RÉSEAU LIGNICULTURE QUÉBEC

Is forest certification
compatible with fast-growing plantations ?

In Quebec, more than 20 million hectares of forest were certified in 2009.

Forest certification basics

Certification of forest management practices is a voluntary tool used by forest companies to demonstrate their social responsibility. The first standards applicable to forest practices appeared during the 1990's and were developed to promote and stimulate sustainable forest management in response to growing concerns about the exploitation of natural forests. Gradually, policies in favor of certified forest products were adopted by several buyers and a number of governments, which has contributed to the expansion of forest certification.

Forest certification was greatly stimulated by the Forest Products Association of Canada (FPAC), which took the initiative in 2002 to have all managed territories under its responsibility certified by a third party. As a condition of membership, this nation-wide forest trade association requires applicants to certify their forest operations in accordance with one of the three major credible standards recognized in Canada.

Hybrid poplar logs in France labeled to insure chain-of-custody (Annie DesRochers, UQAT)

These are the standards:

Canadian Standards Association (CAN/CSA)

Forest Stewardship Council (FSC)

Sustainable Forestry Initiative ® Program (SFI)

Did you know ?

Canada has the largest area of third-party independently certified forests (CSA, FSC, SFI) in the world. As of 2011, more than 151 million hectares of Canadian forests were certified, which represents 42 % of the world's forests under certification.

THE GIST OF FOREST CERTIFICATION

There are two main components to forest certification :

1. Forest practices certification based on the evaluation of forest management with respect to nationally and internationally recognized standards that reflect modern sustainability concepts.
2. Forest products chain-of-custody certification which provides a guarantee to the consumer that the certified wood products they buy originated from certified forests.

Several forest management certification systems have been developed at the international, national and regional levels. Typically, they can be divided into two approaches :

1. Performance-based approach (well represented by FSC) under which standards have to be met by the applicant's organization before being certified.
2. Process-based approach (preferred system of the International Standards Organization or ISO) which evaluates the quality of the company's management and aims for the continuous improvement of environmental management.

Environmental management standards, such as ISO 14001, were implemented first, then more specific forest practices standards like FSC and SFI were added.

6-year-old hybrid poplar plantation on fallow land in the Eastern Townships. (Patrick Filiatrault RLQ)

Numerous examples of forest certification in Quebec

In Quebec, several companies hold more than one type of forest certification: the ISO 14001 standard and also one of the other certificates such as CAN/CSA Z809, FSC and SFI. This is the case, for example, of Louisiana-Pacific's Maniwaki mill (LP Building Products), which has been certified under ISO 14001 and SFI since December 2002. Since January 2009, this company has also held PEFC1/ SFI and CSA chain-of-custody certification.

Young hybrid poplar plantation within an SFI certified forest in western Quebec. (Daniel Toussaint MRNF)

Another example of a multiple certification holder is Domtar. Their private lands located in the Beauce and the Eastern Townships regions are certified with FSC (Great Lakes St. Lawrence) since 2005 and with SFI since 2007. It is worth noting that these two companies have fast-growing plantation programs. They currently own respectively 3 400 ha and 3 800 ha devoted to fast-growing hybrid poplar plantations.

Certified fast-growing plantations?

In the context of intensified wood production, plantations using fast-growing tree species under short-rotation management offer an interesting avenue to meet the ever increasing economic, social and environmental demands. The use of intensive silvicultural techniques within small portions of land could be positive in terms of wood supply and thus could decrease the harvesting pressure on larger territories under ecosystem management. Intensive management could maintain the fibre supply to mills and socio-economic activities of the forest industry. Moreover, the increased wood production on small areas of land could allow for the creation of protected areas on a third of the landbase (TRIAD approach).

