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QUEBEC MUNICIPAL REGULATORY ENVIRONMENTAL PROTECTION INITIATIVES IN AGRICULTURAL AREAS

REVIEW

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Canada

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In the province of Quebec, municipal authorities, gathered within regional county municipalities (RCMs), assume a strategic role in defining and implementing environmental protection measures. RCMs are granted a variety of powers under various acts and regulations to regulate land use and management of agricultural areas within their boundaries. While the primary objective remains the development of agriculture, the RCMs are also responsible for reconciling this objective with preservation of the natural environment.

This document identifies the main regulatory initiatives taken by 71 regional county municipalities (RCMs) applicable to:

- lakes, watercourses, flood-prone areas and wetlands
- fragile or sloping soils and erosion zones
- woodlands and areas of ecological interest.

These RCMs account for more than 80% of total Quebec agricultural activity. This documents point out the wide diversity of approaches to land use and management in agricultural areas. This review examines only RCM by-laws and is not concerned with other policies and programs that RCMs may decide to adopt to support their regulatory efforts. Furthermore, this analysis makes no assumptions concerning the effective enforcement of these by-laws in each RCM. Finally, this report does not attempt to evaluate the merits or legal scope of the wording of the by-laws excerpted from the LUPDPs or ICBs of each RCM.

This document is aimed at farmers, agricultural advisors, officials of watershed authorities and members of voluntary watercourse protection organizations. It aims to provide these individuals with an additional work tool, notably by enabling them to compare, and even draw inspiration from, the sometimes innovative initiatives being taken in various parts of Quebec.

A summary table consolidating all the information analyzed is provided at the end of this document.

This document identifies the main regulatory initiatives taken by the regional county municipalities (RCMs) in Quebec to protect water, soil and woodlands in agricultural areas. It is based on a review of the complementary documents of the land use planning and development plans (LUPDPs) and interim control by-laws (ICBs)ⁱ applicable to:

- lakes, watercourses, flood-prone areas and wetlands
- fragile or sloping soils and erosion zones
- woodlands and areas of ecological interest.

The regulatory measures included in this review are those aimed at protecting natural environments in agricultural areas. However, it should be noted that some of these measures may also have other important goals for the RCMs, such as promoting the harmonious coexistence of agricultural and non-agricultural activities on their territory.

The 71 RCMs selected for the purposes of this inventory were chosen based on the predominance of agricultural activity on their territory, i.e. agricultural land makes up more than 10% of their surface area.

In fact, these RCMs account for more than 80% of total Quebec agricultural activity¹. This analysis of municipal by-laws is particularly relevant given the strategic importance of municipal environmental protection initiatives. RCMs are granted a variety of powers under various acts and regulations to regulate land use and management of agricultural areas within their boundaries. While the primary objective remains the development of agriculture, the RCMs are also responsible for reconciling this objective with preservation of the natural environment, notably by protecting aquatic and riparian environments and wetlands and controlling forest clearing.²

Although municipal initiatives are subject to the control of higher levels of government, in many ways they represent a key component of environmental interventions in agricultural areas. From a perspective of subsidiarity and effectiveness

ⁱ The land use planning and development plan (LUPDP) of a RCM is designed to provide guidelines to help the municipalities establish their urban development plan and associated by-laws. The land use planning and development plan is periodically reviewed. Since this review may extend over several years, at the start of the plan review process, a RCM may establish an interim control by-law (ICB) granting authority to prohibit, for instance, new land uses or new structures. Pursuant to the Quebec *Act respecting land use planning and development*, once the revised LUPDP is implemented, the municipalities have 24 months to adopt a concordance by-law to amend their urban development plans and urban planning by-laws. The LUPDPs are also regularly amended (changes made between major reviews); once the LUPDP is amended, the municipalities then have six months to bring their by-laws into conformity. The ICB takes precedence over municipal by-laws only when the provisions of the ICB concern the preservation of a water supply or reducing nuisances resulting from odours caused by agricultural activities (*Act respecting land use planning and development*, sections 68 and 113).

given the closer proximity of this level of government to the local situation, the RCMs can give concrete expression to the legal limits set out in the plethora of provincial regulations and policies by adapting them to their local requirements and circumstances.³ However, since these regulations and policies establish a fairly uniform basic framework,⁴ the municipalities also have some degree of latitude to innovate and go beyond the basic prescribed rules, in order to take into consideration the specific characteristics of their territory and the environments to be protected. These actions may therefore potentially result in some diversity of the rules governing agricultural practices depending on the region.

It is important to point out here the wide diversity of approaches to land use and management in agricultural areas. Concerning the protection of lakes and watercourses (littoral zone, lakeshores and riverbanks and floodplains) and drinking water catchment areas, the rules established by the provincial government set out the mandatory core duties of the RCMs. However, municipal authorities also have the latitude to go beyond these core mandates and establish rules tailored to their specific requirements and circumstances. Conversely, the protection framework established by the higher levels of government does not impose any obligations on the RCMs for the protection of woodlands and wetlands. In these cases, the RCMs that decide to adopt their own regulations must often be innovative and develop specific protection models. In these instances, a RCM may decide not to adopt any by-laws designed to protect woodlands and wetlands, but the local municipalities may decide to establish such by-laws. However, the analysis provided in this document extends only to the RCM level.

Another factor that highlights the timeliness of this review of municipal rules is the current flurry of voluntary initiatives aimed at minimizing the effects of non-point source pollution of agricultural origin. Through a wide array of programs, the federal and provincial governments support a range of initiatives concerning land use and management in agricultural areas, particularly for the conservation, restoration and stabilization of lakeshores and riverbanks.⁵ If these initiatives are not supported by or coordinated with municipal regulatory interventions, they may not be effective in generating and, especially, maintaining long-term benefits.

This review examines only RCM by-laws and is not concerned with other policies and programs that RCMs may decide to adopt to support their regulatory efforts. Furthermore, this analysis makes no assumptions concerning the effective enforcement of these by-laws in each RCM. Finally, this report does not attempt to evaluate the merits or legal scope of the wording of the by-laws excerpted from the LUPDPs or ICBs of each RCM.

This document is aimed at farmers, agricultural advisors, officials of watershed authorities and members of voluntary watercourse protection organizations. It aims to provide these individuals with an additional work tool, notably by enabling them to

compare, and even draw inspiration from, the sometimes innovative initiatives being taken in various parts of Quebec.

A summary table consolidating all the information analyzed is provided at the end of this document.

I PROTECTION OF RIVERS, LAKES AND WATERCOURSES

Lakeshores, riverbanks, the littoral zone and floodplains are at the interface between terrestrial and aquatic environments. They are ecosystems whose preservation is recognized as essential to maintaining the water quality of lakes and watercourses.

The obligations and responsibilities delegated to RCMs concerning watercourse management were initially set out in 2001 under the Quebec *Municipal Powers Act*, and revised in 2005 (Appendix 1 lists the watercourses covered by this Act). For instance, a RCM may improve and maintain a watercourse in order to ensure proper water flow or carry out work to regulate the water level of a lake.

Following the adoption of the Quebec *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*⁶ (PPLRLF) in 1988 and more specifically when the Policy was amended in 2005, the Government of Quebec formally mandated RCMs to incorporate in their by-laws the core protection framework as set out in the Policy. As of the time of writing, i.e. November 2008, 84% of the RCMs in Quebec had incorporated this framework into their by-laws.ⁱⁱ The preamble to the PPLRLF states that this policy provides a minimal prescriptive framework and does not prevent municipal authorities from adopting additional protection measures in response to specific circumstances. Conversely, exemptions to PPLRLF provisions may be granted by approving a management plan authorizing such exemptions, provided that the requirements in Chapter 5 of the Policy are met.

The Quebec *Pesticides Management Code* and the Quebec *Agricultural Operations Regulation* (AOR) also establish standards governing pesticide and fertilizer storage and application near watercourses.

I.A LAKESHORES AND RIVERBANKS

For the purposes of the PPLRLF, a lakeshore or riverbank refers to a strip of land bordering a lake or watercourse that is either 10 m or 15 m wide, measured from the high-water mark, depending on the slope and bank height (Table 1). The general principle of the Policy prohibits all structures, undertakings and works on lakeshores and riverbanks. However, this principle is limited by a number of exceptions, including some that apply specifically to the agricultural sector. **Generally, cultivation is permitted on a lakeshore or riverbank provided that a strip of vegetation 3 m wide is preserved.** Other permitted activities on lakeshores and riverbanks include aquaculture, widening of farm and forest roads, sanitation cutting and harvesting of 50% of stems 10 cm or more in diameter, provided that at least 50% of the forest cover is maintained. Harvesting of herbaceous vegetation is also permitted if the slope is less than 30%.

ⁱⁱ Source: Data provided by MDDEP, which is responsible for monitoring integration of the Policy (PPLRLF) in the RCMs' land use planning and development plans.

Table 1 : Buffer strip width, based on the slope of the lakeshore or riverbank and bank height.

	Width of the lakeshore or riverbank
Continuous slope less than 30%	10 m
Slope greater than 30% with a bank less than 5 m high	10 m
Continuous slope greater than 30%	15 m
Slope greater than 30% with a bank over 5 m high	15 m

Source: Adapted from Government of Quebec. Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains, Gazette officielle du Québec, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 1, 2005, No. 22, Order in Council 468-2005, page: 2180. O.C. 709-2008, 2008 G.O. 2, 4009

The *Agricultural Operations Regulation (AOR)* prohibits the application of fertilizers in the buffer strip, as defined by the municipality or, in the absence of a municipal standard, within 3 m of a watercourse where the total flow area is greater than 2 m², or within 1 m where the total flow area is less.

The *Pesticides Management Code* prohibits the storage of pesticides within 30 m of a watercourse or water body, and pesticide application is subject to the same standards as set out in the AOR.

All the RCMs studied, except the Abitibi-Ouest RCM, have incorporated the protection measures for lakeshores and riverbanks as proposed in the PPLRLF in their land use planning plans or in an interim control by-law.

A few RCMs have gone beyond the minimal framework established by the Policy. For instance, some RCMs have increased the width of the buffer strip to 3 m in cases of cultivation of bordering water bodies. Others have reduced the permitted harvesting of trees to 40% or even 20% of stems. For example, the Coaticook RCM limits the harvesting of trees to “[Translation] 40% of stems 10 cm or more in diameter, provided that at least 60% of the forest cover is maintained in private woodlots used for forestry or agricultural purposes.” Finally, some RCMs have added a total ban on forest clearing on a strip of varying widths around certain lakes and rivers even for cultivation, regardless of whether or not the water body is used as a drinking water supply.

The following box lists the most important regional municipal initiatives on this point.

1. Cultivation

Memphrémagog RCM: Cultivation on the shores or banks of lakes and watercourses specified on a map is prohibited. Cultivation is permitted only on the banks of intermittent watercourses, also specified, in accordance with the 3-m rule.

Beauce Sartigan RCM: Cultivation for agricultural purposes is permitted provided that **a strip of vegetation at least 5 m** wide, measured from the high-water mark, is preserved and, where there is a bank and the top of the bank is less than 5 m from the high-water mark, provided that the width of the strip of vegetation to be preserved is a minimum of 1 m wide at the top of the bank.

Robert-Cliche RCM: Cultivation for agricultural purposes is permitted; however, **a strip of vegetation at least 5 m wide shall be preserved along the edge of the Chaudière River** and 3 m wide for other watercourses and, where there is a bank and the top of the bank is less than 5 m or 3 m (watercourses other than the Chaudière River) from the high-water mark, provided that the width of the strip of vegetation to be preserved is a minimum of 1 m wide at the top of the bank.

L'Érable RCM:

Where the slope of agricultural land under cultivation adjacent to a water body is more than 20% in the direction of the water body, the buffer strip must be at least 15 m wide.

- However, when agri-environmental management practices or works are implemented in accordance with recognized techniques in order to prevent degradation of the water quality of the water body, the width of the buffer strip may be reduced to 3 m. To this end, at least two of the following types of agri-environmental practices or works must be implemented on the land in question:

1. Ploughing and crops planted perpendicular to the axis of the slope;
2. Permanent sedimentation basin, at the bottom of the slope, in order to capture sediments and prevent their migration into the water body;
3. Grassed waterway;
4. Inlet;
5. Berm;
6. Other appropriate types of management practices or works recognized by the Quebec Department of Agriculture, Fisheries and Food (MAPAQ).

Nicolet-Yamaska RCM

The buffer strip **must be 10 m wide, measured from the high-water mark, for the largest watercourses in the RCM**, i.e.:

- St. Lawrence River;
- Lake Saint-Pierre;
- Nicolet River (southwest and southeast branches);
- Bécancour River;
- Saint-François River;
- Yamaska River.

For all other watercourses, the buffer strip must be at least 3 m wide, measured from the high-water mark (HWM), and must have a minimum width of 1 m at the top of the bank.

2. Forest clearing for cultivation purposes

Bellechasse RCM and Lotbinière RCM

Intensive tree cutting, including forest clearing to create new agricultural areas, is prohibited around identified lakes. A wooded buffer strip at least 100 m wide must be preserved around these lakes.

