

8.0 Society's Responsibility

8.1 Background

Society's responsibility, is a reflection of the importance of the social dimension of sustainable development. The intent of this criterion is to consider the extent to which the changing values and priorities of Canadians are integrated into forest practices, programs and policies (CCFM 1997b). This area of sustainable forest management has been evolving rapidly as Canadians become more involved, and participate more directly, in forest management processes (CPPA, 1999).

More than 90% of forests in Canada are in the public domain (CPPA, 1999). As collective landowners, the public are expressing increasing interest in exercising their right to be involved in planning processes. With this right comes the responsibility, for all parties involved, to become informed of the various values inherent in the forests (Blouin 1998).

Society's responsibility for sustainable development can be viewed in the context of five values:

- Aboriginal and treaty rights
- Participation by First Nations Communities in sustainable forest management
- Sustainability of forest communities
- Fair and effective decision making
- Informed decision making

A single matrix is utilized to cover society's responsibility and is presented at the end of this Section in Table 10:

Table 10 Society's Responsibility

8.2 Aboriginal and Treaty Rights

8.2.1 Introduction

Aboriginal and treaty rights, is reflected in the extent to which forest management planning and operations consider and meet legal obligations regarding Aboriginal and treaty rights. The National Forest Strategy outlines the application of these rights to sustainable development with respect to forest management (CCFM 1992). Components related to assessment of Aboriginal and treaty rights are indicated in Table 10.

8.2.2 Data Adequacy and Gaps

FSP sources of information include:

- Description of First Nation involvement in forest stewardship activities (Section 2.1)
- Description of proposed Treaty Land Entitlement (TLE) on FML 01 (Section 4.1 and 5.9.4)
- Description of the East Side Lake Winnipeg Planning Initiative (Section 1.2.4, 1.6.5 and 5.9.1.2)
- The Socioeconomic analysis for FML 01 (Section 6.0)

Other sources of information include:

- High Conservation Value Forest Assessment report for FML 01 (Kotak et. al. 2009)
- On-going update of information through provincial and federal governments
- On-going participation of First Nations in various public communication forums with Tembec related to forest management planning and activities on FML 01, particularly exchange of information that occurs in conjunction with the joint planning process with First Nations communities

These sources of information represent the best information currently available for assessment of Aboriginal and treaty rights relating to forest management for FML 01.

The SFM C & I framework developed during the preparation of the FSP provides the framework to be utilized for monitoring of indicators for measurement of progress towards targets established in the FSP. Indicators developed to represent society's responsibilities will provide improved data regarding the components referenced in Table 10 as the monitoring program for adaptive management is implemented during the FSP 20 year period. Relevant indicators for society's responsibilities are indicated in management objectives of the FSP for community based planning (FSP Section 5.2.1.6). Criteria 7, from the LLI report address Aboriginal Benefits which will provide enhanced data as time moves forward relative to Aboriginal and treaty rights indicated in Table 10.

8.2.3 Forest Management Activities Assessment

Planning

Planning of forest management activities includes development of road infrastructure as well as the provision of harvest areas sufficient to meet the fibre requirements of Tembec and other forest product operators on FML 01. While meeting these needs, planning is undertaken to provide the level of access and timber volumes required along with sufficient contingency area while limiting operations to prevent any unnecessary development and operations. This is done in recognition of non-timber values throughout FML 01 and to keep costs of the operation competitive. It is up-front at the planning stage of forest management activities that Aboriginal and treaty rights are incorporated into the overall process of undertaking forestry operations.

Public participation, road and watercourse crossing and harvest and renewal planning, information collection and application and access management all have potential for significant impacts to Aboriginal and treaty rights of First Nations. Forest management activities could potentially result in impacts related to the right to fish, trap, gather and hunt for

food year-round (CCFM 1997a). The potential for impacts upon these resource use activities and the wildlife resources upon which they are based have been described earlier in this EIS along with applicable mitigation.

As identified in the FSP, Indian Reserves are classified as federal land and as such are not considered as part of the land base for FML 01 (FSP Section 4.1, 4.3 and 5.9.4). The area of a proposed TLE has been removed from the land base (FSP Section 4.1 and 4.3) used in the determination of the sustainable harvest level in planning for the potential removal of the area from FML 01. This process ensures that all legal obligations and rights with regard to lands within FML 01 are respected for any land settlement agreements entered into by the province. Knowledge of these site locations enables planners to incorporate this data into the sustainability modeling for determination of sustainable harvest levels and the GIS database for preparation of the development plan in the FSP. No harvesting or other forest management activities are indicated for these lands in the FSP.

Further mitigation is accomplished through the joint planning process with the First Nations which provides for incorporation of information regarding, fishing, trapping, gathering, hunting and other traditional uses on non-reserve lands, which can be identified and considered in the planning process. This process is also supplemented through Manitoba's consultation with First Nation governments regarding proposed forest stewardship activities and MC's regulatory approval process which ensures all timber and non-timber values identified on the landscape are considered in approval of operations.

As described in the FSP (Section 2.1 and 5.2.1.6), the management objectives for community based planning will provide a framework for the preparation and implementation of forest stewardship and annual operating and renewal plans for FML 01 that incorporates the involvement of Aboriginal communities.

As part of the Company's commitment to incorporation of Aboriginal and treaty rights in planning processes, Criteria 7, developed through the LLI process with Aboriginal participants (Tembec 2009), monitors indicators for traditional land use and traditional ecological knowledge (TEK), the development of relationships between Tembec and First Nation communities, employment and business opportunities for First Nations and the involvement of First Nations in forest stewardship planning.

8.3 Participation by First Nations in Sustainable Forest Management

8.3.1 Introduction

Participation by First Nations in sustainable forest management is reflected in the extent to which First Nations people participate in forest management planning and activities. Relations between the forest industry and Aboriginal peoples are becoming increasingly important. Graham (1999) cites several reasons for this; a significant growth in the Aboriginal labour force, land claims and self-government, environmental assessment procedures, disputes over land and resources, and employment equity legislation. Opportunities exist for active

participation in the planning process through joint planning and for participation in operations through employment opportunities provided directly and indirectly by the forest industry. As described earlier, community based planning objectives (Section 5.2.1.6) provide a framework for the involvement of local Aboriginal communities in the preparation of forest stewardship and annual operating and renewal plans.

