



# Rainforest Alliance

## *SmartWood Program*

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**Title:**

**Rainforest Alliance/SmartWood Locally adapted Standards for Assessing Forest Management in the Great Lakes/Saint-Lawrence region**

**SW document code:**

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### **Introduction**

The purpose of the Rainforest Alliance's SmartWood Program is to recognize good forest managers through credible independent certification of forestry practices. The Rainforest Alliance SmartWood Program (hereafter referred to as SmartWood) is a certification body accredited by the Forest Stewardship Council. The purpose of these standards is to provide forest managers, landowners, forest industry, scientists, environmentalists and the general public with information on the aspects of forest management operations that SmartWood evaluates to make certification decisions in the Forest Stewardship Council (FSC) certification system. Because there is no existing, approved FSC standards in Canada's Great Lakes/Saint-Lawrence (GLSL) region, these standards were developed based on the existing FSC Canada GLSL Field-Tested Draft Standard (April 2007) available on the FSC Canada Website. The FSC Canada Draft GLSL standard was evaluated and compared to the existing SW Generic International Standard and submitted to 30 days public consultation. The following final version incorporates all indicators and appendices of the FSC Canada GLSL Field-Tested Draft Standard (April 2007). Some minor errors like typos and cross references from the FSC Canada GLSL standard were fixed, but also some indicators were modified and some were added following comparison with the SmartWood Generic Standard. The resulting standard is applicable for assessing all forest management operations (FMEs) with wood production as a major (though not exclusive) objective. These standards apply to all forest types, planted and natural, located within the Great Lakes/Saint-Lawrence geographic region.

### **Background**

Forests can be managed for many different objectives and products. Such management can occur in natural forests or plantations, for timber or non-timber forest products, include mechanized or manual harvesting, and managed by a large industrial operation or a local community or landowner cooperative. Many combinations are possible. A critical question has been - how to evaluate the wide range of ecological, socioeconomic and silviculture impacts of forest management activities in a clear and consistent fashion, based on a combination of scientific research and practical experience?

In 1991, the SmartWood Program put forth the *first* set of global standards for forest management certification, entitled "Generic Guidelines for Assessing Natural Forest Management" applicable at

the forest or operational level for forest operations. In 1991, SmartWood also distributed the first region-specific guidelines for management of natural forests in Indonesia. In 1993, SmartWood distributed the draft “Generic Guidelines for Assessing Forest Plantations” and revised guidelines for natural forest management. The initial Working Group for developing the first FSC Principles and Criteria in 1991-1993 was co-chaired by the SmartWood Director. In 1998, after seven years of application and “learning by doing” through forest assessments and audits, SmartWood conducted a major revision of its standard for assessing forest management in both natural forests and tree plantations. Revisions since then have occurred in 2000, 2004 and 2008. Since 1993, each set of our standards has been reviewed by FSC staff, the international body that has accredited SmartWood as a forest management and chain of custody certifier.

These SmartWood standards were developed in consultation with our staff and representatives of the SmartWood Program worldwide, as well as other professional foresters, ecologists, social scientists and forest practitioners. SmartWood representatives have in-depth field experience developing region-specific forest certification standards, some going back as far as 1989 (Indonesia, California). We developed these standards to be in accord with FSC requirements as well as other forest management and biological conservation guidelines issued by the World Conservation Union (IUCN) and the International Tropical Timber Organization (ITTO). We have also drawn on work of our SmartWood Network partners (Imaflora in Brazil and NEPCON in Europe and Russia), Center for International Forestry Research (CIFOR), International Labor Organization (ILO), many scientists, forest industry, non-governmental organizations (NGOs), and FSC regional standards working groups. We would like to acknowledge the significant contributions made by these and other international, national and local organizations, and the many forestry operations (certified and uncertified), foresters, loggers, and local stakeholders who have critiqued past versions of the SmartWood standards and provided suggestions for improvement.

## Public Comment

The certification process has both public and private aspects. Certification assessments are not public documents unless specifically required by law (e.g. for some public forests) or approved for public distribution by the certified operation. However, three public documents are available for each and every certified FME:

1. A public stakeholder consultation document that announces each certification assessment 30 days prior to field work;
2. The certification standard used; and,
3. A public certification summary that is produced with the results of each separate forest certification.

The public stakeholder consultation document informs the public about the assessment at least 30 days prior to it taking place. This document is distributed publicly prior to or during an assessment. The document is typically distributed by hand delivery, FAX, mail, or email. The specific SmartWood standard for each assessment is also publicly available before and during the assessment and is a part of the public record for every forest certification. The public certification summary is produced as a final step of the certification process and is available only after an operation has been approved for certification. For copies of any public stakeholder consultation document or Rainforest Alliance/SmartWood interim Forest Management standard, visit our website at [www.rainforest-alliance.org/forestry](http://www.rainforest-alliance.org/forestry). For public certification summaries finalized prior to January 1, 2009 visit our website at [www.rainforest-alliance.org/forestry](http://www.rainforest-alliance.org/forestry). For public certification summaries finalized on or after January 1, 2009 visit the FSC certified organization website at <http://info.fsc.org> or contact SmartWood headquarters (61 Millet Street, Suite 201, Richmond, Vermont USA 05477, telephone 802-434-5491 or FAX 802-434-3116). **We strongly encourage you to give us your input, either positive or negative, on our candidate or certified operations, certification standards, or certification procedures.**

## Note on the use of this standard

All aspects of this standard are considered to be normative, including the scope, standard effective date, references, terms and definitions, tables and annexes, unless otherwise stated.

## Indicators for Small FMEs

SmartWood has reviewed the FSC Canada Draft GLSL standard for SLIMF and determined that indicators identified as not applicable in the context of SLIMF were appropriate. Indicators that do not apply to SLIMF are identified in this consultation draft with the color red. To get a copy of this SLIFM version please go to the FSC Canada website at <http://www.fscscanada.org/GLSL.htm>.

## Comment on this locally adapted standard

Comments on this local standard were received between July 16 2010 and August 16 2010. SmartWood however welcomes comments at any time. Please send any comments regarding this local standard to Alexandre Boursier by email at [aboursier@ra.org](mailto:aboursier@ra.org) or by regular mail at PO Box 1771, Chelsea, QC, J9B 1A1.

**Items in red do not apply to SLIMF as per FSC Canada's GLSL SLIMF Working Document available at <http://fscscanada.org/docs/27C8D4BEEA95F60B.pdf>. Also identified in red are the elements the SW Generic standard identifies as non applicable for SLIMF.**

## PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES

**Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.**

### 1.1 Forest management shall respect all national and local laws and administrative requirements.

1.1.1 The manager, staff and/or contractors understand their obligations regarding forestry, environmental, labour and health and safety regulations and **a system is in place whereby** staff are kept up-to-date with new regulations. (See Appendix 1 for a listing of relevant provincial and national legislation).

#### **Means of verification:**

- Staff members display working knowledge of the regulations/legislation and legal responsibilities.
- System/process whereby staff members are kept abreast of new developments in regulations/legislation and legal responsibilities.

1.1.2 The manager shall demonstrate that it has a satisfactory record of compliance with legal and administrative regulations regarding forest management

#### **Means of verification:**

- Record of periodic compliance inspections.
- Record of corrective actions that have been implemented in the case of any identified non-compliances

### 1.2 All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.

1.2.1 FME shall be up-to-date in payment of applicable fees, taxes, timber rights or leases, royalties, etc. or a plan for completing all payments shall have been agreed to with the relevant institution.

*Means of verification:*

- Records showing payment of fees and dues, including, GST, municipal taxes, stumpage, land use permit fees, workplace safety insurance board assessments, etc.
- Documented procedures to ensure payment of applicable stumpage and licence fees by subcontractors supplying certified wood to the manager from the forest management unit.

**1.3 In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.**

- 1.3.1 The manager shall respect the relevant provisions of all binding international agreements such as CITES, ILO Conventions, and the Convention on Biological Diversity, as listed in Annex X.

*Means of verification:*

- Descriptions of activities carried out by the manager related to international
- training on international agreements, etc.

**1.4 Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.**

- 1.4.1 Any situations in which the manager's compliance with FSC requirements conflicts with laws and regulations shall be documented and provided to FSC Canada by the manager.
- 1.4.2 The manager should work with the appropriate regulatory bodies and FSC to resolve discrepancies between laws/regulations and FSC Principles and Criteria

*Means of verification:*

- Action plan (e.g. identification of priorities, identification of key players, recommendations to solve conflicts, communications plan)

**1.5 Forest management areas should be protected from illegal harvesting, settlement or other unauthorized activities.**

- 1.5.1 The manager demonstrates that measures are in place to protect the management unit from illegal/unauthorized activities.
- 1.5.2 For large operations, a system shall exist for documenting and reporting to the appropriate authority instances of illegal harvesting, settlement, occupation or other unauthorized activities.

*Means of verification:*

- Measures to prevent unauthorized activities (e.g. boundary notices, access controls)
- Procedures for reporting illegal activities.
- Records of illegal activities (if any).

**1.6 Forest managers shall demonstrate a long-term commitment to adhere to the FSC principles and criteria.**

- 1.6.1 The manager shall demonstrate a commitment to comply with these regional standards for the length of the current management plan and has declared its intention to protect and maintain the integrity of the forest in the long term.

FSC does not require a forest management enterprise to apply to have all of its forest operations certified, nor to agree to a timetable for such evaluation.

A manager can further demonstrate a long-term commitment to the FSC Principles and Criteria by demonstrating that all of the forests it manages are certified to FSC's Controlled Wood standard (FSC-STD-30-010). This standard allows forest management enterprises to provide evidence that the wood they supply has been controlled to avoid wood that is illegally harvested, harvested in violation of traditional and civil rights, harvested in forest management units in which high conservation values are threatened by management activities, harvested in areas in which forests are being converted to plantations or non-forest use or harvested from forests in which genetically modified trees are planted.

It is the goal of FSC Canada to encourage certificate holders to move towards having all of their holdings FSC certified.

## **PRINCIPLE N°2 - TENURE AND USE RIGHTS AND RESPONSIBILITIES**

**Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.**

### **2.1 Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) shall be demonstrated.**

2.1.1 The applicant is the owner of the forest under assessment or has the legal right to manage and use its forest resources.

### **2.2 Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.**

2.2.1 Customary tenure or resource use rights held by communities are identified and documented. For SLIMF, this should be done only where they occur on the management unit.

2.2.2 The free and informed consent of communities holding customary tenure or resource rights has been obtained regarding all parts of the management plan that affect their rights and resources.

This requirement is normally addressed through the public participation requirements of Criterion 4.4.

### **2.3 Appropriate mechanisms shall be employed to resolve disputes over tenure claim and use rights. The circumstances and status of any outstanding disputes shall be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.**

2.3.1 FME shall use mechanisms for resolving disputes over tenure claims and use rights that respectfully involve the disputants and are consistent in process.

2.3.2 The manager is not involved in outstanding disputes of substantial magnitude involving a significant number of interests in relation to tenure claims and use rights on the management unit. The magnitude and extent depend on various factors including the following:

- a. Whether the dispute involves local rights holders;
- b. Whether the dispute involves legal or customary rights;
- c. The range of issues and/or interests involved;

- d. Whether the potential impacts on the disputant(s) are irreversible or cannot be mitigated; and/or
- e. Whether the dispute involves issues related to meeting the FSC GLSL Regional Standard.

### **PRINCIPLE N° 3 : INDIGENOUS PEOPLES' RIGHTS**

**The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.**

#### **Terminology**

The term “Indigenous Peoples” in this standard means “Aboriginal Peoples” as defined in the Canadian Constitution Act, 1982 to include “Indians, Inuit and Métis”.

The Supreme Court in Canada has recognized and clarified the application of Aboriginal and Treaty rights in a number of recent landmark decisions (e.g. Sparrow 1990, Delgam’uukw 1997, Powley 2003 and Haida 2004, to name a few). The legal framework related to Aboriginal Peoples in Canada is constantly evolving.

Aboriginal rights are collectively held rights, therefore most of the language referring to Indigenous or Aboriginal rights in this standard refers to “Aboriginal Peoples” or communities as a whole, rather than to individuals. “Aboriginal community” refers to any First Nations or Métis community (status or non-status) with a demonstrated traditional connection to the area in question.

#### **Expectations**

Aboriginal peoples have survived for many millennia and their cultural traditions include acknowledgement of responsibilities to all living things. Most Aboriginal peoples are prepared to share their rich cultural world view, so that there should be cross-cultural benefits to all parties as a result of the forest manager meeting its obligations as described in Principle 3. In order to obtain these benefits the manager must take steps to understand the cultural values generally and in particular as they relate to the forest lands where Aboriginal peoples and Canadians of other cultures are sharing forested lands in order to achieve a sustainable future for the descendents of both.

The obligations in this standard to respect Aboriginal rights place a responsibility on the forest manager to gain as much knowledge about local Aboriginal perspectives with respect to stewardship, cultural values and rights as is possible, even in circumstances where the status of those rights may be unclear, in dispute, in negotiation or under judicial review. Where uncertainty exists neither FSC (through its standards) nor the forest manager can authoritatively define, interpret or limit those rights, and should not seek to do so (such as by declining to recognize an Aboriginal community whose rights have yet to be legally determined, or by favouring one rights-holder in the case of overlapping claims).

Communications between Aboriginal peoples and forest stakeholders has improved in recent times, and this standard is intended to encourage and recognize that positive trend. In some cases provincial legislation has addressed the value and need to fully involve Aboriginal people in the sustainability objectives of that province. Communication may be more difficult for private and community forest managers but the requirements below have been differentiated in order to recognize the differing capacity and responsibilities of managers whose forests are either privately owned or owned by communities rather than the provincial government. Certification Bodies should ensure that they have access to and use the advice of experts who are well versed in local Aboriginal organization, culture and rights.

### **3.1 Indigenous peoples shall control forest management on their lands and territories**

**unless they delegate control with free and informed consent to other agencies.**

Definition of community forests :

A public forest area managed by the community as a working forest for the benefit of the community. Community forests includes such examples as conservation authorities, county forests, municipal forests, MRC forests and les forêts habitées. Industrial licensed forests (SFL, CAAF) or forest partnerships in which control does not rest with the communities are not community forests.

3.1.1a Applies on public forests -The manager keeps abreast of and is able to demonstrate a good working knowledge of the Aboriginal communities, their legal and customary rights and their interests related to forest lands within the forest management planning area.

*Means of verification:*

Documented knowledge of:

- the number and demographic profile of distinct Aboriginal communities having or claiming rights and interests within the area;the legal and customary rights of the Aboriginal communities;the political organization and governance structure of each respective Aboriginal community;the traditional use areas or lands within the manager's forest management area asserted by each respective Aboriginal community;the existence, and current status of publicly known negotiations between Government and the Aboriginal communities regarding rights and interests asserted by each respective Aboriginal community in relation to lands and resources; and,

3.1.1b Applies on Private and Community forests - The manager has a familiarity with available information about Aboriginal communities with traditional rights within the region.

*Means of verification:*

Demonstrated knowledge of:

- The Aboriginal communities with reserves, claims or asserted traditional rights in the region
- The traditional use areas or lands within the forest management unit

3.1.2 On Public forests, the manager applies best efforts and achieves measurable progress towards obtaining agreement from each affected Aboriginal community verifying that their interests and concerns are clearly incorporated into the management plan. Such agreement shall include:

- a. A description of the roles and responsibilities of the parties;
- b. The interests of the parties;
- c. A provision indicating that this agreement is not intended to abrogate or derogate from any Aboriginal or Treaty rights held by any party to the agreement;
- d. A description of appropriate decision-making authorities for all parties;
- e. A dispute resolution mechanism; and
- f. Conditions under which consent has been given and under which it might be withdrawn, if any.