Haut-Saint-François RCM

The provisions concerning the felling of trees along lakes and watercourses are as follows:

.. 6. **in the case of forest clearing for agricultural development, along a lake or a river, the width of the buffer strip is reduced to 10 m.**

La Nouvelle Beauce RCM

Cultivation for agricultural purposes is permitted only on the unwooded portion of the lakeshore or riverbank. A strip at least 3 m wide from the lakeshore or riverbank shall be preserved and, where there is a bank and the top of the bank is less than 3 m from the high-water mark, the buffer strip must have a minimum width of 1 m at the top of the bank.

Coaticook RCM

Harvesting of trees is limited to 40% of stems 10 cm or more in diameter, provided that at least 60% of the forest cover is maintained in private woodlots used for forestry or agricultural purposes.

3. Storage and application of pesticides and fertilizers, and livestock buildings

Rouyn-Noranda

The application of fertilizing substances and pesticides is prohibited in a 15-m buffer strip along identified rivers and lakes.

Acton RCM

Any new construction or new expansion of a pesticide storage building within 50 m of any watercourse is prohibited.

La Matapédia RCM

The spreading of liquid manure and not incorporating it in the soil is prohibited at all times within 25 m of a salmon river and within 75 m between June 15 and August 15. This rule also applies to the spreading of fresh manure left on the soil surface.

Memphrémagog RCM

The establishment of any new hog production facility or the expansion of any existing hog production facility is prohibited within a 1 km radius around Lake Memphrémagog and Lake Massawippi.

I.B LITTORAL ZONE

The littoral zone is defined as the area from the shore or bank to the centre of the lake or watercourse. Since a lakeshore or riverbank is measured from the high-water mark, **a part of the littoral zone includes the two-year flood zone**, which also corresponds to the definition of fish habitat protected by the Quebec *Regulation respecting wildlife habitats*. The prohibition on structures, undertakings and works provided for in the PPLRLF is fairly definitive, **with only a few exceptions, such as aquaculture facilities and the creation for agricultural purposes of inlet or diversion channels for the catchment of water as well as the creation of watercrossings for fording, culverts and bridges.**

All the RCMs studied, except the Abitibi-Ouest RCM, recognize this prohibition. In the Memphrémagog RCM, aquaculture facilities and the creation for agricultural purposes of inlet or diversion channels for the catchment of water are prohibited in the littoral zone; there are no exceptions. It should also be noted that there are specific problems in several RCMs in the St. Lawrence Plain, including the Maskinongé RCM, which has a substantial amount of agricultural land located in the littoral zone of watercourses in this region, including Lake Saint-Pierre.

Memphrémagog RCM

Aquaculture facilities and the creation for agricultural purposes of inlet or diversion channels for the catchment of water are prohibited in the littoral zone; there are no exceptions.

I.C FLOODPLAINS

A floodplain is defined in the PPLRLF as the area occupied by a lake or watercourse during flood periods. Floodplains are divided into two zones: high-velocity zones (20-year flood) (high risk) and low-velocity zones (moderate risk) (100-year flood). All structures, undertakings and works that are liable to alter the water regime, interfere with the free flow of water during flood periods, disturb plant or wildlife habitats or threaten the safety of persons or property are subject to prior authorization. Although structures, undertakings and works are generally prohibited in floodplains, exceptions to this principle are more numerous and more permissive than those allowed for lakeshores, riverbanks and the littoral zone. Some of these interventions require only administrative authorizations, while others, that have a greater impact, require an exemption recorded in the land use planning and development plan (LUPDP) and in the municipal by-laws before the relevant authorizations can be issued.

Table 2: Agricultural structures, undertakings and works permitted in the floodplain

High-velocity zone	<p>In the high-velocity zone, the following activities generally require only a simple municipal permit added in certain cases to a certificate of authorization:</p> <ul style="list-style-type: none"> - agricultural land drainage works - agricultural activities that do not require filling or the removal of fill. <p>However, a municipality may not issue a permit or the government may not issue a certificate of authorization to:</p> <ul style="list-style-type: none"> - expand an agricultural facility - establish commercial fishing and aquaculture facilities - develop land for agricultural or forest management activities that require filling and the removal of fill, <p>without first adopting an exemption to the plan and to the municipal by-laws.</p>
Low-velocity zone	<p>In the low-velocity zone, structures, undertakings and works require only a simple municipal permit and sometimes a certificate of authorization issued under the Quebec <i>Environment Quality Act</i> provided that they are adequately protected against floods.</p>

Source: Adapted from Government of Quebec. *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*, *Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 1, 2005, No. 22, Order in Council 468-2005, page: 2180. O.C. 709-2008, 2008 G.O. 2, 4009

The *Pesticides Management Code* controls Class 1, Class 2 or Class 3 pesticides within a flood area having a flood recurrence interval of 0-20 years and 20-100 years that is mapped and identified in a land use planning and development plan of a regional municipality.

All the RCMs studied, except the Abitibi-Ouest RCM, have adopted the provisions set out in the PPLRLF and allow land drainage works and agricultural activities that do not require filling or the removal of fill. The Deux-Montagnes RCM has been unable to apply the rules concerning flood-prone areas because a number of municipalities contest the methodology used by the *Centre d'expertise hydrique du Québec* to delimit flood-prone areas.

L'Érable RCM and the Québec Metropolitan Community have adopted significant measures that go beyond the framework established by the PPLRLF.

L'Érable RCM

Forest clearing for cultivation purposes is not permitted in the identified flood-prone areas.

Québec Metropolitan Community

In a high-velocity zone of a flood-prone area or in a zone subject to ice effects, structures, undertakings or works are prohibited, except for the following: **land drainage works, except in the area of a wetland identified in the zoning plan**

I.D FRAGILE SOILS

Outside the framework established by the PPLRLF, RCMs must identify the areas where land use is subject to specific constraints such as erosion. Several of the RCMs studied have therefore taken additional steps to protect the soils of lakeshores and riverbanks, particularly for public safety reasons, such as potential landslides. A noteworthy example is the Joliette RCM, which has used plans prepared by the *Corporation de l'aménagement de la rivière l'Assomption* (a watershed management organization) to identify particularly high-risk areas.

The following box lists the most important initiatives in this regard.

Haut-Richelieu RCM		
Environment	Degradation of lakeshores and riverbanks	
Green space	Significant	- No structures within the erosion zone. - No undertakings within 3 m of lakeshores or riverbanks. - Regeneration of the vegetation cover
	Moderate	- No structures within the erosion zone. - Maintain the vegetation cover over a width of 3 m.
	Minor or negligible	- No structures within the erosion zone.
Nicolet-Yamaska RCM		
Widths of buffer strips in mapped landslide risk areas		
When a watercourse is adjacent to a bank located in a mapped landslide risk area (1), the width of the buffer strip must be equal to or greater than twice the height of the bank, up to a maximum of 40 m.		
<u>However, for cultivation for agricultural purposes, when agri-environmental practices and works are implemented in accordance with recognized techniques in order to prevent degradation of the water quality of the watercourse, the width of the buffer strip in the slopes located within a mapped landslide risk area may be reduced to 1 m at the top of the bank.</u> To this end, a minimum of two of the following agri-environmental practices must be carried out:		
1. Maintain a permanent crop covering the entire buffer strip;		
2. Agri-environmental practices as set out in the soil and water protection guides published by government departments and/or organizations competent in this area and recommended by a professional in the field		

Joliette RCM**11.7 STANDARDS APPLICABLE IN AREAS PRONE TO EARTH MOVEMENT**

11.7.1 AREAS IDENTIFIED BY THE CORPORATION DE L'AMÉNAGEMENT DE LA RIVIÈRE L'ASSOMPTION (CARA) In the areas identified and illustrated on the CARA plans, all work is subject to the implementation standards listed in Table 1: Implementation standards specific to Class I areas. **In these areas, no work may be carried out on the banks.**

Felling of trees (6) (except sanitation cuttings and cuttings for vegetation control) Prohibited at the top of the bank in a 10-m wide buffer strip.

II PROTECTION OF DRINKING WATER

Drinking water is governed by various provincial standards, some of which clearly set out the obligations and authority of municipal authorities on this issue. The *Groundwater Catchment Regulation* (GCR) is certainly the most explicit concerning the control of agricultural activities by municipal authorities. However, there is no equivalent for surface drinking water reservoirs, such as lakes, although this has not prevented several RCMs from establishing a regulatory framework that applies to these types of reservoirs.

II.A GROUNDWATER CATCHMENT

The GCR stipulates that every catchment work installation that is not subject to the authorization of the Minister must be authorized by the municipality or RCM. Projects, such as those to supply more than 20 persons, to collect spring water or those having a capacity of 75 m³ or more per day must also receive a ministerial authorization.

The general rule prohibits **the application of fertilizer less than 30 m from any catchment work (100 m in the case of municipal wastewater sludge) and the construction of a livestock facility less than 30 m from any catchment work.** The *Pesticides Management Code* also prescribes the same standard for the storage, preparation and application of pesticides, except in the case of a water intake used for the production of spring water or mineral water, for which this distance is 100 m.

An extension of this 30-m perimeter is required in specific situations. In the case of an outdoor winter enclosure for cattle, the distance will be increased to 75 m, to the entire bacteriological protection area for livestock buildings where the catchment area is considered vulnerable, and to 300 m for the storage of animal waste directly on the ground. It is important to note that the GCR stipulates **that the application of fertilizers on the periphery of the various protection areas defined above must be carried out so as to prevent any infiltration into those areas.** If the flow rate of the source is greater than 75 m³ per day or if the catchment source is considered vulnerable, the size of the protection areas is increased based on the specific characteristics of each site.

In addition, for water distribution system supplying more than 20 persons, following two consecutive tests of drinking water quality indicating nitrate concentrations in excess of 5 mg/L, **the RCM may prohibit the application of fertilizers in specified portions of the supply area of a catchment work.** This provision, which is very broad in scope since the supply area may comprise a large area, authorizes the RCMs to notify the parties concerned so that corrective action is taken.

The vast majority of the RCMs studied have included some or all of the prescriptions of the *Groundwater Catchment Regulation* in their by-laws, with most adopting the basic 30-m perimeter. The following is an example of standard wording:

“[Translation] *All structures and/or works are prohibited within a 30-m radius of all water intakes and catchment and water distribution facilities serving a private or public water supply system (dam, pumps, distribution station, etc.). This provision does not apply to structures comprising part of the water supply system.*” (Source: Les Appalaches RCM, formerly L’Amiante RCM). Several RCMs studied have gone beyond the basic rules. In these cases, various types of measures have been adopted to protect catchment areas, such as the extension of the protection areas for fertilizer storage or application; prohibiting forest clearing and the establishment of an exclusion zone for livestock operations.

Going beyond the framework established by the GCR, the Mirabel RCM has taken a noteworthy initiative in adopting a by-law that establishes a comprehensive preventive framework concerning water protection. This by-law requires obtaining the opinion of a hydrogeologist before forest clearing for agricultural purposes can be authorized, regardless of proximity to a drinking water source.

The following box provides various examples of catchment perimeter protection measures.

Mirabel RCM

Clear cutting, for spreading manure without a soil or woodland enhancement program, is prohibited. **Cultivation is permitted conditional on the conclusions of a hydrogeological opinion prepared by a hydrogeologist concerning the impact of this forest clearing operation and of the planned cultivation on the aquifer when this operation covers an area of more than 1 ha.**

Les Moulins RCM

Immediate protection area

No application of mineral or organic fertilizers, herbicides or pesticides shall be permitted **within 100 m of a community water intake.**

Proximate protection area

No **livestock operations**, no structures for the storage of livestock waste and no application of pesticide active ingredients with leaching potential listed in the following table **shall be permitted within 300 m of a community water intake.**

Pesticide active ingredients with leaching potential

Aldicarb	Dinoseb	Metolachlor
Atrazine	Disulfoton	Metribuzin
Bensulide	Diuron	Monolinuron
Bromacil	Ethofumesate	Napropamide
Carbofuran	Ferbam	Oxydemeton-methyl
Chloroprotham	Hexazinone	Picloram
Cyanazine	Lindane	Tebuthiuron
Cycloate	Linuron	Terbacil
Dalapon	MCPA	Triadimefon
Dicamba	Metalaxyl	Trichlorfon
1,3-Dichloropropene	Methamidophos	Simazine
Difenamid	Methomyl	2,4-D
Dimethoate	Metobromuron	2,4-DB

Témiscamingue RCM

The minimum distances from a water intake (well, spring) or from a lake serving as a drinking water supply reservoir are as follows:

- New livestock operation employing liquid or semi-solid manure management: 300 m
- New livestock operation employing solid manure management: 100 m
- Former livestock operation employing liquid or semi-solid manure management: 75 m
- Former livestock operation employing solid manure management: 30 m

Kamouraska RCM

Section 25 - Specific protection provisions applicable to two water table recharge areas

This by-law identifies two groundwater vulnerability (sensitivity) areas affecting part of the municipalities of Sainte-Anne de la Pocatière and Saint-Onésime-d'Ixworth.

The following structures, activities and uses are prohibited within these two vulnerability areas:

- -All new hog production facilities;...

Shawinigan

The application of pesticides and new livestock operations employing liquid manure management are prohibited within a 300-m radius of the groundwater catchment point.

