

**SUBMISSION CONCERNING THE ENFORCEMENT OF
ENVIRONMENTAL LEGISLATION IN QUEBEC'S
AGRICULTURAL SECTOR FILED WITH THE
SECRETARIAT OF THE COMMISSION FOR
ENVIRONMENTAL COOPERATION OF THE NORTH
AMERICAN AGREEMENT ON ENVIRONMENTAL
COOPERATION**

CANADIAN RESPONSE

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1. EXECUTIVE SUMMARY

On 9 April 1997, a group of citizens' committees and environmental groups (hereafter referred to as the Submitters) filed a submission with the Secretariat of the Commission for Environmental Cooperation under Article 14 of the North American Agreement on Environmental Cooperation (NAAEC). This submission asserts that Canada, and in particular the Government of Quebec, has failed to effectively enforce its environmental legislation in the agricultural sector.

Specifically, the Submitters asserted that:

- There was a systematic failure to enforce the laws and regulations dealing with agricultural pollution throughout Quebec, with consequences on the health of waterways and riparian populations.
- They have been caused harm as a result of the failure to enforce the legal provisions in place, essentially Quebec's Environmental Quality Act (*Loi sur la qualité de l'environnement*—L.R.Q., c. Q-2) and the Regulation respecting the prevention of water pollution in livestock operations (*Règlement sur la prévention de la pollution des eaux par les établissements de production animale*—R.R.Q., 1981, c. Q-2, r. 18).
- This harm takes the form of health risks—especially those associated with the contamination of both ground and surface waters through agricultural activities—and the degradation of waterways.
- Given the large number of sources of contamination and the diffuse nature of the pollution, it is extremely difficult to ensure that individual rights are respected through private legal remedies.
- The Government of Quebec has not respected the principles of transparency and public participation in accordance with the objectives of the NAAEC.
- They ask that the CEC study the situation so as to identify appropriate measures that could be taken by the Government of Quebec in order to achieve a greater level of environmental protection and respect for environmental laws and regulations pertaining to livestock production.

The Position of Quebec and Canada

Canada supports the process of submissions on enforcement matters under Articles 14 and 15 of the NAAEC. It considers them to be essential elements of the Accord. Canada refutes the assertions that it has acted contrary to the provisions of the NAAEC and failed to effectively enforce its environmental legislation in the agricultural sector. It also considers that a factual record is not warranted for the following reasons:

- Canada, and specifically Quebec, effectively enforces the Environmental Quality Act and the Regulation respecting the prevention of water pollution in livestock operations.
- The environmental measures brought forward in the agricultural sector conform to the objectives and responsibilities set out in the NAAEC, particularly in Articles 2, 4 and 5.

- The Government of Quebec has very recently adopted new legislation concerning agricultural pollution, taking on new measures that improve the enforcement of the Environmental Quality Act. In this context, and considering that these efforts fall under Article 3 of the NAAEC concerning the improvement of environmental laws and regulations, the preparation of a factual record is not appropriate.
- Given the details included in the present document, the preparation of a factual record would neither yield new information, nor present the matter in a new light.

Pending Judicial or Administrative Proceedings in the Strict Sense of Article 14 (3) (a)

To date the issues dealt with in the Submission are not, nor have been, the subjects of judicial proceedings with regard to paragraphs a) and b) (i) of Article 14 (3).

The Submitters have not made their concerns known to the government through normally available channels or through means offered to them.

Effective Enforcement of Legislation

Quebec has enforced its environmental regulations concerning agricultural pollution effectively and continues to improve this enforcement.

Article 5 of the NAAEC presents a non-comprehensive list of governmental measures aimed at ensuring the enforcement of laws and regulations. This Article illustrates that, within the spirit of the NAAEC, a wide range of measures can be employed. The special nature of the agricultural sector and the types of pollution it produces have led to many innovative regulatory enforcement methods. Thus, like most OECD countries, Quebec governmental authorities for the most part use incentive measures to ensure enforcement and to reach environmental goals.

Quebec's strategies and enforcement methods reflect the complexity of agricultural-sector problems as well as the evolution of knowledge and experience in this area. Considerable resources are allocated to the implementation of Quebec's environmental strategies and legislation for the agricultural sector; this has led to a reduction in the environmental stresses caused by this sector and contributed to the restoration or improvement of waterway quality and the environment in general.