8.3.2 Data Adequacy and Gaps

FSP sources of information include:

- Description of First Nation involvement in forest stewardship activities (Section 2.1)
- Description of proposed Treaty Land Entitlement (TLE) on FML 01 (Section 4.1 and 5.9.4)
- Description of the East Side Lake Winnipeg Planning Initiative (Section 1.2.4, 1.6.5 and 5.9.1.2)

Other sources of information include:

- High Conservation Value Forest Assessment report for FML 01 (Kotak et. al. 2009)
- On-going update of information through provincial and federal governments
- On-going participation of First Nations in various public communication forums with Tembec related to forest management planning and activities on FML 01, particularly exchange of information that occurs in conjunction with the joint planning process with First Nations communities

These sources of information represent the best information currently available for assessment of participation by First Nations in SFM for FML 01.

The SFM LLI framework developed during the preparation of the FSP provides the framework to be utilized for monitoring of indicators for measurement of progress towards targets established in the FSP. Indicators developed to represent society's responsibilities and aboriginal benefits will provide improved data regarding the components referenced in Table 10 as the monitoring program for adaptive management is implemented during the FSP 20 year period. Indicators from the LLI will provide enhanced data as time moves forward relative to participation by First Nations in SFM indicated in Table 10.

8.3.3 Forest Management Activities Assessment

Planning

Planning processes impact upon First Nations participation in forest management through the joint planning process that has been developed between First Nations and Tembec. As described in the FSP (Section 2.1.2 and 5.2.1.6), management objectives for community based planning has been established that provide for involvement of First Nations on FML 01, including the incorporation of traditional ecological knowledge (TEK). Joint planning, public

community information meetings and the SFMAC allow for two-way communication between Tembec and First Nations while also providing a forum for other interested parties as well.

Public participation impacts forest-based economic opportunities and social, cultural and spiritual sites.

- Through joint planning and other on-going public participation forums, opportunities for First Nations to participate in forest based economic opportunities can become more fully defined.
- Social, cultural and spiritual sites can be impacted on a very localized basis by road and other infrastructure development or harvesting of cutblocks in the vicinity of these sites. Mitigation is dependent to a great extent upon communication between Tembec and First Nations to incorporate known locations of these sites into the planning process. In addition, Tembec planning and operations staff meets with members of First Nations and other resource users on a more informal basis to discuss specific issues and site specific concerns.

Road and watercourse crossing planning can impact First Nations economic opportunities in terms of the access corridor routes that are selected for development across FML 01.

- Planning of roads can result in positive benefits in terms of the ability of First Nations to access economic opportunities and subsistent uses of forest land by improving access to areas that were formerly difficult to reach. This can have the benefit of accessing new opportunities for hunting, fishing, trapping and gathering in addition to the direct access and development of timber resources for First Nations participating directly in the forest industry.
- Social, cultural and spiritual sites can be significantly impacted by road development in the vicinity of these sites. Mitigation is dependent upon communication between Tembec and First Nations to incorporate locations of these sites early in the planning process. Through identification of specific sites of concern during joint planning and other public forums, mitigation can follow in terms of route location and design, construction scheduling and selection of road class. Tembec, in developing joint planning protocols with participating First Nations, has indicated their understanding of the proprietary nature of TEK, including the location of these sites.

Harvest and renewal planning has similar potential for positive benefits and negative impacts to economic opportunities and to social, cultural and spiritual sites dependent upon the locations and design of planned harvest operations.

- Where forest stands of operable timber, comprising a portion of the sustainable harvest level, are available at cost effective development and delivery costs, the inclusion of these areas in the overall harvest plan provides for business opportunities for harvesting and subsequent renewal work. Depending upon the location of such areas relative to road

access and First Nations communities, in conjunction with the timber supply requirements of Tembec, opportunities for timber supply and subsequent forest renewal contracts may provide positive benefits.

- For the protection of First Nation social, cultural and spiritual sites, mitigation is accomplished through communications and joint planning to deal with the site-specific concerns, including as applicable, the inclusion of the relevant data in the Tembec GIS. The proprietary nature of these sites is recognized by Tembec, in developing joint planning protocols, and will be respected during all levels of planning and information analysis.

Information collection and application can significantly impact First Nations social, cultural and spiritual sites as a result of the implications for planning of operations in the vicinity of these sites. Increasingly the forest industry is realizing the necessity of including traditional ecological knowledge (TEK) and archaeological studies towards understanding non-timber values and historic Aboriginal land-use. A report by Petch and Larcombe (1998) details the archaeological resources and traditional ecological knowledge within the Manitoba Model Forest which includes area contained in FML 01. The report identified 382 archaeological sites within the MMF as well TEK, which was submitted to Tembec for entry into their GIS for harvest planning. This study also identified the need to continue anthropological studies and the necessity for consultation and dialogue between various cultural groups.

- The development of a joint planning process with First Nations has provided a forum for exchange of information, including TEK, as it applies to planning forest management activities.
- Information provided through PHA evaluation of each proposed cutblock supplements such TEK and other information in providing site-specific detail for planning decisions for all operations.
- LLI Indicator 6.1.1.1 reports on joint planning processes, Indicator 7.2.2.1 reports on the opportunities provide to First Nation communities for the incorporation of TEK and Indicator 7.5.2.1 reports on initiatives for increasing participation of Aboriginal communities in SFM.

Access management can have positive benefits in terms of the consideration of improved access for subsistent forest uses balanced with the potential control of access in the vicinity of social, cultural and spiritual sites.

- Within the scope of joint planning with First Nations, the opportunity for access development allows for incorporation of concerns related to these positive benefits balanced with potential impacts to arrive at an access management strategy for each route (WDS – 009 and the FSP Section 2.1).

The extent to which First Nations peoples take an active role in forest management planning can, in part, be measured by their participation in economic opportunities and their role in

jointly planning to mitigate potential impacts to social, cultural and spiritual sites. The planning process is essential for the development of strategies that can provide employment opportunities and prevent impacts from occurring. Social cultural and spiritual sites are potentially impacted at the site level. Communication and joint planning activities are used to achieve mitigation.