Les Basques RCM

The spreading of liquid hog manure within 300 m of a municipal groundwater intake is prohibited. In addition, pending the completion of a hydrogeological study delimiting the new (i.e. under construction) Sainte-Françoise municipal groundwater intake, spreading of liquid hog manure in the watershed located upstream of this new water intake is prohibited.

Acton RCM

The following activities are prohibited **around any groundwater catchment work** supplying a water supply system (public or private):

- the spreading of fertilizers (liquid manure, chemical or other fertilizers), or the application of herbicides or pesticides within a 100-m radius.

II.B SURFACE WATER CATCHMENT

In many RCMs, the 30-m protection area established for groundwater catchment is also applied to surface water catchment areas. For instance, in these RCMs, the complementary document mentions water intakes in general, without specifying whether they are groundwater or surface water (see the wording in the previously cited by-law adopted by Les Appalaches RCM, formerly L'Amiante RCM).

The RCMs that apply specific provisions concerning surface water protection impose a similar 30-m rule. For example, the wording from the by-law of the City of Longueuil is as follows: “[Translation] Longueuil obtains its water supply from the St. Lawrence River. The drinking water intakes located in the St. Lawrence River must be fully protected within a 30-m radius in which no structures or undertakings are permitted. Uses that represent a source of potential contamination are also prohibited. This protection shall also apply to any new surface water or groundwater drinking water intake supplying 20 persons or more. For public security reasons, the municipal water intakes are not indicated on the plans of the land use planning and development plan.”

Several RCMs have implemented more restrictive protection measures concerning surface water. For instance, the Matawinie RCM has maintained the 30-m rule while encouraging the municipalities to determine the carrying capacity of the water bodies; the wording in the complementary document reads as follows: “[Translation]... It is expected that future buffer strips will be different in the case of a lake and in the case of a well. The municipal corporations will have to determine the capacity of the water bodies to sustain development based on the following criteria:

- slopes
- access to resort areas
- water supply and sewer services
- the lake's regenerating capacity

The municipal corporations will have to establish land use densities based on the capacity to sustain development determined for each water body.”

The following box lists the most noteworthy initiatives.

Québec Metropolitan Community

SECTION 7 – MINIMUM PROTECTION STANDARDS FOR DRINKING WATER INTAKES

7.1 Standards governing fertilizer application

All soil fertilization operations (including the spreading of animal waste, farm compost or any type of fertilizing waste substances) and pasturing of livestock **are prohibited within a 15-m buffer strip measured from the high-water mark** of the sections of the Beaurivage River and of the Chaudière River identified under subsection 7.2 of section 7 of this by-law.

7.2 Standards applicable to uses and other activities with respect to watercourses used as a drinking water supply

The following activities and uses are prohibited in the buffer strips listed below:

(a) **within a 15-m buffer strip measured from the high-water mark** of the sections of the Beaurivage River and of the Chaudière River identified in Schedule L of this by-law, which is an integral part of this by-law: **any use or any activity, including any cutting of trees or shrubs, any cultivation and any removal of arable soil...**

(b) **within a 300-m buffer strip measured from the high-water mark** of any watercourse section described in paragraph (a) above:

- **new livestock facilities and their liquid or solid manure storage structures;**
- **any new structure for the storage** of paper mill waste, **chemical fertilizers** or compostable materials.

La Mitis RCM

A proximate protection perimeter (more than 30 m) may be established around a **surface water catchment work that supplies more than 20 persons**. This perimeter must be established according to proven scientific methods, approved by the Quebec Department of Environment and submitted for analysis to the *Comité consultatif agricole* if it entails any restrictions on agricultural activities.... The following is a non-exhaustive list of examples of the types of uses and activities that may be prohibited by the municipalities:

- forest clearing work, except for sanitation or selection cuttings;
- storage of hazardous products;
- **application of pesticides;**
- **spreading of animal waste, farm compost, mineral fertilizers and fertilizing waste substances;**
- **construction of a livestock facility.**

Matane RCM

Additional protection perimeters adapted to each municipal drinking water supply source may apply in addition to the immediate protection perimeter of 30 m. The following activities are prohibited within additional protection perimeters:

- forest clearing work, except for sanitation cutting;
- **spreading activities (mineral fertilizers, animal waste, farm compost, de-icing salts, residues from septic tanks or sewage treatment lagoons, etc.);**
- **livestock rearing activities.**

Matapedia RCM has adopted a by-law similar to the Matane by-law.

Acton RCM

The following are prohibited **around any surface water catchment work** supplying a water supply system (public or private):

- within a 50-m radius, any structures, except those necessary to operate the water intake and water supply system;
- within a 100-m radius, the spreading of fertilizers (liquid manure, chemical or other fertilizers), or the application of herbicides or pesticides.

Haut-Saint-François RCM

Provisions governing **the felling of trees near a watercourse used as the drinking water supply** of a water supply system and areas of ecological interest

For the purposes of this section, this provision applies only to Big Hollow Creek, Willard Creek (Westbury), Racey Creek (Eaton Township), Weedon Creek and Lac du Fer à cheval.

In a minimum buffer strip of 150 m, measured from the natural high water mark of a watercourse used for the drinking water supply of a water supply system, **only the cutting of commercial tree species according to a plan involving the uniform harvesting of no more than 40% of the volume of commercial wood is permitted per 10-year period.**

This provision applies to the section of the watercourse located upstream of the water intake and within a 150-m radius around said water intake.

D'Autray RCM

The minimum standards adopted in order to protect a surface water body or a groundwater source used as the drinking water supply for a group of homes or a municipality are as follows:

.....

3- Prohibit the establishment of livestock operations, exercise yards, manure storage and spreading sites:

- within 30 m for a drinking water supply source located in rocky terrain,
- within 150 m for other types of terrain.

4- Prohibit the application of chemical fertilizers, insecticides and herbicides used for agricultural, residential or commercial purposes: 1991-05-13, By-law. 47-7, s. 7

- within 30 m of the drinking water source when the source is located in rocky terrain,
- within 150 m of the drinking water source for other types of terrain.

Papineau RCM

The protection perimeters for each of the municipal water intake sites identified on Map 2 ... are as follows and the minimum applicable standards are described in the following subsections of this section.

Water intake site of the municipality of ...	Protection perimeter
Saint-Sixte	immediate
Plaisance	immediate
Notre-Dame-de-la-Paix	proximate
Village of Ripon	proximate
Montpellier	proximate
Village and Parish of Saint-André-Avellin	proximate
Papineauville	proximate
Val-des-Bois	riparian
	riparian

Immediate protection area

All activities are prohibited within a 30-m perimeter of the municipal water intake site. This perimeter must be fenced and padlocked.

Proximate protection area

In addition to the standards governing the immediate protection area, the following activities are prohibited within a 100-m perimeter of the municipal water intake site:

- (A) Any activity resulting in the emission or deposition of persistent and mobile contaminants.
- (B) The spreading, application and storage of chemical fertilizers, manure, compostable matter and pesticides.

Riparian protection area

In addition to the standards governing the immediate and proximate protection areas, no tree cutting shall be permitted within a 100-m wide strip around the lakes supplying the municipal water intakes.

Matawinie RCM

7. WATER QUALITY MANAGEMENT STANDARDS AND GUIDELINES

7.1 DRINKING WATER INTAKES:

1. Drinking water intakes shall be protected by a buffer strip at least 30 m wide, and the municipal corporation shall enact urban planning by-laws to this end.
2. The municipal corporations may subsequently broaden this protection measure based on the characteristics of the water intake. It is expected that future buffer strips will be different in the case of a lake and in the case of a well.

7.2 WATER BODIES' CARRYING CAPACITY:

1. The municipal corporations **will have to determine the capacity of the water bodies to sustain development based on the following criteria:**
 - slopes
 - access to resort areas
 - water supply and sewer services
 - the lake's regenerating capacity
2. The municipal corporations will have to establish land use densities based on the capacity to sustain development determined for each water body.

III PROTECTION OF WETLANDS AND ORGANIC SOILS

The term “wetlands” covers a wide range of ecosystems such as ponds, marshes, swamps and bogs. These are natural sites that are flooded or saturated with water for a sufficiently long period of time to affect the soil structure and geochemistry as well as the composition of the vegetation. Wetlands are essentially transitional environments between terrestrial and aquatic environments. They are generally found along the shores of or adjacent to lakes, watercourses, estuaries or the sea, or isolated in poorly drained depressions. Most are of natural origin, while others are the direct or indirect result of human intervention.⁴

III.A WETLANDS

The second paragraph of section 22 of the Quebec Environment Quality Act⁷ deals specifically with wetlands. Hence, in addition to urban planning by-laws that apply to wetlands within the boundaries of a municipality, the implementation of projects in these environments is subject to the requirement of obtaining a certificate of authorization from the Quebec Department of Sustainable Development, Environment and Parks (MDDEP). This department has established a decision-making process for issuing certificates of authorization⁸ which determines the value of a wetland based on its size, the existence of a hydrographic connection with a watercourse or lake, and the presence of threatened or vulnerable species. The importance of the size criterion is determined on the basis of the wetland’s location. For instance, in the St. Lawrence Lowlands (SLLL) and in the Lake Saint-Jean Plain (LSJP), smaller wetlands are considered in the same classes as wetlands twice their size located outside these two geographic units.

Table 3: Processing requests for authorization of projects in wetlands

Type of project	Action required ^a
<ul style="list-style-type: none">- Located in an isolated wetland (with no hydrological connection with a watercourse or lake), and- No threatened or vulnerable species present, and Has an area of less than 0.5 ha in SLLL ^b and LSJP ^b and of 1 ha elsewhere	No specific mitigation measure
<ul style="list-style-type: none">- Located in an isolated wetland (with no hydrological connection with a watercourse or lake), and- No threatened or vulnerable species present, and- Has an area of 0.5 to 5 ha in SLLL^b and LSJP^b and of 1 to 10 ha elsewhere	Find another site or compensate for the losses on this site by preserving another site
<ul style="list-style-type: none">- Located in a wetland with hydrological connections with a watercourse or lake, or- Threatened or vulnerable species are present, or it is a bog, or- Has an area of more than 5 ha in SLLL and LSJP and of more than 10 ha elsewhere	A comprehensive and territorial assessment of the project is required

^a: The information provided in this column constitutes a summary. For more precise and detailed information, see the following MDDEP document: *Traitement des demandes d'autorisation des projets dans les milieux humides* available at the following Web site: Ministère du Développement durable, de l'Environnement et des Parcs; eau, milieux aquatiques, humides et riverains; milieux humides. <http://www.mddep.gouv.qc.ca/eau/rives/entrepreneur/Milieuxhumides.pdf>. (Last consulted: October 6, 2008). [French only]

^b: SLLL: St. Lawrence Lowlands. LSJP: Lake Saint-Jean Plain

In 2006, Ducks Unlimited finished drafting regional wetland conservation plans for the Chaudière-Appalaches, Montérégie and Centre-du-Québec regions. The plans for the Estrie, Outaouais, Lanaudière and Laurentides regions were completed in 2007, while the plans for the Mauricie, Capitale Nationale and Bas-Saint-Laurent regions will be released in the fall of 2008. The plans for the Saguenay and Abitibi-Témiscamingue regions are under development (Appendix 2 lists the RCMs of the various regions). Of the various documents available for identifying wetlands on a given territory, these regional plans list, for each RCM, wetlands larger than 1 ha, identify the pressures on these environments and their consequences on the wetland. Ducks Unlimited also suggests potential solutions to each RCM to help protect these sites. Following the production of these plans, several

RCMs approached this organization to survey smaller wetlands. The various RCMs are therefore now equipped to establish conservation measures in these environments.⁹

In 2005, the Quebec government recommended that the RCMs “[Translation] *make specific provision, in their land use planning process, for the wetlands on their territory and adopt appropriate measures to ensure their conservation.*”¹⁰ For instance, the RCMs and municipalities can establish rules limiting certain types of works in wetlands.

Wetland protection varies considerably from one RCM to another and from one local municipality to another. The majority have not adopted any specific protection measures. However, we note that wetlands adjacent to a lake or watercourse are protected under the PPLRLF (two-year flood zone). This is a category that includes many marshes, shrub swamps, and even silver maple forested swamps.

About a dozen RCMs protect several sites specifically identified as areas of ecological interest. For instance, the Vaudreuil-Soulanges RCM has delegated to the municipalities responsibility for protecting swampy areas on its territory: “[Translation] *The municipalities are required to identify the swamps and water bodies located within their boundaries. They must also develop provisions and standards to ensure the protection of these fragile environments and, if necessary, enhancement of the surrounding area.*

Finally, of all the RCMs studied, to date, about 15 have prohibited in the wetlands surveyed certain types of agriculture-related work or activities, such as the construction of livestock buildings, forest clearing, irrigation and drainage. The following box lists the main initiatives that may apply to agricultural land.

1. Protection of sites of ecological interest

Bas-Richelieu RCM: prohibits strip clearcutting in Lavallière Bay.

Bellechasse RCM: prohibits forest clearing in areas located in migratory bird stopovers as well as within a 30-m strip around these areas.

Les Collines de l'Outaouais RCM and Les Sources RCM: protect breeding grounds of the great blue heron by controlling construction and logging periods.