Canada's position is that the NAAEC cannot and should not be applied retroactively and that the Submission should only concern itself with the enforcement of legislation taking effect after 1 January 1994. Nevertheless, it should be noted that these enforcement methods are the result of efforts dating back to 1981, when the first regulations in this area were introduced.

Quebec has implemented the measures necessary to ensure the transparency of its actions. Its provisions for public participation in the development of laws and regulations conform to Article 4 of the NAAEC.

Preparing a factual record would not contribute meaningfully to reaching the goals of the NAAEC

Given that Canada, and specifically Quebec, enforces its environmental legislation effectively, and that the Government of Quebec has recently adopted new regulations and measures to more effectively reach its environmental goals in the agricultural sector, the preparation of a factual record is neither appropriate nor helpful in attaining the goals of the NAAEC.

2. INTRODUCTION

On 9 April 1997, a group of citizens' committees and environmental groups (the Submitters) filed a submission with the Secretariat of the Commission for Environmental Cooperation under Article 14 of the North American Agreement on Environmental Cooperation (NAAEC). This submission asserts that Canada, and in particular the Government of Quebec, has failed to effectively enforce its environmental legislation in the agricultural sector.

Canada's first declaration with regard to the provisions of paragraph 1, Annex 41 of the NAAEC includes Quebec and Alberta, for which Canada is bound concerning matters within their jurisdictions.¹ Quebec has since fulfilled all requirements stemming from the implementation of the NAAEC.

In order to confirm the objectives of the NAAEC and implement its provisions, on 12 June [1996?] the National Assembly adopted a bill concerning the implementation of international trade agreements (*Loi concernant la mise en œuvre des accords de commerce international*). This bill, which includes the North American Free Trade Agreement (NAFTA), was approved on 13 June 1996,² and falls within Quebec's overall economic and commercial framework with respect to international trade agreements—specifically, with NAFTA.

When the National Assembly adopted the *Loi concernant la mise en œuvre des accords de commerce international*, it was completely satisfied that it could comply with the objectives and provisions of the NAAEC, particularly with respect to the effective enforcement of its environmental laws and regulations

Canada supports the principles and directions of the submission process on questions of enforcement found in Articles 14 and 15 of the NAAEC. It considers this procedure essential to the implementation of the Accord and a useful tool whereby the public can assist the Parties in improving the enforcement of environmental legislation.

Specifically, the Submitters assert that:

- There was a systematic failure to enforce the laws and regulations dealing with agricultural pollution throughout Quebec, with consequences on the health of waterways and riparian populations.
- They have been caused harm as a result of the failure to enforce the legal provisions in place with regard to Quebec's Environmental Quality Act (L.R.Q., c. Q-2) and the Regulation respecting the prevention of water pollution in livestock operations (R.R.Q., 1981, c. Q-2, r. 18).
- This harm takes the form of health risks, primarily through the contamination of both ground and surface waters and the degradation of waterways by agricultural activities.

¹ Canadian embassy in Washington, Note no. 69, 31 July 1996.

² Letter from David Cliche, Quebec's Minister of Environment (MEF—*ministère de l'Environnement et de la Faune*) to Sergio Marchi, Canada's Minister of Environment, dated 30 July 1996 confirming the implementation of the NAAEC.

- Given the large number of sources of contamination and the diffuse nature of the pollution, it is extremely difficult to ensure that the law is respected through private legal remedies.
- The Government of Quebec has not respected the principles of transparency and public participation in accordance with the objectives of the NAAEC.
- They ask that the CEC study the situation so as to identify appropriate measures that could be taken by the Government of Quebec in order to achieve a greater level of environmental protection and respect for environmental laws and regulations pertaining to livestock production.

This document will present the legal context (i.e., the laws and regulations applicable to agricultural activities), the approach and the measures taken by Quebec to ensure effective enforcement as well as the problems surrounding agricultural operations and their effects on the environment. Finally, the Submitters' allegations will be specifically addressed.

Canada refutes the assertions that it has acted contrary to the provisions of the NAAEC and failed to effectively enforce its environmental legislation in the agricultural sector. It also considers that a factual record is not warranted for the following reasons:

- Quebec effectively enforces the Environmental Quality Act and the Regulation respecting the prevention of water pollution in livestock operations.
- The environmental measures brought forward in the agricultural sector conform to the objectives and responsibilities set out in the NAAEC, particularly in Articles 2, 4 and 5.
- Several months ago, the Government of Quebec adopted new legislation concerning agricultural pollution, taking on new measures that improve the enforcement of the Environmental Quality Act and updating its regulations. In this context, and considering that these efforts fall within the scope of Article 1 (with respect to the improvement of environmental laws and regulations) and Article 3 (stipulating the level of environmental protection each Party should adopt) of the NAAEC, the preparation of a factual record is not appropriate.
- Given the details included in the present document, the preparation of a factual record would neither yield new information, nor present the matter in a new light.