Infrastructure Development

Infrastructure development activities, particularly the construction and maintenance of roads provide positive benefits for the development of forest based economic opportunities for First Nations while having the potential for impact to social, cultural and spiritual sites. The forest industry presents a multitude of opportunities for Aboriginal businesses and communities in Canada because of its size, economic impact and proximity to many First Nations communities (Graham, 1999).

All-weather, dry-weather and winter road construction and maintenance activities provide the opportunity for direct involvement of First Nations people to partake in the jobs and employment that these activities provide as described in the FSP (Section 2.1.4) regarding contract opportunities.

- LLI Indicator 7.4.1.1 reports on the number of First Nation people employed and Indicator 7.4.1.2 reports type and value of contracts awarded to First Nation contractors.

Potential for impact to First Nations social, cultural and spiritual sites as a result of road construction can occur dependent upon location and type of road.

- Such impacts are limited in extent to the localized site-specific area of the road ROW along the route selected. All-weather roads present a significant impact while temporary roads present an insignificant impact due to their service life.
- As outlined earlier, TEK and other information sources provide information upon which joint planning can be based. Incorporation of this information provides the ability to develop strategies to avoid impacts prior to construction.

Harvesting

Harvesting activities, particularly logging and timber transportation provide positive benefits for the development of forest based economic opportunities for First Nations while having the potential for impact to social, cultural and spiritual sites.

Logging and timber transportation activities provide a potential positive benefit to First Nations economic opportunities through contractor development and employment within FML 01. These opportunities are described in the FSP (Section 2.1.4) regarding contract opportunities.

- LLI Indicator 7.4.1.1 reports on the number of First Nation people employed and Indicator 7.4.1.2 reports type and value of contracts awarded to First Nation contractors.

As with the construction of roads, logging can have impacts to First Nations social, cultural and spiritual sites on a site-specific basis. Mitigation is dependent upon communication between Tembec and First Nations to incorporate locations of these sites early in the planning process. As described in the FSP (Section 2.1) and in WDS – 004, public communication processes have been established that provide for involvement of First Nations on FML 01, particularly through the joint planning process. Public information meetings and the SFMAC allow for two-way communication between Tembec and First Nations while also providing a forum for other interested parties as well. In addition, Tembec has incorporated updated archaeological and TEK information into their GIS from a report produced for the MBMF by Petch and Larcombe (1998). Through identification of specific sites of concern, mitigation may include the establishment of buffers, leave areas and/or scheduling of harvest activities.

Forest Renewal

Similar to logging, forest renewal activities can provide a positive benefit to First Nations communities through contractor development and employment opportunities on FML 01. These opportunities include tree planting, site preparation and mechanical stand tending and are described in more detail in Section 2.1 of the FSP.

- LLI Indicator 7.4.1.1 reports on the number of First Nation people employed and Indicator 7.4.1.2 reports type and value of contracts awarded to First Nation contractors.

Site preparation and scarification can further impact social, cultural and spiritual sites beyond that from harvesting. Site preparation and scarification, by necessity, disturbs the ground surface which can lead to insignificant impacts to these sites. Mitigation is accomplished in the planning stage by identification of sites through incorporation of TEK, PHA and other available sources for application during joint planning processes.

Equipment Use

In-block operations have the potential to significantly impact social, cultural and spiritual sites similar to potential effects from site preparation and scarification operations. Impacts relate to site disturbance from heavy equipment travel during harvesting and site preparation activities. As with other activities, mitigation is achieved through identification of site locations through TEK, PHA and other available sources leading to application to joint planning. In this way impacts can be avoided by developing strategies prior to forest management operations.

8.4 Sustainability of Forest Communities

8.4.1 Introduction

Sustainability of forest communities is reflected in the extent to which forest based communities depend upon and are supported by forest timber and non-timber based economic activities. Canada as a country is dependent upon its forests and other natural resources for provision of goods, services and exports. Forest communities within Canada are those dependent upon the forest for their livelihood. For these communities in FML 01, sustainable management of the forest resource is important to their viability (CCFM 1997a). Through the C & I process, Indicator 6.3.1.1 has been developed to monitor the profitability of Tembec operations leading to sustainable employment levels.

8.4.2 Data Adequacy and Gaps

FSP sources of information include:

- The Socioeconomic analysis for FML 01 (Section 6.0)

This source of information represent the best information currently available for assessment of sustainability of forest communities relating to forest management for FML 01.

The SFM C & I framework developed during the preparation of the FSP provides the framework to be utilized for monitoring of indicators for measurement of progress towards targets established in the FSP. Indicators developed to represent society's responsibilities will provide improved data regarding the components referenced in Table 10 as the monitoring program for adaptive management is implemented during the FSP 20 year period. Indicators from Criteria 6 of the LLI report will provide enhanced data as time moves forward relative to sustainability of forest communities indicated in Table 10.

8.4.3 Forest Management Activities Assessment

Planning

The Tembec mill and woodlands operations are a prominent source of economic activity in southeast Manitoba, particularly in terms of communities within and adjacent to FML 01. The company and its predecessors have been operating the newsprint mill in the community of Pine Falls since 1927. Powerview/Pine Falls and the nearby community of St. Georges are particularly influenced by the direct economic flow of benefits from the operations of the mill. The majority of the current 375 year-round jobs associated with the operation are in the mill itself, all in the vicinity of Powerview/Pine Falls. In addition to the mill jobs however, a substantial level of seasonal employment on the FML is sustained in timber harvesting and hauling in the winter and forest renewal, road construction and surveying in the summer. These 260 jobs are more dispersed across the communities within and adjacent to the FML.

Planning activities, as they relate to sustainability of forest communities, impact employment and economic activity directly through the implementation that results from planning of on-the-ground forest management activities.

Public participation can have positive benefits to regional economic activity. Public participation through public forums such as the SFMAC, communities, interest groups and joint planning allows (the general public) not only involvement in the planning process but review of development plans in order for contractors and other related interested parties to take advantage of business opportunities. Indicator 5.1.4.1 of the LLI framework provides for tracking of involvement activities with local communities, business organizations, individual enterprises, ENGO's and the interested public regarding Tembec activities and Indicator 6.1.1.1 reports on joint planning processes. These indicators will provide a level of commitment to the regional economy to sustain or improve economic and related social benefits derived from the forest sector in FML 01.