1 Program for the Endorsement of Forest Certification Schemes

TABLE OF INTENSIVELY MANAGED PLANTATION CHARACTERISTICS LINKED WITH FOREST CERTIFICATION STANDARDS TABLE 1

	FSC	SFI	CAN / CSA
Plantation forestry	With restrictions	Compatible	Compatible
Utilization of improved stock	Compatible	Compatible	Compatible
Utilization of hybrids	With restrictions	Compatible	Compatible
From native parents	With restrictions	Compatible	Compatible
From exotic parents	With restrictions	With restrictions	With restrictions
Multiple forestry interventions	With restrictions	Compatible	Compatible

Compatible

With restrictions

At first glance it seems that some characteristics of fast-growing plantations are more or less compatible with forest certification (see Table 1). Further sections of this paper examine from perspectives of the three main standards applied in Canada in regard to the specifics of intensively-managed fast growing plantations.

Plantation forestry

The forest industry often perceives FSC standards as not compatible with plantation forestry. One of the ten FSC principles (Principle 10) addresses plantations directly, which it defines as *"intensively managed treed areas with few natural characteristics. They exist for timber production purposes and are not managed to provide other values or amenities on the planted sites."*

In accordance with the Boreal and Great Lakes St. Lawrence Region standards of FSC, conversion of natural forest into plantation is limited to a maximum of 5% of the area under certification. Moreover, this conversion must be applied to a diversity of sites which have to be spatially distributed to avoid any conversion of a large proportion of natural forests in the same area. These constraints may require companies to establish some plantations at distances from the mill which are too far and not necessarily good for intensive plantation forestry.

WHAT IS AN EXOTIC SPECIES?

According to SFI : A tree species introduced from outside of its natural range. This does not include species that have become naturalized in a certain area and have naturally reproducing populations. (Note: Hybrids of *native species or native* plants that have been derived from genetic tree improvement and biotechnology *programs* are not considered exotic species).

According to FSC : An introduced species not native or endemic to the area in question is considered exotic.

Quebec's poplar breeding program uses three poplar species that are not native to the province (*Populus nigra, P. maximowiczii and P. trichocarpa*). Most hybrids produced and planted in Quebec originate from at least one exotic parent.

Utilization of hybrids

Most certification standards refer to the use of appropriate provenances, varieties and species for afforestation and reforestation. Native species are always preferred, but exotic species could be used when they substantially surpass indigenous species in reaching plantation objectives. In order to continue using improved material, including those derived from biotechnologies, SFI specifies that program members must use recognized scientific methods to track their plantations and follow national regulations as well as other international protocols.

However, all three standards (FSC, SFI and CSA) are preoccupied by the invasive potential of exotic species. One indicator of the SFI standard says that *"planting of exotic species should be minimized, and research documentation showing that operationally planted exotic tree species pose minimal risk should be available".* The CSA standard has a similar approach which stipulates that forest management practices should limit dispersion of invasive exotic species. Certified companies must demonstrate that the species they use, if exotics, are not invasive. FSC indicates that the use of exotic species should be subject to tight control and monitoring in order to avoid any negative ecological impacts.

Biodiversity within a certified hybrid poplar plantation in the Eastern Townships. (Domtar)

Multiple forestry interventions

Industrial plantation forestry requires a wide range of silvicultural activities such as site preparation, planting and tending. In addition to these interventions, fertilization, pruning and thinning are also recommended. Furthermore, depending on the tree species used, fast growth rates could potentially lead to soil degradation. Principle 6 of the FSC standard states that forest management should conserve biodiversity along with its associated values like water and soils. In this case, certified companies working with industrial forest plantations need to evaluate the possible impacts of their activities on the environment. For example, various monitoring designs were installed within Domtar's forest plantations (FSC certified) in order to evaluate the possibility of long-term soil impoverishment.

Conclusion

As to the first question asked, to whether forest certification is compatible with fast-growing plantations, our answer is yes. However, there are clear limits to the deployment of intensive plantation forestry within the different certification standards. As long as fast-growing plantations do not make up a high proportion of a managed forest area, the risks are minimal and the benefits clear and therefore it is not really an issue. Examples of certified companies cited earlier also demonstrate that **forest certification is compatible with intensively managed, fast-growing plantations.**

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