3. CONTEXT

3.1 *Quebec's Environmental Laws and Regulations in the Agricultural Sector*

3.1.1 Jurisdiction

The Canadian Constitution of 1867 apportions jurisdiction between the provincial and federal governments, however, the environment is not an area that has been assigned specifically to one level of government. Thus, legislative powers on environmental matters are determined as a function of constitutional jurisdiction in other areas. In 1972, and in accordance with its jurisdiction, Quebec adopted the Environmental Quality Act (Annex 1) .

3.1.2 The Environmental Quality Act

The Environmental Quality Act (EQA), the subject of the Submission's allegations, forms Quebec's overall legislative framework in environmental matters and is the responsibility of Quebec's Minister of Environment (MEF—*ministère de l'Environnement et de la Faune*). As the Submitters have pointed out, certain provisions in this law are of special interest in this matter.

First, the EQA grants all persons the right to a healthy environment and to the protection of living species. Specifically, Article 19.1 states:

Every person has a right to a healthy environment and to its protection and to the protection of the living species inhabiting it, to the extent provided for by this act the regulations, orders, approvals and authorizations issued under any section of this act [...].

Article 20 of the Act prohibits the contamination of the environment in excess of regulatory standards or in a manner that would affect health or the environment. Indeed, the Article stipulates:

No one may emit, deposit, issue or discharge or allow the emission, deposit, issuance or discharge into the environment of a contaminant in a greater quantity or concentration than that provided for by regulation or the Government.

The same prohibition applies to the emission, deposit, issuance or discharge or any contaminant the presence of which in the environment is prohibited by regulation of the Government or is likely to affect the life, health, safety, welfare or comfort of human beings, or to cause damage to or otherwise impair the quality of the soil, vegetation, wildlife or property.

Furthermore, the EQA establishes a system of preventative control that includes provisions whereby MEF authorization must be obtained prior to any activity that is likely to contaminate the environment. This obligation is set out in Article 22:

No one may erect or alter a structure, undertake to operate an industry, carry on an activity or use an industrial process or increase the production of any goods or services if it seems likely that this will result in an emission, deposit, issuance or discharge of

contaminants into the environment or a change in the quality of the environment unless he first obtains from the Minister a certificate of authorization.

However, no one may erect or alter any structure, carry out any works or projects, undertake to operate any industry, carry on any activity or use any industrial process or increase the production of any goods or services in a constant or intermittent watercourse, a lake, pond, marsh, swamp or bog, unless he first obtains a certificate of authorization from the Minister.

With regard to authorization certificates, Article 122.1 states:

The Government or the Minister may amend or cancel any authorization certificate issued by it or him or issued in its or his name in the cases where

- the authorization certificate has been issued on the basis of erroneous or fraudulent information;
- the holder of the authorization certificate does not comply with the provisions contained in it or uses it for purposes other than those provided for under this Act;
- the holder of the authorization certificate does not comply with this Act or a regulation thereunder; or
- the holder of the authorization certificate does not avail himself of it within a period of one year from its issue.

This system is complemented by procedures for environmental impact assessments and public consultations for projects falling under the regulation. To this end, Article 31.1 states:

No person may undertake any construction, work, activity or operation, or carry out work according to a plan or programme, in the cases provided for by regulation of the Government without following the environmental impact assessment and review procedure and obtaining an authorization certificate from the Government

The EQA sets out procedures for inspection by MEF officials³, but it should be noted that the EQA also provides for recourse,⁴ specifically the demand for an injunction or an inquiry, for persons who feel

³ Sec. 119. Every functionary authorized for that purpose by the Minister may at any reasonable time enter on land, a building other than a dwelling house, a vehicle or a boat, to collect samples, instal [sic] measuring apparatus, make analysis, examine records or examine the premises for the enforcement of this Act the regulations hereunder.

⁴ Sec. 19.1. Every person has a right to a healthy environment and to its protection and to the protection of the living species inhabiting it, to the extent provided for by this act the regulations, orders, approvals and authorizations issued under any section of this act [...].

