

Summary Tactical Plan for Integrated Forest Development

Working Document

Region 07

Management unit 073-52

*Ressources
naturelles*

Québec 

Working Document
for Preparation of a Summary
Tactical Plan for Integrated Forest Development

Ministère des Ressources naturelles

Direction générale de l'Outaouais

Direction des opérations intégrées

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Introduction

The Ministère des Ressources naturelles (MRN) must produce a summary of the tactical plan for integrated forest management (referred to in this text as the “tactical plan”) for each management unit. The summaries are used in public consultations and also to satisfy certain forest certification requirements (especially those of the Forest Stewardship Council [FSC]).

It is important to note that all the steps and results required in a tactical integrated forest management plan (PAFIT) have not been taken and obtained at this point and were not included in this document. When new results and new content are available, the PAFIT will need to be changed and new public consultations held to give the public an opportunity to consider the new content and to decide on the position to be taken toward it.

1. Legal Context

1.1 Provisions concerning development activities

The MRN is responsible for the use and development of land and forestry, wildlife, mining and energy resources. More specifically, it manages all elements relating to the sustainable development of forests in the domain of the State. It encourages the development of the forest product industry and private forests. It also prepares and implements research and development programs to obtain and circulate knowledge of topics connected with sound forest management and forest product processing. In addition, it is responsible for carrying out forest inventories, producing seedlings and plants for reforestation, and protecting forest resources against fire, disease and insect infestations.

Beginning in April 2013, all development activities will be governed by the new Sustainable Forest Development Act. According to section 1 of the Act, the new forest regime is designed to (1) implement sustainable forest development, in particular through ecosystem-based development; (2) ensure integrated and regionalized resource and land management based on clear, consistent objectives, measurable results and the accountability of managers and users of the forest; (3) determine how responsibilities under the forest regime are shared between the State, regional bodies, Native communities and users of the forest; (4) follow up and monitor forest operations in the domain of the State; (5) govern the sale of timber and other forest products on the open market at a price reflecting their market value, and the supply of timber to wood processing plants; (6) regulate the development of private forests; and (7) govern forest production activities.

The new Act replaces the timber supply and forest management agreement with the timber supply guarantee. The MRN may also extend access to timber by auctioning volumes of timber from the public forest and maintaining secure supplies for the processing mills. The Government must attempt to adjust its management methods to new contexts and to the steadily increasing needs of local and regional communities. The aim of the new forest regime is to diversify the opportunities for social and economic development derived from Québec's public forests by democratizing access to forest resources.

According to section 54 of the Sustainable Forest Development Act:

“The Minister draws up a tactical plan and an operational plan for integrated forest development for each management unit, in collaboration with the local integrated land and resource management panel set up for the unit under the Act respecting the Ministère des Affaires municipales, des Régions et de l'Occupation du territoire (chapter M-22.1). When drawing up the plans, the Minister may also retain the services of forest planning experts.

The tactical plan contains, among other things, the allowable cuts assigned to the unit, the sustainable forest development objectives, the forest development strategies adopted to ensure that allowable cuts are respected and objectives are

achieved, and the location of the main infrastructures and the areas of increased timber production. This plan covers a five-year period.”

According to section 55 of the Act:

“The local integrated land and resource management panel is set up in order to ensure that the interests and concerns of the persons and bodies affected by planned forest development objectives are taken into account, to define local sustainable forest development objectives and to agree on measures to harmonize the use of resources. The composition and operation of a panel, including its dispute resolution mechanism, are the responsibility of the regional bodies that established the panel. Those bodies must, however, invite the following persons or bodies, or their representatives, to sit on the panel:

1. the Native communities, represented by their band council;
2. the regional county municipalities and, if applicable, the metropolitan community;
3. the holders of a timber supply guarantee;
4. the persons or bodies that manage controlled zones;
5. the persons or bodies authorized to organize activities, provide services or carry on a business in a wildlife sanctuary;
6. the holders of an outfitter’s licence;
7. the holders of a sugar bush management permit for acericultural purposes;
8. the lessees of land for agricultural purposes;
9. the holders of trapping licences who hold a lease of exclusive trapping rights;
and
10. the regional environmental councils.”

According to section 58 of the Act:

“Throughout the process leading to the drafting of the plans, the Minister sees that forest planning is founded on ecosystem-based development and on integrated and regionalized land and resource management.”

1.2 Provisions concerning Aboriginal communities

Consideration of the concerns, values and needs of the Aboriginal communities in the forest forms an integral part of sustainable forest development. Separate consultations are held for Aboriginal communities affected by forest plans, in order to identify their concerns regarding the potential impacts of the plans on their domestic, ritual and social activities. Based on the results of these consultations, the concerns, values and needs of the Aboriginal communities are taken into consideration in both sustainable forest development and the forest management process.

1.3 The MRN's certification policy

Beginning on April 1, 2013, when the Sustainable Forest Development Act comes into force, the MRN will become responsible for forest management and planning on lands in the domain of the State. As a result, it will also become responsible for the certification of forests under management. The Act respecting the Ministère des Ressources naturelles has been amended and now requires the MRN to implement an environmental management system. This system applies to forest planning, forest operations and the monitoring and control of activities, and responsibility for its implementation lies with the MRN's Regional Operations Sector. The environmental management system will also help to maintain the status of forest lands currently certified under the standards of the following organizations:

- Canadian Standards Association (CSA) for sustainable forest development
- Forest Stewardship Council (FSC)
- Sustainable Forestry Initiative (SFI)

In pursuing the goal of sustainable forest development, the MRN's Regional Operations Sector has devised and adopted an environmental and forest-related policy, in which environmental and forest management are key aspects. The policy reflects the Sector's commitment to comply with, and exceed, legal requirements, and to continue to improve its environmental and forest-related performance with a view to fighting, preventing and reducing pollution and playing its role as an informed landowner.



The slogan "Spotlight on Sustainable Forest Development" also reflects the policy's guidelines for employees and suppliers, which are based on:

- Compliance with legislation, regulations and other requirements
- Ongoing improvements
- Prevention of pollution

To help implement its environmental and forest-related policy, the Regional Operations Sector is in the process of introducing a system that will meet the requirements of international standard ISO 14001. The new system will allow the MRN to fulfill its environmental commitments and manage its environmental responsibilities. The system's activities will cover planning, harvesting, roads, transportation and silvicultural

work, as well as monitoring and control activities carried out in public forest management units.

In its policy on the environment and sustainable management of forests, the Department of natural resources undertakes to protect and preserve the long-term ecological integrity of the forest throughout the duration of this integrated forest management plan. This plan, its goals, objectives and the related follow-up actions reflect the principles of precaution and adaptive development.

2. Forest Management –Background Information

In the last 40 years, a number of initiatives have been introduced to revise Québec's forest regime, recommend changes and adjust the policies and the legislative framework governing public forest management.

Québec's forest policy in 1972. Its main aim was to separate timber allocation from forest resource management. The proposed reform was based on the fact that, as the need for timber and woodland space for other purposes increased, the State would have to be much more firm and direct in its administration of the forests. Public forest management could not be left in the hands of timber users, because they had to produce financial results in the short term, whereas forest management required a longer-term view. The State, which until then had simply been the custodian of the forest resource, now wanted to play an active role in managing that resource for the well-being of the community. A decision was therefore made to abolish the forest concession system.

The new forest policy in 1986. This marked a major shift in perspective, since the Government decided to introduce a new timber allocation method, known as the timber supply and forest management agreement (TSFMA). Under the new policy, the Government granted an agreement holder, each year, in a specific forest area, the right to obtain a permit to harvest a volume of standing timber, and in return, the holder was given the task of developing the forest in its specific area. In other words, responsibility for resource management was handed back to the timber users.

The Forest Protection Strategy in 1994. This time, the Council of Ministers decided to prepare a strategy with orientations that would help reduce pesticide use while ensuring sustained timber production. The Strategy was the product of an extensive consultation process in 1991, during which the Bureau d'audiences publiques sur l'environnement (BAPE) visited more than 70 towns and villages in Québec. It reflected the most urgent concerns and demands of a general public anxious to bequeath sound, well-managed forests to future generations. In publishing the Forest Protection Strategy, the Government announced a principle of primary importance for prevention, namely the fact of giving priority to natural regeneration.

The review of the forest regime in 2000. The Forest Act was amended following a consultation process to identify the public's expectations, which included more protected areas, the preservation of old-growth forests, socially acceptable logging patterns, and a

management-by-results approach favouring companies that performed well. The amendments also reinforced the forest's heritage role and confirmed the Government's desire to lay the foundations for a participatory form of management, through provisions that required it to consult the general public on its forest protection and development orientations, and to involve other forest users in the planning process overseen by agreement holders.

The new Sustainable Forest Development Act, which will regulate forest development activities as from April 2013. The Act introduces a number of innovations to the forest management process. Québec's aim in taking this new approach is to ensure the sustainability of its forest resources, protect forest diversity, allow the regions and communities to play a more direct role in forest management, address the development and profitability of the forest products industry, incorporate the values and knowledge of Aboriginal communities, and provide stimulating jobs in the communities and regions while allowing them to prosper.

3. National Orientations

The draft Sustainable Forest Management Strategy (SFDS) sets out the chosen vision, along with guidelines and objectives for sustainable forest management, in particular with regard to ecosystem-based management. It also defines the mechanisms and methods that will be used to implement and monitor the Strategy (see section 12 of the Sustainable Forest Development Act). The draft Strategy is designed to address the following six challenges:

- Forest management and development that take the interests, values and needs of the Québec population and the Aboriginal nations into account.
- Forest management practices that ensure ecosystem sustainability.
- A productive forest that generates wealth at different levels.
- Diversified, competitive and innovative wood products and forestry industries.
- Forests and a forest sector that help fight and adapt to climate change.
- A sustainable, structured and transparent form of forest management.

The Act creates connections between the various documents setting out the MRN's strategic vision and its application in the field. The tactical plan for integrated forest development is a major link in this chain, and addresses several of the objectives underlying the challenges laid out in the Strategy. The plan was designed for use as part of a participatory, structured, transparent management approach.

4. Background and Description of Land, Resources and Use

4.1 Location

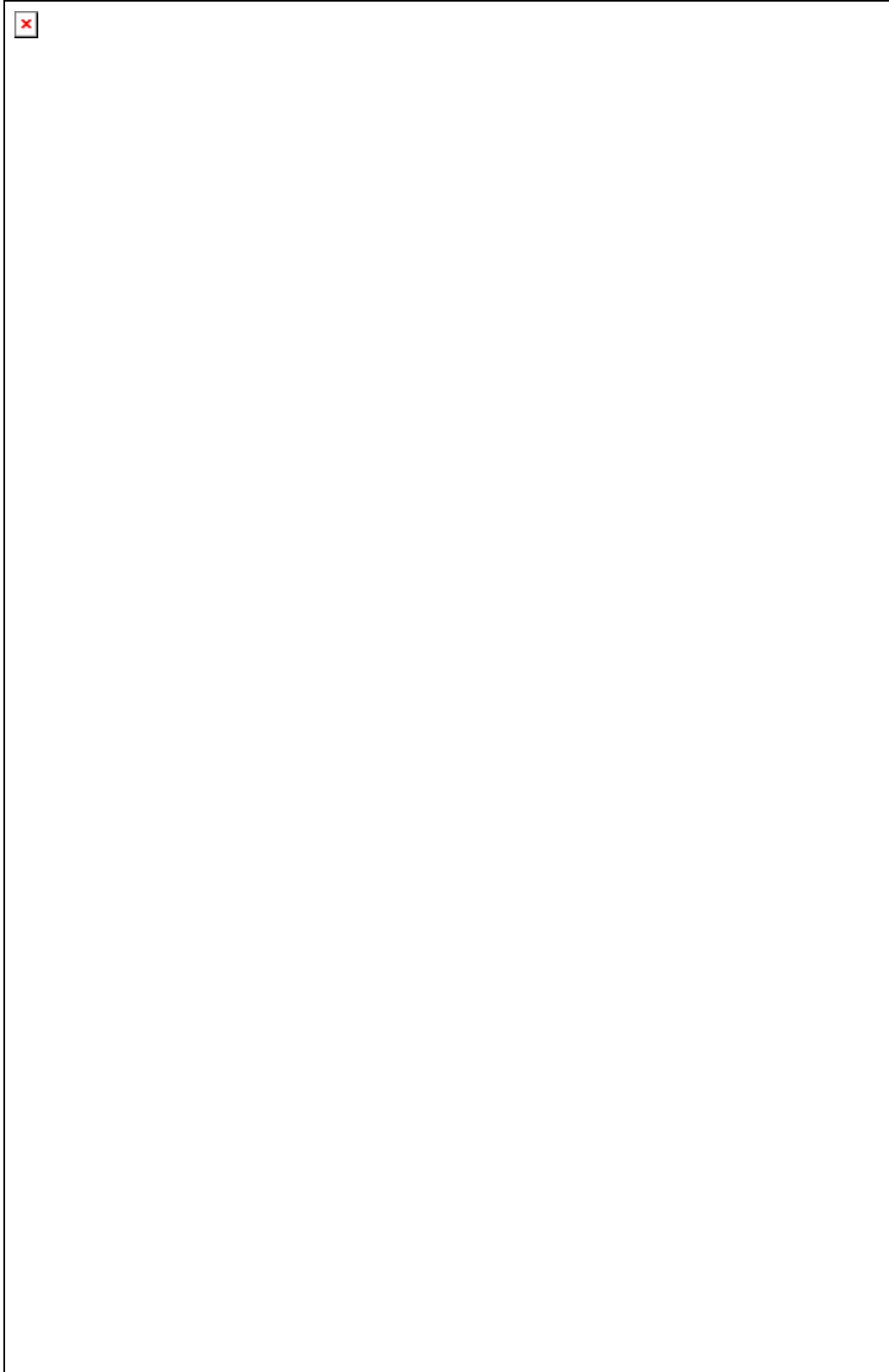
Forest development unit 073-52 is located in the administrative regions of the Outaouais (07) and Abitibi-Témiscamingue (08). It covers a productive forest area of 367,722 hectares south of the Cabonga and Dozois reservoirs.