*Means of verification:*

- Formal agreement or memorandum of understanding.
- Indication from each Aboriginal community indicates that it is satisfied that the manager has incorporated their interests and concerns within the management plan.

*In situations where a formal agreement is not concluded, the following means of verification can help to determine the manager efforts toward reaching agreement:*

- Evidence that the manager has informed the community in writing of their intentions to seek FSC certification, provided a copy of Principle 3 of the applicable standard and asked for a meeting to discuss how to proceed.
  - Evidence of repeated attempts, using different tactics, to open communications towards reaching agreement.
  - Minutes of any meetings with representatives of the Aboriginal community.
  - Evidence that the manager has negotiated as much of the required agreement as possible, from the description of the roles and responsibilities of the parties through to the interests of the parties, a description of appropriate decision-making authorities for all parties; a dispute resolution mechanism and the conditions under which consent has been given (or withheld) and under which it might be withdrawn (or granted)
  - Written summary of what the manager understands to be the key concerns of the community and evidence of efforts to seek confirmation in writing of this understanding from the Aboriginal community.
- 3.1.3 On public forests, the manager participates in and/or supports the efforts of the affected Aboriginal communities to develop their capacity to enable them to participate in all aspects of forest management and development.
- 3.1.4 On public forests, the manager has jointly established with affected and interested Aboriginal communities, opportunities for long-term economic benefits where that is the desired objective.

*Means of verification:*

- Record of jobs filled and employment opportunities provided to Aboriginal individuals;
  - Record of training opportunities provided/available to Aboriginal individuals;
  - Joint agreements signed by both parties clearly stating the nature of the economic opportunities, evidence of revenue-sharing from forest operations, and timelines; and
  - Indication of satisfaction from the affected and interested Aboriginal community(ies).
- 3.1.5 a Applies on Public forests - A dispute resolution process, where necessary, has been jointly developed with the affected Aboriginal communities, is documented and is being fairly implemented.
- 3.1.5b Applies on private and community forests - If a conflict over tenure and use rights is raised by an aboriginal community, the manager comes to an agreement with the aboriginal community on measures the manager will take towards resolving the dispute.

**3.2 Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of Indigenous Peoples**

On Private and Community forests, the dispute resolution requirements described in 3.1.5b is the mechanism to address 3.2.

- 3.2.1 On Public forests. the manager makes use of an assessment of Aboriginal resources and tenure rights, undertaken by or jointly with the affected Aboriginal communities.

*Means of verification:*

- Baseline data on numbers of traditional land users, resources used, areas frequented and revenues generated from traditional land-use.



3.2.2 On Public forests, the manager ensures that management activities outlined in the management plan do not threaten or diminish Aboriginal resources are based on the results of the assessment described in 3.2.1.

**3.3 Sites of special cultural, ecological, economic or religious significance to Indigenous People(s) shall be clearly identified in cooperation with such Peoples, and recognized and protected by forest managers.**

**Traditional Ecological Knowledge**

Criterion 3.3 is intended to ensure that the manager takes adequate measures to identify and protect sites of significance to Aboriginal communities, and the principal source of information should be Aboriginal peoples themselves, while recognizing that the ownership of this knowledge rests with the Aboriginal peoples who choose to share it or make it available subject to appropriate confidentiality considerations.

Aboriginal peoples have a variety of perspectives as diverse as the many Aboriginal communities that populate Canada. There are a number of Aboriginal organizations that contribute to the body of forestry knowledge as it relates to Aboriginal communities. With respect to traditional ecological knowledge Aboriginal organizations, Aboriginal Elders and others are bringing forth a science that has significant contemporary value. That science is being utilized to identify forest products that are of particular importance to Aboriginal peoples, and also in some circumstances to provide benefits outside of the Aboriginal community, such as to treat cancer or produce value added products. Where that information is being used by the manager for commercial benefit Criterion 3.4 addresses the need to provide appropriate compensation for this knowledge.

3.3.1a Applies on Public forests - The manager supports the efforts of the affected Aboriginal communities to conduct land use studies and mapping which result in an Aboriginal areas of concern protection agreement, addressing information sharing, protection, mitigation and/or compensation, and confidentiality measures for Aboriginal traditional values and uses.

*Means of verification:*

- Written plan on Aboriginal land use and values and supporting maps;
- Evidence of financial or technical support by the manager to conduct land use studies and mapping;
- Evidence of the implementation of the Aboriginal areas of concern protection agreement including evidence of change in forestry operations, if pertinent;
- Evidence of negotiations with hunters, trappers and other Aboriginal individuals who are land users, that are endorsed by the Aboriginal communities;

3.3.1b Applies on Private and Community forests - The manager gathers and documents publicly available information about sites of special cultural, ecological, economic or spiritual significance to Aboriginal People(s) that has been provided by relevant authorities or that has been identified during the public consultation process described in 4.4.

3.3.2a Applies on Public forests - Where Aboriginal communities indicate that forestry operations on particular blocks or sites are creating a threat of serious environmental, economic, or cultural impact, the manager suspends or relocates forestry operations until disputes are resolved. Examples of serious threats could include:

- a. Destruction of burial sites, spiritual sites, spawning areas, medicinal areas;
- b. Severe disruption of livelihood;
- c. Damage to community water supply; or,
- d. Severe disruption of food chain to the community.

*Means of verification:*

- Policies in place to suspend or relocate operations pending dispute resolution;
- Record of suspended or relocated operations in response to an identified threat; and,
- Community satisfaction with handling of serious threats.
- Agreement(s) with the affected Aboriginal communities on monitoring.
- Regular joint assessments on the effects of forest management activities on the Aboriginal communities.

3.3.2b Applies on Private and Community forests - Consistent with landowner objectives, the manager takes steps to protect values identified in 3.3.1.

3.3.3 On Public forests, the manager supports the efforts of the affected Aboriginal communities to monitor the impacts over time of forestry activities on the values identified in the Aboriginal areas of concern protection agreement.

*Means of verification:*

- Agreement(s) with the affected Aboriginal communities on monitoring.
- Regular joint assessments on the effects of forest management activities on the Aboriginal communities.

**3.4 Indigenous Peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.**

The Convention on Biological Diversity notes the importance of encouraging the equitable sharing of benefits arising from the utilization of indigenous knowledge innovations and practices (Article 8j). In the FSC GLSL standard Criterion 3.4 is intended to apply specifically to the equitable sharing of the benefits from the *commercial use* of Aboriginal knowledge. The broader issue of equitably sharing benefits of forest management is addressed in 3.1.2.

3.4.1 The manager enters into an agreement with the affected Aboriginal communities which compensates for the use of traditional knowledge in forest management. Examples of traditional knowledge use:

- a. Commercial use of a forest species, in particular non-timber forest products;
- b. Improved management plans; or
- c. Improved operations.

*Means of verification:*

- Written compensation agreement
- Evidence that compensation has been delivered and of satisfaction of Aboriginal individuals with the application of the agreement

**PRINCIPLE N°4 - COMMUNITY RELATIONS AND WORKERS' RIGHTS**  
**Forest management operations shall maintain or enhance the long-term social and economic well being of forest workers and local communities.**

## **Employees and Forest Workers Definitions**

Employee: Anyone who is on the payroll of the manager, in a full-time, part-time or seasonal capacity, for whom the manager withholds and remits taxes in accordance with federal and provincial laws.

Forest worker: All employees as defined above, as well as self-employed contractors, the employees of contractors or the employees other companies whose activities (e.g. planning, road-building, thinning, harvesting, hauling, etc) contribute directly to the delivery of wood to the manager that will be included in the scope of the FSC certificate.

### **4.1 The communities within or adjacent to the forest management area should be given the opportunity for employment, training, and other services.**

4.1.1 The manager supports the procurement of goods and services from local suppliers and communities.

#### ***Means of verification:***

- Policies and processes related to local procurement.
- Tender notices.
- Evidence of local procurement (e.g. contracts with local suppliers, lists of purchases).

4.1.2 According to its means, the manager offers employment to workers and contractors in the local and affected communities.

#### ***Means of verification:***

- Evidence of employment offered to local workers and contractors (newspaper ads, use of local hiring services, etc.)
- Interviews with local interests

4.1.3 According to its means, the manager contributes to local and affected communities in a manner that builds capacity and enhances quality of life and community stability.

#### ***Means of verification:***

- Records of manager's sponsorship of local events, scholarships, sports teams, etc.
- Employment records demonstrating an emphasis on working towards providing continuous employment opportunities (versus seasonal employment).
- Records of manager's support to continuing education in local communities, including First Nation communities.

4.1.4 The manager is taking steps to minimize or mitigate negative impacts on employment (e.g. closures, restructuring, technological change, seasonal layoffs, etc.)

#### ***Means of verification:***

- Assessments of technological impacts on workers.
- Transition programs for displaced employees.
- Employee retraining programs

4.1.5 Total remuneration packages for employees, including wages and other benefits (health, retirement, worker's compensation, housing, food, profit sharing), are fair and compare favourably with prevailing local standards.

#### ***Means of verification:***

- Level of worker satisfaction with remuneration.
- Policies related to remuneration.
- Comparability of remuneration to regional forest sector standards.

4.1.6 The manager should accommodate or support alternative or community forest management projects when approached to this end by local community members and where the project receives support through the public participation process described in Criterion 4.4.

*Means of verification:*

- Interviews with local promoters
- Manager's participation in the analysis of projects brought to its attention
- Description of manager's collaboration

**4.2 Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.**

4.2.1 All forest workers comply with all relevant provincial occupational health and safety requirements.

*Means of verification:*

- Safety policy.
- Equipment safety inspection records.
- Worker interviews.
- Written contracts or understandings with contractors or other employers of forest workers

4.2.2 The manager has a process in place for fairly resolving disputes with employees pertaining to occupational health and safety.

**4.3 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labour Organization (ILO).**

4.3.1 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in the Canadian Labour Code and/or provincial Labour Codes.

*Means of verification:*

- No complaints or evidence of company interference such as discharging of employees related to organizing drives, coercion of employees, etc.
- Worker interviews.

**4.4 Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.**

Social impacts are normally identified, evaluated and addressed as part of the public consultation process described in 4.4.
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4.4.1 Local communities, community and non-government organizations, forest workers, and the interested public affected by forest management are provided with meaningful opportunities to participate in forest management planning. The manager demonstrates that all input was considered and responded to.

4.4.2 Adjacent landowners and local resource users that may be directly affected by forest operations are provided with notice, and their concerns considered prior to commencement of harvesting and operations.

4.4.3 On public lands, a public participation process is used to supplement the requirements of 4.4.1. The manager openly seeks representation from a broad and balanced range of interested parties and invites them to participate.

4.4.4 The public participation process on public lands uses clearly defined ground rules that contain provisions on:

- a. Goals;
- b. Timelines;
- c. Internal and external communications;
- d. Resources (human, physical, financial, informational or technological) according to needs;
- e. Roles, responsibilities and obligations of participants, including their organizations;
- f. Decision-making methods;
- g. Authority for decisions;
- h. Mechanism to adjust the process as needed;
- i. Access to information;
- j. Participation of experts, other interests and government; and
- k. A dispute resolution mechanism.

The participants have been involved in the development of, and agreed to, the ground rules.

**4.5 Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.**

4.5.1 The manager takes measures to avoid loss or damage to property, rights, resources or livelihoods

*Means of verification:*

- Manager's record of trespassing, causing damage etc.
- Training materials related to avoiding trespasses, etc.
- Manager's checking and monitoring procedures and related records.
- Relevant knowledge of workers and contractors to minimise potential damage by operations.

4.5.2 The manager has a process in place for fairly resolving disputes with other resources users and the general public that result from forest planning and operations.

*Means of verification:*

- Written documentation regarding the dispute resolution process.
- Documentation regarding the resolution of past disputes.
- Interviews with those with whom the manager has had a dispute and used the resolution process.
- Evidence of disputes resolved in a timely and satisfactory fashion for all involved parties.
- Compensation provided.

**PRINCIPLE N°5 - BENEFITS FROM THE FOREST**

**Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.**

**5.1 Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.**

5.1.1 Resources are in place to implement the management plan(s), and all associated forest management activities (including road building, harvesting, renewal and tending, restoration, monitoring and mitigation of negative impacts, habitat management, etc.).

*Means of verification:*

- Comparison of planned versus actual activities in past years.

**5.2 Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.**

5.2.1 The manager seeks the optimal or "highest and best" value for forest products.

*Means of verification:*

- Product sorting at harvest operations or wood yards.
- Documentation of efforts made to determine quality and value of products prior to harvest (e.g. Operational cruising).
- Forest manager demonstrates working knowledge of forest product markets.
- Trend over time in value obtained per unit of product.

5.2.2 Preference is given to local processing and value-added facilities if financially competitive.

*Means of verification:*

- records of timber sales and/or deliveries to determine the percent of volume harvested which is processed locally.
- interviews with local wood processors.
- Efforts made to provide local value added industry with access to wood supply

**5.3 Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.**

5.3.1 Within the framework of the silvicultural system used, all harvested merchantable and marketable timber is utilized unless left on-site to provide structural diversity and wildlife habitat or for cultural reasons.

*Means of verification:*

- Forest manager has developed and implemented a wood utilization standard
- Forest manager can demonstrate efforts to improve the utilization of lower diameter and quality wood.
- There is evidence that log specifications and harvest procedures are designed to optimize value and avoid waste.
- Active measures are taken to prevent loss in value after harvest.

5.3.2 The manager avoids and minimizes the removal of valuable but non-marketable trees without sound silvicultural justification.

5.3.3 On-site processing sites are limited in size and number and all by-products are properly disposed of.

*Means of verification:*

- Use of forest by-products for bioenergy, co-generation firewood, etc..

- Slashing and chipping residue is properly disposed of and not left piled on-site
- Proportion of waste recycled from milling operations
- Number and surface area of on-site processing sites

**5.4 Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.**

5.4.1 Forest management diversifies forest use and products while maintaining composition, structure and functions.

*Means of verification:*

- Record of forest products derived from the forest.
- Provisions for NTFP's (e.g. maple syrup, mushrooms, nuts, etc) in the management plan.

**5.5 Forest management operations shall recognize, maintain, and where appropriate, enhance the value of forest services and resources, such as watersheds and fisheries.**

5.5.1 Forest management operations shall recognize, maintain, and where appropriate, enhance the value of forest services and resources, such as watersheds and fisheries.

Compliance with this indicator is achieved by meeting the requirements in Principles 5 and 6.

**5.6 The rate of harvest of forest products shall not exceed levels which can be permanently sustained.**

This Criterion addresses the actual harvest of forest products. The related but different topic of setting sustainable harvest levels is addressed in 7.1.1 (Annex D)

5.6.1 The manager demonstrates that the average of the present and projected annual timber harvests over the next decade, and averages of projected timber harvests over all subsequent decades, do not exceed the projected long term harvest rate, while meeting the GLSL Standards over the long term.