Road and watercourse crossing planning results in positive benefits and potential negative impacts to regional economic activity. Positive benefits relate to the direct and indirect economic activity generated by road and watercourse crossing planning activities. Considerable economic activity is then generated from actual road construction activities and Tembec is committed to hiring local contractors to the extent possible. As part of the LLI framework Indicator 5.2.1.2 tracks the value of forest management contracts awarded to all local enterprises.

Potential negative impacts from road and watercourse planning relate to potential impacts upon non-timber land uses as a result of road and watercourse planning. These issues are discussed earlier in this EIS under Criteria, 5 Non-Timber Values to a great extent involve the aesthetic impacts from these activities on tourism, canoeing and designated waterways and other recreation opportunities. Specific to remote lodges and outfitters, which desire to remain remote with limited or no road access, is the impact created by access in the vicinity of these operations.

Harvest and renewal planning results in positive benefits and negative impacts to regional economic activity. Positive benefits relate to the direct and indirect economic activity generated by harvest and renewal planning activities. Considerable economic activity is then generated from forest harvesting and Tembec is committed to hiring local contractors to the extent possible. As part of the LLI framework Indicator 5.2.1.2 tracks the value of forest management contracts awarded to all local enterprises.

Potential negative impacts from road and watercourse planning relate to impacts to non-timber land uses as a result of harvest and renewal planning. These issues are discussed earlier in this EIS under Criteria, 5 Non-Timber Values and relate primarily to the aesthetic impacts from cutblocks on tourism, canoeing and designated waterways and other recreation opportunities. Specific to remote lodges and outfitters is the visual aspects of access and cutblocks created in the vicinity of these operations which desire to remain remote with limited or no road access and disturbance within the area in which they operate. Communication between the various parties through vehicles such as the SFMAC and public open house meetings is an essential

component of this mitigation to give the various parties an opportunity to understand and to develop mitigation to accommodate each other's requirements.

Information collection and application has potential for impacts to economic activity. This involves activities that include forest inventory and GIS updating for planning, monitoring and reporting and PHA data collection for the AORP. On a long-term basis there will be considerable effort required in the tracking and reporting of the LLI indicators. As much of the economic activity within FML 01 depends to a large extent on forest harvesting activities, which in turn rely upon these information sources, failure to carry out this activity in a timely fashion could result in disruption to the forest management process and subsequently the economic activity of the region. In order to maintain a consistent wood volume flow to the mill, it is the best interest of Tembec and MC to ensure that these activities are carried out in a timely fashion.

Access management planning for each route allows for incorporation of various non-timber and timber resources operators requirements in a planning process resulting in various levels of access control and decommissioning dependent upon requirements (WDS-009). This process is a positive benefit generally to the various operations in assisting in allowing cost effective transportation routes while also recognizing potentially impacted non-timber values.

Infrastructure Development, Harvesting, Forest Renewal & Forest Protection

All operational aspects of forest management activities have potential positive benefits related to regional economic activities. In addition to the obvious direct employment created by these activities, described earlier, these operations generate additional economic opportunities including fuel and equipment purchases, maintenance, lodging and meals and other supplies. These operations provide opportunities for development of local entrepreneurs and related spin-off enterprises to service the contractors and people involved in these operations.

Indicator 5.2.1.2 of the LLI framework provides for tracking of the value of forest management contracts awarded to all local enterprises.

8.5 Fair and Effective Decision Making

8.5.1 Introduction

Fair and effective decision making, is reflected in the extent to which public input is integrated into the design of the decision making processes and the degree to which public participation occurs. Blouin (1998) suggests there are four essential ingredients to an effective public participation process: 1. equitable representation of all interests, 2. access to relevant information, 3. acceptance by participants that the decision making process is fair, open and effective and 4. informed participants. As outlined in the FSP Section 2.1, 2.2 and 5.2.1.6 and

WDS – 004, Tembec is committed to communication in the following forums to develop input for the planning process.

- Sustainable Forest Management Advisory Committee (SFMAC)
- Joint Planning with First Nations and other local communities
- Resource user and interest group consultation
- Open House meetings and workshops
- Public awareness

To monitor this process, LLI Indicator 6.3.4.1 has been developed to track the level of meaningful and effective public involvement in forest management planning prior to decisions being made.

8.5.2 Data Adequacy and Gaps

FSP sources of information include:

- Description of participation activities undertaken for the development of the FSP for FML 01 (Section 2.3)
- Description of continuing public participation processes to be undertaken with regard to the implementation of the FSP (Section 2.1 and 2.2)

Other sources of information include:

- *Applying Manitoba's Forest Policies*, Province of Manitoba, No date
- *Manitoba's Forest Plan*, KPMG, 1996

On-going Operational Data Sources include:

- On-going use of the previously established SFMAC to provide two-way communication between Tembec and the various representatives of the non-timber resource values for FML 01
- Joint planning with First Nations
- Annual Plan Public Information Meetings
- On-going contact between Tembec staff and non-timber resource users

These sources of information represent the best information currently available for assessment of the fairness and effectiveness of public input to decision making for FML 01.

The SFM C & I framework developed during the preparation of the FSP provides the framework to be utilized for monitoring of indicators for measurement of progress towards targets established in the FSP. Indicators developed to represent society's responsibilities will provide improved data regarding the components referenced in Table 10 as the monitoring program for adaptive management is implemented during the FSP 20 year period. Indicators

from the LLI for Criteria 6 and 7 will provide enhanced data as time moves forward relative to fair and effective decision making indicated in Table 10.

8.5.3 Forest Management Activities Assessment

Planning

Public participation is the process by which fair and effective decision making is accomplished. Public input for the decision making process for forest management in Manitoba occurs early on in the process at the provincial level during the development of Manitoba's Sustainable Development Strategy (Land and Water Strategy) which included a public consultation process that took place across the province. Manitoba's provincial forest policies are a result of this process consistent with the National Forest Strategy (CCFM 1992). Further guidance is provided at the provincial level through Manitoba's Forest Plan (KPMG 1996) which was developed in cooperation with a variety of stakeholders. The FSP and subsequent Annual Plans are developed within this provincial framework including the public consultation processes that have occurred.