D'Autray RCM: protects the Lanoraie bog. No new surface or underground drainage work (except roadside ditches) is permitted in this bog; however, undertakings related to the creation of farm ponds less than 25,000 ft² (used by a farmer for irrigation) are permitted.

2. Control of construction of livestock buildings

L'Érable RCM

Establishment of a new hog production unit is not permitted within 100 m of any wetland in the L'Érable RCM. (ICB)

Nicolet-Yamaska RCM

The construction or development of new livestock facilities is prohibited in bog areas located in the Municipality of Sainte-Eulalie and delimited on Plans 27B, 27B1, 27B2 and 27B3, which are an integral part of this by-law.

Lotbinière RCM

A minimum distance of 100 m must be maintained between a hog production facility and a wetland identified on the 1:20 000 scale maps of the Quebec Department of Natural Resources and Wildlife.

L'Assomption RCM

Any new livestock facility or unit with a high odour load is prohibited within the wetlands identified under the Map 1 tab in the map appendix.

3. Control of forest clearing and cultivation

La Matapédia RCM: A 100-m wooded buffer around mudflats identified in the land use planning and development plan must be maintained intact; only sanitation cutting is permitted within this buffer.

Lotbinière RCM

Forest clearing, including forest clearing to create new agricultural areas, is prohibited within the wetlands identified on the most recent ecoforestry maps of the Quebec Department of Natural Resources (MRN). When forest clearing is carried out near the identified wetlands, a wooded buffer at least 30 m wide must be maintained around these wetlands.

Beauce-Sartigan RCM

The following standards shall apply in the wetlands and bogs identified in the revised land use planning and development plan:

(a)- **no undertakings, structures, work requiring filling or the removal of fill, irrigation or drainage, excavation or forest clearing are permitted;** only nature interpretation activities are permitted in these areas;

(b)- a 25-m buffer around swamps, marshes and bogs shall be maintained in which harvesting of a maximum of 30% of stems of commercial species, per 10-year period, is permitted.

Lévis

To ensure full protection of these bogs and wetlands, all structures, all activities, **any type of exploitation, harvesting, or work requiring the removal of fill or filling, irrigation or drainage are strictly prohibited** (except for operations with vested rights).

Forest clearing, including forest clearing to create new agricultural areas, is prohibited within the identified wetlands. A wooded buffer at least 30 m wide must be maintained around these wetlands. Only sanitation cuttings are permitted within this wooded buffer. Cutting according to a plan involving the uniform harvesting of no more than 40% of stems of commercial species, per 15-year period, is also permitted, provided that the uniformly distributed cover of the stand has a density of more than 60%.

Granit RCM

The following standards shall apply in the swampy areas identified in the map appendix:

- **No undertakings, structures, removal of fill, filling, excavation or forest clearing is permitted:** only nature interpretation activities are permitted in these areas.

The following standards apply in the territory zoned as the conservation area of the Lac des Joncs swamp, as identified in the map appendix:

- no undertakings, structures, removal of fill, filling or excavation are permitted: only nature interpretation activities and sanitation cuttings are permitted in this area.

Papineau RCM

Specific provisions concerning bogs and swamps

No structures or undertakings are permitted in a bog or swamp. In addition, **no modifications of any kind resulting in an alteration of their ecosystem shall be permitted in these areas.**

Lajemmerais RCM

No application for a felling permit will be approved for any area that falls within an area identified by the RCM as a wetland.

III.B ORGANIC SOILS

Organic soils are soils originating from wetlands. These soils are very fragile and are particularly vulnerable to erosion. Les Maskoutains RCM has adopted rules aimed at preserving organic soils particularly suited to market gardening.

Les Maskoutains RCM

The by-laws must include measures to **prohibit any reduction in organic soil basins, control forest clearing if applicable and prevent wind erosion**. The by-laws must also include measures that require that all requests for topsoil stripping to improve horticulture or market garden crops be made conditional on a report from a recognized professional expert. Local municipalities whose territory includes areas with organic soil basins that must be preserved must include the following provisions in their urban development plans and urban planning by-laws:

1. The municipalities must specifically identify organic soil basins in their urban development plans and urban planning by-laws;
2. All urban development tools must reflect the municipality's commitment to preserve these soils with a view to their enhancement or development for horticulture or market gardening purposes;
3. The by-laws must include measures **to prohibit any reduction in organic soil basins, control forest clearing if applicable and prevent wind erosion**;
4. The by-laws must also include measures that require that all requests for topsoil stripping to improve horticulture or market garden crops be made conditional on a report from a recognized professional expert.

IV PROTECTION OF WOODLANDS

The measures for controlling forest clearing near water bodies or wetlands reviewed in the preceding sections recognize the role of woodlands as a protective barrier for surface water and catchment sources. In addition to these municipal rules, MDDEP, through the *Agricultural Operations Regulation*, controls forest clearing in agricultural areas in the watersheds identified as degraded. This regulation stipulates that, in the municipalities listed in the AOR, it is prohibited to cultivate crops in wooded areas that were not cleared in 2004 or 2005 and that have never been cultivated since 1990. It should be noted that this regulation applies to 60% of the municipalities of the RCMs covered in this study (see Appendix 3), but does not apply to the others.

Apart from their role as protective barriers, woodlands have their own intrinsic value. This section will review the measures for protecting woodlands in their own right, regardless of other considerations. The *Act respecting land use planning and development* gives RCMs the authority to control the planting and felling of trees on their territory and to encourage sustainable development of private forests. In 2005, the government recommended that “[Translation] *the RCMs whose territory includes municipalities with a forest area of 30% or less immediately adopt by-laws to control forest clearing in these municipalities, while allowing cultivation on an exceptional basis*”¹¹ (see list in Appendix 2). Twenty of the 29 RCMs so identified by the government have adopted by-laws controlling forest clearing for agricultural purposes. The other nine, located mainly in Montérégie and Lanaudière, do not have any by-laws to this effect.

The measures implemented by the RCMs to control forest clearing vary significantly.

- Approximately one third of the RCMs have no measures to control forest clearing for agricultural purposes.
- Another third allow forest clearing on their territory for cultivation purposes conditional on obtaining a certificate of authorization with a recommendation from a forest engineer or an expert agronomic opinion, as the case may be.
- The final third have formally prohibited forest clearing for cultivation purposes in certain parts of their territory. Some of these RCMs specifically designate the woodlands to be protected, while others prohibit cultivation under certain specified conditions: maximum permitted forest clearing area, maintaining a certain proportion of woodlands on the same property, planting trees as a compensatory measure, etc. Several RCMs, particularly in the Chaudière–Appalaches region, prohibit forest clearing on the back of lots. The primary objective of this standard is to preserve farm woodlots in these regions and establish a wildlife corridor.

There is no automatic relationship between the regulatory efforts of the RCMs and the residual forest area on their territory. For instance, the territories with the fewest woodlands are not necessarily those that enjoy systematic protection. For example, the Vaudreuil-Soulanges RCM, in which 60% of its constituent municipalities have a forest cover of less than 30%, has no by-law concerning forest clearing on its

territory. This RCM has decided to manage woodlands by means of a policy rather than a by-law.

We have selected the main examples of RCMs that have implemented woodland protection measures that limit cultivation.

1. Controlling forest clearing through compensation measures

Bécancour RCM

Forest clearing for cultivation purposes **is prohibited in municipalities and sectors with a forest cover of 40% or less.**

Despite this prohibition, forest clearing for cultivation purposes of more than 1 ha per property assessment unit **may be permitted, provided that one or more of the following conditions are met** and that these conditions, in combination, offset the forest area to be cleared.

The compensation measures required by these conditions must be carried out on the applicant's land located in the municipality or in the same sector where the forest clearing is carried out or on other land not owned by the applicant located in the same municipality or in the same sector.

- **for each hectare cleared, 1 ha of trees has been planted;**

OR

- **for each hectare cleared, 0.6 km of shelterbelts has been planted;**

OR

- for each hectare cleared, 0.5 ha of reforestation has been carried out in runs, riparian buffer strips or banks;

OR

- a combination of two or all three conditions that, together, yield an area equivalent to the area to be cleared.

Provisions concerning the establishment of livestock facilities other than hog production in a forested area

A new livestock facility may be established in a forested area provided the following provisions are met:

When the area to be cleared is larger than 1 ha, a certificate of authorization is required and the application must include the following documents:

- the information stipulated in subsections 1, 2, 3 and 4 of section 17.1, with the requisite modifications;

- a site plan of the building and auxiliary structures such as the storage facility;

- if the planned facility is to be located in a maple stand identified on the ecoforestry map, the applicant must submit with the application an authorization or expert opinion from the CPTAQ.

Forest clearing for cultivation purposes **is permitted in the municipalities and sectors that have a forest cover of more than 40%**, provided that the residual wooded area represents at least 40% of the total area of the property assessment unit.

L'Assomption RCM

Conversion of forest use to an agricultural activity

Notwithstanding the provisions of section 10.2, a recognized agricultural producer may, on his/her property, **exercise on one occasion only the right to clear a maximum area of 3 ha without ever exceeding 10%** of the wooded area of that property in order to create a cultivable area. The first of the two conditions met (3 ha or 10%) constitutes the limit of this authorization.

On a single-block property, clearing of an area larger than that authorized under the preceding subsection is permitted provided that for each hectare of forested area cleared, 1 ha of trees is planted. If the plantation is located in whole or in part outside the territory subject to section 10.1, the property owner undertakes in a notarial act to maintain this plantation in future.

2. Control of forest clearing associated with the development of livestock operations

La Nouvelle Beauce RCM

Forest clearing for cultivation purposes

Clearcutting, regardless of the surface area, is permitted provided that a certificate of authorization is obtained and the following conditions are met:

(a) **The area to be cleared must not be required due to an increase in the number of animal units.**

(b) The area to be cleared must be located within an area zoned as agricultural, agricultural with restrictions or agroforestry in the major land use zoning plans and the Chaudière sector of the revised land use planning and development plan.

(c) Clearcutting may not be carried out in a maple stand.

(d) In the municipality of Sainte-Marguerite, the total area to be cleared must not exceed 40% of the existing woodland area, excluding maple stands.

3. Control of back lot forest clearing

Bellechasse RCM

22. BACK LOT WOODED BUFFER

A wooded buffer 200 m deep, measured from the rear property line, must be preserved during intensive tree cutting for the purpose of creating new agricultural areas. Only sanitation cuttings are permitted. Cutting according to a plan involving the uniform harvesting of no more than 40% of the stems of commercial species, per 10-year period, is also permitted provided that the uniformly distributed coverage of the stand has a density of more than 60%.

L'Islet RCM

In the municipalities of L'Islet, Saint-Aubert, Sainte-Louise, Saint-Jean-Port-Joli and Saint-Roch-des-Aulnaies, intensive cutting, forest clearing and grubbing, to create new agricultural areas, are prohibited within an area of 200 m measured from the rear property line.

La Nouvelle Beauce RCM

Rear property lines

A 100-m wooded buffer must be preserved at the back of the lot, parallel to the property line.

The following activities are permitted within this wooded buffer:

- Forest clearing according to a plan involving the harvesting of no more than 40% of the stems of commercial species per 10-year period;
- Construction of a boundary ditch with a maximum width of 5 m;
- Construction of an access road with a maximum width of 6 m.

The wooded buffer is reduced to 30 m when the construction of a ditch and an access road is required.

4. Other examples

L'Érable RCM

Forest clearing for agricultural purposes is prohibited:

- In a plantation established less than 30 years ago;
- In a plantation established less than 20 years ago for fast-growing species;
- In a woodland in which any kind of precommercial thinning has been carried out in order to promote growth of young trees if this intervention was carried out less than 15 years ago;
- In a woodland in which any kind of commercial thinning has been carried out in order to promote tree growth if this intervention was carried out less than 10 years ago.

After this time period, this by-law continues to apply in full.

Despite the foregoing prohibitions, clearcutting may be authorized if a silvicultural prescription signed by a forest engineer attests that the condition of the plantation or woodland is such that clearcutting is the only conceivable solution.

Wooded buffer around new livestock facilities

If a new livestock facility is established in a woodland, a 20-m wooded buffer must be preserved.

Maintaining forest cover in agricultural areas

In order to maintain forest cover in agricultural areas and minimize the loss of natural habitats and/or habitat fragmentation, agricultural clearing is subject to the following provisions:

A. During agricultural clearing, a 100-m wooded buffer must be preserved at the *back of the property* or in the area best suited to maintaining the continuity of forest corridors. Tree harvesting operations permitted in this buffer are set out in section 5.1.2.

B. In an area zoned agricultural (dynamic sectors) as illustrated in Schedule 2, the maximum area of agricultural clearing may not exceed 60% of the wooded area of the property assessment unit concerned.

C. In an area zoned agroforestry (viable sectors) as illustrated in Schedule 2, the maximum area of agricultural clearing may not exceed 31% of the wooded area of the property assessment unit concerned.

D. The residual forest cover, i.e. the woodland remaining after the agricultural clearing, must be planned and distributed so as to comply with paragraph A of section 5.1.13 and section 5.1.5.