Sec 19.2. A judge of the Superior Court may grant an injunction to prohibit any act or operation which interferes or might interfere with the exercise of a right conferred by section 19.1.

wronged under it.⁵ Finally, the EQA provides access to MEF information concerning environmental contamination⁶ and the record of MEF activities.⁷

3.1.3 Regulation respecting the prevention of water pollution in livestock operations

The Regulation respecting the prevention of water pollution in livestock operations (Annex 2) was adopted and implemented in 1981 to provide a framework for the management of livestock operations likely to contaminate the environment. It is this Regulation that the Submitters allege has not been enforced.

This Regulation confirms and specifies that authorization must be obtained from the MEF before establishing a livestock operation, modifying or enlarging a livestock production facility, or constructing, enlarging or modifying a manure storage area. It sets out standards for the location of operations with respect to aquatic environments and water sources, and requires facilities to be watertight. It sets out conditions for manure-spreading such as maximum quantities, distance from aquatic environments and prohibition on frozen or snow-covered ground. Finally, the Regulation requires that operators be either owners of the land on which they spread manure or have agreements to spread it on neighboring

⁵ Sec. 117. If a person believes that he can attribute to the presence of a contaminant in the environment or to the emission, deposit, issuance or discharge of a contaminant, impairment to his health or damage to his property, he may within thirty days after ascertaining the damage request the Minister to make an inquiry.

Sec. 123. The Minister or any investigator designated by him may inquire into any matter contemplated by this Act or the regulations hereunder.

⁶ Sec. 118.4. Every person has the right to obtain from the Ministère de l'Environnement et de la Faune [a] copy of any available information concerning the quantity, quality or concentration of contaminants emitted, issued, discharged or deposited by a source of contamination or concerning the presence of a contaminant in the environment.

This section applies subject to the restrictions to the right of access provided in section 28 of the Act respecting Access to documents held by public bodies and the Protection of personal information (chapter A-2.1)

⁷ Sec. 118.5. The Minister shall keep a register of:

- a) all applications for authorization certificates, certificates, authorizations or permits submitted under sections 22, 31.1, 31.6, 32, 32.1, 32.2, 48, 54, 55, [...] 160 and 196;
- b) all authorization certificates, certificates, authorizations and permits issued under the said sections;
- c) all environmental impact assessment statements submitted under section 31.3;
- d) all orders and notices prior to the issue of an order rendered under this Act;
- e) all depollution programmes submitted or approved under section 116.2;
- f) all proceedings brought under Division XI and all decisions rendered under section 103; and
- g) all attestations of environmental conformity filed under section 95.1;
- h) all applications and reapplications for a depollution attestation submitted under sections 31.16 and 31.28 and all applications to amend an attestation submitted under section 31.25 and [...] the first paragraph of section 31.39;
- i) all proposed, issued or amended depollution attestations and all notices of intention to refuse transmitted under subdivision 1 of Division IV.2 and all notices transmitted by the Minister under sections 31.22, 31.25 et 31.28;
- j) all depollution attestations issued or amended under subdivision 2 of Division IV.2;
- k) the entire application record contemplated by section 31.21 and all comments made by persons or municipalities, transmitted during the period set aside for consultation of the record;
- l) all statements of results relating to the control and monitoring of contaminant discharge, all reports and all information furnished to the Minister under Division IV.2 of this Act and the regulations hereunder;
- m) all characterization studies and all programmes of decontamination or restoration required under section 31.42, 31.49 or 31.51;
- n) all notifications by the Minister pursuant to section 31.46.

The Information [sic] contained in the register is public information.

properties, and to keep records to this effect. A change made to the Regulation in May 1996 allows operators to consign management of surplus manure to MEF-recognized agencies.

3.1.4 Regulation Respecting Environmental Impact Assessment and Review

The regulation respecting environmental impact assessment and review (*Règlement sur l'évaluation et l'examen des impacts sur l'environnement*, R.R.Q., 1981, c. Q-2, r .9—Annex 3) stipulates that an environmental impact assessment shall be conducted on the construction or enlargement of one or several buildings of an operation in which the total number of animals housed exceeds 600 animal units⁸ (in the case of the production of liquid manure) or 1000 animal units (in the case of semi-solid or solid manure). This procedure includes various stages of public consultation.