Three regional county municipalities (RCMs) are located in the UA: the Pontiac RCM, which covers 65% of the territory, the Vallée-de-la-Gatineau RCM, which accounts for almost 23% of the UA, and the Vallée-de-l'Or RCM, which covers 12% of the territory.

The Lac-Rapide Indian reserve and the Kitcisakik Indian establishment are two Aboriginal residential areas located less than 30 kilometres from the UA.

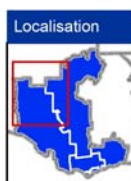
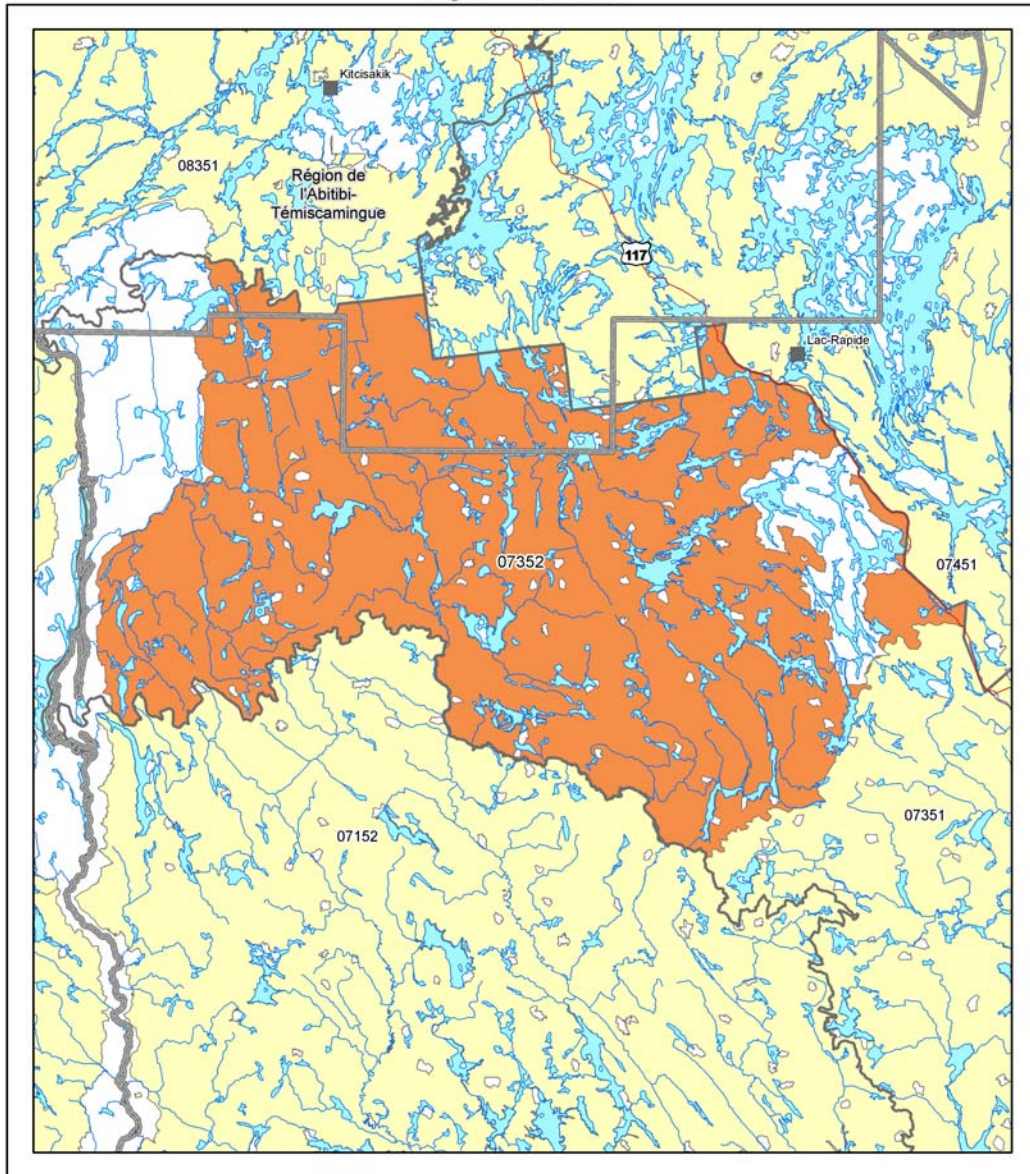
The UA is bordered to the south by UA 071-52, to the west by UA 081-52, to the north by UA 083-51, to the northeast by UA 074-51 and to the southeast by UA 073-51. To learn more about these territories, the reader may consult the integrated forest management plans of these development units.

The development unit contains both publicly and privately held lands. The latter are excluded from the territory being developed and the calculation of opportunities.



Carte 1 : La région de l'Outaouais et les unités d'aménagement

Unité d'aménagement 073-52
Région de l'Outaouais



- Élément**
- Unité d'aménagement 073-52
 - Autres unités d'aménagements
 - Hors unités d'aménagements
- Limite administrative**
- Région

Projection cartographique
 Mercator transverse modifiée (MTM), zone de 3°
 Système de coordonnées planes du Québec (SCOPQ), fuseau 09

0 5 10 15 km
 1:1 700 000

Sources
 BDTA 250k MRNF 2002

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 Direction de l'expertise Faune - Forêts (nc)
 Note : Le présent document n'a aucune portée légale.
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Carte 2 : L'unité d'aménagement 073-52

4.2 Socio-economic features

4.2.1 Importance of private forests and forests in the domain of the State

The territory of the Outaouais region covers a total area of 34,118 km². Total private holdings of property account for an area of 7,904 km², or 23% of the territory. On the other hand, land owned by the Quebec and the federal governments account for 75% and 2% of the total area respectively, namely 25,669 km² and 545 km².

Annex C contains a list of mills that can obtain supplies of timber sourced locally from harvests in the 6 development units of region 07. Pursuant to the *Sustainable Forest Development Act*, the guarantee of supplies is regional in scope. These management regions cover the forest areas of the Outaouais and the administrative regions of the Outaouais and Abitibi-Témiscamingue – namely part of the Vallée-de-l'Or RCM.

4.2.2 Manpower

A recent study conducted by the Del Degan Massé group, in co-operation with Employment Québec contains a number of figures concerning manpower in the forest industry in the Outaouais.

The presence of the forest industry on the territory generates substantial economic spin-offs and several thousand jobs are directly linked to it. In 2005, the forest generated close to 5,000 jobs in the Outaouais area in all of the areas of activity under consideration. Approximately 27% of these jobs existed in the area of forest management, 29% in the primary and secondary processing area and, finally, 44% in the pulp and paper sector.

The economic crisis of recent years has forced the closure of several mills and led to the loss of thousands of jobs. In 2010, the number of jobs in the forest industry in the Outaouais declined to below 2,200.

4.2.3 General information about Aboriginal communities in the Outaouais

There are two Aboriginal reserves within the boundaries of the Outaouais region: Kitigan Zibi (community of Kitigan Zibi Anishinabeg) and lac Rapide (community of Lac Barrière). The Outaouais also includes territories of the communities of Wolf Lake, Kitcisakik and Lac-Simon, even though these communities are not located within the region.

Traditionally, the subsistence activities of the First Nations communities with a presence in the Outaouais change with the seasons and focus primarily on hunting, fishing, trapping and gathering. Many members of the First Nations communities are always involved in these traditional activities. At the present time, the economy of the Algonquin communities is based primarily on the following areas of activity: education, health and housing services for the public and the development of municipal

infrastructures, forestry, tourism, guiding, arts and crafts, construction, transport, trade, trapping and agricultural activities.

The Aboriginal communities whose harmonization lands are covered by MU 073-52 are the community of Kitigan Zibi Anishinabeg, the community of Lac Barrière, the community of kitcisakik, community of Lac Simon and the community of Wolf Lake.

Kitigan Zibi Anishinabeg

This community adjoining the town of Maniwaki has a total of 2,827 members, of whom 1,248 live off the reserve (source: Secrétariat aux affaires autochtones [Secretariat of Aboriginal affairs], Statistiques des populations autochtones du Québec 2011 [Statistics on Aboriginal populations in Quebec 2011]). The Kitigan Zibi reserve was created in 1851 and has substantial infrastructures that enable it to provide numerous services to its population, including a department of natural resources. Kitigan Zibi Anishinabeg is active in many different areas of the economy. Examples that might be mentioned are its involvement in the exploitation of forest resources through the Mitigog enr. company and in sugar maple production through the *Awazibi Maple Syrup* company. The Kitigan Zibi Anishinabeg Band Council has also held a forest management contract (FDC) with the MNR since 2008. The same contract was held by the Mitigog company from 2003 to 2008. Mention can also be made of the fact that this community has concluded a number of agreements with Rexforêt in recent years under the forest jobs-creation program. These agreements are designed to train members of the community to hold jobs in forestry, particularly in the areas of brush-cutting and tree-felling.

Kitigan Zibi Anishinabeg is participating in research projects on endangered species such as the wood turtle and the sturgeon and has launched some projects on its own initiative.

Lac-Barrière

Located near the Cabonga reservoir, the Algonquin community of Lac-Barrière has a population of 680 people, of whom 125 live off the reserve (source : Secrétariat aux affaires autochtones [secretariat for Aboriginal affairs], Statistiques des populations autochtones du Québec [statistics on Aboriginal populations in Quebec] 2011). The Lac-Rapide reserve, where most of the members of this community live, was established in 1961 (source: Commission de la toponymie du Québec, 2012). An application to expand the reserve is currently being considered.

The members of the Algonquin community of Lac-Barrière inhabit a territory where they carry on various activities such as hunting, fishing and trapping. Given the growing use made of this territory by the forestry industry, Hydro-Québec, hunters, fishers and vacationers, the Algonquins of Lac-Barrière have expressed a desire to put in place a more harmonious system for managing their renewable resources in order to ensure that they can continue to engage in their traditional activities. In 1991, the band council of the community signed an agreement (called the “trilateral agreement”) to this effect with the federal and provincial governments. It should be noted, however, that the

federal government has since withdrawn from the agreement and that the agreement has expired. In 1998, a “bilateral” agreement was concluded between the government of Quebec and the Algonquins of Lac-Barrière reaffirming the commitment of the parties concerning certain elements of the trilateral agreement. It is designed in particular to supplement the work begun by the trilateral agreement of drawing up a plan for the integrated management of renewable resources (PAIR) (covering both forest and wildlife resources) on a specific territory extending over 10,000 km². The PAIR has not yet been completed. Forestry activities have been the subject of consultations with the Algonquin community of Lac-Barrière. This consultation may lead to the implementation of harmonization measures. It should also be noted that the community of Lac-Barrière has concluded funding agreements with the MRN under the program of Aboriginal involvement in integrated forest management and the harvesting of forest resources. These agreements are designed to provide financial support for the community in its involvement in various plans and projects of the MRN. (Sources: Plans généraux d'aménagement forestier 2008-2013 pour l'UAF 074-51 [general forest management plans 2003-2013 for forest development unit 074-51] and Website of the MRN).

Kitcisakik

The community of Kitcisakik is located near Dozois reservoir in the northern part of La Vérendrye wildlife reserve. It has a population of 469 members, of whom 60 live off the reserve. This community does not live on a reserve that is recognized under the *Indian Act*, but in an establishment.⁽¹⁾ The members of the community are therefore currently living without running water and electricity. However, negotiations are under way with the governments of Canada and Quebec with a view to building a permanent village with modern infrastructures.

Kitcisakik has established a department dealing with natural resources and the territory (the AKI department). This department has undertaken research work with a view to protecting the sturgeon, a species that is in a precarious situation (Source: Website of the Tribal Council of the Nation Algonquin Anishinabeg Nation; Website of the community of Kitcisakik).

Since the early years of this century the community has concluded a number of funding agreements with the MRN in order to allow the community to participate more effectively in forest harmonization. In 2009, Kitcisakik also signed a funding agreement with the Secretariat of Aboriginal affairs (Secrétariat aux affaires autochtones) to promote the community's participation in consultations initiated by Quebec.

Lac Simon

The community of Lac Simon has a population of 1,829 members, of whom 311 do not live on the reserve (Source: Secrétariat aux affaires autochtones [secretariat for Aboriginal affairs], Statistiques des populations autochtones du Québec 2011 [statistics

¹Établissement indien : territoire occupé par une bande mais ne constituant pas une réserve.

on Aboriginal populations in Quebec 2011]). It is located in Abitibi, some 32 kilometres southeast of Val d'Or. The community provides a number of services for its population.

During the last decade, the community of Lac Simon has concluded several funding agreements with the MRN to promote its involvement in forest harmonization. The Lac Simon Band Council has also had a forest management contract since 2010.

Wolf Lake

The community of Wolf Lake has 212 members, the vast majority of whom (202 individuals) live off the reserve (source: Secrétariat aux affaires autochtones, Statistiques des populations autochtones du Québec 2011). The community is located 37 kilometres northeast of the town of Témiscaming, on Hunter's Point Lake. However, the members of the community live primarily in Témiscaming or elsewhere in Quebec. The community of Wolf Lake does not have any infrastructures or provide community services.

However, the Band Council has established a non-profit agency, the *Mahingan Development Corporation*, and mandated it to discern local and regional opportunities for economic development and to take advantage of them, especially in the field of tourism. The community has also adopted a 10-year tourism development plan (from 2007 to 2017). Note finally that since the early years of this century, a number of funding agreements have been signed by the community of Wolf Lake and the MNR to promote the community's involvement in forest consultation.

We have heard on the concerns of the Aboriginal communities concerning planning relating to integrated forest management. We still have to check our understanding of these concerns with the communities and continue to consider with the communities approaches that would address their concerns.

4.3 Description and use of the territory

4.3.1 Existing infrastructures

Provincial highway 105 is the most important paved highway in the region where the UA is located. A well developed network of logging roads supplements the provincial and municipal highway system. Note also that there are some important crossings of watercourses.