**PRINCIPLE N°6 - ENVIRONMENTAL IMPACT**

**Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and by so doing, maintain the ecological functions and integrity of the forest.**

**6.1 Assessment of environmental impacts shall be completed – appropriate to the scale, intensity of forest management and the uniqueness of the affected resources – and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.**

The term “assessment of environmental impacts” as it is used here is not intended to refer to a formal “Environmental Impact Assessment” as is conducted under federal and provincial laws and regulations. As it is used here, it is intended to mean technical assessments of the manner and extent to which proposed or undertaken management activities affect the environment directly and indirectly. The assessment methodologies used must be scientifically sound. The scope of an assessment is typically outlined at the start of the project so that the project has some well-defined boundaries.

These may include physical, temporal, political, cultural and financial limits within the project mandate. Aspects of the environment typically included in assessments are site impacts (on soil and site attributes), community impacts (on local wildlife and ecological communities), and **landscape** impacts (on the broader forest ecosystem).

Where an Environmental Impact Assessment has been carried out – including a Class Environmental Assessment such as the Class Timber EA carried out by the Province of Ontario – the information and guidelines that result from that Assessment can be used towards meeting the requirements of 6.1, provided that the manager can clearly document how it has assessed the local site conditions on its management unit in advance of carrying out operations, and in enough detail to determine where and how such guidelines might apply.

Assessments at the stand or site level are carried out prior to implementing field operations and periodically thereafter.

**6.1.1 A method for assessing environmental impact is implemented by the manager. This method shall consider impacts including but not necessarily limited to:**

- a. the quality and quantity of forest resources;**
- b. site specific impacts; and**
- c. impacts on other resources**

6.1.1b Applicable to SLIMF FMEs only (note: indicator 6.1.1b replaces indicators 6.1.1 to 6.1.5 in case of SLIMF) Before initiating any operation, the possible negative environmental impacts shall be identified and the operation is designed to minimize them. Environmental impact assessments do not need to be documented unless legally required.

**6.1.2 The manager has gathered relevant data including environmental and ecological data that will serve as regional and landscape-level context for the environmental impact assessment.**

**The information shall include, but need not be limited to:**

- a. Maps of ecosystems, fragile ecosystems, soil type, forest cover and natural disturbance for the forest;**
- b. An inventory of site specific environmental/ecological characteristics sensitive to impacts by forest operations such as steep slopes, shallow soils, moist soils and soil subject to compaction (e.g. structured clay);**
- c. Maps of HCVEs and their attributes;**
- d. Classification of water bodies and identification of spawning grounds.**
- e. Information regarding management regimes in surrounding forests, in particular for the areas or sites abutting the forest;**



- f. Details on sites and areas of particular ecological importance for First Nations (as per Criterion 3.3).
- 6.1.3 The natural variability and historic local pattern of the forest in the region has been characterized, and includes:
- a. A description of major disturbance factors, including disturbance intervals and the expected amount of residual structure following natural disturbances;
  - b. Estimated mean distribution and/or composition of tree species, forest cover types and/or forest unit as appropriate;
  - c. Estimated typical age class distribution.

The assessment is reviewed by qualified specialists and available for public review.

- 6.1.4 The data collected in 6.1.2 and 6.1.3 is verified on-site where appropriate, assessed and interpreted in consideration of the potential impacts (positive or negative) described in 6.1.1.
- 6.1.5 Benchmarks of current forest condition at the stand and landscape levels are in place to serve as references during impact assessment.
- 6.1.6 The results of environmental assessments are incorporated into management planning and implementation such that where an assessment has indicated that environmental impacts of proposed management activities pose significant risk, then:
- a. Management activities do not occur; or
  - b. The manager reduces the risk to an acceptable level by employing an alternative management approach or mitigative measures; or
  - c. The manager provides a rationale that includes evidence that the chosen option is acceptable based on the conservation of biodiversity and/or other environmental values. This rationale is to be compared with the risk of taking no actions.
- 6.1.7 The manager implements conditions necessary to achieve the intent of the silvicultural and harvest prescriptions including but not necessarily limited to :
- a. Residual stocking, structure, species composition and quality (ref. 6.2.4, 6.2.5, 6.3.1)
  - b. Specific habitat requirements (ref. 6.2.2, 6.2.3, 6.2.4, 6.3.1, 6.3.2)
  - c. Protection of sensitive sites (ref. 6.3.6, 6.3.9, 6.3.16)

Where forest workers have not received specific training in meeting this requirement, trained tree markers shall be used.

- 6.2 Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.**
- 6.2.1 The management plan – or related documents – has an updated list of species at risk (i.e. flora and fauna) that are presently or potentially found in the forest (i.e. the forest is located in their distribution area), as indicated in federal, provincial or regional government listings, as well as other species that have been identified as needing special protection.

All species that are listed as “at risk” (i.e. those which have some special designation related to concerns for their population or habitat status) by federal or provincial government agencies and that are present or believed to be present on the management unit must be included in the considerations related to species at risk in Criterion 6.2 and elsewhere in the standard where the term “species at risk” is used. Managers should also consider other vulnerable species as “at risk” (and therefore apply the measures identified by the relevant indicators of this standard), including species that are under consideration for listing as well as species that have been identified by non-government agencies or groups if the designation or concern is the result of efforts by a diversity of agencies or groups, considering a diversity of vulnerability factors; and which include consideration of the impact of forest management activities on relevant vulnerability factors for the species.

In 6.2.1 the manager maintains a list of all “at risk” species meeting the above criteria.

Indicators 6.2.2 and 6.2.3 apply only to formally listed Species at Risk, while 6.2.4 applies to other uncommon species and 6.2.5 applies only to uncommon tree species.

Also note that Principle 9 allows for the possibility of addressing concerns related to concentrations of endangered species and/or endangered ecosystems.

- 6.2.2 Where plans exist, or are under development by government to protect the habitat and populations of species at risk in the forest, the manager implements all measures relevant to their activities and cooperates with efforts to control inappropriate hunting, fishing, trapping and collecting.

**Means of verification:**

- Protection plans for species and habitat or a development schedule for plans.
- Records of activities undertaken under the plans.

- 6.2.3 Where plans identified through Indicator 6.2.2 do not exist or are incomplete or inadequate, a precautionary approach is used in management of the habitats of the relevant species at risk.

**Means of verification:**

- Review of precautionary measures.
- Comparison of approaches and levels of activity in neighbouring, similar forests.
- Results of habitat modelling for relevant species, where it has been undertaken.

- 6.2.4 Special prescriptions are applied to protect rare and uncommon species:

For rare and uncommon plant and wildlife species, appropriate buffer zones or harvest modifications are applied in order to ensure their protection.

**Means of verification:**

- Species and habitat protection plans, or timetable for preparing such plans.
- Records of activities undertaken in accordance with these plans

- 6.2.5 The manager has established a desired target for the future distribution and abundance of rare tree species listed in 6.2.1 consistent with site conditions, historical abundance and the scale of the forest being managed. The target, management plan and operational plans should be designed to:

- a. Increase its relative abundance;
- b. Conserve genetic diversity;
- c. Ensure successful regeneration ;
- d. Maintain a balance of age classes in the management unit;

- e. Harvest isolated stands only if adequate natural regeneration is present within the stand or if seed from the appropriate seed zone is used to successfully regenerate (free to grow) an equivalent site within the seed zone;
- f. Harvest isolated individuals that have seed bearing potential only where they are showing signs of severe decline and are hazardous

**6.3. Ecological functions and values shall be maintained intact, enhanced or restored, including:**

- a) Forest regeneration and succession;
- b) Genetic, species and ecosystem diversity; and,
- c) Natural cycles that affect the productivity of the forest ecosystem.

Several Indicators in 6.3 (6.3.1, 6.3.2, 6.3.3, 6.3.8, 6.3.9 and 6.3.14) use the qualifier “in natural forests.” This means that these Indicators do not apply on plantations within the management unit.

6.3.1 In consideration of the assessment results in 6.1, the manager has determined a long-term desired future forest condition that maintains, enhances or restores natural conditions in natural forests relating to:

- a. diversity of forest types
- b. diversity of successional stages
- c. distribution of age classes, including old growth
- d. diversity of forest structures (e.g. horizontal, vertical and pattern)
- e. connectivity
- f. levels of disturbances at the landscape level (e.g. watershed)

6.3.2 Quantitative short to mid-term (e.g. 2-5 years) objectives have been set, using expert input, to maintain, enhance or restore natural conditions in natural forests. Plans have been developed and are being implemented to achieve the objectives.

6.3.3 Quantitative habitat objectives should be set, using expert input, for species whose habitat requirements have not been addressed in 6.3.1. Plans have been developed and are being implemented in natural forests to achieve the objectives.

6.3.3b On large forests, a quantitative habitat supply analysis has been completed using expert input for species whose habitat requirements have not been addressed in 6.3.1. Plans have been developed and are being implemented in natural forests to achieve the objectives supported by this analysis. Does not apply to SLIMF.

Indicators 6.3.3 and 6.3.4 are intended to supplement the “coarse filter” approach outlined in 6.3.1, by encouraging managers to implement measures aimed at improving habitat for significant species with specific habitat needs.

6.3.4 The manager has a strategic access management plan to minimize and mitigate the negative impacts of roads. This may include but is not necessarily limited to:

- a. reducing road density;
- b. reducing and/or limiting access to High Conservation Value Forest areas;
- c. decommissioning roads;
- d. avoiding road building in or around protected areas; and-or
- e. maintaining remoteness of areas with sensitive cultural or ecological values or where required for tourism

**f. Maintain or restore connectivity**

- The manager collaborates with the government and other relevant authorities in implementing the plan.
- 6.3.5 The manager complies at a minimum with all provincial regulations, policies and licence conditions pertaining to riparian and wetland protection during harvesting and road construction.
- 6.3.6 Disturbance to seasonal watercourses (including intermittent and ephemeral streams, seeps, ponds, vernal pools) is avoided wherever possible. Temporary crossings are restored so as to avoid damage to seasonal watercourses.
- 6.3.7 The manager is implementing relevant best management practices pertaining to the protection of soils, water quality and sensitive sites.
- 6.3.8 In partial cuts in natural forests, harvesting (whether during normal operations or salvage following a natural disturbance) and other stand management activities leave residual structures in sufficient quantity and distribution for them to serve their ecological functions. Precise objectives for different structural components are determined and documented, and include the following considerations:
- a. diversity of vertical and horizontal structure and tree pattern relevant to the site;
  - b. wildlife habitat; and
  - c. woody debris
- 6.3.9 In clearcuts and other final removal cuts in natural forests, harvesting maintains residual structures in sufficient quantities and distribution so as to fulfill their ecological functions. Specific ranges for the various structural components are described in the forest management plan, consistent with the requirements below, and are implemented.
- a. Post harvest residual includes patches or clumps of trees and individual trees and/or patches.
  - b. Residual retention includes all standing residual structure in a defined and mapped harvest area, including insular patches, peninsular patches, partial harvest areas and reserves established for other purposes.
  - c. Residual structure consists of a mix of dispersed trees and/or a range of patch sizes adapted to the size of the cutblock. Residuals are well distributed at all scales throughout the harvest area. Where the harvest area is an aggregation of smaller cutblocks, residual trees and patches shall be well distributed within the small cutblocks as well as between or among them.
  - d. All residual retention is long term, meaning it will not be harvested until at least the subsequent rotation.
  - e. The amount of residual structure retained in harvest operations will approximate levels of expected natural post-disturbance residual identified in 6.1.3.
  - f. In small harvest blocks (i.e. 5-20ha) where there is abundant residual forest in the form of harvest block separators, peninsulas, riparian or other types of reserves, or stands harvested under one of the partial cut systems in the surrounding area, residual structure of 25 to 30 individual trees per hectare should be retained within the clearcut harvest area, based on the managers' goals related to wildlife habitat and ecological characteristics.

*Means of verification:*

- Maps and aerial photographs of harvested areas.
- Relevant training material used in courses or by harvest and site preparation

- Field reconnaissance.
- 6.3.10 Forest roads, skid trails and landings are well planned and designed to minimise soil erosion and loss of productive area. Forest roads, landings and skid trails are designed to:
- a. reduce soil and road embankment erosion, soil compaction and rutting,
  - b. minimise water crossings and loss of productive area;
  - c. minimize loss of site productivity; and
  - d. ensure the protection of aquatic habitat quality during construction and use.

*Means of verification:*

- Proof of implementation of standards/practices, assessed in the field
  - Use of waterbars on steep slopes and/or switchbacks
  - Knowledge by the field workers of the standards/practices, assessed through interviews
  - Rate and severity of non-compliances
- 6.3.11 Rutting related site damage and damage to residual trees (crown, trunks and roots) does not exceed provincial acceptable levels.
- 6.3.12 Harvest plans schedule operations on damage prone sites to periods of the year when risks are minimized.
- 6.3.13 Where mechanical site preparation is adopted it keeps to a minimum soil compaction, erosion and organic nutrient displacement. The top organic layer and the underlying mineral soil are mixed rather than the organic layer removed (may vary depending on the targeted regeneration, expected competition and availability of herbicides as a treatment option).
- 6.3.14 In natural forests regeneration efforts should emulate natural processes such as natural regeneration, direct seeding, and use local seed sources.
- 6.3.15 Regeneration occurs in a timely fashion, and consistent with successional objectives as outlined in 6.3.1.

**6.4 Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.**

**Protected Areas**

Protected Areas are defined in this standard as areas protected by legislation, regulation, or land-use policy to control human occupancy or activity. Protected areas therefore can only be created by government and their establishment includes consideration of factors that are outside the scope of FSC certification. However, it is the intent of this Criterion to ensure that forest managers act within their sphere of influence to support the efforts by government to complete a network of representative protected areas; at the very least by taking steps to avoid diminishing future options for establishing protected areas. In this standard we use the term “candidate protected area” to identify areas that are identified by the manager and validated by external review as having the potential to contribute towards the completion of a network of representative protected areas.

- 6.4.1 The manager shall identify potential gaps in the representative completeness of protected areas in the appropriate ecological unit(s) (ecoregions, ecodistricts, natural regions) contained on the management unit, using the best available tools and information, such as but not necessarily limited to:
- a. land cover gap analysis; and
  - b. enduring features gap analysis.

There are a number of tools currently available that can be used to carry out a gap analysis, including the WWF-Canada Assessment of Representation (AoR) Gap Analysis Tool and the Ontario Ministry of Natural Resources Gap Tool. The analysis should extend to the full area of all ecological units contained on the management unit, so that protected areas in the ecological unit but outside of the management unit should be considered.

- 6.4.2 Where there are identified gaps, the manager shall use the gap analysis and consideration of elements such as representativeness, connectivity, integrity, forest age, rare ecosystems, the results of the HCVF analysis in 9.1 and other available analyses to determine and map the location and size of candidate protected areas.
- 6.4.3 The manager shall engage and cooperate with interested parties (e.g. ENGOs, Aboriginal communities) and qualified experts in carrying out the gap analysis and identifying candidate protected areas.
- 6.4.4 Interested parties should generally be in favour of the conclusions of the gap analysis regarding the identification and contribution of candidate protected areas.
- 6.4.5 **Applicable to SLIMF FMEs only:** (note: other 6.4 indicators do not apply to SLIMF) Where representative samples of ecosystems are known to exist in the FMU these shall be protected.
- 6.4.5 The manager should act within its sphere of influence to encourage interim and long term recognition of candidate protected areas.
- 6.4.6 The manager shall not undertake forest management activities, including harvesting, silviculture and road in protected and candidate protected areas.