E. If it is demonstrated by an agronomic plan or an agricultural engineer's plan that the property concerned by the forest clearing project has development potential for the types of crops listed in the following table and if the property owner indicates that he/she is planning to cultivate that property in the near future, the clearing area may total 60% of the wooded area of the property assessment unit even if this unit is located in an area zoned viable agricultural. The types of crops in question are as follows:

L'Érable RCM (cont'd)

CROPS ELIGIBLE FOR LESS STRINGENT RULES GOVERNING CLEARING IN AREAS ZONED VIABLE AGRICULTURAL

CROP TYPE	CROP PRODUCTS
Berries	saskatoon berries, sea buckthorn berries, elderberries, blueberries, cranberries, jostaberries, black currants, strawberries, raspberries, red currants, gooseberries, blackberries
Pome and stone fruits	cherries, pears, apples, plums and apricots
Vegetables	all, including mushrooms, except corn and vegetables not intended for human consumption
Horticultural	perennials, annuals, ornamental shrubs and trees, forest tree or fruit tree nursery
Non-traditional used to produce functional foods/nutraceuticals	ginseng, garlic, Canada yew

At no time is it permitted to clear an area larger than that required for immediate cultivation needs. Consequently, forest clearing must be carried out in stages and planned over a time span reflecting the growth of the operation and its crop space requirements.

Montmagny RCM

Intensive cutting, forest clearing and grubbing carried out in order to create new agricultural areas on land totally or partially zoned as forest are prohibited in all the local municipalities of the RCM. For the purposes of this section, wildlands are not considered areas zoned as forest.

Despite the foregoing, **existing agricultural areas may be expanded** in an area zoned as forest if a certificate of authorization is issued in accordance with sections 26 and 28 of this by-law. The maximum area that can be approved by a certificate of authorization to create new agricultural areas is 10 ha.

Bas-Richelieu RCM

All cultivation in a maple stand is prohibited. However, harvesting of trees in accordance with section 5.3.1 is permitted.

A 20-m buffer must be preserved around a maple stand. All cultivation within this 20-m buffer is prohibited.

No cultivation is permitted in the Lavallière Bay area mapped in Schedule VIII, in the Sorel islands mapped in Schedule VII and in the woodlands in the axis of the forest corridor mapped in Schedule IX.

All clearing in a white-tailed deer yard is prohibited

Clearing based on the soil's agricultural potential

Clearcutting of trees and clearing **are permitted when the required agronomic plan demonstrates that the soil has agricultural potential suitable** for cultivation, while complying with the other provisions of this by-law.

It is prohibited to undertake clearing work on slopes greater than 30% (27 degrees).

During clearing, any woodland present in **a 100-m buffer strip at the back of the property must be preserved.**

Drummond RCM

The Drummond RCM has divided its territory into four groups of municipalities and has identified the woodlands to be protected. In three of the four groups, cultivation is prohibited in the protected woodlands, while in the fourth group, cultivation is permitted under the following condition: over the next five years, a maximum of 5% of the land area owned by the same property owner in the same municipality is cleared for cultivation purposes.

In the other woodlands, the rules concerning forest clearing for cultivation varies from group to group. Some allow cultivation except in a maple stand, others limit forest clearing for cultivation purposes to 5% or 10%.

Expansion of a cultivable area

Forest clearing work for the cultivation of an area of less than 1 ha owned by the same property owner in the same municipality per five-year period is permitted in order to facilitate the use of agricultural machinery.

Rouville RCM

In this RCM, cultivation is permitted only in shade-intolerant hardwood stands, i.e. a hardwood stand in which white birch, gray birch and poplars account for more than 50% of the stems.

In shade-intolerant hardwood stands, harvesting of more than 33⅓% of the stems of commercial species on the cutting site is permitted, effective June 15, 1999, provided that the following conditions are met, depending on the part of the territory concerned:

1. In the municipalities of Marieville, Richelieu, Rougemont, Saint-Césaire, Sainte-Angèle-de-Monnoir and Saint-Mathias-sur-Richelieu, harvesting **may be carried out only for recultivation or reforestation purposes on a maximum area of 3 ha per property per eight-year period;**
2. In the municipalities of Ange-Gardien and Saint-Paul-d'Abbotsford, harvesting may be carried out **only for recultivation or reforestation purposes on a maximum area of 5 ha per property per eight-year period.**

SUMMARY TABLE

Natural environment	Legal framework	Main provisions	Example of RCMs that exceed the minimum standards
Rivers, lakes and watercourses			
Lakeshores and riverbanks	<p>PPLRLF</p> <p>AOR</p> <p><i>Pesticides Management Code</i></p>	<p>A lakeshore or riverbank is a strip 10 m or 15 m wide. All structures, undertakings and works are prohibited on lakeshores and riverbanks. This principle is limited by various exceptions, including: Cultivation is permitted on a lakeshore or riverbank provided that a strip of vegetation 3 m wide is preserved; Sanitation cutting or harvesting of 50% of stems 10 cm or more in diameter is permitted provided that 50% of the forest cover is maintained.</p> <p>The application of fertilizers is prohibited in the riparian buffer strip, as defined by the municipality.</p> <p>The storage of pesticides is prohibited within 30 m of a watercourse or water body, and pesticide application is subject to the same standards as set out in the AOR.</p>	<p>Memphrémagog RCM Beauce Sartigan RCM Robert-Cliché RCM L'Érable RCM Nicolet-Yamaska RCM Bellechasse RCM and Lotbinière RCM Haut-Saint-François RCM La Nouvelle Beauce RCM Coaticook RCM Rouyn-Noranda La Matapédia RCM Acton RCM</p>
Littoral zone	PPLRLF	<p>Permitted undertakings and works:</p> <ul style="list-style-type: none"> - Aquaculture facilities - Creation for agricultural purposes of inlet or diversion channels for the catchment of water - Creation of watercrossings for fording, culverts or bridges. 	Memphrémagog RCM
Floodplains	PPLRLF	<p>Undertakings and works permitted subject to certain conditions:</p> <ul style="list-style-type: none"> - Land drainage works - Agricultural activities that do not require filling or the removal of fill - Expansion of an agricultural facility - Establishment of commercial fishing or aquaculture facilities - Development of land for agricultural or forest management activities that require filling and the removal of fill. 	<p>L'Érable RCM</p> <p>Québec Metropolitan Community</p>

PPLRLF: *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*

AOR: *Agricultural Operations Regulation*

Natural environment	Legal framework	Main provisions	Example of RCMs that exceed the minimum standards
Drinking water			
Groundwater	GCR <i>Pesticides Management Code</i>	The application of fertilizers and the construction of a livestock facility are prohibited within 30 m of a catchment work. The storage, preparation and application of pesticides are prohibited within 30 m of a catchment work.	Les Moulins RCM Témiscamingue RCM Kamouraska RCM Shawinigan: Basques RCM Acton RCM Mirabel RCM
Surface water		30-m standard of the GCR adopted by a number of RCMs	Québec Metropolitan Community La Mitis RCM Matane RCM La Matapédia RCM Acton RCM Haut-Saint-François RCM D'Autray RCM Papineau RCM Matawinie RCM

Natural environment	Legal framework	Main provisions	Example of RCMs that have implemented measures
Wetlands	Government policy statement	The Government of Quebec recommends that RCMs "[Translation] <i>make specific provision, in their land planning process, for the wetlands on their territory and adopt appropriate measures to ensure their conservation.</i> "	Bas-Richelieu RCM Bellechasse RCM Les Collines de l'Outaouais RCM Les Sources RCM D'Autray RCM L'Érable RCM Nicolet-Yamaska RCM Lotbinière RCM L'Assomption RCM La Matapédia RCM Lotbinière RCM Beauce-Sartigan RCM Lévis Granit RCM Papineau RCM Lajemmerais RCM
Organic soils		No by-laws or guidelines concerning agricultural activities	Les Maskoutains RCM

GCR: Groundwater Catchment Regulation

Government policy statement: *Les orientations du gouvernement en matière d'aménagement. La protection du territoire et des activités agricoles. Addenda au document complémentaire révisé* [French only]

Natural environment	Legal framework	Main provisions	Example of RCMs that have implemented measures
Woodlands	Government policy statement	The government recommends that the RCMs whose territory includes municipalities with a forest area of 30% or less “[Translation] <i>immediately adopt by-laws to control forest clearing in these municipalities, while allowing cultivation on an exceptional basis.</i> ”	Bécancour RCM L’Assomption RCM La Nouvelle Beauce RCM Bellechasse RCM L’Islet RCM L’Érable RCM Montmagny RCM Bas-Richelieu RCM Drummond RCM Rouville RCM

Government policy statement: *Les orientations du gouvernement en matière d’aménagement. La protection du territoire et des activités agricoles. Addenda au document complémentaire révisé* [French only]

APPENDIX 1: EXCERPT FROM THE QUEBEC MUNICIPAL POWERS ACT

EXCLUSIVE POWERS OF A REGIONAL COUNTY MUNICIPALITYⁱⁱⁱ

DIVISION I

WATERCOURSES AND LAKES

§ 1. — *Watercourses
Jurisdiction.*

103. *A regional county municipality has jurisdiction over continuously or intermittently flowing watercourses, including those artificially created or modified, except*

1) watercourses or parts of watercourses that the Government determines, after consultation with the Minister of Sustainable Development, Environment and Parks, by order in council that comes into force on the date of its publication in the Gazette officielle du Québec or any other later date specified in the order;

2) a ditch along a public or private road;

3) a common ditch within the meaning of article 1002 of the Civil Code; and

4) a drainage ditch

(a) used solely for drainage or irrigation;

(b) that was artificially created; and

(c) the watershed of which has an area of less than 100 hectares.

Jurisdiction.

The part of a watercourse used as a ditch remains under the jurisdiction of the regional county municipality.

2005, c. 6, s. 103; 2006, c. 31, s. 121.

ⁱⁱⁱ Source: June 2008 *Municipal Powers Act*

http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/C_47_1/C47_1.html

APPENDIX 2: LIST OF RCMS STUDIED

Montérégie

Acton
Bas-Richelieu, Le
Beauharnois-Salaberry
Brome-Missisquoi
Haute-Yamaska, La
Haut-Richelieu, Le
Haut-Saint-Laurent, Le
Longueuil
Jardins-de-Napierville, Les
Lajemmerais
Maskoutains, Les
Roussillon
Rouville
Vallée-du-Richelieu, La
Vaudreuil-Soulanges

Estrie

Les Sources
Coaticook
Granit, Le
Haut-Saint-François, Le
Sherbrooke
Memphrémagog
Val-Saint-François, Le

Abitibi-Témiscamingue

Abitibi Ouest
Abitibi
Rouyn-Noranda

Bas-Saint-Laurent

Kamouraska
Rimouski-Neigette
Rivière-du-Loup
Témiscouata
Les Basques
La Mitis
La Matapédia
Matane

Mauricie

Les Chenaux
Maskinongé
Shawinigan
Trois-Rivières (V)

Centre-du-Québec

Arthabaska
Bécancour
Drummond
Érable, L'
Nicolet-Yamaska

Lanaudière

Assomption, L'
D'Autray
Joliette
Les Moulins
Matawinie
Montcalm

Chaudière-Appalaches

Des Appalaches (Amiante, L')
Beauce-Sartigan
Bellechasse
Etchemins, Les
Islet, L'
Lévis (V)
Lotbinière
Montmagny
Nouvelle-Beauce, La
Robert-Cliche

Capitale-Nationale

Île-d'Orléans, L'
Portneuf
Quebec

Laurentides

Argenteuil
Deux-Montagnes
Mirabel
Rivière-du-Nord, La
Thérèse-de-Blainville

Outaouais

Collines-de-l'Outaouais, Les
Gatineau
Papineau

Saguenay-Lac-Saint-Jean

Lac-Saint-Jean-Est
Saguenay (V)

APPENDIX 3: MUNICIPALITIES LISTED IN THE QUEBEC AGRICULTURAL OPERATIONS REGULATION AND FOREST COVER OF THE RCMS LISTED IN “LES ORIENTATIONS DU GOUVERNEMENT”