A forestry camp, operated by Produits forestiers Résolu, exists on the territory at the far southeastern end of the development unit.

4.3.2 Hydrographic system and developments relating to water features

Like the province of Quebec and its many bodies of water, the territory covered by UA 073-52 is scattered with more than 1,700 lakes and 7 major rivers. Close to 500 square

kilometres of the territory are covered by water. The presence of these various bodies of water explains the territory's popularity for the practice of recreational activities.

With regard to important watercourses, mention may be made of the lakes Byrd, Poulter, Dumoine and Jean-Péré and the rivers Coulonge, de l'Original and O'Neil.

4.3.3 Wildlife resources and uses

The forest is not merely a source of wood but it is also a habitat for wildlife, a recreation area or a vacation location. In this regard, the territory of UA 073-52 is also used for recreational purposes and tourism. La Vérendrye wildlife reserve covers more than one-half of the UA at the northern end. A number of outfitters also exist on the territory.

The activities offered in the wildlife reserve and by the outfitters are hunting, fishing, camping, canoe-camping and other recreational activities. The species hunted are the ruffed grouse, snowshoe hare, spruce grouse, moose and black bear. Several species of aquatic wildlife are present in the different lakes on the territory and this allows fishing to take place for walleye, northern pike, brook trout, sturgeon, smallmouth bass and lake trout.

Wildlife sites of interest are another particular factor in the territory. The regional directorate (Direction régionale) for the Outaouais of the Department of natural resources (Ministère des Ressources naturelles) has listed various wildlife sites of interest in order to ensure that they are protected from the consequences of human activity in the forest. For example, a number of spawning grounds have been identified on the territory of the UA. These sites are highly sensitive to development. Specific conditions must be complied with in the areas around the different wildlife sites of interest.

4.3.4 Recreation and tourism

Several recreation sites as well as an interpretation centre are located in Le Domaine du lac Jean-Péré, which is in the eastern part of the UA. In addition, the area surrounding lac Jean-Péré, which is part of lac Poulter, and an area located not far from lac Delahey, are designated "forest and recreational area".

Also found on the territory of UA 073-52 are three roadside stops or picnic areas close to Highway 117 and a number of public beaches. Finally, some 178 properties are subject to recreational leases granted by the MRN on the territory of the UA as a whole.

4.3.5 Historical and cultural sites

Under the *Cultural Property Act*, R.S.Q., c. B-4, historical sites are places that have been classified as historical and cultural sites are archeological sites or locations of Aboriginal burial places. Classification and designation of these sites is the responsibility of the Department of culture and communication [ministère de la Culture

et de la Communication]. The territory of UA 073-52 has a number of archeological sites at the southwestern end of the UA on the edge of lac Nichcotéa.

4.3.6 Non-wood products

According to the internal information held by the MRNF, no non-wood products are harvested in UA 073-52.

4.3.7 List of endangered or vulnerable species

A species said to be endangered refers to an indigenous animal or plant that is probably threatened with extinction in Canada if the factors that make it vulnerable are not eliminated. When a species is said to be vulnerable, it is especially endangered because of the low numbers of individuals or the limited area of its distribution as a result of habitat loss or any other factor (OIFQ 2003). In short, a vulnerable species becomes endangered if no steps are taken to prevent this.

To date, 68 species of wild flora and 38 species of fauna have been legally designated as endangered or vulnerable in Quebec.

At the present time, in the Outaouais region the necessary information is available for thirty-four (34) animal wildlife species and for one hundred and thirty-two (132) plant species. Of these, three (3) plant species and three (3) animal species have been listed as endangered or vulnerable on the territory of MU 073-52 (Government of Québec, 2010).

Information on the process governing the designation and conservation of endangered or vulnerable species is available at the following Website of the MNR: <http://www.mrnf.gouv.qc.ca/faune/especes/menacees/conservation.jsp#resume>

When plans already exist or are being developed by the government to protect the habitat and populations of endangered species in the forest, the MNR implements all measures that are relevant to its activities. Where such plans do not exist, are incomplete or are inadequate, a precautionary approach is adopted in managing the habitats of these species.

Measures to protect endangered or vulnerable wildlife species in public forests and restoration plans can be consulted at the following Website:

<http://www3.mrnf.gouv.qc.ca/faune/especes/menacees/liste.asp#susceptibles>

Conservation plans for plant species that are legally protected in Quebec are available at the following Website:

<http://www.mddep.gouv.qc.ca/biodiversite/especes/index.htm#menacees>

4.3.8 Wooded strips not subject to forest management

The measure to exempt wooded strips along rivers (20%) from forest management is designed to allow trees of various species to attain substantial heights and, eventually, to become large snags or large pieces of waste timber.

A number of parameters were taken into consideration when the wooded strips along rivers were selected, including their size, spatial distribution, representative nature and composition.

4.3.9 Identification of biological refuges

The concept of biological refuge is designed to assist the conservation of biodiversity associated with old virgin forest by developing a network of forests that are small in area or that will be protected in their entirety on a permanent basis.

When the general forest management plans 2008-2013 were prepared, a number of criteria had to be complied with in the creation of biological refuges. The target for the distribution of the refuges within the management area was 2% of the area of forest populations of long-lived species. As part of this exercise, 8,047 hectares were exempted from the total area available for forest development.

4.3.10 Other specific factors

The territory covered by MU 073-52 has other unique attributes that are worthy of mention. First of all, some parts of the territory are subject to mining rights. The allocation of mining rights in Quebec is based on the principle of “free mining”, according to which any interested party may appropriate a right to the resource (MRN 2007). However, the right to exploit the resource may be exercised only subject to certain conditions laid down by the MRN.

4.4 Biophysical characteristics of the forest

4.4.1 Contents

In UA 073-52, three types of forest cover are present on the territory: coniferous cover, mixed cover and deciduous cover. Mixed cover may be subdivided into predominantly coniferous mixed and predominantly deciduous mixed. The following table (Table 1) shows the breakdown of areas of productive forest lands by type of cover.

A total of 367,722 hectares of productive forests are classified as areas that may be exploited for timber production. Of this total, 70,221 hectares are occupied by coniferous-type forests, approximately 19% of the territory. However, it is mixed forest that occupies the largest proportion of the territory with 164,326 hectares or close to 45% of the territory. Finally, deciduous forest alone covers 20% of the territory with 73,698 hectares, while 16% of the territory (59,478 hectares) does not have any forest

cover or any groupings of species, because those areas have populations undergoing regeneration or are about to be regenerated.

Types de couvert et classes d'âge - UA 073-52			
Couvert	Classes d'âge	%	Superficie (ha)
		16%	59 478
Sans couvert	Sous total	16%	59 478
F		0%	28
F	10	0%	982
F	30	2%	6 391
F	50	0%	1 534
F	JIN-JIR	2%	7 310
F	70	4%	15 741
F	90	1%	3 835
F	VIN-VIR	10%	37 814
F	120	0%	64
Feuillus	Sous total	20%	73 698
M		0%	212
M	10	1%	3 127
M	30	8%	29 061
M	50	1%	4 808
M	JIN-JIR	9%	33 735
M	70	6%	23 173
M	90	3%	10 970
M	VIN-VIR	15%	56 355
M	120	1%	2 885
Mélangés	Sous total	45%	164 326
R		0%	855
R	10	1%	5 099
R	30	5%	17 739
R	50	0%	1 094
R	JIN-JIR	2%	8 937
R	70	3%	10 242
R	90	2%	8 804
R	VIN-VIR	4%	13 514
R	120	1%	3 938
Résineux	Sous total	19%	70 221
Total		100%	367 722

Notes

Les peuplements étagés sont comptabilisés dans la première classe d'âge par exemple 70120=70

La superficie totale comprend:

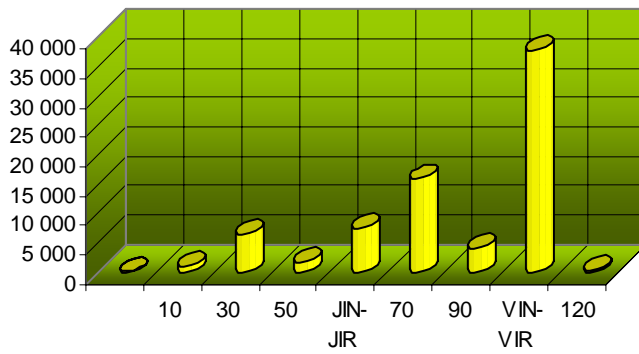
01 Unité d'aménagement (UA)

06 Forêt d'expérimentation sur Unité d'aménagement (UA)

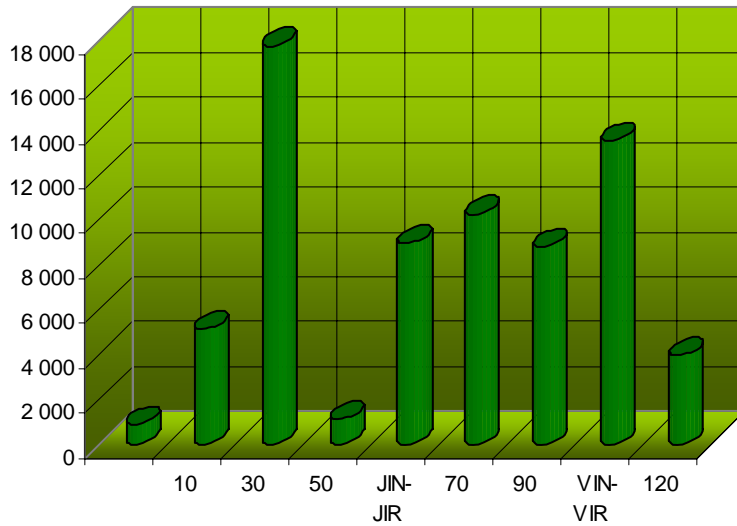
Source : Couche numérique BFEC-CFEC

Tableau 1 Superficies par types de couvert et classes d'âge

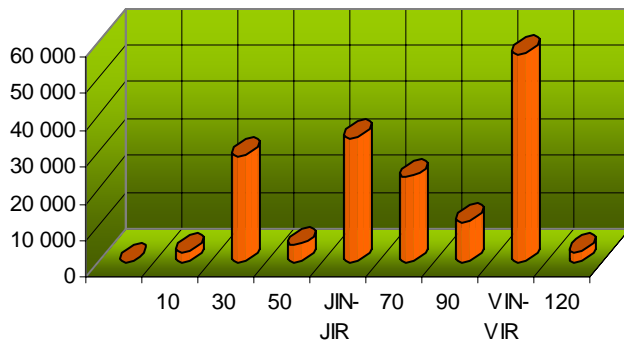
Couvert feuillu
Superficie par classes d'âge



Couvert résineux
Superficie par classes d'âge



Couvert mélangé
Superficie par classes d'âge



4.4.2 Natural forest mosaic

The variation in ecosystems is expressed through the make-up of the forest, the distribution of age categories, the structure of populations and their spatial organization. However, the variations are described on the regional level, which goes beyond the boundaries of the forest development unit. Consequently, a description of the natural forest mosaic of each of the development units, corresponding to the picture of the forest before it was subject to large-scale exploitation, uses the regional picture as a basis for comparison. This description is carried out by the MNR for each bioclimatic sub-domain.

UA 073-52 is marked by only one bioclimatic sub-domain, namely pine forest with western yellow birch.

Updated digital records concerning forests, lakes and watercourses and relief, deposits and drainage may be obtained at the government of Quebec's Géoboutique. It is also possible to obtain hard copies from various merchants.

Géoboutique: [Géoboutique Québec](#)

PATP: [MNR- Le plan d'affectation du territoire public](#) (Public land use plan)

CRRNTO: [Commission régionale sur les ressources naturelles et le territoire public de l'Outaouais CRRNTO](#) (Regional commission on natural resources and public lands)

MRNF: [Ministère des Ressources naturelles](#) (Department of natural resources)

4.5 History of natural disturbances

Several kinds of natural disturbances may have an impact on the forest dynamics of an ecosystem: insects, fire, disease and other disturbances. The next few sections paint a picture of all the natural cataclysms that may have affected the forest cover in the past in the Outaouais forest region, and more particularly in MU 073-52

4.5.1 Insects

Four insects are worthy of attention in natural forests in the Outaouais: the spruce budworm, hemlock looper, Swaine jack-pine sawfly and forest tent caterpillar. Where a population of trees has been planted, one insect, the white pine weevil, can jeopardize the future of some coniferous species.

4.5.2 Fire

Between 1998 and 2008, a total of 75 forest fires were recorded on the territory of UA 073-52. Of these, 71% were of human origin whereas 29% were caused by lightning strikes. De plus, les feux de cause humaine couvrent en moyenne une plus grande superficie que les feux causés par la foudre. En effet, la moyenne sur l'UA au cours de

ces années est de 1,5 hectare pour les feux d'origine humaine, alors que la superficie culmine à 332 hectares pour les feux causés par la foudre.

The fire cycle in MU 073-52 extends over more than 1,000 years (Chabot M. *et al*, 2003).

4.5.3 Diseases and other disturbances

Although insects and fire are some of the most destructive agents for the forest, diseases and other natural disturbances are, to a lesser extent, equally destructive in this regard. Among other things, the region recorded disturbances associated with the presence of white pine blister rust fungus and wind (windfall). On the territory of UA 073-52, close to 710 hectares of forest were affected by partial or total windfall, including the windfall of 2006.

4.6 History of silvicultural treatments applied

Two types of treatment may be distinguished, namely so-called commercial silvicultural treatments, which include commercial cutting and thinning carried out on populations of commercial value, and non-commercial treatments, which are applied to populations of no commercial value and include all silvicultural treatments applied to pre-commercial plantings and thinned areas. In the case of commercial treatments, 22,130 hectares of forest were treated during the period covered by the analysis (years 1990 and 2000). Again during the same period, 7,140 hectares of forest were subject to non-commercial treatments.

To date, a wide variety of silvicultural work has been carried out on the territory of MU 073-52. First, in terms of so-called commercial work, cutting with protection of regeneration was undoubtedly the type of cutting used on the largest scale in the territory during the period in question. The other types of cutting used to a substantial extent were gardening and pre-gardening cutting.