Tembec has indicated commitment to this ongoing process through the forums as described below. Further to this overall framework Tembec has undertaken an intensive public consultation process in conjunction with the preparation of the FSP. This process is described in Section 2.3 of the FSP.

- Sustainable Forest management Advisory Committee
 - The SFMAC, comprised of individuals representing a cross section of interests in the forest of FML 01, will ensure that the values and goals to which the Company has committed, and that issues arising from forest management activities, are addressed in a timely and effective manner. Through this relationship, Tembec will address the wide range of interests and values in the forest resource and develop appropriate environmental programs based on this input. This on-going relationship will allow concerns that arise to be addressed early in the planning and operations processes.
- Joint Planning with First Nations
 - Tembec recognizes that operations have a significant potential for impact on First Nations communities and resource users in FML 01. The Company has implemented a joint planning process designed to more fully integrate community interests into the planning process. The objectives of this process will be to:
 - Provide a forum for exchange of information related to values, goals, indicators and targets for the FML identified as part of the initial LLI process (Tembec 2009)
 - Provide an opportunity for communities to review and evaluate on-going monitoring programs and results established through the LLI process
 - Provide communities with information necessary for participation in on-going planning processes, particularly the AORP
 - Provide a forum for discussion of any environmental, social or economic issue that arises as a result of Tembec's activities

- Indicator 6.2.1.2 provides for tracking of issues identified and dealt with
- Open House community consultation
 - Open houses will be held to inform communities and the interested public about FSP development as well as annually to provide input towards the development of the AORP
 - Meetings related to the FSP were undertaken at several stages as described in Section 2.3 of the FSP
 - Meetings for the AORP development will be held annually in conjunction with the preparation of each AORP. Indicator 6.3.4.1 tracks on-going involvement processes.
- Resource User and Interest Group Consultations
 - Tembec indicates in WDS – 004 and the SFPOPs (Section 2.2) that the Company will hold consultations with other resource users and interest groups within FML 01 to provide opportunities for the Company to hold focussed discussion with particular groups as well as individual stakeholders relating to their specific areas of interest or concern. These discussions will generally be less formal in nature than the community joint planning meetings and often include field trips to better understand and resolve the issues. Tembec planning and operations staff will be available to discuss and find ways of mitigating or resolving issues that arise as a result of Tembec forest management activities. The FSP contains a dispute resolution mechanism (Section 2.5) which may be implemented if areas of dispute cannot be resolved through the involvement processes available. Consultation with non-timber resource users is often oriented towards discussion of site specific plans and operations or general planning issues. Knowledge and information brought forward in this regard is of key importance for developing mitigation strategies. Similar to the SFMAC, these discussions often lead to on-going long term relationships with other resource user or interest groups which expands the knowledge base upon which forest management decisions are made. Tembec has indicated that the Company will respond to all requests for resource user and interest group consultation (WDS – 004 and FSP Section 2.2.8).
- Expert workshops
 - Tembec has indicated the intent to host and participate in expert workshops to provide an opportunity for the Company to participate in discussions with government, university and other company experts on the most recent research, approaches to forest management and new planning and operating technologies of interest to the forest industry (WDS-004). Related to this process, Indicator 6.3.4.1 monitors research partnerships and projects undertaken by Tembec with government and others.
- Public awareness
 - Public awareness activities provide opportunities for Tembec staff to update Tembec forest management activities and keep abreast of public issues and concerns related to forestry generally and within FML 01 specifically. These activities will typically include hosting of the Pine Falls FRM web site (<http://www.tembec-frm-manitoba.ca>),

presentations to schools, colleges and universities and forestry field tours for interested groups as well as forums with specific groups wishing to meet with Company staff.

These public involvement processes provide opportunity to exchange relevant information on issues and are intended to capture the range of values present on FML 01 leading to a partnership approach in developing solutions for management of the forests. These are essential ingredients for effective public participation as expressed by Blouin (1998). Tembec has demonstrated that the company is prepared to undertake public communication processes to assist in incorporation of concerns, through the development of Indicator 6.3.4.1 which monitors the variety and participation levels in forums for public involvement.

Road and watercourse crossing and harvest and renewal planning, sustainability modeling, information collection and application and access management are all influenced to a great degree by the public participation processes that are undertaken. These planning activities all rely upon public participation to assist in understanding appropriate values and goals to be applied in making decisions.

The forums that have been established for public participation in FML 01 provide opportunity for public input at various points in the planning process. At the strategic level, participation processes undertaken in development of the FSP management objectives (Section 5.2.1) and the LLI framework (Tembec 2009) provide direction for Tembec and other parties involved in forest management on FML 01. The establishment of goals, indicators and targets for the values in FML 01 has established a framework for continuing monitoring and reporting on progress made. In addition, the established indicators assist in making decisions for road and watercourse crossings and harvest and renewal planning. For example, FSP Section 5.2.1.3.2 and Indicator 1.1.3.3 provides direction regarding the maximum density of roads to be utilized across FML 01, FSP Section 5.2.1.3.1 and Indicator 3.1.4.2 relates to the percent of gross productive forest area in recently disturbed condition and FSP Section 5.2.1.1.2 and Indicator 1.1.3.4 prescribes the residual structure component for VRL practices. These indicators, and others, and their relevant targets will assist planning staff in making decisions that reflect public values in planning for road development and harvesting/renewal.

In terms of sustainability modeling, indicators and other values described during various forums of public participation provide input to the modeling process, assisting to define the inputs and outputs of the modeling and the implementation of the results in planning. For example, FSP Section 5.2.1.1.1 and Indicators 1.1.1.1 related to the composition of the forest of FML 01 and the maintenance of old forest area assist modellers in reviewing outputs to define sustainable harvest levels from modeling. Similarly, FSP Section 5.2.1.1.1 and Indicator 1.1.3.2 provided input towards the maintenance of large contiguous core forest areas while FSP Section 5.2.1.1.1 and 5.2.1.1.3 and Indicator 1.2.2.1 and 1.2.3.1 provided input as to an acceptable number of habitat units for representative wildlife species and more specifically for the winter range of the Owl Lake Caribou Herd during model runs.