<u>Bas-Saint-Laurent</u>	AOR		AOR		AOR
<i>Kamouraska</i>		<i>La Matapédia</i>		<i>La Mitis</i>	
Kamouraska	yes	Albertville	no	Grand-Métis	no
La Pocatière	no	Amqui	no	La Rédemption	no
Mont-Carmel	yes	Causapsal	no	Les Hauteurs	no
Rivière-Ouelle	no	Lac-au-Saumon	no	Métis-sur-Mer	no
Saint-Alexandre-de-Kamouraska	yes	Saint-Alexandre-des-Lacs	no	Mont-Joli	no
Saint-André	yes	Saint-Cléophas	no	Padoue	no
Saint-Bruno-de-Kamouraska	yes	Saint-Damase	no	Price	no
Saint-Denis	no	Sainte-Florence	no	Saint-Charles-Garnier	no
Sainte-Anne-de-la-Pocatière	no	Sainte-Irène	no	Saint-Donat	no
Sainte-Hélène	yes	Sainte-Marguerite	no	Sainte-Angèle-de-Méridi	no
Saint-Gabriel-Lalemant	yes	Saint-Léon-le-Grand	no	Sainte-Flavie	no
Saint-Germain	yes	Saint-Moïse	no	Sainte-Jeanne-d'Arc	no
Saint-Joseph-de-Kamouraska	yes	Saint-Noël	no	Sainte-Luce	no
Saint-Onésime-d'Ixworth	no	Saint-Tharcisius	no	Saint-Gabriel-de-Rimouski	no
Saint-Pacôme	yes	Saint-Vianney	no	Saint-Joseph-de-Lepage	no
Saint-Pascal	yes	Saint-Zéno-du-Lac-Humqui	no	Saint-Octave-de-Métis	no
Saint-Philippe-de-Néri	yes	Sayabec	no		
		Val-Brillant	no		
<i>Les Basques</i>		<i>Matane</i>		<i>Rimouski-Neigette</i>	
Notre-Dame-des-Neiges	no	Baie-des-Sables	no	Esprit-Saint	no
Saint-Clément	no	Grosses-Roches	no	La Trinité-des-Monts	no
Sainte-Françoise	no	Les Méchins	no	Le Bic	no
Saint-Éloi	no	Matane	no	Rimouski	no
Sainte-Rita	no	Saint-Adelme	no	Saint-Anaclet-de-Lessard	no
Saint-Guy	no	Sainte-Félicité	no	Saint-Eugène-de-Ladrière	no
Saint-Jean-de-Dieu	no	Sainte-Paule	no	Saint-Fabien	no
Saint-Mathieu-de-Rioux	no	Saint-Jean-de-Cherbourg	no	Saint-Marcellin	no
Saint-Médard	no	Saint-Léandre	no	Saint-Narcisse-de-Rimouski	no
Saint-Simon	no	Saint-René-de-Matane	no	Saint-Valérien	no
Trois-Pistoles	no	Saint-Ulric	no		
<i>Rivière-du-Loup</i>		<i>Témiscouata</i>			
Cacouna	no	Auclair	no	Saint-Honoré-de-Témiscouata	no
L'Isle-Verte	no	Biencourt	no	Saint-Jean-de-la-Lande	no
Notre-Dame-des-Sept-Douleurs	no	Cabano	no	Saint-Juste-du-Lac	no
Notre-Dame-du-Portage	no	Dégelis	no	Saint-Lyess-du-Ha! Ha!	no
Rivière-du-Loup	no	Lac-des-Aigles	no	Saint-Marc-du-Lac-Long	no
Saint-Antonin	no	Lejeune	no	Saint-Michel-du-Squatec	no
Saint-Arsène	no	Notre-Dame-du-Lac	no	Saint-Pierre-de-Lamy	no
Saint-Cyprien	no	Packington	no		
Saint-Épiphanie	no	Pohénégamook	no		
Saint-François-Xavier-de-Viger	no	Rivière-Bleue	no		
Saint-Hubert-de-Rivière-du-Loup	no	Saint-Athanase	no		
Saint-Modeste	no	Saint-Elzéar-de-Témiscouata	no		
Saint-Paul-de-la-Croix	no	Saint-Eusèbe	no		

<u>Capitale-Nationale</u>			AOR	AOR	AOR		
<i>Portneuf</i>					<i>L'Île-d'Orléans</i>		
Cap-Santé	no	Saint-Basile	no	Sainte-Famille	no		
Deschambault-Grondines	no	Saint-Casimir	no	Sainte-Pétronille	no		
Donnacoona	no	Sainte-Christine-d'Auvergne	no	Saint-François-de-l'Île-d'Orléans	no		
Lac-Sergent	no	Saint-Gilbert	no	Saint-Jean-de-l'Île-d'Orléans	no		
Neuville	no	Saint-Léonard-de-Portneuf	no	Saint-Laurent-de-l'Île-d'Orléans	no		
Pont-Rouge	no	Saint-Marc-des-Carrières	no	Saint-Pierre-de-l'Île-d'Orléans	no		
Portneuf	no	Saint-Raymond	no				
Rivière-à-Pierre	no	Saint-Thuribe	no	<i>Hors MRC</i>			
Saint-Alban	no	Saint-Ubalde	no	Québec	yes		
<u>Centre-du-Québec</u>			Wood	Wood	Wood		
<i>Arthabaska</i>		%	<i>Drummond</i>		%	<i>Bécancour</i>	%
Chesterville	yes	63	Drummondville	yes	46	Bécancour	yes 39
Daveluyville	yes	44	Durham-Sud	yes	46	Deschailions-sur-Saint-Laurent	yes 45
Ham-Nord	yes	66	L'Avenir	yes	46	Fortierville	yes 33
Kingsey Falls	yes	51	Lefebvre	yes	57	Lemieux	yes 64
Maddington	yes	44	Notre-Dame-du-Bon-Conseil	yes	40	Manseau	yes 65
Norbertville	yes	12	Notre-Dame-du-Bon-Conseil (vil)	yes	22	Parisville	yes 31
Notre-Dame-de-Ham	yes	66	Saint-Bonaventure	yes	34	Sainte-Cécile-de-Lévrard	yes 16
Saint-Albert	yes	28	Saint-Cyrille-de-Wendover	yes	29	Sainte-Françoise	yes 62
Saint-Christophe-d'Arthabaska	yes	43	Sainte-Brigitte-des-Saults	yes	23	Sainte-Marie-de-Blandford	yes 69
Sainte-Anne-du-Sault	yes	53	Saint-Edmond-de-Grantham	yes	36	Sainte-Sophie-de-Lévrard	yes 57
Sainte-Clotilde-de-Horton	yes	43	Saint-Eugène	yes	31	Saint-Pierre-les-Becquets	yes 38
Sainte-Élizabeth-de-Warwick	yes	18	Saint-Félix-de-Kingsey	yes	40	Saint-Sylvère	yes 39
Sainte-Hélène-de-Chester	yes	76	Saint-Germain-de-Grantham	yes	21		
Sainte-Séraphine	yes	46	Saint-Guillaume	yes	13	<i>Nicolet-Yamaska</i>	
Saint-Lyess-de-Blandford	yes	52	Saint-Lucien	yes	65	Aston-Jonction	yes 22
Saint-Norbert-d'Arthabaska	yes	42	Saint-Majorique-de-Grantham	yes	40	Baie-du-Febvre	yes 8
Saint-Rémi-de-Tingwick	yes	55	Saint-Pie-de-Guire	yes	28	Grand-Saint-Esprit	yes 19
Saint-Rosaire	yes	54	Wickham	yes	48	La Visitation-de-Yamaska	yes 19
Saint-Samuel	yes	31				Nicolet	yes 25
Saints-Martyrs-Canadiens	yes	86	<i>L'Érable</i>			Pierreville	yes 22
Saint-Valère	yes	36	Inverness	yes	67	Saint-Célestin	yes 31
Tingwick	yes	46	Laurierville	yes	53	Saint-Célestin (village)	yes 16
Victoriaville	yes	21	Lyster	yes	58	Sainte-Eulalie	yes 35
Warwick	yes	24	Notre-Dame-de-Lourdes	yes	53	Saint-Elphège	yes 24
			Plessisville	yes	52	Sainte-Monique	yes 24
			Plessisville (village)	yes	4	Sainte-Perpétue	yes 21
			Princeville	yes	53	Saint-François-du-Lac	yes 30
			Sainte-Sophie-d'Halifax	yes	50	Saint-Léonard-d'Aston	yes 35
			Saint-Ferdinand	yes	64	Saint-Wenceslas	yes 35
			Saint-Pierre-Baptiste	yes	62	Saint-Zéphirin-de-Courval	yes 20
			Villeroie	yes	65		

Chaudière-Appalaches	AOR	Wood		AOR	Wood		AOR	Wood
Bellechasse		%	Les Etchemins		%	La Nouvelle-Beauce		%
Armagh	yes	83	Lac-Etchemin	yes	77	Frampton	yes	75
Beaumont	yes	32	Saint-Benjamin	yes	87	Saint-Bernard	yes	26
Honfleur	yes	26	Saint-Camille-de-Lellis	no	68	Sainte-Hénédine	yes	32
La Durantaye	yes	42	Saint-Cyprien	yes	89	Saint-Elzéar	yes	51
Notre-Dame-Auxiliatrice-de-Buckland	yes	84	Sainte-Auréli	yes	87	Sainte-Marguerite	yes	53
Saint-Anselme	yes	28	Sainte-Justine	yes	83	Sainte-Marie	yes	42
Saint-Charles-de-Bellechasse	yes	30	Sainte-Rose-de-Watford	yes	83	Saint-Isidore	yes	25
Saint-Damien-de-Buckland	yes	79	Sainte-Sabine	yes	88	Saint-Lambert-de-Lauzon	yes	47
Sainte-Claire	yes	50	Saint-Lyess-de-Gonzague	yes	95	Saints-Anges	yes	60
Saint-Gervais	yes	29	Saint-Luc-de-Bellechasse	yes	92	Scott	yes	42
Saint-Henri	yes	28	Saint-Magloire	yes	88	Vallée-Jonction	yes	57
Saint-Lazare-de-Bellechasse	yes	68	Saint-Prosper	yes	70			
Saint-Léon-de-Standon	yes	77	Saint-Zacharie	yes	83	Des Appalaches (L'Amiante)		
Saint-Malachie	yes	80				Adstock	yes	74
Saint-Michel-de-Bellechasse	yes	11	Beauce-Sartigan			Beaulac-Garthby	yes	69
Saint-Nazaire-de-Dorchester	yes	85	La Guadeloupe	yes	62	Disraeli	yes	73
Saint-Nérée	yes	82	Lac-Poulin	yes	78	Disraeli (village)	yes	47
Saint-Philémon	yes	90	Notre-Dame-des-Pins	yes	68	East Broughton	yes	41
Saint-Raphaël	yes	73	Saint-Benoît-Labre	yes	59	Irlande	yes	68
Saint-Vallier	yes	23	Saint-Côme-Linière	yes	73	Kinnear's Mills	yes	80
			Saint-Éphrem-de-Beauce	yes	55	Sacré-Coeur-de-Jésus	yes	60
Lotbinière			Saint-Évariste-de-Forsyth	yes	71	Saint-Adrien-d'Irlande	yes	63
Dosquet	yes	59	Saint-Gédéon-de-Beauce	yes	77	Sainte-Clotilde-de-Beauce	yes	67
Laurier-Station	yes	36	Saint-Georges	yes	56	Sainte-Praxède	yes	86
Leclercville	yes	68	Saint-Hilaire-de-Dorset	yes	67	Saint-Fortunat	yes	72
Lotbinière	yes	35	Saint-Honoré-de-Shenley	yes	53	Saint-Jacques-de-Leeds	yes	64
Notre-Dame-du-Sacré-Coeur-d'Issoudun	yes	41	Saint-Martin	yes	60	Saint-Jacques-le-Majeur-de-Wolfestown	yes	78
Saint-Agapit	yes	33	Saint-Philibert	yes	77	Saint-Jean-de-Brébeuf	yes	74
Saint-Antoine-de-Tilly	yes	38	Saint-René	yes	86	Saint-Joseph-de-Coleraine	yes	84
Saint-Apollinaire	yes	59	Saint-Simon-les-Mines	yes	83	Saint-Julien	yes	75
Sainte-Agathe-de-Lotbinière	yes	54	Saint-Théophile	yes	79	Saint-Pierre-de-Broughton	yes	68
Sainte-Croix	yes	29				Thetford Mines	yes	62
Saint-Édouard-de-Lotbinière	yes	34	Lévis	yes	43			
Saint-Flavien	yes	36				Montmagny		
Saint-Gilles	yes	63	L'Islet			Berthier-sur-Mer	no	39
Saint-Janvier-de-Joly	yes	67	L'Islet	no	43	Cap-Saint-Ignace	no	66
Saint-Narcisse-de-Beaurivage	yes	34	Saint-Adalbert	no	34	Lac-Frontière	no	27
Saint-Patrice-de-Beaurivage	yes	48	Saint-Aubert	no	78	Montmagny	no	55
Saint-Sylvestre	yes	71	Saint-Cyrille-de-Lessard	no	88	Notre-Dame-du-Rosaire	no	95
Val-Alain	yes	70	Saint-Damase-de-L'Islet	no	81	Saint-Antoine-de-l'Isle-aux-Grues	no	27
			Sainte-Félicité	no	63	Sainte-Apolline-de-Patton	no	94
			Sainte-Lyess	no	68	Sainte-Euphémie-sur-Rivière-du-Sud	no	90
			Sainte-Perpétue	no	57	Sainte-Lucie-de-Beauregard	no	90
			Saint-Jean-Port-Joli	no	19	Saint-Fabien-de-Panet	no	90
			Saint-Marcel	no	88	Saint-François-de-la-Rivière-du-Sud	no	54
			Saint-Omer	no		Saint-Just-de-Bretenières	no	48
			Saint-Pamphile	no		Saint-Paul-de-Montminy	no	88
			Saint-Roch-des-Aulnaies	no	14	Saint-Pierre-de-la-Rivière-du-Sud	no	61
			Tourville	no	89			

Chaudière-Appalaches	AOR	Wood		AOR	Wood		AOR	Wood
<i>Robert-Cliche</i>		%			%			%
Beauceville	yes	70	Saint-Joseph-des-Érables	yes	59	Saint-Séverin	yes	81
Saint-Alfred	yes	65	Saint-Jules	yes	59	Saint-Victor	yes	55
Saint-Frédéric	yes	60	Saint-Odilon-de-Cranbourne	yes	67	Tring-Jonction	yes	52
Saint-Joseph-de-Beauce	yes	70						