Finally, non-commercial work was done during this period. These treatments included planting, enrichment, interplanting, seeding and pre-commercial thinning. Overall, some 29,000 hectares were subject to commercial and non-commercial treatment on the territory of UA 073-52.

4.7 Area under analysis

Because the tactical plan must consider issues such as the age structure of the forest and deployment of the main road network, it may be necessary to consider portions of the area in which forest management activities are not permitted, and also adjacent land including protected areas, biological refuges, public land used for purposes other than timber production, steep slopes, privately-owned land and so on.

4.8 Areas under management (MUs)

The management unit (MU) contains all the forest areas in which management activities may be carried out. However, management activities may be prohibited or subject to certain conditions (e.g. partial cutting) on some sites, usually small in size. For example, MU 073-52, like a piece of Gruyère cheese, has a number of “holes” composed of areas or sites where activities are prohibited or subject to special conditions.

Digital files showing all these sites are available for consultation at the offices of management unit 073-52. These files are not presented in this plan because they are updated continuously, unlike this plan, which is submitted on specific dates. However, they are considered when the plan is prepared, and when work is carried out on-site.

Under the Regulation respecting standards of forest management for forests in the domain of the State, most of the sites on which forest management activities are prohibited or subject to special conditions are intended:

- to protect recreational and tourism sites, especially visually sensitive landscapes;
- to maintain the quality of wildlife habitats in general and fish habitats in particular;
- to protect cultural sites and public utility sites;
- to protect sites of importance to the Aboriginal people;
- to protect soils and water resources;
- to protect fragile ecosystems;
- to maintain ecosystem productivity;
- to ensure optimal use of timber.

For further information, you are invited to consult the text of the Regulation.

The Department of sustainable development, the environment, wildlife and parks (MDDEP) publishes a map entitled “Les aires protégées au Québec” (protected areas in Quebec) showing the protected areas that are located within or near the MU. It may be accessed at the following Website:

http://www.mddep.gouv.qc.ca/biodiversite/aires_protegees/aires-carte.pdf

Other sites not covered by the Regulation are also protected or subject to special conditions. For example:

- Threatened or vulnerable plant and wildlife species (including those likely to be designated as threatened or vulnerable) are taken into consideration.
- Forest management activities are prohibited in proposed protected areas whose boundaries have been established by the Québec Government.
- Special conditions apply to certain wildlife sites of interest.

The use of exotic species for planting is a sensitive issue for the forest certification agencies. The main purpose of using exotic species in plantations is to intensify timber

production in certain specific areas of the territory. According to the Invasive Species Specialist Group (ISSG), the exotic species used for planting in Québec are not considered to be invasive.

Below is an overview of the exotic species used in plantations in the territory in question.

In UA 073-52, the areas reforested with hybrid poplar between 2000 and 2011 totalled 197 hectares.

5. Development Objectives

The PAFIT sets out the management objectives to be applied locally in MU 073-52. These include the strategic objectives of the MNR growing out of the SADF (sustainable forest management strategy) project and the objectives defined on a regional basis as well as the objectives defined on a local basis by the local integrated land and resource management panel (TLGIRT) to the extent that these objectives have been adopted by the MNR.

The chosen development objectives were identified as part of a process during which issues were discussed and approved by the local integrated land and resource management panel.

A table entitled *Forest Regime Management Framework Objectives (including the Draft Strategy)* has been produced. It addresses the planning, application, monitoring and control of forest management activities and groups together all the objectives of the forest regime, including the draft Strategy and the future Regulation, providing an overview of the MRN's commitments to sustainable forest development. Once all the elements are known, it is easier to avoid duplication when establishing local objectives, based on the concerns identified by the local panels. The table is available on the MRN's website at: www.mrn.gouv.qc.ca/forets/gestion/cadre-gestion-2013-2018.jsp.

The Sustainable Forest Development Act has replaced the Forest Act. The goal of the new Act is to address the requirements of sustainable forest development more effectively. As a result, reporting requirements will be enhanced. Under the new Act, the MRN must produce a five-yearly review of sustainable forest development. The first such review will cover the period from April 1, 2013 to March 31, 2018, and will be tabled in the National Assembly in 2019. The indicators shown in the above table will be used for the review. In some cases, they will also:

- make it easier to maintain forest certification; and
- serve as a basis for national (Canadian Council of Forest Ministers) and international (Montreal Process) reporting requirements.

5.1 Provincial objectives

The provincial objectives are set out in the Sustainable Forest Management Strategy, and were established following consultations held throughout Québec with provincial forestry stakeholders and the general public.

5.2 Objectives designed to ensure forest ecosystem sustainability

There are several objectives designed to ensure forest ecosystem sustainability, including certain protection measures, such as areas in which forest management activities are prohibited or subject to special conditions. These areas are often protected by regulation (see the text of the future Regulation), and are considered in the early stages of preparing the tactical plan.

However, during the period 2013 to 2018, covered by this tactical plan, a new ecosystem-based development approach will also be introduced.

5.2.1 Implementation of ecosystem-based development

According to the Sustainable Forest Development Act, ecosystem-based development is development that consists in ensuring the preservation of the biodiversity and viability of ecosystems by reducing the differences between developed and natural forests. In other words, by maintaining developed forests in a condition similar to that of natural forests, it is possible to ensure the survival of most species, perpetuate ecological process and hence support the long-term productivity of the goods and services derived from the forests.

To ensure the implementation of ecosystem-based development, the draft Sustainable Forest Management Strategy stipulates that every tactical plan must contain an analysis of local ecological issues, along with solutions adjusted to local manifestations of those issues. The main ecological issues to emerge from observed differences between the developed forest and the natural forest are as follows:

- observed changes in the forest's age structure;
- observed changes in the size, distribution and connectivity (spatial organization) of forest stands;
- changes in plant composition;
- simplification of internal stand structures;
- scarcity of some forms of deadwood;
- alteration of the ecological functions of wetland and riparian environments.

Solutions to these issues, which are consistent with and complementary to the development issues of the MU in general, are included in the development strategy presented in the tactical plan, and are deployed in the field through the operational plan.

As part of its activity to implement ecosystem development and an environmental management system (SGE), the Direction générale (directorate general) of the MNR for the Outaouais has adopted the following objectives:

1. increase the amount of yellow birch in the landscape;
2. increase the amount of red oak in the landscape;
3. increase the amount of white pine in the landscape;
4. protect wetlands of interest for conservation purposes;
5. ensure that the age structure of developed forests is similar to that found in natural forests;
6. maintain the complex structure in populations disturbed by harvesting activity in the forest;
7. maintain or increase the presence of old populations with a complex structure;
8. protect water areas, river banks and wetlands by improving the actions taken in the forest and the development of the road network;
9. preserve the productivity of ecosystems by controlling ruts on lands where cutting takes place and disturbances of the soil near roads.

To date, objectives 1 to 4 have been expanded upon and approved by the DGR (see Annex D). As far as objective 5 is concerned, preliminary pictures of the age structure of the forests (map3) have been prepared cartographically. The age categories shown in the following table (table 2) were used.

Tableau 2 Classes d'âge correspondant aux trois stades de développement*

Domaine bioclimatique	Régénération**	Intermédiaire***	Vieux peuplement***
Pessière à mousses	≤ 20 ans	21 à 100 ans (classes 50 ans, 70, 90, JIN)	≥ 101 ans (classes 120 ans et VIN)
Sapinière à bouleau blanc	≤ 15 ans	16 à 80 ans (classes 50 ans, 70, JIN)	≥ 81 ans (classes 90 ans, 120, VIN)
Sapinière à bouleau jaune	≤ 15 ans	16 à 80 ans (classes 30 ans, 50, 70, JIN)	≥ 81 ans (classes 90 ans, 120, VIN)
Érablière à bouleau jaune	≤ 10 ans	11 à 100 ans (classes 30 ans, 50, 70, 90, JIN)	≥ 101 ans (120 ans, VIN)

* Lorsque pertinent, les classes cartographiques correspondantes sont indiquées.

** Pour le stade « régénération », l'abondance actuelle est calculée en fonction de la date de perturbation d'origine et non de la classe d'âge.

*** Pour les classes d'âge cartographiques doubles, on considère que la première classe d'âge prévaut. Par exemple, pour une classe d'âge « 70-120 », on considérerait qu'il s'agit d'un peuplement de 70 ans.]

In order to obtain a picture of the difference between the existing forest and the natural forest, we used the pictures shown in the record of benchmark states (Boucher *et al.*). Alteration thresholds were determined on the basis of the following table (table 3). The degree of alteration was estimated for each benchmark territorial unit (UTR) and grouped in order to ensure a certain spatial distribution of old forests.

Tableau 3 Résumé des seuils d'altération proposés pour déterminer le degré d'altération des unités territoriales

Seuil d'altération	Stade de régénération (seuil maximal)	Stade de vieux peuplement (seuil minimal)
Seuil d'altération acceptable : entre les degrés d'altération faible et moyen	25 % de la superficie de l'UT (pessière) 20 % de la superficie de l'UT (sapinière et érablière)	> 50 % du niveau de la moyenne historique
Seuil d'alerte : entre les degrés d'altération moyen et élevé	35 % de la superficie de l'UT (pessière) 30 % de la superficie de l'UT (sapinière et érablière)	> 30 % du niveau de la moyenne historique

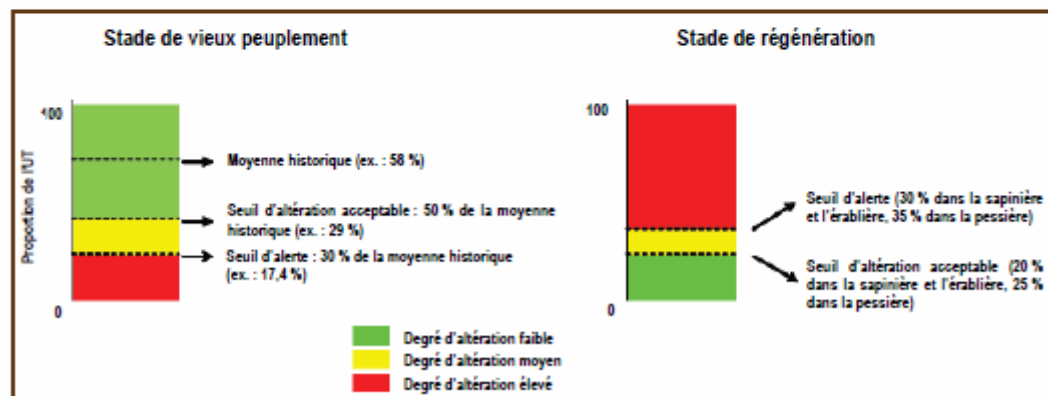
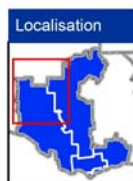
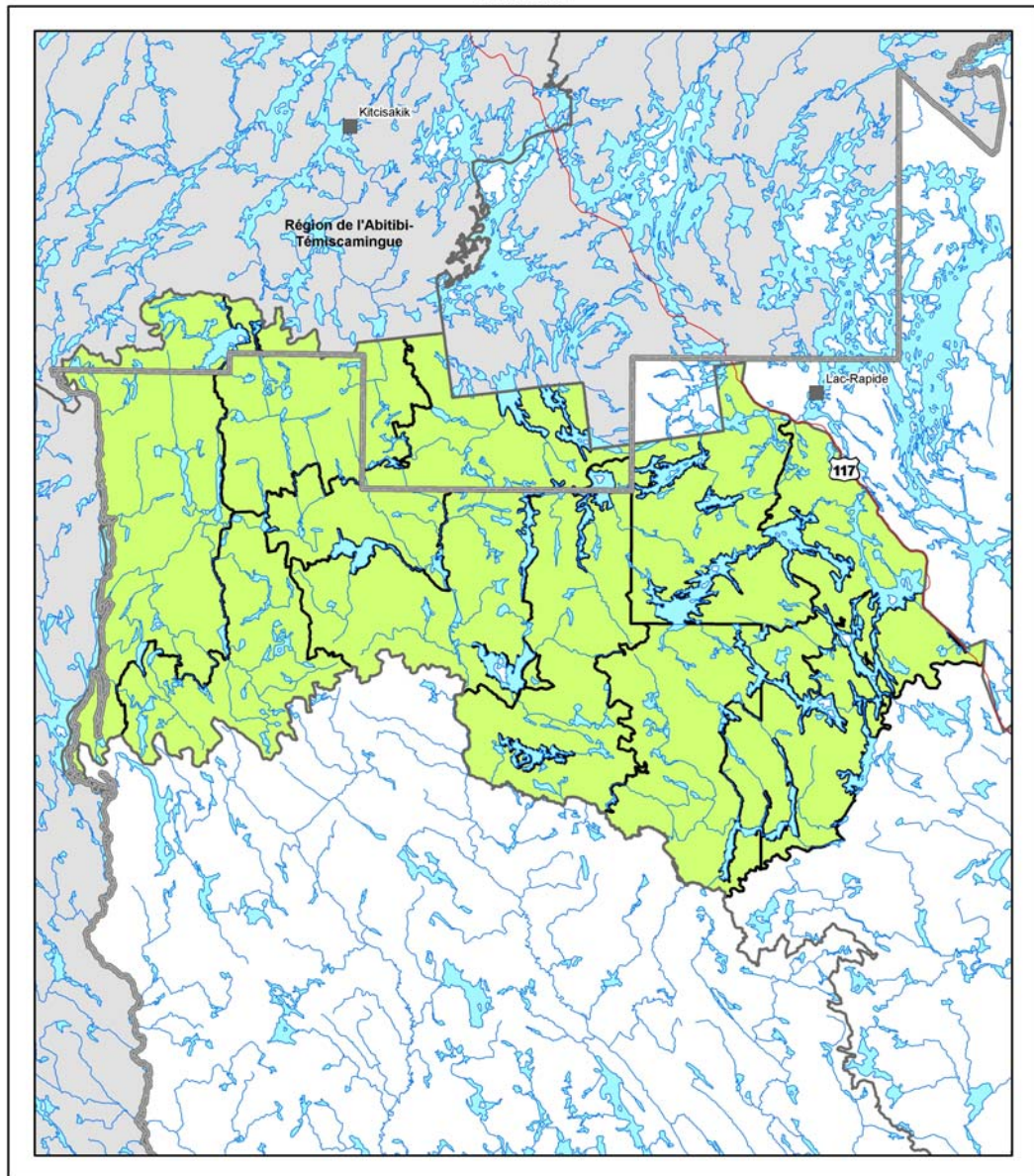


Figure 4 Exemple illustrant le lien entre les seuils d'altération et les niveaux d'altération pour les stades de vieille forêt et de régénération

Furthermore, a process is currently under way involving the Bureau du forestier en chef (office of the chief forester) to ensure that the calculation of forestry opportunities is reasonable and to determine medium- and long-term targets.