3.1.5 The Process of Amending and Improving the EQA and its Regulations

In August 1994, a new draft regulation was submitted for public consultation. The goal was to replace the Regulation respecting the prevention of water pollution in livestock operations with one that would take into consideration the changing nature of agricultural activities and incorporate both past experiences and new knowledge. It would also integrate protection of all environmental components—aquatic, atmospheric and terrestrial. Widely diverging opinions concerning the draft legislation among the stakeholders consulted led the MEF to set up a Round Table in May 1995. Its mandate was to form a consensus on the main points of the draft regulation—the focus of the most widely differing opinions—and it included governmental and non-governmental representation from the municipal, agricultural, environmental and health sectors. Its report was submitted in February 1996 (Annex 4).

In October 1996, during the discussions that led to the completion of the new regulation, an agreement was reached between representatives of the MEF and the UPA (*Union des producteurs agricoles*), which represents Quebec's agricultural producers. The agreement dealt with various points still in dispute after the work of the Round Table had ended.

The Government of Quebec points out that it was in this context and during the process of improving the EQA and its regulations that the Submission was filed.

3.1.6 The New Regulation Respecting the Reduction of Agricultural Pollution

Modified in light of the work of the round table and the MEF/UPA agreement, the *Règlement sur la réduction de la pollution d'origine agricole* (regulation respecting the reduction of agricultural pollution—Annex 5) came into effect on 3 July 1997, approximately three months after the Submission was filed.

The new Regulation makes several modifications to the old Regulation respecting the prevention of water pollution in livestock operations, particularly with respect to manure spreading conditions, spreading agreement rules, ownership of the land on which spreading occurs and record keeping. It establishes distance limits for spreading near sources of water and renews those for aquatic environments. Formal agreements are required for spreading on land of which the producer of the

⁸ An animal Unit is equivalent to, for example, one cow or 5 breeding pigs. See details in Annex B of the Regulation Respecting the Prevention of Water Pollution in Livestock Operations.

manure is not the owner. Prior provisions concerning manure management agencies were incorporated into the new legislation. New record-keeping requirements for operations that are particularly large or that pose a hazard to the environment have been added to existing rules concerning the consignment of manure to other operators. The MEF can also require operators to submit records of manure spreading and shipping activities. Spreading on frozen or snow-covered ground continues to be prohibited, to which is added a ban on spreading between 1 October and the following 1 March, and the use of canons to spread liquid manure. Requirements for waterproof storage facilities and authorization prior to construction or expansion of facilities are maintained for the largest operations.

The new regulation is innovative in that it governs both organic (manure, compost) and inorganic fertilizers. Moreover, the use of inorganic fertilizer containing phosphorus is prohibited on soil already abundant in this element. The Regulation's main component is the requirement, for the 25 000 operators with the highest environmental risk factors, to develop agri-environmental fertilization plans. These plans, to be developed over the next six years, will control fertilizer application such that a balance is established between crop needs and the use of all types of fertilizer. With regard to odor control, the new regulation does not set minimum distances between livestock operations and inhabited areas.

3.2 Relevant Provisions of the NAAEC

This section will deal with the principle goals of the NAAEC and the right of the Parties to establish their own levels of environmental protection. It will also contend that the Submission is not justified because Quebec conforms with Article 5 by enforcing its environmental laws and regulations effectively. Finally, the fact that the Submission was filed in the context of regulatory and administrative revision will be considered.

Article 1 of the NAAEC

Canada holds the position that the current regulations in Quebec and the regulatory and administrative changes presently taking place, fall within the objectives of Article 1 of the NAAEC, particularly paragraphs 1B, 1D, 1F, 1G, 1H, 1I et 1J (1).

Article 1 of the NAAEC states that:

The objectives of this Agreement are to:

- foster the protection and improvement of the environment in the territories of the Parties for the well-being of present and future generations;
- promote sustainable development based on cooperation and mutually supportive environmental and economic policies;
- increase cooperation between the Parties to better conserve, protect, and enhance the environment, including wild flora and fauna;
- support the environmental goals and objectives of the NAFTA;
- avoid creating trade distortions or new trade barriers;
- strengthen cooperation on the development and improvement of environmental laws, regulations, procedures, policies and practices;
- enhance compliance with, and enforcement of, environmental laws and regulations;

- promote transparency and public participation in the development of environmental laws, regulations and policies;
- promote economically efficient and effective environmental measures; and
- promote pollution prevention policies and practices.

Article 3 of the NAAEC

Moreover, the Submitters decided to file their Submission to the CEC during a process of broad regulatory and administrative change—change that is in keeping with the spirit of Article 3 of the NAAEC.