**6.5 Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.**

- 6.5.1 All forest operations with the potential for negative environmental impact (as identified in 6.1) shall have written guidelines defining acceptable practices which are available to forest managers and supervisors. Such operational guidelines shall meet or exceed national or regional best management practices.

**6.6 Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international**

**agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.**

- 6.6.1 Chemical Pesticides identified by FSC as highly hazardous pesticides (see Annex x) or where prohibited by law are not used.

**Means of verification:**

- Company policy identifying prohibited chemicals/pesticides.
- Records of pesticide application.

- 6.6.2 The manager should collaborate in the development and implementation of an integrated pest management programme, an aspect of which aims at avoiding the use of chemical pesticides.

- 6.6.3 The manager shall use chemical pesticides only when non-chemical products are not available, ineffective to attain the silvicultural objectives, cost-prohibitive or inadequate in light of risks and environmental and social benefits.

Furthermore, chemical pesticides shall only be used when their use is essential to attain the following silvicultural objectives:

- a. The regeneration or restoration of non-forest lands; or
- b. The regeneration of challenging species (e.g. Oak or White Pine);
- c. The control of invasive exotic species; or
- d. To control major insect outbreaks.

The rationale for each chemical pesticide use is documented and publicly available.

**6.7 Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.**

- 6.7.1 Standard Operating Procedures (SOPs) are in place and implemented regarding safe handling and disposal of chemicals, liquid and solid non-organic wastes including fuel and oil. These SOP's reflect best management practices and at minimum ensure compliance with all regulatory guidelines.

**6.7.2 A recycling program is in place for used oil and plastic containers.**

**Means of verification:**

- Written standards/practices on waste management
- Field inspections of waste control measures
- Knowledge by the field workers of the standards/practices, assessed through interviews

- 6.7.3 In the event of a hazardous product spill, the manager shall immediately contain the product, notify the appropriate authorities, and begin cleanup and product elimination with the assistance of qualified personnel.

**Means of verification:**

- Written standards/practices on hazardous waste management
- Field inspections of hazardous waste control measures
- Knowledge by the field workers of the standards/practices, assessed through interviews

- 6.7.4 Leaking equipment is repaired or taken out of the forest. Recovered material is taken to a designated disposal site.

**Means of verification:**

- Written standards/practices on waste management
- Field inspections of waste control measures
- Knowledge by the field workers of the standards/practices, assessed through interviews

**6.8 Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.**

6.8.1 Biological control agents (e.g. Bt) are used only where other non-chemical pest control methods are, or can reasonably be expected to be ineffective. The rationale for the use of biological control agents is documented and based on scientific evidence.

**Means of verification:**

- records of application of biological control agents.
- forest protection plans.
- documented rationale for the use of biological control agents.

6.8.2 Genetically modified organisms are not used.

**6.9 The use of exotic species is carefully controlled and actively monitored to avoid adverse ecological impacts.**

6.9.1 The use of exotic species, in plantations or otherwise, shall be justified and monitored for adverse environmental impacts. Only species known to be non-invasive are to be used.

**Means of verification:**

- Description and records of areas where exotic species are planted
- Inspection of exotic species plantations
- Results of monitoring measures

**Hybrids**

Hybrids derived from at least one exotic species are considered exotic species. Hybrids are typically sterile, and hence non-invasive. Hybridization does not constitute genetic modification of the sort referred to in FSC's definition of Genetically Modified Organisms.

**6.10 Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:**

- a) entails a very limited portion of the forest management unit;**
- b) does not occur on high conservation value forests; and**
- c) will enable clear, substantial, additional, secure long term conservation benefits across the forest management unit.**

6.10.1 Forest conversion to plantations from the time of initial FSC certification shall not exceed 5% of the productive forest area.

6.10.2 Forest conversion to plantations or non-forest land uses (except roads required for access) do not occur on High Conservation Value Forest (HCVF) areas.

6.10.3 Where forest conversion to plantations or non-forest uses takes place the manager demonstrates the conservation benefits across the landscape.

**Means of verification:**

- Evaluation of the conservation and social impacts and benefits of conversion
- Comparison with any candidate protected areas identified as per 6.4

6.10.4 Management actions are undertaken to convert all non-forest areas (landings, road, gravel pits, etc.) back to forest once the non-forest use has ceased.



*Means of verification:*

- Documented plans related to re-establishment of forest cover in non-forest areas.
- Field inspection of re-establishment efforts.

## **PRINCIPLE N°7 – MANAGEMENT PLAN**

**A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.**

### **7.1 The management plan and supporting documents shall provide:**

- a. **Management objectives.**
- b. **Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions and a profile of adjacent lands.**
- c. **Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories**
- d. **Rational for rate of annual harvest and species selection**
- e. **Provisions for monitoring of forest growth and dynamics.**
- f. **Environmental safeguards based on environmental assessments.**
- g. **Plans for the identification and protection of rare, threatened and endangered species**
- h. **Maps describing the forest resource base including protected areas, planned management activities and land ownership.**
- i. **Description and justification of harvesting techniques and equipment to be used.**

7.1.1 The management plan and supporting documents shall provide information on the elements listed in Annex D.

7.1.1a Applicable to SLIMF FMEs only: A written management plan exists that includes at least the following:

- a) The objectives of management;
- b) A description of the forest;
- c) How the objectives will be met, harvesting methods and silviculture (clear cuts, selective cuts, thinnings) to ensure sustainability;
- d) Sustainable harvest limits (which must be consistent with FSC criteria 5.6);
- e) Environmental/social impacts of the plan;
- f) Conservation of rare species and any high conservation values;
- g) Maps of the forest, showing protected areas, planned management and land ownership; and,
- h) Duration of the plan.

### **7.2 The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.**

7.2.1 The management plan shall be revised at least every 10 years to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.

### **7.3 Forest workers shall receive adequate training and supervision to ensure proper**

## **implementation of the management plan.**

### Employees and Forest Workers Definitions

**Employee:** Anyone who is on the payroll of the manager, in a full-time, part-time or seasonal capacity, for whom the manager withholds and remits taxes in accordance with federal and provincial laws.

**Forest worker:** All employees as defined above, as well as self-employed contractors, the employees of contractors or the employees other companies whose activities (e.g. planning, road-building, thinning, harvesting, hauling, etc) contribute directly to the delivery of wood to the manager that will be included in the scope of the FSC certificate.

7.3.1 The applicant ensures that forest workers receive adequate training to ensure they meet this standard's requirements. Training is tailored to their roles and responsibilities. Training material and courses address the following topics, among others:

- a. How to avoid damage to the environment, in particular to residual stands, streams, and sites of cultural significance
- b. Assessment of log quality and destination
- c. Appropriate implementation of the management plan
- d. The relevant sections of international agreements (see Criterion 1.3)
- e. Health and safety requirements
- f. Implementation of ecosystem-based management (e.g. harvesting and site preparation)
- g. Use and handling of pesticides
- h. Identify species at risk and other species listed in 6.2.1

#### *Means of verification:*

- Attendance register of training events
- Training program and content of training material
- Interviews with employees and contractors

7.3.2 **Forest workers are encouraged to promptly report to the manager any situations that may conflict with the implementation of the management plan, with the FSC standard or with regulations. Forest workers are not penalized by the manager for reporting such situations.**

**7.4 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.**

7.4.1 The public is provided with a summary of the management plan and is allowed access to the complete management plan. This access is limited only by the following specific information:

- a. Confidential information on traditional land use activities and cultural values;
- b. Information about certain values, that if made available could pose a threat to the existence, conservation, health or integrity of those values;
- c. Existing confidentiality agreements that may restrict information sharing;
- d. Proprietary or confidential information in respect of existing Copyright Law, Freedom of Information and Protection of Privacy Act (FIPPA) legislation and the intellectual property rights mechanisms associated with these types of legislation; and

- e. Information that would affect the applicant's competitiveness (e.g. costs, revenues, etc.).

7.4.2 **Applicable for SLIMF FME-s only** (Note: above indicators do not apply): Upon request, FME shall make available relevant parts of the management plan to stakeholders who are directly affected by the forest management activities of FME (e.g. neighboring landowners).

## **PRINCIPLE N°8 – MONITORING AND ASSESSMENT**

**Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.**

**8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.**

8.1.1 The management plan's implementation is subject to regular monitoring that documents:

- a. The degree in which goals, objectives and targets were met
- b. Conformance to the management plan
- c. Unexpected effects of management activities; and
- d. Social and environmental effects of management activities

8.1.2 The monitoring program has been designed to see if the results of management activities conform to the stated objectives, and provide the information required to allow the necessary adaptations if the objectives are not met.

8.1.3 **The manager should have or be participating in the development of a system of sample plots, including permanent plots, and should use this information to measure forest condition and trends over time, including the impacts of forest management.**

8.1.3 **Applicable to SLIMF FMEs only** (Note: above indicators do not apply to SLIMF): FME shall conduct regular and consistent monitoring in connection with harvesting operations and reforestation.

**8.2 Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:**

- a) Yield of all forest products harvested
- b) Growth rates, regeneration and condition of the forest
- c) Composition and observed changes in the flora and fauna
- d) Environmental and social impacts of harvesting and other operations
- e) Costs, productivity, and efficiency of forest management.

### **Yield of all forest products harvested**

8.2.1 The manager monitors timber harvest volumes by species and product.

8.2.2 The manager has assembled readily available information about the harvest of timber by parties other than themselves on the managed forest unit.

#### *Means of verification:*

Information (i.e. volume harvested by species, location of harvest) related to the timber harvests of overlapping licensees, third parties, independent operators, and any others who conduct harvest operations in the forest.

### **Growth rates, regeneration and condition of the forest**

8.2.3 The manager monitors growth rates, regeneration and condition of the forest, including but not necessarily limited to forest health, disturbance, and age class structure.

### **Composition and observed changes in the flora and fauna**

8.2.4 The manager conducts regular monitoring of the forest in order to highlight changes to important habitat characteristics.

### **Environmental impact**

8.2.5 The manager monitors environmental impacts of forest management activities assessed in accordance with Criterion 6.1.

8.2.6 The manager **sets up and implements, or participates in, a program to** monitor the status of the applicable High Conservation Values as identified in 9.1 following the manager's activities in or adjacent to those High Conservation Value Forests, including the effectiveness of the measures employed for their maintenance or restoration.

#### *Means of verification:*

- Documented HCV monitoring program.

8.2.7 When monitoring results indicate increasing risk to a specific conservation attribute, the manager re-evaluates the measures taken to maintain or enhance that attribute, and adjusts the management measures to reverse the trend.

#### *Means of verification:*

- Results of monitoring program.

### **Impacts on cultural values and resources**

8.2.8 The manager monitors the impacts of forest management activities on cultural values, resources and uses.

### **Economics**

8.2.9 The manager monitors the costs, productivity and efficiency of forest management activities, consistent with Criterion 5.1.

**8.3 Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."**

8.3.1 A documented procedure is in place to identify FSC-certified products leaving the management unit so that the forest of origin can be identified. Conformance with this indicator is verified through the more detailed CoC checklist in appendix of the SmartWood audit report.

**8.4 The results of monitoring shall be incorporated into the implementation and revision of the management plan.**

8.4.1 The results of monitoring shall be incorporated into the implementation and revision of the management plan.

**8.5 While respecting the confidentiality of some information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.**

8.5.1 The results of monitoring activities are regularly compiled. For public lands, a summary report is available to the public.

#### **PRINCIPLE N°9 - HIGH CONSERVATION VALUE FORESTS**

**Management activities in High Conservation Value Forests shall maintain or enhance the attributes which define such forests. Decisions regarding High Conservation Value Forests shall always be considered in the context of a precautionary approach.**

**9.1 Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to the scale and intensity of forest management.**

9.1.1 The manager undertakes efforts to, or makes use of existing efforts to, identify and map the presence of HCVFs by means of a process that meets the characteristics and intent of the assessment process in Appendix E.

*Means of verification :*

- Documented procedures used to identify and map HCVFs and related values
- Results of assessment processes – documents, maps, etc.
- Interviews with those involved in identification process.

9.1.1a For large operations, FME shall:

- a) Produce written HCVF assessment(s) that identify(ies) HCVs or HCVF and proposes strategies to ensure their protection; and,
- b) Conduct credible, independent, technically qualified review of the HCVF assessment and related recommendations to address HCV threats and protection; and,
- c) Demonstrate that credible actions are being taken to address HCV/HCVF protection and/or threat reduction.

9.1.1b Applicable to SLIMF FMEs only: (note: above indicators do not apply to SLIMF) Consultations shall have occurred with environmental stakeholders, government or scientists to identify HCVs and/or HCVF. If HCVs or HCVF are present, FME shall take all reasonable steps to protect these values and/or reduce threats.

9.1.2 The manager ensures that a credible external review is undertaken of the HCVF assessment.

9.1.3 The HCVF assessment shall be made publicly available, including associated maps (subject to confidentiality considerations) as well as a summary of how concerns raised during the consultation and review process have been addressed.

Factors that may limit the public availability of information include the ownership of that information by other parties as well as the need in some circumstances to withhold site-specific information in order to protect the value.

**9.2 The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.**

9.2.1 The manager shall consult with directly affected persons, qualified specialists and Aboriginals on the identification of the High Conservation Values and the management options thereof.

9.2.2 On public forests the manager should take steps to encourage ongoing and constructive engagement with interested parties in the identification of High Conservation Values and the management options thereof, where the interest, commitment and capacity for such constructive engagement exists.

*Means of verification:*

- Record of draft information shared with interested parties (NGOs, Aboriginal communities, etc)
- Record of agreements or understandings reached with interested parties in which there is a shared responsibility for constructive engagement.

**9.3. The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.**

9.3.1 Areas designated as HCVF are managed over the long term in a way to ensure the quality of their attributes and their size are not diminished.

*Means of verification :*

- Management plan and strategies related to HCVFs.

9.3.2 When a High Conservation Value extends beyond property or forest management unit boundaries under the manager's responsibilities, or when the maintenance of a conservation value depends on the proximity or connectivity with other HCVFs, the manager coordinates its conservation efforts with those of the neighbouring HCVF landowners/managers.

*Means of verification*

- Correspondence with managers of adjacent lands.
- Portions of management plan dealing with management of adjacent lands.

9.3.3 The manager demonstrates that the management strategies and measures selected to maintain or restore High Conservation Values are consistent with a precautionary approach, and with respect to each conservation attribute:

- a. Will create conditions with a very high probability of securing the long-term maintenance or the restoration of the applicable conservation attribute;
- b. Are being implemented; and
- c. Are proving effective (or are adapted as required) based on the results of monitoring.

*Means of verification :*

Documentation of management strategies and those portions addressing the above points.

**9.4 Annual monitoring shall be conducted to assess the effectiveness of the measures**



**employed to maintain or enhance the applicable conservation attributes.**

- 9.4.1 A system for continuous monitoring of HCVF values shall be incorporated into the FME's planning, monitoring and reporting procedures.

## PRINCIPLE N°10 – PLANTATIONS

Plantations shall be planned and managed in accordance with Principles and Criteria 1 - 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

### Definition of “Plantation” in the FSC Great Lakes/St. Lawrence context

In this standard, plantations are defined as forest areas that are established primarily for timber production purposes, are not managed to provide other values or amenities on the planted sites, and some or all of the following characteristics are maintained in a highly altered state or eliminated:

- a. tree species diversity;
- b. stand diversity;
- c. stand structure;
- d. early successional habitats;
- e. mature and old trees; and/or
- f. coarse woody debris.