In terms of information and collection, the public participation process itself, including LLI as well as on-going collection of information related to site specific land and resource use for application to planning, contributes in a large way to this activity. Use of the PHA as an

information collection tool for application to AORP and mitigation development reflects the values obtained from public participation in gathering data on such topics as wildlife values and non-timber land uses.

Access management planning is driven to the greatest extent by input received through joint planning and other public participation processes. The input of all the potential values for consideration and the potential uses for the access, both timber and non-timber, forms the basis for decision making in terms of potential access management options to be established for a given route.

The public participation processes undertaken in preparation of the FSP and on-going in terms of the SFMAC and other forums demonstrate that Tembec is prepared to integrate public participation in their decision making processes.

8.6 Informed Decision Making

8.6.1 Introduction

Informed decision making, is reflected in the quality of information available for decision making and its application to forest policy and planning. As one of the essential ingredients to effective public participation Blouin (1998) states that informed participants will make informed decisions. This being true, Schindler (1998) recognizes that there can be potential shortcomings to public involvement processes, including; more time is needed to reach decisions, the process requires highly skilled staff to implement and lastly the process requires knowledge of issues by the participants. Although informing participants is necessary, achieving this is difficult without the use of highly skilled staff. The quality of this information and its availability for application to decision making influence the ability of planners and others to make informed decisions.

8.6.2 Data Adequacy and Gaps

FSP sources of information include:

- Description of the principles of sustainable forest stewardship (Section 1.3)
- Description of government regulatory requirements for FML 01 (Section 1.6)
- Description of First Nation and stakeholder involvement processes for FML 01 (Section 2.0)
- Description of the biophysical and land use description for FML 01 (Section 3.0)
- Description of the analysis process for the determination of sustainable harvest levels for FML 01 (Section 4.0)
- Description of the health characteristics for Ecoregion 90 (Section 6.2.1)
- Description of monitoring undertaken for FML 01 (Section 7.3)
- Description of forest research programs for FML 01 (Section 7.4)

Other sources of information include:

- Forest Resource Management web site for FML 01 (<http://www.tembec-frm-manitoba.ca>)
- High Conservation Value Forest Assessment report (Kotak et. Al. 2009)
- Local Level Indicators of Sustainable Forest Management for FML 01 (Tembec 2009)

On-going Operational Data Sources include:

- On-going use of the already established SFMAC to provide two-way communication between Tembec and the various representatives of the non-timber resource values for FML 01
- On-going joint planning forum to provide input for planning with First Nations
- Open house public information meetings
- On-going informal contact between Tembec staff and non-timber resource users
- Pre-harvest Assessment process for all cutblocks providing detailed information for decision making

These sources of information represent the best information currently available for assessment of informed decision making for FML 01.

The SFM C & I framework developed during the preparation of the FSP provides the framework to be utilized for monitoring of indicators for measurement of progress towards targets established in the FSP. Indicators developed to represent society's responsibilities will provide improved data regarding the components referenced in Table 10 as the monitoring program for adaptive management is implemented during the FSP 20 year period. Indicators from the LLI will provide enhanced data as time moves forward relative to informed decision making indicated in Table 10.

8.6.3 Forest Management Activities Assessment

Planning

Informed decision making is an important factor in the planning process. In order to make good decisions within the planning process, tools must be in place that contributes information to enable planners to understand the current state of the resource base. The decisions that have been made in the past and the results of those decisions as compared to those expected. Forest research and partnerships with other parties in areas of mutual interest along with monitoring and reporting systems, including application of information systems, are the processes that support decision making in planning. It is the application of the results learned from earlier decisions that that allows for adaptive management to take place in moving forward.

Public participation has positive impacts for forest research and partnerships, training and awareness of Tembec personnel and information systems and monitoring.

Partnerships have been established with academic institutions and the MBMF in support of research activities of interest within FML 01. Tembec takes part in expert workshops providing an opportunity for the Company to participate in discussions with government, university and other company experts on the most recent research approaches to forest management and new planning and operating technologies of interest to the forest industry. Further to this, Indicator 6.3.4.1 monitors learning, education and public awareness processes related to the implementation of SFM.

Tembec provides opportunities for training and development of woodlands staff through participation in the Manitoba Model Forest, attendance at a variety of conferences and seminars on forestry and non-timber values (LLI Indicator 6.3.3.1). Tembec undertakes public communication through a variety of forums within their planning processes including the FRM web site, LLI reporting and involvement processes. These activities provide the opportunity, not only to provide information to the public, but also for members of Tembec staff to learn valuable information and insights regarding the non-timbers values and activities that exist and take place on FML 01.

Public participation, as described earlier, has played a significant role in defining the indicators of SFM through the LLI process to be applied to FML 01. This very positive influence has been initiated in the development of the FSP, but is anticipated to continue in light of the variety of indicators related to fair and effective and informed decision making. The resulting indicators from this process will now form a significant portion of the on-going information systems and monitoring program for FML 01 as defined by Indicator 6.3.2.1 which tracks information and monitoring programs.

Information collection and application has positive benefits in terms of contributions to forest research and partnerships and application to information systems and monitoring.

Tembec partners with universities in support of research activities of interest within FML 01. Tembec is also a supporting member of the Manitoba Model Forest (MBMF). Established in 1992, the Manitoba Model Forest is a non-profit organization supported by the Canadian Forest Service and is one of eleven Forest Community Program forests across Canada (FSP Section 2.4). The Model Forest network works in partnership with other forest stakeholders to research and develop new and innovative ways of forest management to ensure a balance among our economic, environmental and social values through sustainable forest management. Tembec has supported and cooperated in a number of research initiatives with universities and the MBMF (FSP Section 7.4). As part of the Company's commitment to this, Indicator 6.3.4.1 was developed to track the research partnerships and projects undertaken by Tembec with governments and others.

Tembec hosts and participates in expert workshops to provide an opportunity for the Company to participate in discussions with trappers, government, university and other company experts on the most recent research, approaches to forest management and new planning and operating technologies of interest.