Estrie

Le Granit

Audet	yes
Courcelles	yes
Frontenac	yes
Lac-Drolet	yes
Lac-Mégantic	yes
Lambron	yes
Marston	yes
Milan	yes
Nantes	yes
Notre-Dame-des-Bois	yes
Piopolis	yes
Saint-Augustin-de-Woburn	yes
Sainte-Cécile-de-Whitton	yes
Saint-Ludger	yes
Saint-Robert-Bellarmin	yes
Saint-Romain	yes
Saint-Sébastien	yes
Stornoway	yes
Stratford	yes
Val-Racine	yes

Les Sources

Asbestos	yes
Danville	yes
Saint-Adrien	yes
Saint-Camille	yes
Saint-Georges-de-Windsor	yes
Saint-Joseph-de-Ham-Sud	yes
Wotton	yes

Le Haut-Saint-François

Ascot Corner	yes
Bury	yes
Chartierville	yes
Cookshire-Eaton	yes
Dudswell	yes
East Angus	yes
Hampden	yes
La Patrie	yes
Lingwick	yes
Newport	no
Saint-Isidore-de-Clifton	yes
Scotstown	yes
Weedon	yes
Westbury	yes

Le Val-Saint-François

Bonsecours	yes
Cleveland	yes
Kingsbury	yes
Lawrenceville	yes
Maricourt	yes
Melbourne	yes
Racine	yes
Richmond	yes
Saint-Claude	yes
Saint-Denis-de-Brompton	yes
Sainte-Anne-de-la-Rochelle	yes
Saint-François-Xavier-de-Brompton	yes
Stoke	yes
Ulverton	yes
Valcourt	yes
Valcourt	yes
Val-Joli	yes
Windsor	yes

Coaticook

Barnston-Ouest	yes
Coaticook	yes
Compton	yes
Dixville	yes
East Hereford	yes
Martinville	yes
Sainte-Edwidge-de-Clifton	yes
Saint-Herménégilde	yes
Saint-Malo	yes
Saint-Venant-de-Paquette	yes
Stanstead-Est	yes
Waterville	yes

Sherbrooke

yes

Memphrémagog

Austin	yes
Ayer's Cliff	yes
Bolton-Est	yes
Eastman	yes
Hatley	yes
Hatley	yes
Magog	yes
North Hatley	yes
Ogden	yes
Orford	yes
Potton	yes
Saint-Benoît-du-Lac	yes
Sainte-Catherine-de-Hatley	yes
Saint-Étienne-de-Bolton	yes
Stanstead	yes
Stanstead	yes
Stukely-Sud	yes

Lanaudière

D'Autray

			Saint-Barthélemy	no	49	Saint-Gabriel	yes	40
Berthierville	yes	14	Saint-Cléophas-de-Brandon	yes	25	Saint-Gabriel-de-Brandon	yes	69
La Visitation-de-l'Île-Dupas	no	8	Saint-Cuthbert	yes	42	Saint-Ignace-de-Loyola	no	20
Lanoraie	yes	47	Saint-Didace	no	63	Saint-Norbert	yes	47
Lavaltrie	yes	36	Sainte-Élisabeth	yes	13			
Mandeville	yes	21	Sainte-Geneviève-de-Berthier	yes	20			

Lanaudière	AOR		AOR	Wood		AOR	Wood
Matawinie		Montcalm		%	Joliette		%
Baie-de-la-Bouteille	yes	Saint-Alexis (village)	yes	16	Crabtree	yes	20
Chertsey	yes	Saint-Alexis	yes	20	Joliette	yes	24
Entrelacs	yes	Saint-Calixte	yes	96	Notre-Dame-de-Lourdes	yes	33
Lac-des-Dix-Milles	yes	Sainte-Julienne	yes	75	Notre-Dame-des-Prairies	yes	39
Lac-Legendre	yes	Sainte-Marie-Salomé	yes	47	Saint-Ambroise-de-Kildare	yes	21
Lac-Minaki	yes	Saint-Esprit	yes	21	Saint-Charles-Borromée	yes	31
Notre-Dame-de-la-Merci	yes	Saint-Jacques	yes	23	Sainte-Mélanie	yes	61
Rawdon	yes	Saint-Liguori	yes	20	Saint-Paul	yes	36
Saint-Alphonse-Rodriguez	yes	Saint-Lin-Laurentides	yes	41	Saint-Pierre	yes	5
Saint-Côme	yes	Saint-Roch-de-l'Achigan	yes	27	Saint-Thomas	yes	21
Saint-Damien	yes	Saint-Roch-Ouest	yes	3			
Saint-Donat	yes				Les Moulins		
Sainte-Béatrix	yes	L'Assomption			Mascouche	yes	40
Sainte-Émélie-de-l'Énergie	yes	Charlemagne	yes	1	Terrebonne	yes	30
Sainte-Marcelline-de-Kildare	yes	L'Assomption	yes	24			
Saint-Félix-de-Valois	yes	L'Épiphanie	yes	30			
Saint-Guillaume-Nord	yes	L'Épiphanie	yes	5			
Saint-Jean-de-Matha	yes	Repentigny	yes	9			
Saint-Michel-des-Saints	yes	Saint-Sulpice	yes	16			
Saint-Zéno	yes						

Laurentides							
Argenteuil		Deux-Montagnes		La Rivière-du-Nord			
Brownsburg-Chatham	yes	Deux-Montagnes	no	Prévost	yes		
Gore	yes	Oka	no	Saint-Colomban	yes		
Grenville	no	Pointe-Calumet	no	Sainte-Sophie	yes		
Grenville-sur-la-Rouge	yes	Sainte-Marthe-sur-le-Lac	no	Saint-Hippolyte	yes		
Harrington	no	Saint-Eustache	no	Saint-Jérôme	yes		
Lachute	yes	Saint-Joseph-du-Lac	no				
Mille-Isles	yes	Saint-Placide	yes	Laval	no		
Saint-André-d'Argenteuil	yes						
Wentworth	no	Thérèse-De Blainville					
		Blainville	yes	Rosemère	no		
Mirabel	yes	Boisbriand	no	Sainte-Anne-des-Plaines	yes		
		Bois-des-Filion	no	Sainte-Thérèse	no		
		Lorraine	no				

Mauricie							
Les Chenaux		Maskinogé					
Batiscan	no	Charette	yes	Sainte-Ursule	yes		
Champlain	no	Lysesville	yes	Saint-Justin	no		
Notre-Dame-du-Mont-Carmel	no	Maskinogé	no	Saint-Léon-le-Grand	yes		
Sainte-Anne-de-la-Pérade	no	Saint-Alexis-des-Monts	yes	Saint-Mathieu-du-Parc	yes		
Sainte-Genève-de-Batiscan	no	Saint-Barnabé	yes	Saint-Paulin	yes		
Saint-Luc-de-Vincennes	no	Saint-Boniface	no	Saint-Sévère	yes		
Saint-Maurice	no	Sainte-Angèle-de-Prémont	yes	Yamachiche	yes		
Saint-Narcisse	no	Saint-Édouard-de-Maskinogé	no				
Saint-Prosper	no	Saint-Élie-de-Caxton	yes	Shawinigan	no		
Saint-Stanislas	no	Saint-Étienne-des-Grès	no	Trois-Rivières	no		

Montérégie	AOR	Wood		AOR	Wood		AOR	Wood
Acton		%	Beauharnois-Salaberry		%	Brome-Missisquoi		%
Acton Vale	yes	44	Beauharnois	yes	8	Abercorn	yes	65
Béthanie	yes	49	Sainte-Martine	yes	6	Bedford (canton)	yes	17
Roxton	yes	61	Saint-Étienne-de-Beauharnois	yes	6	Bedford	yes	31
Roxton Falls	yes	30	Saint-Lyess-de-Gonzague	yes	13	Bolton-Ouest	yes	81
Sainte-Christine	yes	57	Saint-Stanislas-de-Kostka	yes	10	Brigham	yes	52
Saint-Nazaire-d'Acton	yes	13	Saint-Urbain-Premier	yes	20	Brome	yes	61
Saint-Théodore-d'Acton	yes	33	Salaberry-de-Valleyfield	no	13	Cowansville	yes	53
Upton	yes	9				Dunham	yes	61
			La Vallée-du-Richelieu			East Farnham	yes	44
La Haute-Yamaska			Beloeil	yes	1	Farnham	yes	33
Bromont	yes	61	Carignan	yes	16	Frelighsburg	yes	69
Granby	yes	40	Chambly	yes	11	Lac-Brome	yes	71
Roxton Pond	yes	59	McMasterville	yes	7	Notre-Dame-de-Stanbridge	yes	7
Saint-Alphonse	yes	23	Mont-Saint-Hilaire	yes	44	Saint-Armand	yes	43
Sainte-Cécile-de-Milton	yes	33	Otterburn Park	yes	11	Sainte-Sabine	yes	23
Saint-Joachim-de-Shefford	yes	73	Saint-Antoine-sur-Richelieu	yes	12	Saint-Ignace-de-Stanbridge	yes	36
						Saint-Pierre-de-Véronne-à-Pike-		
Shefford	yes	72	Saint-Basile-le-Grand	yes	5	River	yes	9
Warden	yes	63	Saint-Charles-sur-Richelieu	yes	29	Stanbridge East	yes	46
Waterloo	yes	48	Saint-Denis-sur-Richelieu	yes	18	Stanbridge Station	yes	13
			Saint-Jean-Baptiste	yes	11	Sutton	yes	84
Longueuil	yes		Saint-Marc-sur-Richelieu	yes	23			
			Saint-Mathieu-de-Beloeil	yes	19	Le Haut-Richelieu		
Lajemmerais						Henryville	yes	12
Calixa-Lavallée	yes	19	Les Jardins-de-Napierville			Lacolle	yes	12
Contrecoeur	yes	37				Mont-Saint-Grégoire	yes	17
Saint-Amable	yes	19	Hemmingford (village)	yes	7	Noyan	yes	16
Sainte-Julie	yes	13	Hemmingford	yes	54	Saint-Alexandre	yes	6
Varennes	yes	11	Napierville	yes	2	Saint-Blaise-sur-Richelieu	yes	9
Verchères	yes	26	Saint-Bernard-de-Lacolle	yes	35	Sainte-Anne-de-Sabrevois	yes	8
			Saint-Cyprien-de-Napierville	yes	10	Sainte-Brigide-d'Iberville	yes	8
Le Haut-Saint-Laurent			Sainte-Clotilde-de-Châteauguay	yes	28	Saint-Georges-de-Clarenceville	yes	31
Dundee	oui	14	Saint-Édouard	yes	7	Saint-Jean-sur-Richelieu	yes	7
Elgin	oui	42	Saint-Jacques-le-Mineur	yes	6	Saint-Paul-de-l'Île-aux-Noix	yes	4
Franklin	oui	53	Saint-Michel	yes	5	Saint-Sébastien	yes	7
Godmanchester	oui	27	Saint-Patrice-de-Sherrington	yes	17	Saint-Valentin	yes	12
Havelock	oui	66	Saint-Rémi	yes	10	Venise-en-Québec	yes	32
Hinchinbrooke	oui	43						
Howick	oui	2	Roussillon			Le Bas-Richelieu		
Huntingdon	oui	2	Candiac	yes	6	Massueville	yes	15
Ormstown	oui	35	Châteauguay	yes	13	Saint-Aimé	yes	4
Saint-Anicet	oui	25	Delson	yes	9	Saint-David	yes	13
Saint-Chrysostome	oui	36	La Prairie	yes	22	Sainte-Anne-de-Sorel	yes	26
Sainte-Barbe	oui	11	Léry	yes	31	Sainte-Victoire-de-Sorel	yes	39
Très-Saint-Sacrement	oui	15	Mercier	yes	4	Saint-Gérard-Majella	yes	12
			Saint-Constant	yes	3	Saint-Joseph-de-Sorel	yes	0
			Sainte-Catherine	yes	6	Saint-Ours	yes	19
			Saint-Isidore	yes	2	Saint-Robert	yes	16
			Saint-Mathieu	yes	4	Saint-Roch-de-Richelieu	yes	39
			Saint-Philippe	yes	5	Sorel-Tracy	yes	32
						Yamaska	yes	17