Analyse de la structure d'âge des forêts UA 073-52



- Degré d'altération**
- Faiblement altérée
 - Modérément altérée
 - Fortement altérée
- Limite**
- Régionale
 - Unité de gestion

Projection cartographique
 Mercator transverse modifiée (MTM), zone de 3°
 Système de coordonnées planes du Québec (SCOPO), fuseau 09
 0 5 10 15 km
 1:1 200 000
Sources
 BDTA 250k MRNF 2002

Réalisation : 2012-11-08
 Ministère des Ressources naturelles
 Direction de l'expertise Faune - Forêts (rc)
 Note : Le présent document n'a aucune portée légale.
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Carte 3 Structure d'âge des forêts

5.3 Objectives designed to maintain a productive forest able to generate wealth at different levels

The draft Sustainable Forest management Strategy mentions the challenge of ensuring that the forest is able to produce timber and other resources and functions, with due regard for the production capacity of forest ecosystems.

5.3.1 Timber production based on site ecology and objectives

Silviculture can improve forest productivity. Based on the ecological characteristics of individual sites and the objectives pursued, it is possible to choose silvicultural interventions that will maximize the forest's potential.

To enhance the silvicultural effort, the MRN has prepared guides to ensure that silviculture in Québec is adjusted to the ecology of each site and to the various development objectives. The guides also contain potential silvicultural scenarios (or treatment sequences) to ensure that the management strategy allows for the production of timber while respecting the site's production capacity and any management constraints (e.g. risk of windthrow, susceptibility to insects and diseases, trafficability, etc.).

Natural regeneration is favoured in Québec. For sites that do not regenerate naturally, fill planting or reforestation with indigenous species is recommended.

Lastly, it is important to note that the use of phytocides is prohibited in all MUs.

5.3.2 Greater economic profitability for silvicultural investments

The MRN's aim when investing in silvicultural work is to achieve the best possible performance. To select the silvicultural scenarios best suited to the economic objectives, with due regard for environmental and social objectives, a number of economic and financial evaluation tools and processes are used. The purpose of these tools and processes is to facilitate decisions, so that silvicultural investments create the greatest possible value from the timber.

5.3.3 Timber production in dedicated areas

The areas in which timber production will be intensified (AIPL – areas of intensification of wood production) will be established as a matter of priority on the most productive sites, which are considered to impose no substantial constraints on tree production (for example, a steep hill, a high risk of rut formation) and that are located near processing plants and manpower. The AIPLs will also be established in consultation with members of the community and community organizations, which will make it possible to minimize the usual disputes.

In these areas, it will be possible, among other things, to monitor the silvicultural scenarios, thereby ensuring that the proposed treatments are carried out at the right time and produce the best possible return on the Government's investment.

5.3.4 Integrated development of forest resources and functions

The tactical plan also contains objectives for the protection and development of various forest resources, including wildlife habitats, recreational and tourist products, non-timber forest products, maple syrup, visual landscape quality and so on. These objectives are discussed and adopted at meetings of the local integrated land and resource management panel.

5.4 Regional objectives

The regional objectives applicable to forest development in MU 073-52 are derived among other things from the PRDIRT objectives selected by the Minister.

Various Aboriginal nations, communities and groups of communities have entered into official written agreements, including work plans, discussion tables and harmonization measures, in connection with forest management activities in all or part of MU 073-52.

5.5 Local objectives

Local objectives are identified by the TLGIRT (local integrated land and resource management panel). Integrated management of resources and land (GIRT) is a co-operative management and consultation process. This process brings together all the players and managers in the community who are spokespersons for public and private group concerns in a given area. The goal of this on-going process is to integrate as far as possible from the very outset of planning and throughout the process their vision of the development of the territory, which must be based on the conservation and harvesting of all resources and the functions at play. The particular upshot is more integrated and better co-ordinated planning and implementation of resources and the land in the forested area. GIRT strives to increase the benefits and spin-offs for communities as well as to maximize the use of the land and resources. Ultimately, it is the task of the MNR to identify the issues and measures to be considered in planning actions to be taken.

Panel participants and the organizations they represent are listed in the appendix to this document.

In MU 073-52, the issues identified by the local integrated land and resource management panel are presented below.

Thèmes		Enjeux		Objectifs	
1.	Aménagement écosystémique	1.1	Structure d'âge des forêts	1.1.1	Faire en sorte que la structure d'âge des forêts s'apparente à celle qui existe dans la forêt naturelle.
				1.1.2	Maintien de massifs forestiers.
		1.2	Composition végétale	1.2.1	Restauration du Chêne rouge.
				1.2.2	Restauration du pin blanc et rouge.
				1.2.3	Augmentation du bouleau jaune.
				1.2.4	Réduction de l'enfeuillement des peuplements résineux.
		1.3	Structure interne et bois mort	1.3.1	Maintenir ou augmenter la présence de peuplements à structure complexe.
				1.3.2	Assurer une présence suffisante de legs biologiques dans les parterres de coupe de CPRS.
				1.3.3	Éviter la simplification et l'uniformisation de la forêt de seconde venue.
				1.3.4	Assurer le maintien d'attributs propres aux forêts perturbées naturellement.
		1.4	Milieux humides et riverains	1.4.1	Protection des habitats riverains et aquatiques.
				1.4.2	Protection des milieux humides non-riverains.
				1.4.3	Protection des milieux humides de petite taille.
				1.4.4	Protection des milieux humides d'intérêt pour la conservation.
		1.5	Espèces menacées ou vulnérables	1.5.1	Protection des espèces menacées ou vulnérables
		1.6	Protection des sites fauniques d'intérêt (SFI)	1.6.1	Maintien des sites fauniques d'intérêt.
				1.7	L'impact sur les sols forestiers
2.	Habitats fauniques particuliers	2.1	Habitat des animaux à fourrure	2.1.1	La protection de l'habitat des animaux à fourrure.
		2.2	Habitat de l'orignal	2.2.1	Maintien de l'habitat de l'orignal.
		2.3	Habitat du poisson	2.3.1	Protection de l'habitat du poisson.
		2.4	Habitat du petit gibier	2.4.1	Maintien de l'habitat du petit gibier en bordure des chemins fortement utilisés par les chasseurs.
		2.5	Ravages de cerfs	2.5.1	Maintien des ravages de cerf
3.	Les paysages forestiers	3.1	La qualité des paysages en milieu forestier	3.1.1	Le maintien de la qualité des paysages dans les zones d'intérêt.
4.	Les communautés autochtones	4.1	La prise en compte et l'intégration des activités autochtones à des fins alimentaires, rituelles ou sociales dans la gestion et la mise en valeur des ressources naturelles	4.1.1	Améliorer notre connaissance des activités autochtones à des fins alimentaires, rituelles ou sociales dans la gestion et la mise en valeur des ressources naturelles.
5.	La cohabitation entre l'ensemble des utilisateurs	5.1	Qualité de l'expérience en forêt	5.1.1	Maintenir un niveau acceptable de tranquillité pour maintenir la qualité de l'expérience en forêt.
		5.2	Limites territoriales des territoires fauniques structurés	5.2.1	Respecter les limites territoriales des territoires fauniques structurés.
6.	L'approvisionnement en matière ligneuse	6.1	L'approvisionnement en volume et qualité	6.1.1	Sur un horizon de long terme, augmenter le volume par tige récoltée, la qualité des bois et le volume total à l'hectare. Récolter les tiges à leur valeur économique optimale.
				6.1.2	Disponibilité des produits en fonction des essences, de la qualité et des saisons.
		6.2	Les coûts d'approvisionnement	6.2.1	Contrôler les coûts d'approvisionnement.

Note : Les enjeux d'aménagement écosystémique sont conditionnels à l'adoption de la SADF.

Tableau 4 : Enjeux retenus par la TLGIRT – Haute-Gatineau – Cabonga

6. Development Strategy

The development strategy sets out all the actions that must be carried out to meet the various development objectives. It is prepared as part of an iterative process in which solutions and, in some cases, development objectives are adjusted as the strategy evolves. The environmental, social and economic impacts of the issues are examined, and the best possible solutions are identified. For this to be possible, the final development objectives should only be determined at the end of the process.

To facilitate the process of preparing the strategy, and to ensure that the chosen solutions are coherent and complementary, issues requiring similar solutions must first be grouped together.

The MNR and the TLGIRT (local integrated land and resource management panel) have jointly adopted temporary measures in the Outaouais to offer a provisional response to the challenges identified by the TLGIRT. Thus, each of the challenges identified by the panels will be reconsidered in the next few years and examined in greater detail. As new proposals are made by the panels and accepted by the MNR, they will replace the temporary measures. In the meantime, the MNR has undertaken to apply the temporary measures (**table 5**).

Topics	Issues	Objectives	Temporary measures proposed for the directives under PAFIO 2013	Target
1. Ecosystem management	1.1 Age structure of forests	1.1.1 To ensure that the age structure of the forests is similar to that of natural forests	Maintain the benchmark territorial units (UTR) included in the category evaluated in the age structure project. For UTR-11, which is red, do not anticipate CPRS (cutting with protection for regeneration and soils) in 2013.	
		1.1.2 Maintenance of communities of trees	Use the concept of community included in high-conservation-value forests (FHVC) in active FSC certificates and those being acquired for communities that were located and whose conditions are known	
	1.2 Plant composition	1.2.1 Restoration of red oak	In the potential vegetation identified (sylviculture guide) favour red oak	reintroduction of 75 ha/yr
		1.2.2 Restoration of white and red pine	(1) In the potential vegetation identified (sylviculture guide), favour pine (2) Planting of white and red pine	reintroduction of 270 ha/yr
		1.2.3 Increase in yellow birch	In the potential vegetation identified (sylviculture guide), favour yellow birch	reintroduction of 272 ha/yr
		1.2.4 Reduction in shading of conifers by leaves	(1) In the potential vegetation identified (sylviculture guide), favour pine, spruce, grey pine and western larch (SEPM) (2) Plant spruce	

	1.3	Internal structure and dead wood	1.3.1	Maintain or increase the presence of populations with complex structures	(1) Do not harvest islands determined to contain trees that should age under the PGAF (general forest management plan) 2008 (2) Minimize harvesting of remains of old populations with complex structures (3) Do not harvest in biological refuges (4) Leave 1 m ² /ha of dying pulp-quality trees (MP) in hammered MSCR populations, as indicated in the relevant directives	
			1.3.2	Ensure adequate presence of biological legacies in areas where CPRS cutting is to take place	(1) Favour CPRS bunches in appropriate locations. Explanation: 5% of the area of a bunch-cutting site left intact as representative of population (between 150 and 300 m ² and containing a minimum of 5 living merchantable trunks, a multi-layer vertical structure, a snag or wood debris on the ground or a tree with wildlife value or a tree that satisfies a composition challenge) (2) Favour other cutting methods offering variable retention (e.g. cutting while protecting small merchantable trunks (CPPTM), cutting while protecting high regeneration and soils (CPHRS)) in appropriate locations	
			1.3.3	Avoid simplification and standardization of second-growth forest	(1) Respect the objective of protecting and exploiting resources and the forest (OPMV) in EPC (pre-commercial thinning) (i.e. limit to 66% the percentage of the area eligible for EPC to be treated by UTR; give priority to successful plantings over populations regenerated naturally, retain intact 10% of any block subject to EPC the area of which exceeds 40 ha, retain trunks that meet the composition challenges as a matter of priority)	
			1.3.4	Ensure that the attributes of forests disturbed naturally are maintained	(1) Following a natural disturbance, leave at least 10% of the area intact (without recovery) e.g. after a windfall	
	1.4	Wetlands and river banks	1.4.1	Protection of river-bank and aquatic habitats	(1) Respect the OPMV, which exempts 20% of wooded strips along rivers in each development unit (UA) for ever (characteristics of strips: as long as possible, minimum 200 m in length, 20 m in width) (2) Modulation of river-bank strips in sites of wildlife interest (SFI) (3) Minimize number of crossings of watercourses (4) Pay particular attention to sensitive areas identified by the wildlife panel and in the case of aquatic wildlife by DGR biologists	
			1.4.2	Protection of non-river-bank wetlands	No temporary measure identified so compliance with Regulation respecting standards of forest management (RNI)	
			1.4.3	Protection of small-scale wetlands	No temporary measure identified so compliance with RNI	
			1.4.4	Protection of wetlands of interest for conservation purposes	Wetlands of interest to be selected by 2015	