Not all planted forests are necessarily plantations. The clearest determination of whether or not an area is considered a plantation according to this standard will be found in the manager's current and planned future activities on the site. ***Where an area is being managed fully in accordance with the Indicators described in Principles 1-9 of this standard, then the area is not a plantation.*** This means that some forests that are currently in a highly altered state due to past management activities may not be considered as plantations for the purpose of this standard, as long as the manager is taking steps to naturalize these sites over the long term, in accordance with all of the requirements in Criterion 6.3.

Plantations may exist in three contexts:

- a. **Afforestation:** plantations that have been created as a result of a land use change from some non-forest use.
- b. **Conversion:** plantations that have been converted from natural forest subsequent to the land first becoming FSC certified.
- c. **Existing:** plantations that exist on the management unit at the time of certification.

The **conversion** of natural forests to plantations is subject to the limitations outlined under Criterion 6.10, including an overall area limit of 5% of the forested land base. In Criterion 10.5 the total combined area of **existing** and **converted** plantations is limited to no more than 10% of the forested landbase. The standard does not limit the total area of non-forested land that may be converted to plantations.

The key feature of this definition is that managers have considerable flexibility in determining in their management plan what does or does not constitute a plantation, but there are strict limits on the total area of natural forest that may be managed as plantations, as well as safeguards throughout Principle 1-10 to limit the potential negative impacts of plantations (see below).

### **Restrictions and allowances on plantations**

All requirements outlined in Principles 1,2,3,4,5,7 and 8 of this standard apply across the entire management unit, including all plantation areas.

All requirements of Criteria 6.1, 6.2, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9 and 6.10 of this standard apply across the entire management unit, including all plantation areas.

A number of Indicators relating to site-specific considerations such as species selection, maintenance of a naturally diverse range of age class structures and maintenance of wildlife habitat are not meant to be applied in plantation areas. Those values will be addressed on the remaining 90+% of the natural forest. The Indicators in this standard that do **not** apply on plantations are 6.3.1, 6.3.2, 6.3.3, 6.3.8, 6.3.9 and 6.3.12.

The other indicators in Criterion 6.3, principally related to minimizing site damage and protecting soils and water quality, apply across the entire management unit, including all plantation areas.

High Conservation Value Forests may not be converted into plantations, so Principle 9 would apply in plantations only when there is an existing plantation that is directly situated within an area that has been designated as a high conservation value forest.

In consideration of the reduced applicability in plantations of some of the requirements of Criterion 6.3, the requirements in Principle 10 below describe the safeguards that must be taken to minimize or mitigate the potential negative ecological consequences of plantations.

#### **10.1 The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.**

10.1.1 The management objectives of the plantation, as well as natural forest conservation and restoration objectives for the management unit as a whole, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.

#### **10.2 The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.**

10.2.1 The location, management and extent of plantation areas shall be consistent with landscape level biodiversity objectives across the entire management unit, including provisions for wildlife corridors, streamside zones and a mosaic of stands of different ages.

#### ***Means of verification:***

- Forest management plan goals, objectives and strategies.
- Plantation boundaries that follow land contours and wherever possible avoid intersecting stream channels and hillsides with straight lines.

**10.3 Diversity in the composition of plantations is preferred, so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and structures.**

10.3.1 Plantation areas should be planned and managed in a manner that contributes to site level and landscape level diversity, in particular in terms of wildlife habitat.

**Means of verification:**

- Age and species diversity within large plantation areasplantation patterns and planning include snag retention, wildlife trees, and other trees for maintaining vertical structure.

**10.4 The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only when their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.**

10.4.1 The management plan shall include a rationale for the selection of all species used in plantations, including their overall site suitability and a justification for the use of any non-native species.

**The measures related to exotic species that are described under Criterion 6.9 are to be fully applied on all plantation sites within the management area.**

**10.5 A proportion of the overall forest management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.**

10.5.1 The total area of plantations established on natural forests shall not exceed 10% of the management unit.

**At least 90% of the forested area of the management unit must be managed fully in accordance with the requirements in Criterion 6.3 regarding maintaining natural forest cover.**

**10.6 Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long term soil degradation or adverse impacts on water quality, quantity or substantial deviation from stream course drainage patterns.**

This Criterion is addressed by the requirements in 6.3.5, 6.3.6, 6.3.7, 6.3.10, 6.3.11, 6.3.12 and 6.3.13, all of which apply across the entire management unit, including all plantation areas.

**10.7 Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is**

**also covered in Criteria 6.6 and 6.7.**

All provisions in Criteria 6.6 and 6.7 relating to the use pesticides and genetically modified organisms apply across the entire management unit, including all plantation areas.

- 10.7.1 The risk of damage to plantations by wind, fire, pests, and disease should be minimized through careful management, which includes:
- a. Robust and well researched planting design and restoration plans;
  - b. Management for a diverse forest in terms of age/height, species, structure, and genetics; and
  - c. Careful implementation of silvicultural operations, with appropriate precautionary measures taken on sensitive sites.

**10.8 Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessment of potential on-site and off-site ecological and social impacts (e.g., natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in Principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.**

All requirements relating to monitoring (Principle 8), traditional rights (Principle 2) and Aboriginal rights (Principle 3) apply across the entire management unit, including all plantation areas.

10.8.1 Plantation monitoring includes regular assessment of potential on-site and off-site ecological and social and economic impacts (e.g., natural regeneration, invasiveness of exotic species, effects on water resources and soil fertility, and impacts on local welfare and social well-being), consistent with the monitoring requirements described in Principle 8.

**10.9 Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly for such conversion.**

Criterion 6.10 allows for limited conversion of natural forests to plantations, whereas Criterion 10.9 states that areas converted from natural forests to plantations after November 1994 will not normally qualify for certification. This standard recognizes that limited forest conversion to plantations shall be permitted where there are conservation benefits, consistent with Criterion 6.10. Therefore, in instances where there is a conflict between the requirements of these two criteria, Criterion 6.10 (together with all of its Indicators) has precedence.

10.9.1 The prior land use and, if applicable, forest type present on lands which are now under plantations is documented. The year of conversion is reported.

**Means of verification:**

- Historic land use records.

- Prior forest inventories.
- Correspondence files.

10.9.2 For plantations established in areas converted from natural forests after November 1994, the manner and reason for conversion is documented.

***Means of verification:***

- Documentation related to conversion.

## Appendix A Applicable Provincial and Federal Requirements

### Quebec

Key forest legislation for Quebec/Document de base: **Loi sur les forêts (L.R.Q., c. F-4.1)**  
[http://publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/F\\_4\\_1/F4\\_1.htm](http://publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/F_4_1/F4_1.htm)

Other relevant documents/Autres documents pertinents de la législation forestière québécoise:  
Consult/Consulter: <http://www.mrnfp.gouv.qc.ca/lois/lois-forets.jsp>

### Ontario

Key forest legislation for Ontario:  
**Crown Forest Sustainability Act, 1994** - applies to Crown land

Other relevant forest legislation may be found at:  
<http://ontariosforests.mnr.gov.on.ca/forestrelatedlaws.cfm>

### **Federal**

#### ***Constitution Act (Canada), 1867 to 1982 and subsequent amendments***

Delivery Agent: Department of Justice, Canada

[Link to Act](#)

#### ***Canadian Environmental Protection Act Consolidated Statutes of Canada, Chapter C.15***

Delivery Agent: Environment Canada

[Link to Act](#)

#### ***Fisheries Act (Canada), Consolidated Statutes of Canada, Chapter F.14***

Delivery Agent: Department of Fisheries and Oceans (DFO)

[Link to Act](#)

#### ***Forestry Act (Canada), Consolidated Statutes of Canada, Chapter F-30***

Delivery Agent: Natural Resources Canada - Canadian Forest Service

[Link to Act](#)

***Income Tax Act R.S.C. 1985, Chapter 1 (5th Supp.), updated to December 31, 2000***

Delivery Agent: Revenue Canada

[Link to Act](#)

***Pest Control Products Act, Consolidated Statutes of Canada, Chapter P.9***

Delivery Agent: Health Canada, Pest Management Regulatory Agency

[Link to Act](#)



## Appendix B Applicable International Agreements

Links to these international agreements may be found at:

[http://www.oag.bvg.gc.ca/domino/env\\_commitments.nsf/homepage](http://www.oag.bvg.gc.ca/domino/env_commitments.nsf/homepage) (for environmental agreements); and

[http://www.ilo.org/public/english/standards/norm/sources/rats\\_pri.htm](http://www.ilo.org/public/english/standards/norm/sources/rats_pri.htm) (human rights and labour agreements)

### International Labour Organization

The ILO formulates international labour standards in the form of Conventions and recommendations setting minimum standards of basic labour rights: freedom of association, the right to organize, collective bargaining, abolition of forced labour, equality of opportunity and treatment, and other standards regulating conditions across the entire spectrum of work related issues. It provides technical assistance primarily in the fields of vocational training and vocational rehabilitation; employment policy; labour administration; labour law and industrial relations; working conditions; management development; cooperatives; social security; labour statistics and occupational safety and health. It promotes the development of independent employers' and workers' organizations and provides training and advisory services to those organizations. Within the UN system, the ILO has a unique tripartite structure with workers and employers participating as equal partners with governments in the work of its governing organs.

Binding international agreements relevant to FSC Principle 4 are:

ILO 87: Freedom of association and protection of rights to organize convention

ILO 98: Rights to organize and collective bargaining convention

ILO 100: Equal remuneration convention

ILO 111: Discrimination convention

ILO 131: Minimum wage fixing convention

ILO 155: Occupational safety and health convention

Following a Board decision the FSC requires from all certificate holders to comply with a number of ILO conventions, *even if the country has not ratified the convention*. ILO labour Conventions that have an impact on forestry operations and practices are:

- 29, 87, 97, 98, 100, 105, 111, 131, 138, 141, 142, 143, 155, 169 and 182; and
- The ILO Code of Practice on Safety and Health in Forestry Work.

**Responsibilities of Applicants:** The applicant respects the ILO international labour standards.

### Convention on International Trade in Endangered Species

Known as CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, entered into force on 1 July 1975 and now has a membership of 145 countries. These countries act by banning commercial international trade in an agreed list of endangered species and by regulating and monitoring trade in others that might become endangered. (Convention Text).

CITES' aims are major components of Caring for the Earth, a Strategy for Sustainable Living, launched in 1991 by UNEP - the United Nations Environment Programme, IUCN - The World Conservation Union and WWF - the World Wildlife Fund.

**Responsibilities of Applicants:** Applicants should respect federal and provincial laws relating to CITES provisions pertaining to listed species

### **Convention on Biological Diversity**

The CBD has three objectives: 1) the conservation of biological diversity; 2) the sustainable use of biological resources; and 3) the fair and equitable sharing of the benefits arising out of the use of genetic resources.

**Responsibilities of applicants:** The Government of Canada ratified the UN Convention on Biological Diversity in consultation with provincial and territorial governments. By complying with relevant legislation, as well as guidelines for conducting forest operations, applicants contribute to Canada's response to this convention. Compliance with Principles 6, 7, and 8 of this Standard also furthers the objectives of this convention.

### **Framework Convention on Climate Change**

The overall objective of the framework is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human interference with the climate system.

**Responsibilities of applicants:** Forestry has the potential to both positively and negatively impact greenhouse gas emissions. Actions that the applicant can take to contribute to the objectives of this convention include:

- Developing a carbon budget which indicates that the management unit is a net carbon sink; and,
- Taking steps to encourage net carbon uptake and reduce carbon emissions such as: complying with Criterion 6.10 (prohibiting conversion of forests to non-forested lands), minimizing soil disturbance as required under Criterion 6.5, and ensuring effective and prompt renewal/regeneration as required under Criteria 6.3, 6.5, and 8.2.

### **Convention for the Protection of the World Cultural and Natural Heritage**

This convention establishes mechanisms for the collective conservation and presentation of cultural and natural heritage of universal value.

**Responsibilities of applicants:** Although other forest areas may fit the definition of "natural heritage" as set out in the convention, to date the Federal Government has only nominated Parks for designation under the convention and as such, FSC certification will not take place there. The applicant will respect the intent of this convention by complying with the requirements for the identification and protection of cultural values as outlined under Principle 3 and 5 of this standard.

Ramsar Convention On Wetlands Of International Importance, Especially As Waterfowl Habitat

The Convention on Wetlands, signed in Ramsar, Iran, in 1971 is an intergovernmental treaty that provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

**Responsibilities of applicants:** Responsibilities for complying with this convention lie with the federal government. Provincial regulations contribute to Canada's ability to meet the objectives of the convention. By complying with provincial guidelines for wetland protection, applicants contribute to meeting Canada's responsibilities with respect to this convention.

### **Migratory Birds Convention**

The Migratory Birds Convention was signed between the United States and Great Britain (Canada) in 1916 with a stated purpose to "...save from indiscriminate slaughter and of insuring the preservation of such migratory birds as are either useful to man or are harmless". The Convention was updated in 1995 and ratified in 1999 to enable Canada and the U.S. to better work together to manage bird populations, regulated their take, protect the lands and waters on which they depend, and share research and survey information.

**Responsibilities of applicants:** Applicants should respect the intent of this convention by complying with the Migratory Birds Convention Act. Particular attention should focus on managing forestry activities to account for the habitat needs of priority bird populations, as identified through the North American Bird Conservation Initiative.

## Appendix C Highly Hazardous Pesticides

Indicators and thresholds for the identification of 'highly hazardous' pesticides  
 This list is effective as of January 2006 but is currently under review. For an up-to-date list contact FSC International at <http://www.fsc.org/en/>

Criterion (derived from FSC Principles and Criteria, 2002)	Indicator	Threshold for inclusion on FSC list of 'highly hazardous pesticides'
<b>Quantitative or semi-quantitative</b>		
Acute toxicity to mammals	WHO toxicity class (active ingredients)  Acute toxicity (oral LD50 for rats)  (Acute) reference dose (RfD)	If acute oral LD50 for rats $\leq$ 200 mg/kg b.w.  WHO toxicity class 1a, 1b.
Acute toxicity to aquatic organisms	Aquatic toxicity (LC50)	If LC50 < 50 ug/l (microgrammes per liter)
Chronic toxicity to mammals	Reference dose	If RfD < 0.01 mg/kg day
Persistence in soil or water	Half-life in soil or water (DT50)	If DT50 $\geq$ 100 d, 'strongly persistent'
Bio-magnification, bio-accumulation	Octanol-water partition coefficient (KOW) or bio-concentration factor (BCF) or bio-accumulation factor (BAF)	If KOW > 1000 i.e. $\log(\text{KOW}) > 3$
Carcinogenicity	IARC carcinogen; US EPA carcinogen	If listed in any category below  (a) International Agency for Research on Cancer (IARC) within Group 1: 'The agent (mixture) is carcinogenic to humans', or within Group 2A: 'The agent (mixture) is probably carcinogenic to humans' (IARC 2004);  (b) US Environmental Protection Agency (EPA) defined as a chemical that is within Group A: 'Human carcinogen' (US EPA 1986);  (c) US EPA defined as a chemical that can 'reasonably be expected to be carcinogenic to humans' (chemicals categorised by EPA into Group B2, see below)
Endocrine disrupting chemical (EDC)	EDC listed by the US EPA and NTP	If classified as EDC by US NTP or EPA
Mutagenicity to mammals	(not specified any further)	If mutagenic to any species of mammals
<b>Qualitative</b>		
Specific chemical class	Chlorinated hydrocarbon (definition from Radosevich et al, 2002):	If chemical meets definition from Radosevich et al, 2002.