Montérégie	AOR	Wood		AOR	Wood		AOR	Wood
<i>Vaudreuil-Soulanges</i>		%	<i>Les Maskoutains</i>		%	<i>Rouville</i>		%
Coteau-du-Lac	no	16	La Présentation	yes	19	Ange-Gardien	yes	18
Hudson	no	48	Saint-Barnabé-Sud	yes	5	Marieville	yes	4
Les Cèdres	no	13	Saint-Bernard-de-Michaudville	yes	27	Richelieu	yes	8
Les Coteaux	no	17	Saint-Damase	yes	10	Rougemont	yes	28
L'Île-Cadieux	no	74	Saint-Dominique	yes	17	Saint-Césaire	yes	4
L'Île-Perrot	no	32	Sainte-Hélène-de-Bagot	yes	14	Sainte-Angèle-de-Monnoir	yes	9
Notre-Dame-de-l'Île-Perrot	no	29	Sainte-Madeleine	yes	3	Saint-Mathias-sur-Richelieu	yes	11
Pincourt	no	33	Sainte-Marie-Madeleine	yes	6	Saint-Paul-d'Abbotsford	yes	36
Pointe-des-Cascades	no		Saint-Hugues	yes	18			
Pointe-Fortune	no	20	Saint-Hyacinthe	yes	7			
Rigaud	no	35	Saint-Jude	yes	35			
Rivière-Beaudette	no	23	Saint-Liboire	yes	11			
Saint-Clet	no	5	Saint-Lyess	yes	17			
Sainte-Justine-de-Newton	no	20	Saint-Marcel-de-Richelieu	yes	11			
Sainte-Marthe	no	24	Saint-Pie	yes	11			
Saint-Lazare	no	54	Saint-Simon	yes	15			
Saint-Polycarpe	no	2	Saint-Valérien-de-Milton	yes	31			
Saint-Télesphore	no	11						
Saint-Zotique	no	11						
Terrasse-Vaudreuil	no	13						
Très-Saint-Rédempteur	no	37						
Vaudreuil-Dorion	no	23						
Vaudreuil-sur-le-Lac	no	32						

Outaouais

<i>Papineau</i>				<i>Les Collines-de-l'Outaouais</i>	
Boileau	no	Saint-Sixte	no	Cantley	no
Bowman	no	Thurso	no	Chelsea	no
Chénéville	no	Val-des-Bois	no	La Pêche	no
Duhamel	no			L'Ange-Gardien	no
Fassett	no			Notre-Dame-de-la-Salette	no
Lac-des-Plages	no			Pontiac	no
Lac-Simon	no			Val-des-Monts	no
Lochaber	no				
Lochaber-Partie-Ouest	no			<i>Gatineau</i>	<i>no</i>
Mayo	no				
Montebello	no				
Montpellier	no				
Mulgrave-et-Derry	no				
Namur	no				
Notre-Dame-de-Bonsecours	no				
Notre-Dame-de-la-Paix	no				
Papineauville	no				
Plaisance	no				
Ripon	no				
Saint-André-Avellin	no				
Saint-Émile-de-Suffolk	no				

<u>Saguenay–Lac-Saint-Jean</u>		AOR		AOR		AOR
<i>Lac-Saint-Jean-Est</i>					<i>Saguenay</i>	<i>no</i>
Alma	yes	Métabetchouan–Lac-à-la-Croix	no			
Desbiens	no	Saint-Bruno	yes			
Hébertville	yes	Sainte-Monique	no			
Hébertville-Station	yes	Saint-Gédéon	yes			
Labrecque	no	Saint-Henri-de-Taillon	no			
Lamarche	no	Saint-Ludger-de-Milot	no			
L'Ascension-de-Notre-Seigneur	no	Saint-Nazaire	no			
<hr/>						
<u>Abitibi-Témiscamingue</u>						
<i>Abitibi</i>						
Amos	no	<i>Abitibi-Ouest</i>				
Barraute	no	Authier	no	Sainte-Hélène-de-Mancebourg	no	
Berry	no	Authier-Nord	no	Saint-Lambert	no	
Champneuf	no	Chazel	no	TascheAORu	no	
La Corne	no	Clermont	no	Val-Saint-Gilles	no	
La Morandière	no	Clerval	no			
La Motte	no	Duparquet	no			
Landrienne	no	Dupuy	no	Rouyn-Noranda	no	
Launay	no	Gallichan	no			
Preissac	no	La Reine	no			
Rochebaucourt	no	La Sarre	no			
Saint-Dominique-du-Rosaire	no	Macamic	no			
Sainte-Gertrude-Manneville	no	Normétal	no			
Saint-Félix-de-Dalquier	no	Palmarolle	no			
Saint-Marc-de-Figuery	no	Poularies	no			
Saint-Mathieu-d'Harricana	no	Rapide-Danseur	no			
Trécesson	no	Roquemaure	no			
		Sainte-Germaine-Boulé	no			

¹For this review, we analyzed the land use planning and development plans (LUPDPs) and interim control by-laws (ICBs) of 43 regional county municipalities (RCMs) located in the five major agricultural regions, i.e. Montérégie, Chaudière-Appalaches, Centre-du-Québec, Lanaudière and Estrie, as well as those of 28 RCMs with significant agricultural activities (see the detailed list in Appendix 2). The LUPDPs and ICBs are documents that are regularly updated. The data for this review were collected between August 1 and September 10, 2008.

² Government of Quebec, 2005. *Les orientations du gouvernement en matière d'aménagement. La protection du territoire et des activités agricoles. Addenda au document complémentaire révisé.* In: Ministère des affaires municipales et régions, Aménagement et gestion du territoire, Aménagement du territoire, *Orientations gouvernementales*
http://www.mamrot.gouv.qc.ca/publications/amenagement/oram_prot_agricole_addenda.pdf
 (Last consulted: March 12, 2009) [French only]

³ Policies, acts and regulations that involve municipal jurisdiction and that were consulted during this review:
 Government of Quebec. *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 1, 2005, Gazette No. 22, Order in Council 468-2005, page: 2180. O.C. 709-2008, 2008 G.O. 2, 4009
<http://www.mddep.gouv.qc.ca/eau/rives/index.htm> (Last consulted: March 12, 2009) [French only]

Government of Quebec. *Agricultural Operations Regulation, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 14, 2002, Gazette No. 24A, Order in Council 695-2002, page: 3525. O.C. 1330-2002, 2002 G.O. 2, 8201. O.C. 1197-2003, 2003 G.O. 2, 5125. O.C. 1098-2004, 2004 G.O. 2, 5249. O.C. 883-2005, 2005 G.O. 2, 5455A. O.C. 906-2005, 2005 G.O. 2, 5859A. O.C. 1006-2007, 2007 G.O. 2, 4849
http://www.mddep.gouv.qc.ca/milieu_agri/agricole-en/index.htm (Last consulted: March 12, 2009)

Quebec Department of Sustainable Development, Environment and Parks, 2007. *Guide d'interprétation, Politique de protection des rives, du littoral et des plaines inondables*, Department of Sustainable Development, Environment and Parks, Water Policies Directorate, 148 p. [French only]

Government of Quebec, *Groundwater Catchment Regulation, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 14, 2002, Gazette No. 24A, Order in Council 696-2002, page: 3540. O.C. 1330-2002, 2002 G.O. 2, 8201. O.C. 647-2006, 2006 G.O. 2, 2985
 O.C. 441-2008, 2008 G.O. 2, 2098
<http://www.mddep.gouv.qc.ca/eau/potable/index-en.htm> (Last consulted: March 12, 2009)

Government of Quebec, *Pesticides Management Code, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 19, 2003, Gazette No. 12, Order in Council 331-2003, page: 1653. O.C. 464-2003, 2003 G.O. 2, 1923 O.C. 319-2006, 2006 G.O. 2, 1747
<http://www.mddep.gouv.qc.ca/pesticides/permis-en/code-gestion-en/index.htm> (Last consulted: March 12, 2009)

Government of Quebec, *Municipal Powers Act, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: June 15, 2005, Gazette No. 24, 62, page: 2563
http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/C_47_1/C47_1.html [French only]
 (Last consulted: March 12, 2009)

Government of Quebec, *Act respecting land use planning and development, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, 1st Edition: November 21, 1979, Annual Statutes of Quebec, Chapter 51.
http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/A_19_1/A19_1.html [French only]
 (Last consulted: March 12, 2009)

⁴ Op.cit. Government of Quebec, 2005. *Les orientations du gouvernement en matière d'aménagement.*

⁵ **The Prime Vert program** provides government-source financial assistance (federal and provincial co-funding) that covers up to 90% of eligible expenses established by MAPAQ for initiatives to reduce non-point source pollution, up to a maximum of \$50,000 per agricultural operation for the duration of the program. Financial assistance shall apply to the following work or practices:

- riparian management – removal of livestock from watercourses;
- erosion prevention through construction of soil conservation structures in riparian and non-riparian zones;
- establishment of permanent grassy buffer strips that exceed the requirements of the *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*;
- establishment of treed or shrubby buffer strips of a minimum of 5 m if recommended in a specialized agri-environmental scan;
- establishment of shelterbelts;
- planting of winter cover crops;
- permanent removal of annual crops from high-risk zones identified in a specialized agri-environmental scan;
- introduction of soil and water conservation practices.

MAPAQ, April 2008. *Prime Vert, Program in effect as of April 1, 2008*. Publication No. 08-0047A. (2008-04) In: MAPAQ, Programmes, Productions animale and végétale, *Prime Vert*
<http://www.mapaq.gouv.qc.ca/NR/rdonlyres/32F6530C-9A4F-4CA7-8ECC-3CF48AFEB875/0/PrimeVert.pdf>
(Last consulted: March 12, 2009) [French only]

The Greencover Canada program provides government-source financial assistance (federal and provincial co-funding) that covers up to 90% of eligible expenses established by the provincial agriculture department for initiatives to reduce non-point source pollution. The projects must be carried out by two or more agricultural producers whose lots concerned are located in the same watershed. Financial assistance shall apply to the following work or practices:

- riparian management
- erosion control structure (on a lakeshore or riverbank)
- planting of shelterbelts

CDAQ, April 2008. “*Greencover Canada program*. In: *Conseil pour le développement de l’agriculture du Québec*, Programmes, Couverture végétale
<http://www.cdaq.qc.ca/ShowDoc.asp?IndLangue=2&Rubrique=206&Document=215> (Last consulted: March 12, 2009)

The Programme de mise en valeur de la biodiversité des cours d’eau en milieu agricole will support, over a five-year period, 10 farming organizations that develop innovative approaches to the integrated management of farming and wildlife resources in Quebec.

Fondation de la Faune du Québec, “*Programme de mise en valeur de la biodiversité des cours d’eau en milieu agricole*.” In: *Fondation de la Faune du Québec*, Wildlife Initiatives, *Pilot projects in farming communities*
http://www.fondationdelafaune.qc.ca/en/initiatives/pilot_projects/
(Last consulted: March 12, 2009)

Plan d’action concerté sur l’agroenvironnement et la cohabitation harmonieuse 2007-2010 provides government (federal and provincial co-funding) and private financial assistance to 10 collective projects relating to the integrated management of watercourses in agricultural areas.

MAPAQ, “*Amélioration de la qualité de l’eau dans le milieu agricole: Lancement de travaux dans dix sous-bassins versant du milieu agricole*.” In: MAPAQ, Communiqués, December 2005, 5 décembre 2007 — *Lancement de travaux dans dix sous-bassins versants du milieu agricole*
http://www.mapaq.gouv.qc.ca/Fr/Centre_Presse/Communiques/2007/07240.htm
(Last consulted: March 12, 2009) [French only]

The Programme de mesures incitatives en agroenvironnement et aménagement d’habitats fauniques en milieu agricole supports agricultural operations that participate in the implementation of pilot projects under the *Programme de mise en valeur de la biodiversité des cours d’eau en milieu agricole* as well as under the *Plan d’action concerté sur l’agroenvironnement et la cohabitation harmonieuse 2007-2010*. The financial assistance available to an agricultural operation consists of an annual lump-sum amount of \$600 per hectare, to a maximum of \$2,000 per growing season, to compensate an agricultural operation for lost income as a result of a reduction in its area under cultivation due to the implementation of a specific development project.

Financière agricole, Programme de mesures incitatives en agroenvironnement et aménagement d’habitats fauniques en milieu agricole (version du 31 mai 2007), In: *Financière Agricole*, Financement, Autres programmes, *Programme de mesures incitatives en agroenvironnement et aménagement d’habitats fauniques en milieu agricole (version du 31 mai 2007)*

http://www.fadq.qc.ca/fileadmin/cent_docu/cadr_legi/prog/prog_mesu_inci.pdf

(Last consulted: March 12, 2009) [French only]

⁶ Op.cit. Government of Quebec. *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*

⁷ Government of Quebec, *Environment Quality Act, Gazette officielle du Québec*, Part 2 – Acts and Regulations, Québec, Éditeur officiel du Québec, Updated to January 1, 2009

http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/Q_2/Q2.htm [French only]

(Last consulted: March 12, 2009)

⁸ MDDEP. *Traitement des demandes d'autorisation des projets dans les milieux humides*. In: Ministère du Développement durable, de l'Environnement et des Parcs; eau, milieux aquatiques, humides et riverains; *milieux humides*.

<http://www.mddep.gouv.qc.ca/eau/rives/entrepreneur/Milieuhumides.pdf>

(Last consulted: March 12, 2009) [French only]

⁹ Ducks Unlimited Canada. *Plan de conservation des milieux humides et de leurs terres hautes adjacentes*. In: Canards Illimités Canada, CIC dans votre province, Québec, Plans régionaux de conservation, <http://www.ducks.ca/fr/province/qc/plansreg/index.html>

(Last consulted: March 12, 2009) [French only].

¹⁰ Op.cit. Government of Quebec. *Les orientations du gouvernement en matière d'aménagement. La protection du territoire et des activités agricoles. Addenda au document complémentaire*.

¹¹ Op.cit. Government of Quebec. *Les orientations du gouvernement en matière d'aménagement. La protection du territoire et des activités agricoles. Addenda au document complémentaire*.