		1.5	Endangered or vulnerable species	1.5.1	Protection of endangered or vulnerable species	(1) No harvest permitted in known areas (2) Conditions for certain species (e.g. wood turtle, areas harvested in winter) (3) Training of workers, data collection on visits to the forest	
		1.6	Protection of wildlife sites of interest (SFIs)	1.6.1	Maintenance of wildlife sites of interest.	Application of prescribed conditions	
		1.7	Impact on soil in the forest	1.7.1	Maintain the productivity of ecosystems.	Follow action plans on rut creation, erosion and loss of productive surfaces 2011	
2.	Specific wildlife habitats	2.1	Habitat of fur-bearing animals	2.1.1	Protection of the habitat of fur-bearing animals	(1) Temporary measures to meet challenges 1.1 and 1.3 also meet this challenge (2) Apply the provincial position to be issued concerning the guide on martens issued by the FTGQ (Quebec federation of trapper-managers)	
		2.2	Moose habitat	2.2.1	Maintenance of moose habitat	(1) Compliance with RNI (including mosaic cutting) (2) Favour mosaic cutting, especially in structured wildlife territories (3) Temporary measures to satisfy 1.4.1 also meet this challenge (4) Maximize use of existing road network	
		2.3	Fish habitat	2.3.1	Protection of fish habitat	(1) Temporary measures to meet 1.6 also meet this challenge (2) Limit crossings of watercourses (3) Maximize use of existing road network (4) Compliance with RNI	
		2.4	Small-game habitat	2.4.1	Maintenance of small-game habitat on the sides of roads that are heavily used by hunters	No specific temporary measure; several ecotones already in place on roadsides	
		2.5	Deer yards	2.5.1	Maintenance of deer yards	(1) Full conservation of western hemlock and white cedar (2) Planting of white spruce (3) Favour harvesting of large deciduous trees (4) Additional conditions determined in individual cases by DGR biologists to meet the particular needs of each deer yard	
3.	Forest landscapes	3.1	Quality of landscapes in the forest	3.1.1	Maintenance of quality of landscapes in areas of interest	(1) Compliance with RNI (2) Temporary measures to meet objectives 1.3.2, 1.3.1 and 1.1.1 also meet this challenge (3) Complete protection of first 30 m and partial cutting in a strip 30 to 60 m around a vacation cottage. If the cottage is less than 20 m from a lake, the partial cutting will extend to 70 m rather than 60 m.	
4.	Aboriginal communities	4.1	Consideration and integration of Aboriginal activities for food, ritual or social purposes in the management and harvesting of natural resources	4.1.1	Improve our knowledge of Aboriginal activities for food, ritual or social purposes in the management and harvesting of natural resources	Inform the GIRT (integrated land and resource management) panels of concerns expressed by Aboriginal communities	
5.	Cohabitation of all users	5.1	Quality of forest experience	5.1.1	Maintenance of acceptable level of peace and quiet to preserve quality of the forest experience	Timetable of operations to be agreed with GIRT panels	

		5.2	Territorial boundaries of structured wildlife territories	5.2.1	Respect territorial boundaries of structured wildlife territories	(1) Limit new entrances to structured wildlife territories (roads) (2) Limit complete openings of the cover that straddle the boundaries of structured wildlife territories	
6.	Timber supply	6.1	Volume and quality of supply	6.1.1	Over a long-term horizon increase the volume per trunk harvested, quality of wood and total volume per hectare. Harvest trunks at their optimum economic value	Favour directives geared to improving the quality of logs harvested	
				6.1.2	Availability of products by species, quality and seasons	Prepare a complete PAFI-O (integrated forest management plan) in accordance with the 2008 strategy	
		6.2	Supply costs	6.2.1	Control the cost of supplies	(1) For some of the strata use the ASEF software for economic evaluations (2) When the annual program is prepared with the FPinterface, software, check the costs (after directives)	

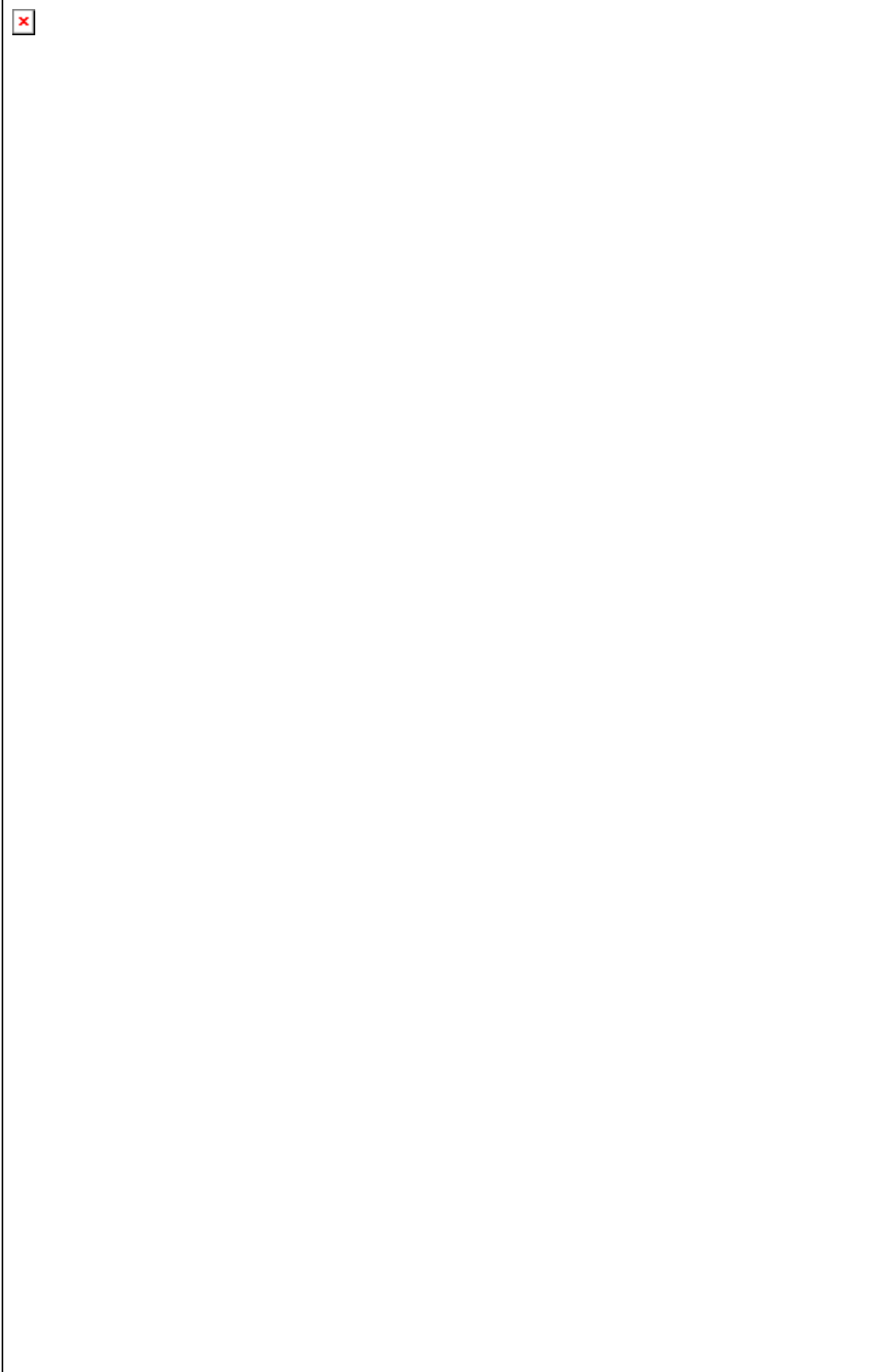
Note : Les enjeux d'aménagement écosystémique sont conditionnels à l'adoption de la SADF.

Tableau 5 : Mesures temporaires adoptées par la TLGIRT – Haute-Gatineau – Cabonga

In June 2009, the Commission régionale sur les ressources naturelles et le territoire public de l'Outaouais (CRRNTO) (Outaouais regional panel on natural resources and public lands) published its strategic plan on the main road network on public land in the Outaouais. In January 2012 a second version was adopted by the CRRNTO and subsequently by CRÉO (regional conference of elected representatives from the Outaouais area). This network consists of 1,900 km of logging roads and 132 km of municipal roads. The primary goal sought by the industry and co-ordinated by the regional panel on logging road is to ensure that the road network is restored and maintained over time on an ongoing basis. The Direction générale régionale de l'Outaouais (DGR) (regional directorate for the Outaouais) supports the CRRNTO and the community in the region in this endeavour.

Moreover, the DGR promotes the development of an east-west axis in UA 071-52. This segment, which would extend the existing road from Maniwaki to Témiscamingue, would link the eastern and western parts of the region and thus greatly reduce the driving distances that are now necessarily involved in the journey. Two scenarios are set out for this segment to be developed on the following map (**see map 4**). The choice of final scenario will depend on a number of factors, including projects in protected areas that are currently the subject of consultations and technical considerations relating to the best location for the future bridge over the Coulonge River. These considerations could also involve a change in the final location of the bridge

The map below (**see map 4**) also shows forest camps and bridges forming part of the strategic network. The status shown for these bridges (open/closed) reflects the situation as of the date this map was published.



Carte 4 : Infrastructures et chemins principaux

The factors considered in the VOIC (values, objectives, indicators and targets) records and elements of strategy for MU 073-52 are referred to in section 5.2 and the VOIC records are reproduced in Annex D.

In deciduous and mixed forest, the value of standing wood varies greatly on the basis of the species found and their quality. The cost-effectiveness of actions involving partial cutting accordingly varies in line with the quality and quantity of the species harvested and left standing. A simulation must be conducted of the growth and mortality of the remaining trees in order to analyse the benefits obtained by selecting trees at the time of hammering and harvesting.

An economic analysis of the various scenarios is currently under way and the results will be integrated gradually into the process of developing silvicultural directives.

The goal of the silvicultural scenarios and treatments selected for MU 073-52 is to develop forests with irregular and managed structures that are produced primarily by partial cutting. For forests with regular structures, thinning of populations, progressive cutting and regeneration cutting are normally used. The acknowledged objectives of the work are varied: regeneration, training and control of certain species. They also help to meet certain challenges, including age structure, other uses, the increased rareness of certain species etc. When the work is done, the natural established regeneration of the desired species is protected and conditions that favour regeneration are created for sites where there is insufficient regeneration. Reforestation and interplanting are used only when the natural regeneration of desired species is inadequate or when there are no seeds of the desired species. From the silvicultural point of view, subsequent efforts are designed to promote and train the species it is desired to promote as well as to manage the species to be reduced without the use of pesticides and in harmony with the ecology of the site.

At this time, the level of development work and the silvicultural scenarios anticipated for the period 2013-2018 are not yet available. The office of the chief forester is in the process of finalizing the procedure for determining forestry opportunities and should issue its results in the spring of 2013. In this context the levels of development and the silvicultural scenarios contained in the PGAF (general forest management plan) 2008-2013 are continued and the approaches set out in the silviculture guides are included in the plans in part (**table 6**). The PGAF 2008-2013 was also updated to reflect guaranteed supply projects.

The tree-harvesting scenarios adopted and the areas for each type of treatment are shown below.

GPP	Type de coupe	Hectares
BOP	CR	154
BOU	CR	372
BOU	CP	685
ERS	CP	539
MIXTEBOPR	CR	430
MIXTEPEUR	CR	226
MIXTERBOP	CR	595
PEU	CR	88
PIN	CR	172
PIN	CP	265
SEPM	CR	701
THO	CP	189

Tableau 6 : Niveaux d'aménagement pour l'UA 07352

Some parts of the territory, the AIPLs (area of intensification of wood production), will be reserved for the intensification of wood production. Because of the diversity, complexity and potential of the forests in the Outaouais, the Direction Générale Régionale (DGR), in cooperation with the Commission Régionale sur les Ressources Naturelles et le Territoire de l'Outaouais (CRRNTO) (regional panel on natural resources and land in the Outaouais), is working to adapt the provincial methodology developed for the purpose of identifying AIPLs. Once the methodology is developed, it will be presented to the regional stakeholders. Consultation with the community will make it possible to approve the intensification strategy. It will also make it possible to establish a consensus concerning the location of the AIPLs and the work to be done in those areas.

Ecosystem development applies to the whole of the territory and, consequently, it will also apply to the AIPLs. Integration of the objectives of intensifying timber production and of ecosystem development will take concrete form when the extent, location and distribution of the AIPLs is determined. Also, in some cases, mitigating measures will be devised. As in other parts of the UA, the objectives adopted in the TLGIRT (local integrated land and resource management panel) and the harmonization measures will be respected in the AIPL.

The Chief Forester has calculated the allowable cuts for MU 073-52. This plan stipulates the level of silvicultural work required to achieve the volumes indicated.

The allowable cuts calculated by the Chief Forester can be found on the following website:

www.forestierenchef.gouv.qc.ca

The manual for determining forestry opportunities 2013-2018 will provide the framework for the process of determining forestry opportunities for the next five-year planning period as well as disseminating approaches, principles and hypotheses used by the chief forester in the performance of his duties. It can be used to find out more about the reasons for the volumes harvested annually and the choice of species. This manual is available at the following Website:

<http://www.forestierenchef.gouv.qc.ca/grands-dossiers/manuel-de-determination-des-possibilites-forestieres/>.

7. Application and Monitoring of Work

The strategy is used as a basis for preparing the tactical plan, including the silvicultural prescriptions. These prescriptions, along with marking instructions and operational instructions, apply to all work carried out in the field. In some respects, they act as a specification for performance of the contract signed by the MRN and the operator. The agreements and harmonization measures are also considered at every stage of the process.

Control lists (tactical plan, operational plan and prescriptions) can be used to facilitate the work of the people responsible for different aspects, thereby ensuring that all the proposed elements are considered at every stage of the process.

When the PAFI and the directives are updated, the work they will require will be subject to operational monitoring. This monitoring will be covered by a monitoring plan.

The monitoring plan is based on the concept of ongoing improvement or of adaptative development. The principle behind the latter concept is much more than a method of learning by trial and error. It refers to an adjustment process based on the implementation of a monitoring program. It allows for the testing of hypotheses that have been made and for a review of forest development strategies and practices on the basis of the monitoring results.

The monitoring plan is accordingly necessary to determine the performance (attainment of objectives) and the impact of forest development on the community. In short, the results of this monitoring will allow us to adapt or improve, as necessary, forest development strategies and practices.

The monitoring plan will be implemented and adjusted at the regional level. The frequency and extent of monitoring will be determined on the basis of the scale and intensity of the activity, fragility, environmental risks and previous performance.

A file on forest monitoring planned for MU 073-52 is currently being completed.