Criterion (derived from FSC Principles and Criteria, 2002)	Indicator	Threshold for inclusion on FSC list of 'highly hazardous pesticides'
	<p>Compounds which contain only carbon, hydrogen and one or more halogen, AND/OR</p> <p>organic molecules with hydrogen and carbon atoms in a linear or ring carbon structure, containing carbon-bonded chlorine, which may also contain oxygen and/or sulphur, but which do not contain phosphorus or nitrogen.</p>	<p>Note: the 2002 policy includes the statement that "not all organochlorines exceed the stated thresholds for toxicity, persistence or bioaccumulation, and they are not included in this list of prohibited pesticides, but they should be avoided".</p> <p>However, the current list of 'highly hazardous' pesticides does not include organochlorines unless they are excluded on the basis of other indicators.</p>
Heavy metals:	Lead (Pb), cadmium (Cd), arsenic (As) and mercury (Hg)	If pesticide contains any heavy metal as listed
Dioxins (residues or emissions)	Equivalents of 2,3,7,8-TCDD	If contaminated with any dioxins at a level of 10 part per trillion (corresponding to 10 ng/kg) or greater of tetrachlorodibenzo-p-dioxin (TCDD) equivalent, or if it produces such an amount of] dioxin[s] when burned
International legislation	Banned by international agreement	If banned by international agreement

## Appendix D Requirements for Management Plan documentation (Criterion 7.1)

This Annex lists the elements that should be compiled in the FSC Management Plan (or in some equivalent document) referred to in Criterion 7.1. It compiles all of the requirements related to the management plan that are contained throughout the standard, and includes a number of other elements that are named in Criterion 7.1 but not elsewhere in the standard. It is intended to help managers prepare the required documentation for an FSC audit, and can help other users better understand how the management plan elements outlined in 7.1 are addressed throughout the standard.

The headings in this Annex (a,b,c, etc) are derived from the requirements of Criterion 7.1. Under each heading the relevant requirements are listed:

- i) as a cross-reference to the relevant requirement elsewhere in the standard ; or
- ii) as a requirement that is not duplicated anywhere else in the standard.

In listings of the first type (where the relevant Indicator number is provided) refer to that section of the standard for the specific requirements, including means of verification where relevant. In listings of the second type the items in this annex should be considered as integral and required elements of Indicator 7.1.1.

### a) Management objectives:

6.3.1	Description of long-term desired future condition of the forest
6.3.2	Short to mid term objectives
6.3.3	Habitat objectives
6.3.4	Strategic access management plan
6.2.5	Target for the future abundance of rare tree species

### b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions and a profile of adjacent lands:

	Forest resources	Summary of forest resource inventories
6.1.2	Environmental limitations	Compilation of environmental ecological data
6.1.3	Environmental limitations	Natural variability of forests in the region
9.1.3	Environmental limitations	High Conservation Value Forest assessment
2.2.1	Ownership/land use	Documentation of the manager's ownership, license or lease rights
2.2.2	Ownership/land use	Documentation of customary tenure or resource use rights held by communities
3.1.1	Ownership/land use	Documentation of the legal and customary rights of Aboriginal communities
	Socioeconomic conditions	Description of socioeconomic context
	Adjacent lands	Profile of adjacent lands

### c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories:

6.1.7	Description of silvicultural and management systems to be used in order to meet management objectives based on resource inventories and environmental assessments
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**d) Rationale for rate of annual harvest and species selection:**

The rationale for the rate of annual harvest and species selection shall include:	
a)	reliable information on growth and yield, justified by clear evidence in the form of historical data, empirical evidence or research findings;
b)	rate of annual timber harvests that are calculated after protected areas, candidate protected areas, riparian zones, other reserves, non-productive forest lands and other exclusions are taken out of the productive land base;
c)	consideration of operational constraints;
d)	a recent inventory linked to a forest ecosystem classification system;
e)	the area available for harvesting;
f)	stages of natural succession;
g)	projections based on the success of current and past silvicultural treatments;
h)	estimates of the impacts of external factors affecting forests (e.g. acid rain dieback, major storm damage, invasive pests, climate change);
i)	model scenarios (forecast of forest conditions, forest health and productivity, habitat, wood supply) that extend far into the future (at least 100 years);
j)	objectives for future forest conditions as determined in the forest management plan;
k)	a precautionary approach that reflects the existence and quality of data and hypotheses; and
l)	a sensitivity analysis of the AAC calculation hypotheses, in particular when the hypotheses are very uncertain, when the data are not very reliable or when the results are very uncertain.

**e) Provisions for monitoring of forest growth and dynamics:**

8.1, 8.2	All monitoring requirements are to be found in Principle 8
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**f) Environmental safeguards based on environmental assessments:**

6.1.6	Management planning to incorporate results of environmental assessment
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**g) Plans for the identification and protection of rare, threatened and endangered species:**

6.2.1	List of relevant species at risk and species needing special protection
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	Description of measures to protect species at risk and species needing special protection, consistent with the requirements of 6.2.2, 6.2.3 and 6.2.4.
9.3.1	Management plans related to the conservation of High Conservation Value Forests

**h) Maps describing the forest resource base including protected areas, planned management activities and ownership:**

6.4.2	Protected areas	Maps of protected areas and candidate protected areas
9.1.3	High Conservation Value Forests	Maps of High Conservation Value Forests
	Species at Risk	Maps of critical habitat for listed species at risk
	Planned management activities	Maps of planned areas of harvesting and silvicultural activities
	Planned management activities	Maps of existing and planned roads and infrastructure, as well as planned removals of roads and infrastructure
2.2.1	Ownership	Map showing the boundaries of the forest management

**i) Description and justification of harvesting techniques and equipment to be used:**

	Description and justification of harvesting techniques and equipment to be used, consistent with the requirements of 6.3.8, 6.3.9, 6.3.10 and 6.3.13.
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## Appendix E High Conservation Value Forest Assessment Framework – GLSL

This framework is designed to be used in order to help identify potential High Conservation Value Forests (HCVF) in the context of achieving certification to FSC Canada's Great Lakes/St. Lawrence Standard. It is based on a framework originally developed by ProForest and since that time it has been applied in many forest regions around the world.

The framework is organized as a table covering six categories derived from the definition of HCVFs from the FSC standards. The six categories are:

- Category 1:** Forest areas containing globally, regionally or nationally significant **concentrations of biodiversity values** (e.g., endemism, endangered species, refugia);
- Category 2:** Forest areas containing globally, regionally or nationally significant **large landscape level forests**, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance;
- Category 3:** Forest areas that are in or contain **rare, threatened or endangered ecosystems**;
- Category 4:** Forest areas that provide basic **services of nature in critical situations** (e.g., watershed protection, erosion control);
- Category 5:** Forest areas **fundamental to meeting basic needs of local communities** (e.g., subsistence, health); and,
- Category 6:** Forest areas **critical to local communities' traditional cultural identity** (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Each category has a question or questions (the left-hand column below) that aim to identify whether the management unit contains any of the values relevant to each category. Negative answers to these questions mean that the forest operation likely does not include High Conservation Values (HCV) in that category. Positive answers lead to further investigation. The second column explains the rationale for the conservation of the particular value. The third column provides sources of information on these values (e.g., COSEWIC lists in Canada, Conservation Data Centre lists, etc.). The fourth column provides further guidance to help determine whether or not a particular area might be considered a High Conservation Value Forest.

**Scale and diversity in the Great Lakes/St. Lawrence region:** This toolkit is designed to be used across the GLSL region, and applied in small private forests, on community forests and in large public forests. The manager may be operating in a highly fragmented landscape, where the stands with exceptionally high conservation value may be very small and require a high degree of protection, or in a much more intact landscape, where the HCVF toolkit can help to identify relatively broad features across the landscape in which the changes to management activities may be relatively modest although nevertheless significant at the landscape level. Furthermore, these diverse management regimes occur across a range of ecosystem types, from the Carolinian forests of southwestern Ontario through the mixed wood forests of southern Ontario and Québec and northwards to forests that are in the boreal transition zone. This diversity means that HCVF assessments will be carried out differently on these

various forests, and will produce vastly different results. In developing a toolkit that is intended to apply across this diversity it is not possible to provide specific thresholds or numerical responses to questions such as “What is the minimum size of a HCVF area?” or “What percentage of a management unit should be designated as HCVFs?”

**“Critical habitat” and “Essential Habitat.”** In this Toolkit, and elsewhere in this standard, the term “Critical habitat” is used only in the context of Species at Risk that have been listed by federal or provincial agencies. It is used in this narrow sense in order to align the use of the term in this Standard with the legal requirements that exist in federal and provincial legislation pertaining to maintaining and restoring critical habitat for species at risk. “Essential habitat” has the same meaning as “critical habitat,” but applies to all wildlife species, and not only to rare, threatened or endangered species.

Item	Rationale	Sources of information	Further Guidance
<b>Category 1) Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia)</b>			
1. Does the forest contain concentrations of species at risk as listed by international, national or provincial authorities?	An HCVF designation can support and enhance the measures to protect species at risk that are described under Criterion 6.2, especially in encouraging integrated approaches across the landscape where there are multiple species at risk or a concentration of attributes (populations or habitat) for specific species.	Species are designated as rare, threatened or endangered federally by COSEWIC and provincially by the Centre de données sur le patrimoine naturel du Québec and equivalent for Ontario. Consult the most up-to-date lists, usually available on the web.	<ul style="list-style-type: none"> <li>- Are any of the rare, threatened or endangered species in the forest a species representative of habitat types naturally occurring in the management unit? (GUIDANCE)</li> <li>- Do any of the identified rare, threatened or endangered species (individually or concentration of species) have a demonstrated sensitivity to forest operations? (GUIDANCE)</li> <li>- Does the forest contain critical habitat for any individual species or concentration of species identified in the above questions? (GUIDANCE)</li> </ul> <p>Does the forest contain potential critical habitat that could facilitate the recovery of listed species? (GUIDANCE)</p>
2. Does the forest contain a concentration	Ensures the maintenance of	WWF Ecoregion	- Is there a concentration of regionally

<p>of species having a restricted geographical range?</p>	<p>vulnerable and/or irreplaceable elements of biodiversity.</p>	<p>Conservation Assessment (www.panda.org). Conservation International 'hotspot' areas (www.conservation.org)</p>	<p>endemic species in the forest that includes species representative of habitat types naturally occurring in the management unit? (DEFINITIVE) - Do any of the identified endemic species have a demonstrated sensitivity to forest operations? (GUIDANCE) - Does the forest contain essential habitat of species identified in the above questions? (GUIDANCE)</p>
<p>3. Does the forest include regionally significant seasonal concentration of species?</p>	<p>Addresses wildlife habitat requirements critical to maintaining population viability (regional "hot spots").</p>	<p>National and local agencies with responsibility for wildlife conservation; Results from habitat models; Local experts; traditional knowledge</p>	<p>- Is there an area of the forest which provides essential habitat for a variety of species? (GUIDANCE) Is there an area of the forest in which there are high concentrations of wildlife populations, including seasonal concentrations? (GUIDANCE) - Is there an Important Bird Area in the forest? (DEFINITIVE) - How protected are similar wildlife concentration areas within the region? (GUIDANCE) - Is it a wildlife concentration area for more than one species? (GUIDANCE) - Are there any landscape features or habitat characteristics that tend to correlate with significant temporal concentrations of species (e.g., where species occurrence data is limited)? (GUIDANCE)</p>
<p>4. Does the forest support regionally significant species (e.g., species declining regionally, culturally important species)?</p>		<p>Regionally significant species are determined using the sources below. 1. Conservation Data Centre G3, S1-S3 species</p>	<p>- Is the regionally significant species in significant decline as a result of forest management? (DEFINITIVE) - Is the population of regionally significant species locally at risk (e.g.,</p>

		<p>and communities</p> <p>2. Range and population estimates from national or local authorities and local experts for:</p> <ul style="list-style-type: none"> <li>a) red listed species (see sources above);</li> <li>b) species at risk (in existing legislation and/or policy);</li> <li>c) results from habitat models,</li> <li>d) species representative of habitat types naturally occurring in the management unit or focal species; and,</li> <li>e) species identified as ecologically significant through consultation.</li> </ul>	<p>continuing trend is declining rather than stable or improving)? (GUIDANCE)</p> <ul style="list-style-type: none"> <li>- Does the forest contain limiting or essential habitat for regionally significant species? (GUIDANCE)</li> <li>- Are there any ecological or taxonomic groups of species or sub-species that would together constitute a regionally significant concentration? (GUIDANCE)</li> </ul>
<p>5. Does the forest support concentrations of species at the edge of their natural ranges or outlier populations?</p>	<p>Relevant conservation issues include vulnerability against range contraction and potential genetic variation at range edge. Outlier and edge of range populations may also play a critical role in genetic/population adaptation to global warming.</p>	<p>See above</p>	<ul style="list-style-type: none"> <li>- Are there naturally occurring outlier populations of commercial tree species? (GUIDANCE)</li> <li>Are any of the range edge or outlier species a species representative of habitat types naturally occurring in the management unit? (GUIDANCE)</li> <li>- Are there any ecological or taxonomic groups of range edge and/or outlier species/sub-species</li> </ul>

			that would together constitute a globally, nationally or regionally significant concentration? (GUIDANCE) - Are the species potentially negatively impacted by forest management? (GUIDANCE) - Is the population of ranged edge and /or outlier species? (GUIDANCE)
6. Does the forest lie within, adjacent to, or contain a conservation area: a) designated by an international authority, b) legally designated or proposed by relevant federal/provincial/ territorial legislative body, or c) identified in regional land use plans or conservation plans?	Ensures compliance with the conservation intent of a conservation area and that regionally significant forests are evaluated for consistency with the conservation intent.		- Are there forest areas important to connect conservation areas in order to maintain the values for which the conservation areas were identified? (GUIDANCE) - Are there forest areas important to buffer conservation areas in order to maintain the values for which the conservation areas were identified? (GUIDANCE)
<b>Category 2) Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance</b>			
7. Does the forest constitute or form part of a globally, nationally or regionally significant forest landscape that includes populations of most native species and sufficient habitat such that there is a high likelihood of long-term species persistence?	The forest must not only be large enough to potentially support most or all native species, but long-term, large-scale natural disturbances can take place without losing their resilience to maintain the full range of ecosystem processes and functions (i.e., naturally functioning landscape). Forests meeting the threshold for intactness will be rare or absent	Global Forest Watch Canada maintains information on large-scale intact forest areas in Canada	Are there forest landscapes unfragmented by permanent infrastructure (including roads) and greater than 30,000 ha, with less than 5% of the area affected by non-permanent human disturbances;? (DEFINITIVE)