It should be noted that this Article states:

Recognizing the right of each Party to establish its own levels of domestic environmental protection and environmental development policies and priorities, and to adopt or modify accordingly its environmental laws and regulations, each Party shall ensure that its laws and regulations provide for high levels of environmental protection and shall strive to continue to improve those laws and regulations.

Quebec's Environmental Quality Act and its regulations concerning the control of agricultural pollution presently guarantee high levels of environmental protection. The changes undertaken aim to improve the regulations and further elevate environmental protection in the agricultural sector, in accordance with Article 3 of the Accord.

Article 4 of the NAAEC

With respect to the principle of transparency and the regulatory and administrative revision process undertaken by the Government of Quebec, Canada maintains that the proposed measures were published in advance, allowing interested persons to comment on the proposed changes. This is in compliance with Article 4 of the NAAEC which states:

Each Party shall ensure that its laws, regulations, procedures and administrative rulings of general application respecting any matter covered by this Agreement are promptly published or otherwise made available in such a manner as to enable interested persons and Parties to become acquainted with them.

To the extent possible, each Party shall:

- publish in advance any such measure that it proposes to adopt; and
- provide interested persons and Parties a reasonable opportunity to comment on such proposed measures.

Article 5 of the NAAEC

Quebec has enforced its environmental regulations in the agricultural sector effectively and continues to improve this enforcement in a manner consistent with Article 5 of the Accord and within the framework of Article 45 (1) (a).

Article 5 of the NAAEC presents a non-comprehensive list of governmental measures aimed at ensuring the enforcement of laws and regulations. This Article illustrates that, within the spirit of the NAAEC, a wide range of measures can be employed. The special nature of the agricultural sector and the types of pollution it produces have led to many innovative regulatory enforcement methods. Thus, like most OECD countries, Quebec governmental authorities, for the most part, use incentive measures to ensure enforcement and reach environmental goals.

Articles 6 and 14 of the NAAEC

Furthermore, it shall be demonstrated that the Government of Quebec has respected Article 6 of the NAAEC (private access to remedies) inasmuch as Quebec's legislation provides for private remedies.

With regard to Article 14(3) of the NAAEC, the Government of Quebec reported to Canada that the issues raised in the Submission were not the subject of legal proceedings according to the first part of Article 14(3) (a).⁹ Nevertheless, Quebec maintained that, at the time the Submission was filed, these issues were undergoing a process of regulatory and administrative review by the MEF and MAPAQ (*ministère de l'Agriculture, des Pêcheries et de l'Alimentation*). As stated by the Submitters, a parliamentary commission was held in August 1994, and it was while this commission was sitting that they indicated their intention to bypass the process of administrative and regulatory review and file a Submission with the Commission for Environmental Cooperation.

Concerning other information Canada intends to present under Article 14(3) (b), the Government of Quebec points out that its environmental protection legislation is the responsibility, not only of the government, but of all citizens who benefit from it.

This is confirmed in Sections 19.1, 19.2 et 19.3 of the Environmental Quality Act, which states:

Section 19.1 Every person has a right to a healthy environment and to its protection and to the protection of the living species inhabiting it, to the extent provided for by this act the regulations, orders, approvals and authorizations issued under any section of this act [...].

Section 19.2 A judge of the Superior Court may grant an injunction to prohibit any act or operation which interferes or might interfere with the exercise of a right conferred by section 19.1.

Section 19.3 The application for an injunction contemplated in section 19.2 may be made by any natural person domiciled in Québec frequenting a place or the immediate vicinity of a place in respect of which a contravention is alleged.

⁹ The Party shall advise the Secretariat [...]:

(a) whether the matter is the subject of a pending judicial or administrative proceeding, in which case the Secretariat shall proceed no further; and

(b) if any other information that the Party wishes to submit, such as

i) whether the matter was previously the subject of a judicial or administrative proceeding, and
ii) whether private remedies in connection with the matter are available to the person or organization making the submission and whether they have been pursued.

It may also be made by the Attorney General and by any municipality in whose territory the contravention is being or about to be committed.

This beneficiary right is well established in Quebec law. Take, for example, the cases of *Bellefleur*,¹⁰ and *Immeubles Charlesbec* and *Selenco*¹¹. In the *Bellefleur* case, judge Proulx of the Quebec Court of Appeal stated: “After reading these three sections (19.1, 19.2 and 19.3) it is clear that the legislator wanted a great deal of public involvement in environmental monitoring, and that interest is broadly defined, as the complainant need only reside in Quebec and frequent the allegedly polluted area or live in the immediate area.”