As described in the FSP Section 5.5, Tembec provides opportunities for training and development of Woodlands staff and contractors through a variety of avenues, including particular focus upon environmental issues through the ISO 14001 EMS program. These include regulatory training for provincial and federal agencies. Tembec and MC undertake meetings and field trips on an on-going basis both formally and informally regarding both timber and non-timber resources. These public and government processes provide a valuable mutual learning experience for all parties, leading to informed participants which is a key ingredient in implementing sustainable forest management (Blouin 1998). To achieve these targets Indicator 7.1.1.1 monitors staff participation in First Nations and cross-cultural training workshops and Indicator 6.3.3.1 tracks training and on-going forest education, related to the implementation of SFM. The development of participation processes with Aboriginal communities and Tembec (LLI Indicator 7.5.2.1) assists in forming the basis for informed decision making.

Investments are made annually by Tembec on the collection and utilization of detailed inventory information through the PHA Program undertaken for all harvest blocks prior to harvest. This assessment provides information regarding both timber and non-timber values for incorporation into plans and preparation for operations. The assessment includes refinement at a site level of the information from the MC Forest Inventory regarding timber volumes, species, sizes and ages. Information regarding soils, slopes, drainages and wetlands provide useful data regarding expected operating conditions for the area. Non-timber values including wildlife, aesthetics and non-timber resource operator values are incorporated into the assessment, which provides very useful information for development of mitigation for these values at the planning stage. This process is a key part of many of the mitigation procedures referred to throughout this EIS.

An Environmental Audit Program (EAP) has been developed by Tembec to monitor activities that are undertaken throughout the various stages of forest management from road development through harvesting to forest renewal. This program, in place prior to the development of the current FSP, will monitor the implementation of the FSP, AORP and key performance indicators and is reported in the LLI report for FML01. These indicators of SFM now form a significant portion of the EAP, incorporating all relevant indicators for which field audit of targets are applicable. At each stage monitoring allows for feedback on progress made towards achievement of targets for the chosen indicators as well as providing information utilized at subsequent steps of the planning process. WDS - 013 details the monitoring undertaken for FML 01.

To support the initiatives related to information collection and reporting for application to adaptive management, Tembec has initiated a program to upgrade their existing information systems, including the GIS. This process will provide an important link to reporting of field related indicators from the EAP, in addition to direct application of analysis tools for reporting of indicators related to landbase inventory information. Such information systems are of vital importance to provide collection, analysis and reporting tools for application to analysis of sustainability and reporting of progress made towards targets established for SFM within the LLI framework.

Tembec has demonstrated commitment to informed decision making through supporting forest research, developing and maintaining partnerships, sponsoring training initiatives, maintaining and updating information systems and implementing a monitoring program. The PHA has been implemented by Tembec to obtain current stand level detail regarding timber and non-timber values for incorporation into the planning process prior to harvest. The EAP program has been implemented to monitor and report upon indicators of SFM within the LLI. Through the LLI process Tembec has developed a number of Indicators to track the progress made towards meeting goals and targets.

Infrastructure Development

Infrastructure development activities including all road construction and decommissioning present potential for impact to human health. The FML Agreement requires that all roads constructed for forest management activities permit public use.

All-weather, dry-weather and winter road development result in insignificant impacts on human health through the interaction of public vehicles with vehicles undertaking forest management activities which may result in vehicle accidents and the potential for human injuries. Mitigation is achieved through public awareness through road signage and education and communication amongst forest workers using the roads.

- Radio controlled roads have been designated where all worker vehicles are required to be outfitted with 2-way radios, in order to ensure communication between forest workers and to communicate public vehicle presence (WDS-WI-049).
- Road information and safety signs are posted to inform forest workers and the public regarding road maintenance and hauling activities and annual spring inspections are conducted on the all-weather roads to ensure safe operating conditions exist and road signage is in place (WDS – 013).

Decommissioning results in insignificant impacts to public health through removal of infrastructure including crossing structures, cross drainage structures, decommissioning of strategic portions of the road bed and ROW and the establishment of berms or excavations which may pose a risk to on road and off road vehicles attempting to utilize the decommissioned road. Mitigation is achieved through proper placement of decommissioning structures and signage which notifies potential users of the hazards that exist due to the decommissioning activities.

- Decommissioning activities such as watercourse crossing removal, cross drainage removal or other decommissioning activity which creates a potential safety hazard resulting from public use of the infrastructure is barricaded and/or signed to ensure the public is informed of the pending hazard (WDS – WI – 034 to 036).

Harvesting

Harvesting impacts human health through the potential for worker injury incurred during the logging phase of activities and the potential interaction of forest worker and public vehicles with timber or chip hauling trucks in the timber transportation phase of harvesting operations.

Logging activities are predominately performed by mechanized harvesting equipment where forest workers are safely housed within a guarded compartment protecting them from potential injury during the felling and forwarding phase of operations. Felling and forwarding operations are conducted on a limited basis, by smaller contracting firms, where forest workers are exposed to a higher safety hazard through the felling of trees using a chain saw and the forwarding of trees using a cable skidder. Harvesting methods are described in Section 5.11.2 of the FSP. Mitigation for the protection of forest workers from the safety hazards associated with logging activities is addressed through:

- The requirement for forest workers to be trained in first aid (WDS-WI-050 and ERP FRM-1050)
- Safety requirements under the Manitoba Workplace Safety and Health Act for all forest management operations to have emergency communication on site, the use of personal safety equipment specific to the operation being performed and the maintenance of first aid supplies (WDS-WI-021 and ERP FRM-1051 and 1066).
- The education of forest workers on the location and use of emergency communication equipment, contact information and muster point map and their maintenance on site along with communication with emergency response providers on muster point locations and their use (WDS-WI-021 and ERP FRM-1051 and 1068)
- Conducting annual emergency response exercises with Tembec staff and contractors which may include mock exercises involving injured forest worker(s) through all phases of communication, treatment, transportation and exercise debriefing (ERP FRM-1050)
- Annual auditing of contractors and their workers on the use and maintenance of safety equipment, emergency communication equipment, lists and maps and worker first aid training (WDS-013).

Timber transport to the mill may result in human health impacts through the interaction of public vehicles with vehicles undertaking timber or chip transportation activities which may result in vehicle accidents and the potential for human injuries. The potential human health impacts from timber transportation and the mitigation procedures are the same as those identified for all-weather, dry-weather and winter road development

- Radio controlled roads have been designated where all worker vehicles are required to be outfitted with 2-way radios, in order to ensure communication between forest workers and to communicate public vehicle presence (WDS-WI-049).