	<p>throughout most of the GLSL area. In these cases refer to the following question, which focuses on identifying “remnant intact forests” that exemplify some of the attributes of intact forests</p>		
<p>8. Are large landscape level forests (i.e., large unfragmented forests) rare or absent in the forest or ecoregion?</p>	<p>In regions or forests where large functioning landscape level forests are rare or do not exist (highly fragmented forest), forest areas that have had significantly less anthropogenic impact than surrounding areas may warrant consideration as HCVPs, so that the distinctive qualities in those forests can be sustained. While there is a size threshold in considering intact forests (#7 above), there is no minimum size threshold when considering remnant intact forests.</p>		<p>Are there areas that support viable populations of most species, and which have significantly lower anthropogenic impacts than surrounding regions? (GUIDANCE) To assist in the development of management prescriptions, the description of the high conservation value should include measures of forest quality to be maintained or enhanced. The questions below provide guidance to help identify some of the potential qualities.</p> <ul style="list-style-type: none"> <li>- Does the remnant intact forest include suitable habitat for native species (e.g., range of habitats and ecosystems) or more natural forests in terms of structure and function?</li> <li>- Does the remnant include an appropriate proportion of climax species (i.e. not dominated by pioneer species)?</li> <li>- Does the remnant include a relatively high proportion of late seral stands?</li> <li>- Does the remnant include an appropriate proportion of structural features such as woody debris and</li> </ul>

			<p>standing dead trees (i.e., structurally complex)?</p> <ul style="list-style-type: none"> <li>- Is the level of dissection and perforation in the remnant below levels that will permit the persistence of most native species?</li> <li>- Are levels of early seral forest from human disturbances below levels appropriate for a naturally functioning landscape?</li> <li>- Are levels of habitat modification from human activity below levels appropriate for a naturally functioning landscape?</li> </ul>
<b>Category 3) Forest areas that are in or contain rare, threatened or endangered ecosystems</b>			
9. Does the forest contain naturally rare ecosystem types ?	These forests contain many unique species and communities that are adapted only to the conditions found in these rare forest types.		<ul style="list-style-type: none"> <li>- Are there ecosystems that have been officially classified as being rare, threatened or endangered by a relevant national or international organization? (GUIDANCE)</li> <li>- Is a significant amount of the global extent of these ecosystems present in the country and/or ecoregion? (GUIDANCE)</li> <li>- Are these ecosystems heavily modified? (GUIDANCE)</li> <li>- Are these ecosystems potentially negatively impacted by forest management? (GUIDANCE)</li> </ul>
10. Are there ecosystem types within the forest or ecoregion that have significantly	This indicator includes rare forest ecosystem types (e.g.		- Is the forest within an ecoregion with little remaining original forest type?

declined?	Carolinian forest, Savana Oak)		<p>(GUIDANCE)</p> <ul style="list-style-type: none"> <li>- Is there a significant proportion of the declining ecosystem type within the management unit in comparison to the broader ecoregion?</li> </ul> <p>(GUIDANCE)</p> <ul style="list-style-type: none"> <li>- Does potential vegetation mapping identify areas within the management unit that can support the declining ecosystem type (i.e., regeneration potential)? (GUIDANCE)</li> <li>- How well is each ecosystem effectively secured by the protected area network and the national/regional legislation?</li> </ul> <p>(GUIDANCE)</p>
11. Are there sites with unique or exceptional ecological characteristics??	Sites with exceptional characteristics (e.g. ancient trees) warrant special consideration so that the conditions that produced these exceptional characteristics may continue to do so.		<ul style="list-style-type: none"> <li>- Are there sites with unique or exceptional ecological characteristics? (GUIDANCE)</li> <li>- Are there important and/or unique geological areas that strongly influence vegetation cover (e.g., serpentine soils, marble outcrops)? (GUIDANCE)</li> <li>- Are there important and/or unique microclimatic conditions that strongly influence vegetation cover (e.g., high rainfall, protected valleys)? (GUIDANCE)</li> </ul>
<b>Category 4) Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control)</b>			
12. Does the forest provide a significant source of drinking water?	Where surface water is used to supply drinking water for communities special considerations are warranted		<p>Is there a sole available and accessible source of drinking water for a community? (DEFINITIVE)</p> <ul style="list-style-type: none"> <li>- Are there watershed or catchment management studies that identify</li> </ul>



			significant recharge areas that have a high likelihood of affecting drinking water supplies? (GUIDANCE)
13. Are there forests that provide a significant ecological service in mediating flooding and/or drought, controlling stream flow regulation, and water quality?	Most or all forests have some role to play in maintaining water quantity or quality, which is addressed in Criterion 6. This question is meant to identify those areas that are particularly sensitive.	Hydrological maps; Hydrologists in government departments or local research institutions.	<ul style="list-style-type: none"> <li>- Are there high risk areas for flooding or drought? (DEFINITIVE)</li> <li>- Are there particular forest areas (i.e., a critical sub-watershed) that potentially affect a significant or major portion of the water flow (e.g., 75% of water in a larger watershed is funneled through a specific catchment area or river channel)? (GUIDANCE)</li> <li>- Does the forest occur within a sub-watershed that is critically important to the overall catchment basin? (GUIDANCE)</li> <li>- Are there particular forest areas (i.e., a critical sub-watershed) that potentially affect water supplies for other services such as reservoirs, irrigation, river recharge or hydroelectric schemes? (GUIDANCE)</li> </ul>
14. Are there forests critical to erosion control?	See above		<ul style="list-style-type: none"> <li>- Are there forest areas where the degree of slope carries high risk of erosion, landslides and avalanches? (DEFINITIVE)</li> <li>- Are there soil and geology site types that are particularly prone to erosion and terrain instability? (GUIDANCE)</li> <li>- Is the spatial extent of erosion-prone or unstable terrain such that the forest is at high risk (also of cumulative impacts)? (GUIDANCE)</li> </ul>
<b>Category 5) Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health)</b>			
15. Is any local community making use of	There is a distinction being	Sources of information	- Is this the sole source of the value(s)

<p>the forest for basic needs/ livelihoods? (Consider food, medicine, fodder, fuel, building and craft materials, water, income).</p>	<p>made between the use by individuals (e.g., traplines), whose interests are addressed in Principles 1-9, and where use of the forest is fundamental to the subsistence or health needs of local communities, in which case a HCVF designation may be warranted</p>	<ol style="list-style-type: none"> <li>1. Consultation with the communities themselves (including women, men and elders) is the most important way of collecting information.</li> <li>2. Literature sources such as reports and papers, where available, can be very useful sources of information.</li> <li>3. Knowledgeable people and organizations such as local community organizations and Tribal Councils, NGOs, or academic institutions. This type of group can often provide a quick introduction to the issues and provide support for further work.</li> <li>4. Review of studies of traditional land use and non-timber use of the forest.</li> </ol> <p>Review of socio-economic profiles of communities.</p>	<p>for the local communities? (GUIDANCE)</p> <ul style="list-style-type: none"> <li>- Is there a significant impact to the local communities as a result of a reduced supply of these values? (GUIDANCE)</li> <li>- Are there values that, although they may be a small proportion of the basic needs, are nevertheless critical? (GUIDANCE)</li> </ul>
<p><b>Category 6) Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities)</b></p>			
<p>16. Is the traditional cultural identity of the local community particularly tied to a specific forest area?</p>	<p>The difference between having <i>some significance</i> to cultural identity and being <i>critical</i> will often be a difficult line to draw and as with meeting basic</p>	<p>See above</p>	<p>- Do the communities consider that the forest is culturally significant? Possible indicators for cultural importance include:</p> <ol style="list-style-type: none"> <li>1. Names for landscape features;</li> </ol>

	<p>needs, the way in which it is established will be very variable. However, some key points to consider are:</p> <ul style="list-style-type: none"> <li>- To be an HCV, the forest must be <b>critical</b> to the culture.</li> <li>- For FSC certification <b>all</b> identified values must be addressed even if they are not critical, but will be dealt with under other principles.</li> </ul>		<ol style="list-style-type: none"> <li>2. Stories about the forest;</li> <li>3. Sacred or religious sites;</li> <li>4. Historical associations; and,</li> <li>5. <b>amenity or aesthetic value.</b></li> </ol> <ul style="list-style-type: none"> <li>- Will changes to the forest potentially cause an irreversible change to the culture? (GUIDANCE)</li> <li>- Is the particular forest in question more valuable than other forests? (GUIDANCE)</li> </ul>
<p>17. Is there a significant overlap of values (ecological and/or cultural) that individually did not meet HCV thresholds, but collectively constitute HCVs?</p>	<p>Consideration of several spatially overlapping values is important in optimizing conservation management.</p>		<ul style="list-style-type: none"> <li>- Are there several overlapping conservation values? (GUIDANCE)</li> <li>- Do the overlapping values represent multiple themes (e.g., species distribution, significant habitat, concentration area, relatively unfragmented landscape)? (GUIDANCE)</li> </ul>

## Appendix F Glossary

**Aboriginal peoples:** as defined in the Constitution Act of 1982 Aboriginal Peoples include “Indians, Inuit and Métis”.

**Aboriginal community:** Any First Nations or Métis community (status or non-status) with a demonstrated traditional connection to the area in question.

**Aboriginal rights:** A practice, custom or tradition integral to the distinctive culture of the aboriginal group claiming the right. Often aboriginal rights, including site specific rights, can be made out even if title cannot. Aboriginal rights are collectively held rights. The federal government has primary treaty and fiduciary duties, responsibilities and obligations for “Indians and lands reserved for the Indians”, but the provinces are also Crown governments and as such, also have some derivative duties, responsibilities and obligations towards “Indians and lands reserved for Indians”. The courts in Canada have recognized the Métis as having some limited Aboriginal rights to site specific activities such as hunting rights. The legal framework related to Indigenous Peoples in Canada, including the roles and responsibilities with respect to Aboriginal rights of non-governmental bodies such as private corporations, is constantly evolving.

**adaptive management:** An approach to organizing management so that explicit hypotheses are tested as management activities proceed. A monitoring program tracks outcomes and, depending on how and why actual outcomes differ from expected outcomes, the management approach is reviewed and adjusted.

**affected community:** A human community that is affected by the activities on the forest being considered for certification. This will likely include all local communities as well as communities with forest product processing facilities that obtain a high proportion of their furnish from the forest.

**afforestation:** The action of converting non-forest land to forest land, which may occur by natural regeneration, seeding, or planting.

**age-class:** A distinct group of trees or portion of the growing stock of a forest recognized on the basis of being of similar age.

**assessment of environmental impacts:** Technical assessments of the manner and extent to which proposed or undertaken management activities affect the environment directly and indirectly. The assessment methodologies used must be scientifically sound. The scope of an assessment is typically outlined at the start of the project so that the project has some well-defined boundaries. These may include physical, temporal, political, cultural and financial limits within the project mandate. Aspects of the environment typically included in assessments are site impacts (on soil, and site attributes), community impacts (on local wildlife and ecological communities), and landscape impacts (on the broader forest ecosystem).

**benchmark:** Reference points or data regarding the state or condition of a value of interest at a specific point in time. Benchmarks in this standard often refer to the state of the forest and provide a basis for comparing its future state (either simulated or actual).

**biological control agents:** Living organisms used to eliminate or regulate the population of other living organisms.

**biological diversity:** The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems. (See Convention on Biological Diversity, 1992)

**Bt:** *Bacillus thuringiensis* – a live microorganism that is used as an insecticide to kill unwanted insects. In forestry it is used to kill members of the lepidopteran (butterfly and moth) family, especially spruce budworm whose larval and caterpillar stages can cause significant damage and mortality to trees.

**buffer:** A strip or area of vegetation that is left (often unharvested) or managed to reduce the impact of a treatment or action on neighbouring areas.

**candidate protected area:** Mapped areas designated by the manager for long-term protection from development. Harvesting and road building are generally prohibited in candidate protected areas, except where used as part of a restoration plan (e.g. fuel reduction in association with controlled burning in fire-maintained ecosystems), or to meet the objectives for specific reserves (e.g. fire control, removal of invasive species).

**chain of custody:** The channel through which products are distributed from their origin in the forest to their end-use.

**chemical pesticide:** A synthetic chemical pesticide produced by a manufacturing process.

**chemicals:** The range of fertilizers, insecticides, herbicides, fungicides and hormones which are used in forest management.

**clearcutting:** a silvicultural system in which an entire stand of trees is cleared from an area at one time. Clearcutting results in the establishment of a new even-aged stand of trees which can be naturally or artificially created.

**coarse woody debris:** Logs, stumps, and tree limbs on the forest floor in various states of decomposition. Coarse woody debris provides habitat for many wildlife species.

**community:** 1. A body of persons or nations having a common history or common social or economic or political interests. 2. An assemblage of plants, animals (including humans) and other organisms that live and interact with each other within a particular environment ultimately depending upon each other for existence.

**community forest:** A public forest area managed by the community as a working forest for the benefit of the community. Community forests includes such examples as conservation authorities, county forests, municipal forests, MRC forests and les forêts habitées. Industrial licensed forests (SFL, CAAF) or forest partnerships in which control does not rest with the communities are not community forests.

**compaction:** An increase in the bulk density (mass per unit volume) and a decrease in soil porosity resulting from applied loads, vibration or pressure. It is undesirable for plant growth since the compacted soil has insufficient pore space to allow effective diffusion of gases and liquids necessary to permit or maintain root development and nutrient uptake in plants.

**compliance:** Adherence to laws, regulations, policies, or treaties of Canada, one of Canada's provinces or territories, regional jurisdictions and municipalities. Also used with respect to adherence to a forest management plan or operating plan.

**connectivity:** The degree to which different habitat patches or environments are linked by single or multiple corridors of vegetation that provide habitat suitable for dispersal or seasonal movement of particular species, or the migration between ecosystems in response to long-term environmental change. Conditions necessary for connectivity and its effectiveness will depend on the specific purpose of the connectivity and the requirements of species or ecosystems considered.

**contractor:** An individual other than an employee or company retained, to perform specific tasks, by the entity seeking certification.

**conversion:** the substantial or severe modifications of the physiognomy, structure and dynamics of a forest, as a result of management activities, resulting in a significant reduction in the complexity of the forest system; or the transformation of a forest into permanently non-forested area.

**COSEWIC:** Committee on the Status of Endangered Wildlife in Canada.

**critical habitat:** An ecosystem or particular ecosystem element occupied or used by a species, or local population, that is necessary for their maintenance and/or long-term persistence, and where appropriate, recovery of a species or population.

**Criterion (pl. criteria):** A means of judging whether or not a Principle (of forest stewardship) has been fulfilled.

**culturally sensitive areas:** areas of traditional use such as trapping, fishing, hunting, or berry picking; or areas of outstanding scenic value, recreational or wilderness potential; or areas from which ceremonial materials such as sweet grass and medicinals are gathered.

**customary rights:** Rights which result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.

**deforestation** - The action of converting forest land to non-forest land. Deforestation implies a permanent conversion of land use; an area of mature forest that is harvested and will be renewed back to forest is not considered to be deforested.

**directly affected persons:** groups or people (both men and women) who consider themselves directly affected by the proposed and current operations, who reside in communities within or adjacent to the management unit, or have legal or customary rights in the management unit.

**dispute:** A dispute exists when the parties have exhausted consultative avenues to resolve their differences and the following occurs: a person or persons whose rights or interests are directly affected by the forest manager's activities gives written notice to the manager, indicating that they wish to pursue a dispute resolution process and specifying which rights or interests are affected, by which management activities, in which location, and what modifications are considered appropriate to avoid or mitigate impacts on the rights or interests; OR, the manager gives written notice to the disputant, in order to trigger the dispute resolution process and bring closure to the disagreement.

**disturbance:** A disruption in the growth and development of an individual, population or community due to natural or anthropogenic factors such as herbivory, forest fires, road building, disease infestation, or tree harvesting.