The *Immeubles Charlesbec* and *Selenco* case clearly illustrates the interest necessary to go before the courts. The complainants alleged that they frequented the vicinity near which Selenco proposed building a polychlorinated biphenyl (PCB) treatment and destruction complex. The complainants’ interest was recognized under Article 19.3 whereby an interim injunction was filed, stopping all work on the complex until such time as an authorization certificate could be issued by the government under Section 31.5 of the EQA.

It should be stressed that before the complainants’ interest was recognized and their request granted, the Superior Court noted that “They (the complainants) were concerned about the impact and harmful effects of toxic wastes and residues on the environment in which they lived and worked, on the health of humans and animals, on the lands and sources of water in the area, on the atmosphere, etc.” Thus, the exercise of the right to a healthy environment must also be considered with regard to the persons at whom Section 19.3 of the EQA is aimed.

Several recent decisions of the Supreme Court of Canada give associations better access to the courts, and changes to section 60 of the Quebec Civil Code allow for associations without legal status to participate in legal proceedings, as plaintiffs and defendants.

The Superior Court’s decision in the case concerning the Frelighsburg taxpayers’ association.¹² (*Association des contribuables de Frelighsburg Inc.*) provides an example. The decision rendered in this case clearly underlines that public law, and more specifically, urban planning and development, should not be bound by the framework of private law jurisprudence when determining whether interest is sufficient. The Court concluded that the complainant association had sufficient interest to cancel a development plan in which a mountain was classified as a recreational rather than natural area. On page 14 of its judgment, the Court stated that “if ecology and environment are not to become dead letters in the law, organizations promoting such interests must be allowed to be heard, even before the courts...”

¹⁰ *Bellefleur vs. A.G. of Quebec* (24 August 1993), Quebec 200-09-000129-939 (C.A.) on p. 14, judges Lebel, Baudoin and Proulx (diss.), application for leave to appeal to the Supreme Court denied (4 March 1994), 23213 (S.C.C.).

¹¹ *Bécharde vs. Selenco Inc.* [1988] Q.L.R. 2267 on p. 2269 (S.C.), Judge N. Barbès, appeal allowed on another question [1989] Q.L.R. 261 (C.A.), judges Dubé, Gendreau and Tourigny; see also *Gagnon, vs. Ville de Salaberry-de-Valleyfield* (6 July 1989), Beauharnois 760-05-000202-893 (S.C.), judge B. Flynn; *Bernier, vs. Immeubles Charlesbec Inc.* (20 April 1979), Quebec 200-05-0001640-791 (S.C.), judge J. Philippon.

¹² *Association des contribuables de Frelighsburg Inc. vs. Municipalité régionale de Brome-Missisquoi* (12 December 1988), 455-05-00176-888 (S.C.), judge T. Toth on pp. 11-12.

Canada stresses that the Submitters did not use every means of recourse available to them. Furthermore, it should be noted that the non-governmental members of the Round Table on the draft *Règlement sur la réduction de la pollution d'origine agricole* were duly convened by the MEF in November 1996. The purpose of this meeting, chaired by the MEF, was to inform them of the government's future directions in the regulation of agricultural pollution. Members of the municipal, health and environmental sectors, including the *Union québécoise pour la conservation de la nature*—which represented environmental-sector interests and is a signatory to the Submission—refused to attend the meeting. This demonstrates that the Submitters, or at least the primary organizations representing their interests, refused to take advantage of every opportunity to discuss the disputed issues.

Article 45 (1) of the NAAEC

Canada's position is that the NAAEC cannot and should not be applied retroactively and that the Submission should only concern itself with the enforcement of legislation taking effect after 1 January 1994. Nevertheless, it should be noted that these enforcement methods are the result of efforts dating back to 1981, when the first regulations in this area were introduced.

In order to clarify ambiguities contained in the Submission, the following section will deal with the primary components of Quebec's sustainable development strategy for the agricultural sector.

4. SUSTAINABLE DEVELOPMENT IN QUEBEC'S AGRICULTURAL SECTOR

In 1992, during the Rio Earth Summit, the Government of Quebec committed to implementing the provisions of Agenda 21, which aimed to achieve sustainable development in all facets of Quebec society. Since then, the Quebec government has given particular attention to the regulatory provisions contained in both Article 8.21 of Agenda 21—dealing with the agricultural sector—and Article 5 of the NAAEC.

