Manitoba. Canada's national approach to SFM as articulated through the C & I framework has occurred through an evolution in forest management encompassing concepts and directions advanced through these and other documents and processes. The range of these concepts including biodiversity conservation, sustainable development and use

of resources, public participation, First Nations involvement, recognition of wildlife and other non-timber values, global contribution of forests, ecosystem based management (EBM) and the contribution of timber and non-timber uses to the economy are embodied within the C & I framework established in the preparation of the FSP.

In addition to the policy and principle directions provided in these documents a number of guidelines have been developed for application to forest management in Manitoba in terms of non-timber value considerations. These include recommended procedures to be implemented with respect to stream crossings and the establishment of buffer zones on lakes and streams as well as guidelines for consideration of wildlife and other general practices in undertaking forest management activities. These forest management guidelines, also referenced in the EIS guidelines, provide support direction in the planning and implementation of forest management activities. Much of the content of these provincial guidelines is reflected directly or indirectly within the planning and operating practices of Tembec. The Company continues to support and participate in the evolving nature of forest management guidelines in Manitoba to reflect the changes in understanding of forest ecosystems and the tools available for planning and implementation of forest management activities.

By adopting the C& I approach in conducting this EIA, factors related to both the site and landscape level can be examined within a national context while ensuring that local concerns more specific to FML 01 are addressed. This approach allows for the consideration of the variety of concepts and directions embodied within Provincial and Canadian policy and principle documents as described above. At the same time, the use of the C & I framework has been refined through a public participation process as described in the 2008 Local Level Indicators (LLI) of Sustainable Forest Management for FML 01 (Tembec 2009) report to capture and highlight values of interest to residents and other parties interested in FML 01.

Strategies related to ecosystem features such as biodiversity, wildlife habitat and enduring features are best considered at the landscape level. Appropriate strategies implemented through long-term planning at this level will greatly reduce potential shorter-term, site-specific impacts of forest management activities when considered in an ecosystem forest life cycle context. Review of such landscape level strategies as employed by Tembec in implementing their forest management activities will be considered as applicable in conducting this EIA.

In order to achieve the desired goals at a landscape level while also dealing with more local considerations it is necessary to ensure that site-specific activities are mitigated to the fullest extent possible while balancing the various objectives that may be applicable to the area. Analysis of the nature and degree of impacts at this level requires examination of the potential impact of each forest management activity upon each of the biophysical resource and/or land and resource use and other value components present on the affected landscape, in this case, FML 01.

In conducting this analysis the forest management activities as proposed in the FSP and described in Tembec's EMS Departmental Operating Procedures (DOP's) and Work Instructions (WI's) are examined in terms of potential impact upon the resources and/or land and resource uses and other values, as described through the C & I framework. This

examination of the activities and the associated existing mitigation measures has led to a determination of their adequacy and refinements to processes and actions including addition of adaptive management strategies. Recommended additional mitigation measures including research and monitoring requirements have been advanced as well as the identification of residual impacts for which no mitigation is possible.

Where reference is made to specific Tembec Departmental Procedures throughout this EIS, the numbering system utilized in the EMS is utilized (*i.e.* WDS - ###), *e.g.* the procedure for Updating Forest Inventory Information for FML 01 is referred to as WDS – 001 and so forth. Similarly, Work Instructions of the Company are referred to as WDS – WI - ###. The portion of the EMS that applies to Tembec FRM can be referenced in Sec. 10 to 14 of the EIA.

1.3 Environmental Management System and Forest Certification Application to the EIA

As indicated Section 1.1, the Company implemented an EMS under the ISO 14001 Standard which resulted in registration by QMI in 2001 and the FSC certification of FML 01 by SmartWood in 2007. The implementation of the EMS along with FSC certification, in conjunction with the development of the FSP and associated C & I framework, has added a new dimension in terms of the rigorous examination of the interaction of forest management activities with the environment. The outcome of this work provides the Company with an EMS based upon internationally recognized standards with associated documentation of systems and procedures for undertaking their forest management activities and adherence to the FSC National Boreal Standard (FSC 2004) Principles and Criteria which is deemed to be the most demanding forest certification standard in the world.

The process of developing the EMS has included definition of forest management activities, related aspects of the manner in which these activities interact with the environment and potential impacts that these interactions of woodlands operations can lead to in the environment (Sec 12). This process has led to the refinement of Departmental Operating Procedures (DOPs) to describe tasks (primarily planning) that involve team coordination to produce and Work Instructions (WIs) to direct the manner in which specific individual tasks will be undertaken (particularly field implementation of plans). This documentation is contained in Sec 14.

Within this EIS, the significance of various aspects and impacts has been considered and incorporated during review of the relevant forest management activities as they relate to components of the environment. The ISO 14001 EMS adopted by Tembec will assist the Company in moving forward with its adaptive management program within LLI in a documented fashion with independent auditing of progress made.

1.4 EIA Study Team

As described earlier, the preparation of the FSP and the evaluation of impacts of the planned activities were undertaken in an integrated fashion. Consultant contribution to this project included:

- GeoSpatial International Inc., Burlington, Ontario
- InterGroup Consultants, Winnipeg, Manitoba
- Miette Environmental Consulting Inc., Pine Falls, Manitoba
- The Forestry Corp, Edmonton, Alberta

As described in the Preface, the EIS was developed and revised, during the period of 1999 to 2009, as long term forest management plans were under development. A more complete chronology of forest management plan development is contained in Section 1.6.4 of the FSP document. In summary, GeoSpatial International Inc. provided overall co-ordination and development for the Environmental Impact Statement. In addition, GeoSpatial International Inc. assisted Tembec staff in review and refinement of best management practices which evolved into the development of the Tembec ISO 14001 EMS. Miette Environmental Consulting Inc. updated the EIS as refinements were made to the EMS and draft long term management plans were under development. InterGroup Consultants provided expertise in evaluation of social and economic values and public participation facilitation towards the development of the FSP. The Forestry Corp. led work on sustainability assessment and preparation of the Forecasting Reports contained in Sec 4.3 of the FSP. Tembec staff directed the development of the FSP and worked in partnership with the consultant study team in the assessment of impacts and development of mitigation processes and practices. Tembec updated the EIS to reflect revisions to the 2010-2029 FSP resulting from the Manitoba's Submission Guidelines for Twenty Year Forest Management Plans, refinements to the Tembec Environmental Management System, refinements to the Tembec Local Level Indicator monitoring program, requirements in the FSC Boreal Standard and sustainability modeling conducted by Manitoba Conservation and The Forestry Corp., under contract to Tembec.