7.1 Harvesting processes

Most of the operations (86%) carried out between 2008 and 2011 involved whole trees (trees transported with their branches), for which activity the main machinery used was a harvester and cable or regular skidders. To a lesser extent (13%), the process of sawn wood was used and multi-functional harvesters and carriers were used. Finally, the whole-trunk process with either a harvester or a traditional logger and cable or regular skidders was used in only a small minority of situations (1%).

8. Signatures

The tactical integrated forest management plan for development unit 073-52 was completed under my supervision in accordance with the laws, regulations and agreements in force and in accordance with the objectives set by the Minister of Natural Resources and Wildlife.

_____ing. f.

Annex B lists the names of the people who were involved in preparing this integrated tactical forest management plan (PAFIT) and their individual contributions.

9. Appendices

Annexe A

A current list of members of GIRT panels is available at the following Website:

UG73 : http://www.crrnto.ca/tables_locales/table_coulonge.php

Annexe B

List of participants and specialists involved in drafting the PAFIT (tactical integrated forest management plan)

NAME	TITLE	CONTRIBUTION
Nathalie Coulombe	Technician in applied and graphic arts	Drawing the maps
Solajo Couturier	Forestry engineer	Strategic information system, maps
Paméla Garcia Cournoyer	Biologist	Ecosystem development, TGIRT (integrated land and resource management panel)
Guillaume Godbout	Biologist	List of endangered species
Éliane Lafrenière	Forestry technician	Forestry information (harvesting process)
Coralie Laurendeau	Socio-economic research and planning officer	Description of Aboriginal communities
Sébastien Meunier	Forestry engineer	Strategy, exotic species and AIPL (areas of intensification of wood production)
François Paradis	Forestry engineer, assistant to the DGR	Linguistic revision
Pascale Roy	Secretary to the Director General	Checking correctness of French, formatting document
Julie Thiboutot	Forestry engineer	PAFIT co-ordinator
Jacqueline Tremblay	Forestry technician	Hyperlink information, annexes, maps and tables

Annexe C

Liste des usines qui s'approvisionnent de la région forestière OutaoAUIs R07-6MU

Usines- région OutaoAUIs	#usine
Bois K.M.S. (GM) Ltée.	023
Stella-Jones inc.	025
EACOM Timber Corporation (Val d'Or)	032
Scierie Bondu inc.	138
Bois nobles Ka'N'Enda Ltée (Mont-Laurier-déroulage)	139
152599 Canada Inc (Les produits forestiers Laurentiens enr.)	141
La Compagnie Commonwealth Plywood Ltée (Mont-Laurier) .	145
Commonwealth Plywood Ltée (Rapides-des-Joachims)	149
Produits Forestiers du Pontiac inc.	150
Pin Davidson inc.	152
Commonwealth Plywood Ltée (Low)	153
Fortress Speciality Cellulose inc. (Fortress Cellulose Spécialisée)	159
Lauzon-Planchers de bois exclusifs inc.	160
Forespect inc.	161
Commonwealth Plywood Ltée (Kipawa-Déroulage)	170
La corporation internationale Masonite	226
La Compagnie Commonwealth Plywood Ltée (Princeville)	251
Les Produits forestiers B. & B inc.	273
La Commenwealth plywood Ltée (Sainte-Thérèse)	281
Maibec inc. (Saint-Théophile - 340, route 173)	309
Louisiana Pacific Canada Ltd. (Bois-Franc)	343
Maibec inc. (Clarendon)	379
Produits Forestiers Résolu Canada inc	404
Groupe Crêtes division St-Faustin inc.	405
Trebio Inc.	430

Annexe D

VOIC (values, objectives, indicators and targets) records



Objective number
 Objective name Representativeness of yellow birch forests
 VI VO
 Date 14 September 2012
 MUs 071-51, 071-52, 072-51, 073-51, 073-52, 074-51

Origin of objective

SGE-ADF
 provincial
 environmental
 management
 system –
 sustainable
 forest
 management

SGE-ADF
 regional

TGIRT

PRDIRT

Certification
 requirement

SADF

ADF
 framework

Other
 DGR-07

ADF criterion:

Conservation of biodiversity

ADF element (CSA standard
 requirement):

Ecosystem diversity

Value (challenge):

Reduced presence of yellow birch forests in pure and mixed
 populations

Objective:

To increase the amount of yellow birch in the landscape
 To maintain and increase the presence of yellow birch in
 populations where this species is found and restoration on sites
 offering greater potential

Indicator:

1- In planning, plan silvicultural treatments focused on yellow
 birch in areas where its presence amounts to 25%
 2- Restoration or recruitment by interplanting and reforestation
 on sites offering great potential

Target:

Regional:
 1- 100% of areas where yellow birch is present on appropriate

sites

2- a total of 100 ha/yr (30,000 saplings/yr) of interplanting and reforestation combined to balance out over the five-year horizon

Difference: 10% (for both targets)

Scale:

Population

Landscape

MU

Other

Explanation of challenge:

In deciduous forests in Quebec, volumes of quality timber have fallen substantially and regeneration with semi-tolerant species remains a problem. This is especially true in the case of yellow birch.

Cutting of limited-diameter trees over a horizon of several decades has made substantial contributions to the reduced quality of trunks in deciduous forests since the trees harvested were essentially the finest and the largest and thus the most vigorous. In the late 1980s, gardening was introduced for the purpose of correcting the errors of the past; this cutting system did not favour the regeneration of semi-tolerant species such as yellow birch. Indeed, gardening does not involve a sufficient opening of the cover to ensure that there will be extensive regeneration of the yellow birch. Further, this silvicultural treatment is inappropriate for populations whose structure and composition of noble species have declined. (CERFO, 2007)

Explanations of indicator:

An indicator of action, rather than an indicator of state, is used because of the lengthy reaction times to the treatments and the inventory requirements needed to measure changes of state.

Tree growers can refer to the silviculture guides for a list of appropriate treatments for the yellow birch.

Description: N/A

Useful definitions:

Ecological types: permanent combination of potential vegetation and the physical characteristics of the site.

Formulas:

Number of areas where appropriate treatments for the yellow birch have been planned divided by the number of areas in planning where the yellow birch accounts for 25% of trees, multiplied by 100

Frequency: Annual and five-year monitoring

Breakdown: N/A

Status of original indicator: Since 2010, both targets have been attained.

Explanation of target: The target is regional

Deadlines: N/A

Links to requirements in the standards:

FSC GLSL: Indicators 6.2.4, 6.2.5, 6.3.1, 6.3.2 and 6.3.14

Legal and other requirements:

1. Makes it possible to attain the objective of ecosystem development in terms of plant composition, which is provided by the SADF.
2. Makes it possible to attain the objective set by the PRDIRT, which is to reduce the 20% gap in populations where a proportion of between 0% and 50% of the land surface is covered with yellow birch within 25 years.

Strategies proposed to attain the objective set (FSC and CSA requirements, therefore to be completed only for territories certified for those standards)

Two aspects:

Maintenance:

1. To secure the long-term opportunities for yellow birch by promoting the regeneration of yellow birch (including all treatments involving training) in populations that already include a yellow birch component, when the site is appropriate in order to help make up for this species' poor representation in strata undergoing regeneration;

Strategy 1:

2. To increase the presence of yellow birch in populations;

Restoration:

- Interplanting: following cutting of populations in which yellow birch is present; where there is insufficient natural regeneration; in populations following cutting where there is no yellow birch on sites that are most conducive to its growth;
- Reforestation: in association with certain companion species on the best sites; on other appropriate sites (refer to ecological types, silviculture guides and the literature).

Strategy 2:

N/A

Forecasting, analytical method and hypotheses (FSC and CSA requirements, therefore to be completed only for territories certified for those standards)

Strategy 1: Action is taken directly with respect to yellow birch and the competition.

Strategy 2: N/A

Strategy adopted

Strategy 1 is adopted.

Links with other challenges (if necessary):

Significant activities for implementation of the strategy

Significant activities	Person responsible (may not be person responsible for VOIC)	Timetable
Determine all forest strata represented by yellow birch and indicate density and age categories	DOI	Fall 2012
Map the ecological types corresponding to the potential priority and secondary sites	DEX	Fall 2012
Determine the different constraints that may impact on increased representation of yellow birch in the region.	DEX	Winter 2013
Decide on a standardization strategy for each MU	DOI and BFEC	Winter 2013
In the PAFI-O, identify populations where Strategy 1 can be applied.	Forestry engineers who meet the requirements of the UG	Ongoing when sylvicultural directives are prepared

Indicator monitoring program (monitoring methodology)

Each year a balance sheet will be drawn up of what has been planned and completed for the annual report. There will also be a five-year balance sheet.

Monitoring of indicators (analysis of results)

See the appropriate monitoring record

Objective record prepared by (professional responsible):

Denis Bouillon and Guy Lesage

Approved by (manager responsible):

Pierre Ménard

Date:

14 September 2012



Objective number

Objective name

Representativeness of red oak forests

VI

VO

Date

14 September 2012

MU

071-51, 071-52, 072-51, 073-51

Origin of objective

SGE-ADF provincial

SGE-ADF regional

TGIRT

PRDIRT

Certification requirement

SADF

ADF framework

Other DGR-07

ADF criterion:

Conservation of biodiversity

ADF element (CSA standard requirement):

Diversity of ecosystems

Value (challenge):

Reduced presence of red oak forests in pure and mixed populations

Objective:

To increase the quantity of red oak in the landscape
To maintain and increase the presence of red oak in populations where this species is present and its restoration on sites that offer higher potential

Indicator:

1- In planning, provide for silvicultural treatments suitable for the red oak on areas where this species has a 25% presence
2- Restoration or recruitment by interplanting and reforestation on sites offering high potential
Regional:

Target:

- 1- in 100% of the areas where red oak is present on appropriate sites
- 2- 2- overall, 100 ha/yr (30,000 saplings/yr) of interplanting and reforestation combined to balance out over the five-year period

Difference:

10% (for both targets)

Scale:

Population

Landscape

MU

Other

Explanation of challenge:

Like stands of white pine, those of red oak occupy xeric sites, usually on mountain tops, and are maintained naturally by fire. Given its ecological versatility, red oak may occupy poor and rich mesic sites (Gagnon *et al.*, 2003 in Doyon et Bouffard, 2009a). Where no fires occur, sugar maple tends to invade stands of red oak (Doyon et Bouffard, 2009a).

Red oak is a species that is highly coveted by the deciduous forestry industry for the quality of its wood in cabinet-making. Exploitation of the species over the last century has helped substantially to reduce its presence throughout northeastern North America. Cutting methods have not favoured its regeneration and efforts to recreate this asset have hitherto been rather modest in Quebec.

Explanation of indicator:

An indicator of action, rather than an indicator of state, is used because of the lengthy reaction times to a treatment and the inventory requirements needed to measure changes of state.

Tree growers can refer to the silviculture guides for a list of appropriate treatments for the red oak.

Description: N/A

Useful definitions:

Ecological types: permanent combination of potential vegetation and the physical characteristics of the site.

Formulas:

Number of areas where appropriate treatments for the red oak have been planned/number of areas in planning where the red oak accounts for more than 25% of trees X 100

Frequency: Annual and five-year monitoring

Breakdown: N/A

Status of original indicator: Both targets have been attained since 2010

Explanation of target: The target is regional

Deadlines: N/A

Links to requirements in the standards:

FSC GLSL: Indicators 6.2.4, 6.2.5, 6.3.1, 6.3.2 and 6.3.14

Legal and other requirements:

1. Makes it possible to attain the objective of ecosystem development in terms of plant composition, which is provided by the SADF.
2. Makes it possible to attain the objective set by the PRDIRT, which is to reduce the gap between forests in the first 10-year inventory for areas where red oak occupies 25% or more of the land surface by 20% over 25 years (5,000 hectares).

Strategies proposed to attain the objective set (FSC and CSA requirements, therefore to be completed only for territories certified under those standards)

Two aspects:

Maintenance:

1. To secure and regularize the long-term opportunities for red oak:
 - To extend the turnover of dense old stands of oak to make up for the low percentage of strata represented by categories of earth surfaces by 25% or less. Planting treatments may be applied to strata that are 50 years old or more (for example, in the case of commercial thinning).
 - To promote the regeneration of red oak (including all training treatments) in populations that already have a red oak component, when the site is appropriate to help make up for the poor representation of regenerating strata;
2. To increase areas of red oak in production;
3. To increase the amount of red oak in populations;
4. To maintain the existing integrity of large bodies and promote their environmental improvement;
5. To identify old dense stands of oak and develop them through sylvicultural techniques capable of maintaining them.

Strategy 1:

Restoration:

- Interplanting: following cutting in populations in which red oak is present; where natural regeneration is inadequate; in populations where cutting has taken place where there is no red oak on sites that are most conducive to its growth;
- Reforestation: in association with certain companion species (e.g. in poplar stands) on the best sites; on other appropriate sites (refer to ecological types, sylviculture guides and the literature).

Strategy 2:

Use of directed burning and weed-killers are methods that could be used to attain the targets adopted.

Forecasting, analytical method and hypotheses (FSC and CSA requirements, therefore to be completed only for territories certified under these standards)

Strategy 1:

The age at which populations already containing red oak are exploited will be pushed back.

Direct action will be taken with respect to recruitment of red oak.

Strategy 2:

Allows for the creation of sites conducive to regeneration and eliminates competition from other plants.

Strategy adopted

Strategy 1 is adopted.

Links with other challenges (where necessary):

A similar approach is used for white pine.

Significant activities for implementation of the strategy

Significant activities	Person responsible (may not be person responsible for VOIC)	Timetable
Determine all forest strata represented by red oak and indicate density and age categories.	DOI	Fall 2012
Map the types of ecology corresponding to the potential priority and secondary sites.	DEX	Fall 2012
Determine the different constraints that may impact on increased representation of red oak.	DEX	Winter 2013
Decide on a standardization strategy for each MU	DOI and BFEC	Winter 2013
In the PAFI-O, identify populations where Strategy 1 can be applied.	Forestry engineers who meet the requirements of the UG	Ongoing when silvicultural directives are prepared

Indicator monitoring program (monitoring methodology)

Each year a balance sheet will be drawn up of what has been planned and completed for the annual report. There will also be a five-year balance sheet.