- Road information and safety signs are posted to inform forest workers and the public regarding road maintenance and hauling activities and annual spring inspections are conducted on the all-weather roads to ensure safe operating conditions exist and road signage is in place (WDS – 013).

Forest Renewal

The forest renewal activity of chemical stand tending presents a potential human health impact to the herbicide applicator(s) as well as the public through use of treatment areas during or following the application procedure.

Chemical stand tending may insignificantly impact human health through the exposure of applicators to herbicides during the mixing and application phases of tending operations. Public health may also be impacted through their presence on site during an application operation or through gathering activities on sites following treatment applications. Application of herbicide is only undertaken on selected sites to meet renewal requirements established to return the site to its previous cover type (FSP Section 5.15). Herbicide application is also restricted to less than 25 % of harvest areas which reduces the potential for interaction with the public. Mitigation, as described in EMS procedure WDS-014, of potential health impacts is achieved through:

- Use of only Federally registered herbicides authorized under an MC Pesticide Use Permit
- Tembec staff and contractors involved with herbicide application must have a valid Manitoba Pesticide Applicators Licence
- Local communities are notified prior to application treatments with an information package and maps of proposed application sites
- Application locations are posted before, during and after application
- Personal safety equipment must be worn when mixing or applying herbicides
- The LD50, which measures the toxicity of a herbicide in milligrams of product per kilogram of body weight, for glyphosate is 5,000 (http://www.monsanto.ca/pdfs/labels_msds/vision_msds_en.pdf, Sept 2009) Glyphosate is listed as a skin and eye irritant and the LD50 for materials such as caffeine or salt is considered more toxic than glyphosate.
- Harvest sites which support the growth of blueberries are normally associated with Manitoba FEC vegetation types V 24 to 28 and do not require the application of herbicides as prescribed in Table 5.24 of the FSP.

Forest Protection

Forest protection measures, conducted by MC, may impact human health through the application of pesticides in the treatment of insect infestations.

Insect and disease control, as described earlier, is primarily the responsibility of MC. They are required to adhere to federal and provincial regulations and legislation, referred to in chemical stand tending above, in relation to the use of approved pesticides, licensing and permitting, posting of sites and the use of personal safety equipment. As described in Section 5.15 of the FSP, MC uses the biological control agent *Bacillus thuringiensis* or Mimic[®] which uses the active ingredient *tebufenazide*. Canadians Against Pesticides (CAP) (<http://www.caps.20m.com>, September 2009) identifies that Mimic[®] persists in forest litter and soils into the next season and in pond sediments up to 393 days and is toxic to some aquatic invertebrates. CAP also identifies that Mimic[®] has health impacts as an eye irritant. The Material Safety Data Sheet (MSDS) (<http://www.cdms.net>, September 2009) lists Mimic[®] as a moderate eye irritant and a slight skin irritant with an oral LD50 >5,000 mg./kg. which would indicate a very low health risk.

Fire control has positive impacts on human health by reducing the incidence of naturally occurring forest fires which may cause respiratory problems due to smoke inhalation. MC's first priority in forest fire management activities is the protection of human life and property which will provide assistance to forest users, especially back country users, in the event of a forest fire occurring in their proximity.

Equipment use

Equipment use during forest management activities can significantly impact on human health through potential accidents related to the equipment used. Hazardous waste management may also result in insignificant human health impacts.

In-block operations of heavy equipment can result in significant human health impacts related to incidents which may occur while operating equipment or to other forest workers in the proximity of equipment being operated. As discussed in logging activities, forestry equipment uses safety guarding to protect machine operators while in use. Accidents are more prevalent when operators leave the guarded area or when other workers are in proximity of operating equipment. Mitigation for forest worker safety around equipment concentrates on education and preparedness, as also described in logging above:

- The requirement for forest workers to be trained in first aid (WDS-WI-050 and ERP FRM-1050)
- Safety requirements under the Manitoba Workplace Safety and Health Act for all forest management operations to have emergency communication on site, the use of personal safety equipment specific to the operation being performed and the maintenance of first aid supplies (WDS-WI-021 and ERP FRM-1051 and 1066).

- The education of forest workers on the location and use of emergency communication equipment, contact information and muster point map and their maintenance on site along with communication with emergency response providers on muster point locations and their use (WDS-WI-021 and ERP FRM-1051 and 1068)
- Conducting annual emergency response exercises with Tembec staff and contractors which may include mock exercises involving injured forest worker(s) through all phases of communication, treatment, transportation and exercise debriefing (ERP FRM-1050)
- Annual auditing of contractors and their workers on the use and maintenance of safety equipment, emergency communication equipment, emergency contact lists and maps and worker first aid training (WDS-013).

Fuel storage and handling may have an insignificant human health impact in relation to the transportation of fuels, gasoline and propane. Tembec requires all contractors working on FML 01 to comply with revised Transport Canada regulations related to the use of fuel tanks that comply with the CGSB 43.146 standard (WDS-WI-045). WDS-WI-045 and 046 address other fuel handling, storage and transportation procedures. MC Work Permit requirements and WDS-WI-022 address the need for fire fighting preparedness in the event of a forest or fuel related fire.

Non-hazardous and hazardous waste can insignificantly impact human health through exposure to the hazardous materials. With the exception of pesticides previously described, the hazardous materials that may be found on forest management operations are fuel oil, gasoline, oil products, greases and anti-freeze.

- These impacts are insignificant due to their limited localized extent and are mitigated through a variety of measures including:
 - Identified procedures for the handling and disposal of hazardous waste products and follow-up response procedures (WDS – WI – 019, 020, 045 and 046 and the Tembec Emergency Response Plan).
 - Site clean-up with appropriate disposal for all waste products including hazardous and non-hazardous materials (WDS – WI – 018, 019 and 020).

Forest management activities and natural disturbance agents can impact the human health of forest workers involved in forest management activities and the public through the use of roads constructed for forest management activities as well as Provincial highways used for the transportation of timber. Impacts to health potentially result from vehicle accidents, workplace accidents and exposure to pesticides. The impacts from forest management activities are mitigable through the training of forest workers, communication and education of forest workers and the public and the maintenance of preparedness equipment and infrastructure signage.