**ecodistrict:** Definition required (ref. 6.4.1)

**ecological land classification:** a classification scheme used to delineate differing scales of landscape, or ecosystems, based on factors such as climate, physiography, and vegetation. See the definition of "eco-site" for references to ecological land classification systems in use in each province.

**ecoregion:** unit of ecological classification characterized by macroclimate conferred by elevation, broad-scale aspect, and proximity to oceans as these affect solar radiation and degree of maritime climatic influence.

**ecosystem:** A community of all plants and animals and their physical environment, functioning together as an interdependent unit.

**employee:** Anyone who is on the payroll of the manager, in a full-time, part-time or seasonal capacity, for

whom the manager withholds and remits taxes in accordance with federal and provincial laws.

**endangered species** : any species which is in danger of extinction throughout all or a significant portion of its range.

**ephemeral stream**: A stream that flows briefly only in direct response to precipitation in the immediate locality and whose channel is at all times above the water table.

**environmental impact assessment**: the actual technical assessment work that leads to the production of an Environmental Impact Statement, as may be legally required. Compare with “assessment of environmental impacts.”

**even-aged stand**: a stand of trees in which the age differences among trees are small, usually less than 10 to 20 years, or 30 percent of the rotation age in stands more than 100 years old. Even-aged stands result from disturbances occurring at one point in time, such as wildfires, a clearcut, a seed tree cut, a shelterwood cut or coppicing.

**exotic species**: an introduced species not native or endemic to the area in question.

**expert**: 1. An individual whose knowledge or skill is specialized and profound as the result of much practical or academic experience. 2. A recognized authority on a topic by virtue of the body of relevant material published on the topic, their stature within the professional community, and the broadly-recognized accumulated related experience. 3. An individual who possesses a wealth of experience on a topic such as may be accumulated through practical means including the accumulation of traditional knowledge.

**First Nations**: Generally used to refer to “Indians” as defined in the Canadian Constitution; see “Aboriginal.”

**forest**: 1. A plant community dominated by trees and other woody vegetation, growing more or less closely together. 2. An area managed for the production of timber and other forest products or maintained under woody vegetation for such indirect benefits as protection of site or recreation. 3. An aggregate of stands.

**forest management activities**: Any or all of the operations, processes or procedures associated with managing a forest, including, but not limited to: planning, consultation, harvesting, access construction and maintenance, silvicultural activities (i.e., planting, site preparation, tending), monitoring, assessment, and reporting.

**forest management unit (FMU)**: a clearly defined forest area with mapped boundaries, managed by a single managerial body to a set of explicit objectives which are expressed in a self-contained multiyear management plan.

**forest product**: A product made from wood or timber. The terms "forest product" and "non-timber forest product" are mutually exclusive.

**forest workers**: All employees per the glossary’s definition, as well as self-employed contractors, the employees of contractors or the employees of other companies whose activities (e.g. planning, road-building, thinning, harvesting, hauling, etc) contribute directly to the delivery of wood to the manager that will be included in the scope of the FSC certificate.

**gap analysis**: an assessment of the protection status of biodiversity in a specified region, which looks for gaps in the representation of species or ecosystems in protected areas.

**genetically modified organisms:** biological organisms which have been induced by various means to consist of genetic structural changes.

**habitat:** 1. those parts of the environment (aquatic, terrestrial, atmospheric) often typified by a dominant plant form or physical characteristic, on which an organism depends, directly or indirectly, in order to carry out its life processes. 2. the specific environmental conditions in which organisms thrive in the wild.

**High Conservation Value Forest (HCVF):** High Conservation Value Forests are those that possess one or more of the following attributes:

- a. Forest areas containing globally, regionally or nationally significant :
  - i. Concentrations of biodiversity values (e.g., endemism, endangered species, refugia); and/or
  - ii. Large landscape level forests, contained within, or containing the management unit, where viable populations of most (if not all) naturally occurring species exist in natural patterns of distribution and abundance.
- b. Forest areas that are in or contain rare, threatened or endangered ecosystems.
- c. Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control).
- d. Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

**Indicator:** a quantitative or qualitative variable which can be measured or described, and which provides a means of judging whether a forest management unit complies with the requirements of an FSC Criterion. Indicators and the associated thresholds thereby define the requirements for responsible forest management at the level of the forest management unit and are the primary basis of forest evaluation.

**Indigenous lands and territories:** The total environment of the lands, air, water, sea, sea-ice, flora and fauna, and other resources which Indigenous Peoples have traditionally owned or otherwise occupied or used. (U.N. Draft Declaration on the Rights of Indigenous Populations: Part VI). In Canada, Indigenous lands and territories are broader than Indian reserves and Métis settlements. For Indians, "lands and territories" means "Aboriginal title and treaty territories".

**Indigenous people:** "The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs and traditions than with the institutions of the country of which they now form a part, under State structure which incorporates mainly the national, social and cultural characteristics of other segments of the population which are predominant." (Working definition adopted by the UN Working Group on Indigenous Peoples). In the context of the Great Lakes/St. Lawrence standard the term "Aboriginal people" is used; see the specifically Canadian definition of that term.

**insecticide:** Chemical or biological agent used to kill insects.

**integrated pest management (IPM):** An ecological method of pest control that relies on a combination of operational approaches, including direct and indirect methods, to reduce damage to the forest rather than relying on direct spraying of pesticides to eliminate the pests. An important goal of IPM is to minimize environmental impacts of pest management activities. IPM techniques may include the use of natural predators and parasites, genetically resistant hosts, environmental modifications, and when necessary and appropriate, chemical pesticides.

**landscape:** A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area.



**landscape level:** At a spatial scale above a single plant community or forest stand and below a region (See also definition of Landscape).

**late seral stage:** A late stage in succession (the process of community development after disturbance) where the forest canopy starts to open up, and the amount of vertical and horizontal structural diversity increases. The time since disturbance at which a late seral stage could be said to exist varies from forest unit to forest unit.

**local community:** Any (human) community that is on or adjacent to the forest that is being audited for certification.

**local seed source:** A source of seed for planting which is adapted to the environmental conditions of the area in question; for well-studied species, a local seed source would be in the same ecoregion as the planting site, with seed zones established by common garden and genetic testing. For other tree species for which testing has not been carried out, a local seed source is from an area having similar climatic conditions and elevation as the area to be planted.

**long term:** The time-scale of the forest owner or manager as manifested by the objectives of the management plan, the rate of harvesting, and the commitment to maintain permanent forest cover. The length of time involved will vary according to the context and ecological conditions, and will be a function of how long it takes a given ecosystem to recover its natural structure and composition following harvesting or disturbance, or to produce mature or primary conditions.

**manager:** The person, persons or organization applying for or holding the FSC certification for the forest management unit under consideration.

**management plan:** 1. The management plan as required under Principle 7 of this Standard. 2. The document or integrated series of documents which set out the strategic and operational direction for a forest. Management plans for industrial forests typically lay out management direction for periods of up to 20 years, but are renewed generally at 5 to 10 year intervals. Annual plans identify the nature of operations to be conducted within a single year. For smaller or private forests there is considerable variation in the temporal extent of management plans.

**management unit:** See “forest management unit”.

**means of verification:** A potential source of information or evidence that allows an auditor to evaluate compliance with an indicator. Means of verification noted in this standard are suggested or useful means by which to assess indicators, but are not mandatory.

**natural forest:** forest areas where many of the principal characteristics and key elements of native ecosystems such as complexity, structure and diversity are present as defined by FSC-approved national and regional standards of forest management. In this standard all forests that are not designated as plantations are natural forests.

**natural region:** Definition required (ref. 6.4.1).

**non-commercial species:** tree species that within a stand whose yields, if harvested, would be too small to include in volume assessments. Such species may yield commercial volumes for specialized end uses, such as furniture-grade wood or firewood.

**non-timber forest products:** All forest products except timber, including other materials obtained from trees, such as resins and leaves, as well as any other plant and animal products.

**pest:** Organisms which are harmful or perceived as harmful and as prejudicing the achievement of management goals or the desired yields or profit. Some pests, especially introduced exotics, may also pose serious ecological threats, and suppression may be recommended. They include animal pests,

plant weeds, pathogenic fungi and other micro-organisms (FSC-POL-30-601 FSC Chemical Pesticides Policy July 2002-07).

**pesticide:** Any substance, preparation or organism (including insecticides, herbicides and fungicides) prepared or used in protecting plants or wood or other plant products from harmful organisms; in rendering such organisms harmless; and controlling organisms with harmful or unwanted effects. (The term pesticide is used here (instead of e.g. biocide) because 1) it is used in the FSC P&C and 2) the term biocide has other legal definitions and restrictions, and includes some household cleansing products).

**plantation:** forest areas that are established primarily for timber production purposes, are not managed to provide other values or amenities on the planted sites, and some or all of the following characteristics are maintained in a highly altered state or eliminated:

- a) tree species diversity;
- b) stand diversity;
- c) stand structure;
- d) early successional habitats;
- e) mature and old trees; and/or
- f) coarse woody debris.

See the explanatory section at the beginning of Principle 10 for further information about how plantations are defined and addressed in the Great Lakes/St. Lawrence standard.

**precautionary approach:** An approach that tends to refrain from actions where the outcome is not known. In a forest management context it refers to situations in which a forest manager will often be required to act with incomplete knowledge of cause and effect relationships, and therefore a precautionary approach includes the following:

- The manager avoids actions that may lead to irreversible changes to ecosystem function and resilience;
- Alternative management strategies are developed and evaluated, including the alternative of no management intervention, to identify alternatives that are least likely to impair the viability of the species or ecosystem;
- The onus is on the manager to demonstrate that proposed management activities are not likely to impair ecosystem function and resilience;
- When previously unanticipated threats to ecosystem integrity are identified or knowledge of ecosystem processes increases, the manager takes timely, efficient and effective corrective actions; and,
- The manager remains mindful of the needs of future generations.

**Principle:** An essential rule or element; in FSC's case, of forest stewardship.

**protected area:** generally an area protected by legislation, regulation, or land-use policy to control human occupancy or activity. Protection can be of many different forms. The International Union for the Conservation of Nature (IUCN) identified six main categories of protected areas. See also candidate protected area.

**protected area network:** The total network of places and locations protected by various means within a forest or an area, including riparian reserves, habitat reserves, parks, and all other protected areas.

**Public forest:** Forests owned by the provincial or federal government and typically licensed to the forest industry in various area-based or volume-based tenures. Community forests (e.g., forests owned by sub-provincial entities) are not considered "public forests" in this standard.

**public participation process:** A formal process of public involvement. A public participation process ordinarily involves a defined membership, established ground rules, opportunities for interaction among participants and the provision for ongoing involvement. It may involve establishing a new process, building on an existing process or reviving and adapting a previously existing process.

**representation:** inclusion within a reserve network of the full spectrum of biological and environmental variation, including genotypes, species, ecosystems, habitats and landscapes.

**residual structure:** Elements such as living trees (individuals or patches), snags, cavity trees, downed woody debris and plants, that are left behind following a harvest operation to maintain the biological legacies of the stand.

**restoration:** a process of returning ecosystems or habitats to their original structure and species composition. Restoration requires a detailed knowledge of the (original) species, ecosystem functions, and interacting processes involved.

**riparian area:** 1. The area related to the bank or shore of a water body. 2. The area of forest having qualities influenced by proximity to a water body.

**sample plot:** Definition required (ref. 8.2.1)

**sensitive sites:** sites with soils prone to erosion and/or nutrient loss as a result of normal management activities or natural disturbances. Sensitivity may be linked to human activity, disruption of water flow, alteration of stand structure or composition, or some other factor. For conducting forest operations, sensitive sites often include areas with steep slopes, shallow soils, or easily rutted soils.

**silviculture:** the technique of producing and tending a forest by manipulating its establishment, composition and growth to best fulfill the objectives of the owner. This may, or may not, include timber production.

**site:** an area of land, especially with reference to its capacity to produce vegetation as a function of environmental factors (climate, soil, biology, etc.).

**site preparation:** the disturbance of the forest floor and topsoil to create suitable conditions for artificial or natural regeneration.

**snag:** a standing dead tree or a standing section of a tree stem.

**species at risk:** Species that are listed as “at risk” (i.e. those which have some special designation related to concerns for their population or habitat status) by federal or provincial government agencies. The Great Lakes/St. Lawrence standard requires the manager to undertake special measures to conserve habitat for other vulnerable species, but these are not termed “species at risk” in order to avoid confusion with the term as used in federal and provincial legislation.

**species diversity:** the variety of different organisms at the species taxonomic level.

**stand:** a community of trees possessing sufficient uniformity in composition, constitution, age, arrangement or condition to be distinguishable from adjacent communities.

**standard operating procedure:** a standardized and codified manner of conducting a particular management operation or activity. Within the practice of forest management, standard operating procedures may exist for such operations as road construction, culvert installation, chain-saw use, skidder operations, aerial application of herbicides, etc.

**structural diversity:** the diversity of forest structure, both vertical and horizontal, that provides for a variety of forest habitats for plants and animals. The variety results from layering or tiering of the canopy

and die-back, death, and ultimate decay of trees. In aquatic habitats, structural diversity results from the presence of a variety of structural features such as logs and boulders, that create a variety of habitats.

**structure:** 1. In forestry generally, the various horizontal and vertical physical elements of the forest. 2. In landscape ecology, the spatial inter-relationships between ecosystems including energy fluxes, distribution of materials and species relative to the sizes, shapes, numbers, kinds and configurations of the ecosystems. 3. The distribution of trees in a stand or group by age, size or crown classes (e.g. all even-aged, uneven-aged, regular, and irregular structures).

**succession:** a series of dynamic changes in ecosystem structure, function and species composition over time as a result of which one group of organisms succeeds another through stages leading to a potential natural community or climax stage.

**traditional ecological knowledge:** knowledge that Aboriginal people have accumulated over countless generations of intimate contact with all aspects of local ecosystems, including plants, animals and other natural phenomena. (National Aboriginal Forestry Association)

**tree:** a tree is considered to be a woody perennial plant that grows to a height of at least 4.5m.

**uneven-aged stand:** a stand in which intermingling trees differ markedly in age. The differences in age permitted in an uneven-aged stand are usually greater than 10-20 years. Usually form more than three distinct age classes.

**value-added processing:** A manufacturing process which increases the value of the product above a normal or basic level; a manufacturing process which converts a commodity product, including logs, into a non-commodity product that requires some specialization to produce.

**watershed:** An area of land through which water drains into other streams or waterways via underground or surface streams and rivers.

**wetland:** lands transitional between terrestrial and aquatic systems where the water table is at or near the surface, or the land is covered by shallow water at some time during the growing season. Wetlands are characterized by poorly drained soils and predominantly hydrophytic or water tolerant vegetation.

**wildlife:** any species of amphibian, bird, fish, mammal, reptile, or plant found in the wild, living unrestrained or free-roaming and not domesticated.

**wildlife travel corridors:** a physical linkage, connecting two areas of habitat and differing from the habitat on either side. Corridors are used by organisms to move around without having to leave the preferred habitat. A linear habitat patch through which a species must travel to reach habitat more suitable for reproduction and other life-sustaining needs. Many corridors, linking several patches of habitat, form a network of habitats. The functional effectiveness of corridors depends on the type of species, the type of movement, the strength of edge effects, and its shape.

**worker:** See forest workers