Monitoring of indicators (analysis of results)

See the appropriate monitoring record

Objective record prepared by (professional responsible):

Denis Bouillon and Guy Lesage

Approved by (manager responsible):

Pierre Ménard

Date:

14 September 2012



Objective number

Objective name

Wetlands

VI

VO

Date

14 September 2012

MU

All MUs in the region

Origin of objective

SGE-ADF provincial

SGE-ADF regional

TGIRT

PRDIRT

Certification requirement

SADF

ADF framework

Other

ADF criterion: Conservation of biological diversity (diversity of ecosystems)

ADF element (CSA standard requirement): Species diversity; protected areas and sites of biological interest

Value (challenge): Diversity and integrity of wetlands of interest for conservation purposes

Objective: To protect wetlands of interest for conservation purposes

Indicator: Proportion of area of wetlands of interest appropriately defined that are subject to conservation measures included in the forest development plan (PAFI).

Target: Wetlands of up to 12% by area of the total area of wetlands in a development unit.

Acceptable variance: The target is a minimum threshold.

Scale:

Population

Landscape

MU

Other

Explanation of challenge:

Wetlands are recognized for their great biological diversity, both because of the variety of species to which they are home and because of the wide range of wildlife habitat and plant communities they include. The rarest wetlands are likely to provide an essential environment for many species, some of which are considered to be endangered or vulnerable in Quebec. Wetlands also perform important ecological and hydrological functions and have a major impact on the carbon cycle.

Some wetlands are of great ecological value. Such environments may be recognized because they display a combination of remarkable attributes including particular plant composition, the presence of endangered or vulnerable species, a singular structure (plant stratification, height, density, etc.), and the

richness of the soils or their hydrology.

Explanation of indicator:

In each of the development units (UA), an analysis will be conducted of the ecological interest of the different kinds of wetlands in order to determine the most interesting wetlands for conservation purposes. These analyses will make it possible to draw up a list of wetlands of interest (MHI), which will be selected, clearly defined and included in the integrated forest management plans (PAFI) of each of the UA, which are the locations affected by this indicator.

The MHI identified can be included with those territories that already enjoy legal protection, including biodiversity reserves, aquatic reserves, portions of wetlands included in exceptional forest ecosystems (EFE), biological refuges and regulated wildlife habitat or those that are subject to administrative protection (certain wildlife sites of interest (SFI), EFE projects, etc).

Description:

This indicator is designed to protect part of the wetlands of interest located on the territory of the UA. Conditions governing their protection will be included in the PAFIs.

Useful definitions:

Wetland of interest: an environment of great ecological value or of great importance for the maintenance of biodiversity (Bouchard *et al* 2010). The following criteria may be used to identify MHIs:

- rare or rarefied types at different levels of observation;
- sites that are home to endangered or vulnerable species or show great biological diversity;
- diversified combinations (groupings of several kinds of wetland);
- wetlands of great integrity (little disturbed by humans);
- interest recognized locally (experts, NGOs, TGIRT...).

Formulas:

Proportion of wetlands protected	=	$(\text{Area}_{\text{MHI}} \div \text{total Area}) \times 100$
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MHI: area of defined MHIs subject to conservation measures included in the PAFI.

total Area: total area of territory of a UA covered by wetlands

Timeline: Five-yearly checking of compliance with threshold set

Breakdown: By UA

Status of original indicator:

UA	Area of wetlands	Area of wetlands already protected (ha)	Proportion of wetlands already protected
071-51			
071-52			
072-51			
073-51			
073-52			
074-51			

Explanation of target:

Table of area targets for each UA

Concept of time:

The wetlands analysis will be completed by 2014 in order to identify the MHIs. These will then be included in the PAFIs. The PAFIs will indicate the conditions of protection applying to these environments.

The sustainable forest development strategy (SADF) provides that by 2015, the Department of natural resources and wildlife will have in place the necessary legal and administrative resources to provide permanent protection for these wetlands.

Links to requirements in standards:

FSC GLSL:

Principle 6 of the standards, particularly the criteria governing species in precarious situations, criterion 6.5.1 (standards for forestry activity) and criterion 6.4, to the extent that it is ensured that these parts of the territory contribute to the system of protected areas in Quebec.

MHIs are also one of the values used in identifying forests of high conservation value (FHVC) (principle 9).

Principe 1.3: compliance with international agreements (e.g. RAMSAR Convention on Wetlands)

Legal and other requirements:

Some wetlands (marsh, marsh with brush and young peat bogs with ponds) are currently protected under the Regulation respecting standards of forest management for forests in the public domain (RNI). This protection will be maintained or improved by the Regulation respecting sustainable development in government forests (RADF).

Alterations in the ecological functions performed by wetlands and river banks in developed forests is one of the challenges to ecosystemic forest management identified by the SADF, which also introduced the concept of wetlands of interest and plans to identify and protect MHIs up to and including 1% of the territory of the UAs or 12% of the area of wetlands. According to the approaches taken by the SADF, these issues must accordingly be dealt with when the PAFIs are developed. Recommendations concerning analyses and development for this issue are given in Parts I and II of the guide *Intégration des enjeux écologiques dans les plans d'aménagement forestier intégré* [Inclusion of ecological issues in integrated forest management plans].

Strategies proposed to attain the objective set (FSC and CSA requirements, therefore to be completed only for territories certified under those standards)

- Ecological criteria:** Ecological criteria will be established to determine the characteristics sought in identifying and defining rare wetlands or wetlands of interest.
- Wetlands of interest** will be identified for the 6 UAs in the region. Specific conditions governing protection for wetlands of interest will be identified and included in the PAFIs.
- Strategy 1:** The MRNF will co-operate with the MDDEP to ensure recognition of the MHIs as a new category of protected area. As far as possible, the MHIs will be suggested as candidates as protected areas under the regional approach to identifying protected areas.
- Strategy 2:** No other strategy can be contemplated for attaining the target that we have set.
-

Forecasting, analytical method and hypotheses (FSC and CSA requirements, therefore to be completed only for territories certified for these standards)

Strategy 1: It is estimated that specific conditions applied to 12% of the wetlands in each UA will help maintain the representative nature of their biodiversity.

Strategy 2: N/A

Strategy adopted

Strategy 1 is adopted.

Links with other challenges (where necessary) :

Protection of the MHIs should contribute to the challenge of ``protecting endangered and vulnerable species``. Indeed, many endangered or vulnerable species are associated with wetlands and river banks. Better protection of wetlands should make it possible to maintain adequate habitats for the species in question.

Significant activities for implementation of the strategy

Significant activities	Person responsible (may not be person responsible for VOIC)	Timetable
Draw up a picture of the wetlands for each UA	DEX-DOI	Done
Define the ecological criteria that can be used to define the most interesting wetlands (for rareness, diversity or representative nature) and define the wetlands	DEX	Fall 2013
Do the geomatics work of identifying wetlands of interest in accordance with the ecological criteria defined in the previous activity	DEX	Fall 2013
Final selection of wetlands of interest	DAR-DEX-DOI	December 2013
Define measures to protect these wetlands and include them in the PAFIs.	DEX-DOI	Winter 2014
Follow up with departmental panel on protected areas, map the MHIs so that they can be advanced as 'lands of interest' under the regional process for reserving land for the purpose of protected areas and the stakeholders	DAR	Winter 2014

Indicator monitoring program (monitoring methodology)

Prepare a balance sheet of the area of protected wetlands that have been properly defined and are subject to protection measures in the PAFI.

Monitoring of indicators (analysis of results)

See the appropriate monitoring record

Objective record prepared by (professional responsible):

Paméla Garcia Cournoyer

Approved by (manager
responsible):

Pierre Ménard

Date:

14 September 2012



Objective number

Objective name Representativeness of white pine forests

VI VO

Date 14 September 2012

UA 071-51, 071-52, 072-51, 073-51, 073-52, 074-51

Origin of objective

SGE-ADF provincial	<input type="checkbox"/>	SGE-ADF regional	<input type="checkbox"/>	TGIRT	<input checked="" type="checkbox"/>	PRDIRT	<input checked="" type="checkbox"/>
Certification requirement	<input type="checkbox"/>	SADF	<input checked="" type="checkbox"/>	ADF framework	<input type="checkbox"/>	Others	<input type="checkbox"/>

ADF criterion: Conservation of biodiversity

ADF Element (CSA standard requirement): Diversity of ecosystems

Value (challenge): Rareness of white pine forests in pure and mixed populations

Objective: To increase quantities of white pine in the landscape
To maintain and increase the presence of white pine in populations where this species is present and restore it to sites offering greater potential.

Indicator: 1- In planning, provide appropriate silvicultural treatments for pine in areas where pine is present and accounts for more than 10%
2- Restore or recruit through interplanting and reforestation on sites offering great potential

Target: Regional:
1- On 100% of areas where white pine is present on appropriate sites
2- Overall, 1,000 ha/yr (1,000,000 saplings/yr) in interplanting and reforestation combined to balance out over the five-year horizon

Difference: 10% (for both targets)

Scale:Population Landscape UA Other

Explanation of challenge:

White pine is a species that is highly coveted by the forestry industry because of its large size, the quality of its wood and its majestic appearance. Its presence in the landscape is always appreciated. Exploitation of this species during the 19th century and at the start of the 20th century had the effect of substantially reducing its presence in the landscape of northeastern North America. Cutting methods did not promote its regeneration and efforts to recreate this asset have hitherto been rather modest in Quebec.

Benefiting from major fires in the late 19th century, the Outaouais rebuilt the largest stocks of white pine in Quebec. 2/3 of the strata of white pine in the Outaouais are found in populations that are 90 years old or more, 28% in the age group from 50 – 70 and only 6% of pine strata are found in the 0 – 30-year old group. Five (5) percent of the area of forest is covered by populations whose cartographic indicator in the forest inventory for the third 10-year period identifies white pine as a component.

The best potential for the establishment and growth of this species is found in ecology types RP12 and RP10, which account for 13% of the forested areas in the region. These are located primarily on the sides of navigable waterways and lakes, both areas that were heavily exploited in the 19th century for floating logs to their destination. Ecology types FC10 and MJ10 are considered potential secondary sites and account for 31% of total forested area. Potential for restoration is enormous.

Explanation of indicator:

An indicator of action, rather than an indicator of state, is used because of the lengthy reaction times to a treatment and the inventory requirements needed to measure changes of state.

Tree growers can refer to the silviculture guides for a list of appropriate treatments for pine.

Description: N/A

Useful definitions:

Ecology types: permanent combination of potential vegetation and physical characteristics of the site.

Formulas:

Number of areas where appropriate treatments for pine have been planned/

Number of areas in planning where white pine accounts for more than 10% of the trees X 100

Frequency: Annual and five-yearly monitoring

Breakdown: N/A

Status of original indicator: Both targets have been attained since 2012

Explanation of target the strategy is regional

Deadlines: N/A

Links with standard requirements:

FSC GLSL: indicators 6.2.4, 6.2.5, 6.3.1, 6.3.2 and 6.3.14

Legal and other requirements:

1. Makes it possible to attain the objective of ecosystem development with respect to plant composition, which results from the SADF.
2. Makes it possible to attain the objective set by PRDIRT to increase areas where white pine grows to more than 25% of the land surface and 20% over a 25-year horizon (17,000 hectares).

Strategies proposed to attain the objective set (FSC and CSA requirements, therefore to be completed only for territories certified for those standards)

Two aspects:

Maintenance:

Strategy 1:

1. To secure and regularize the long-term opportunity for white pine:
 - To extend the turnover of dense old stands of oak to make up for the low percentage of strata represented by the 50 – 70 age group. Planting treatments may be applied to strata that are 90 years old or more;
 - To promote the regeneration of white pine (including all training treatments) in populations that already have a white pine component, when the site is appropriate and thus to make up for the low numbers of regenerating strata;
2. To increase areas on which white pine is produced;
3. To increase the presence of white pine in populations;
4. To maintain the exiting integrity of large bodies of trees and to promote connections among them;
5. To identify dense old stands of pine and develop them through silvicultural treatments capable of maintaining them.

Restoration:

- Interplanting: following cutting in populations in which white pine is present; if there is too little natural regeneration; in populations after partial cutting or where there is no white pine on the sites most conducive to its growth;
- Reforestation: in association with certain companion species (e.g. in stands of poplar) on the best sites; on other appropriate sites (refer to ecology types, silvicultural guides and the literature).

Strategy 2:

Use of directed burning and weed-killers are methods that could be used to attain the targets set

Forecasting, analytical method and hypotheses (FSC and CSA requirements, therefore to be completed

only for territories certified for these standards)

Strategy 1: The age at which populations already containing white pine are harvested will be moved back.

Direct action will be taken with respect to recruitment of pine.

Strategy 2: Allows for the creation of sites conducive to regeneration and eliminates competition from other plants.

Strategy adopted

Strategy 1 is adopted.

Links with other challenges (where necessary):

A similar approach is used for red oak.

Significant activities for implementation of the strategy

Significant activities	Person responsible (may not be person responsible for VOIC)	Timetable
Identify all forest strata represented by white pine and classify them by density and age categories.	DOI	Fall 2012
Map the ecology types corresponding to the potential priority and secondary sites.	DEX	Fall 2012
Identify the different constraints that may have an impact on the increase in the representative nature of white pine in the region	DEX	Winter 2013
Decide on a standardization strategy for each UA (staggering of age strata to make up for the 'void in strata' from 30 to 70 years old).	DOI et BFEC	Winter 2013
In PAFI-O, identify the populations to which strategy 1 will be applied.	Forestry engineers who meet the requirements of the UG	Ongoing when sylvicultural directives are prepared

Indicator monitoring program (monitoring methodology)

Each year a balance sheet will be drawn up of what has been planned and implemented through the annual reports. A five-year balance sheet will also be drawn up.

Monitoring of indicators (analysis of results)

See the appropriate monitoring record

Objective record prepared by (professional responsible): Denis Bouillon

Approved by (manager responsible): Pierre Ménard

Date: 14 September 2012

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