Nevertheless, from a sustainable development standpoint, Quebec's agri-environmental management goes beyond simple regulatory control. Quebec has established a global sustainable development strategy for the agricultural sector that includes both regulatory and administrative activities. In this section, the various issues surrounding agricultural pollution will be discussed after which the different actions of the Quebec government toward sustainable development in the agricultural sector will be described.

4.1 *Agricultural Changes in Industrialized Countries*

Agriculture in industrialized countries has undergone tremendous change since the early 1950s. Quebec has seen agriculture become more specialized, mechanized and concentrated, which has translated into increased productivity. As a result, the number of farms has decreased from 138 000 to 35 000 and the amount of land cultivated has decreased by 44 percent. Moreover, much land that was previously used as pasture is now used for field crops. In the livestock sector, hog production has become very popular since the early 1970s, while the total cattle herd has decreased slightly. These changes have contributed greatly to the improvement of Quebec's food supply.

They have also had a number of harmful effects on the natural environment. Sources of agricultural pollution can be divided into two categories: point sources and non point sources. Point source agricultural pollutants come from places that are specific, visible and identifiable, (e.g., livestock and manure storage facilities). On the other hand, non point source pollutants are those that enter waterways by way of underground runoff or, after precipitation, surface runoff; they do not come from a precise point, rather from an entire area.

In the agricultural sector, pollution originates, for the most part, from non point sources. Intensive agriculture has led more and more to the addition of nutrients such as nitrogen and phosphorus to the soil to stimulate plant growth. Lime and synthetic non-organic fertilizers were the first additives to be applied intensively to seed beds; before this, fertilization had consisted of spreading manure products. Mechanization and the use of non-organic fertilizer have led to soil erosion and a gradual degradation of soil structure. Also, some non-organic fertilizers end up in waterways and create an overabundance of nutrients in the water.

The effect of these agricultural practices on a given drainage basin is cumulative and has taken several decades to be felt. Even though the problem is now known, it may take a number of years to improve water quality in the affected drainage basins because of the extreme inertia of agricultural soil. Indeed, in

the case of phosphorus, the soil acts somewhat like a giant sponge, accumulating the element in cation exchange sites over several years before releasing it back into the environment.

The Quebec government's first efforts to reduce point source pollution were in the promotion of animal waste storage, particularly liquid manure, in water-tight facilities. As a result, 5 000 operations, accounting for 6 965 projects, built manure storage facilities. The targeted operations were those that presented the most risk to the environment (large operations, liquid manure). In addition, a further 8 900 operations will be required to construct watertight facilities over the next five years. These operations manage solid rather than liquid manure and are thus less likely to contaminate the environment.

The Quebec government now devotes considerable energies toward the control of non point source pollution. This type of pollution presents a complex set of problems, however, because the recommended solutions entail extensive changes in present agricultural practices. In certain cases, these changes and the necessary equipment involve significant monetary costs for agricultural producers.

In this context, environmental improvements in the agricultural sector can no longer simply rely on stressing enforcement measures such as requiring operators to store manure correctly. The Quebec government is now working at the agricultural-practice level, striving to change farming methods that have been in place for many years.

These observations have led to the development of a global approach toward sustainable agriculture that is both beneficial to the environment and encourages economic growth in rural areas. This approach is supported by numerous mechanisms and strategies that conform to governmental obligations such as Article 2 of the NAAEC. The following section lays out the primary components of this approach.

4.2 Quebec Policy on Sustainable Agriculture

The World Commission on Environment and Development (the Brundtland Commission), created by the United Nations in 1986, highlighted the need to establish a balance between the economic, environmental and social aspects of the agri-food sector. This necessity has also been recognized in recent international agreements that encourage industrialized countries to take environmental and social factors into account when developing policy, particularly agricultural policy.

Quebec policy on sustainable agriculture, which includes a number of different strategies, has followed this trend and demonstrates Quebec's firm will to make sustainable development one of its highest priorities. This section will present Quebec's strategies aimed at the agricultural environment and the protection of waterways in agricultural areas, its policy on sustainable agriculture and a general overview of this policy.

4.2.1 Environmental Strategy in the Agricultural-Sector

Regulation is only one element in Quebec's strategy for improving the quality of the environment in agricultural areas. Indeed, in 1996, the Quebec government changed its strategic orientation so as to more strongly emphasize the agricultural sector. In fact, this area was recognized as one of the major issues in the MEF's five-year plan for 1996-2001 (Annex 6), a document that will provide future direction for the Minister.

Overall, the agricultural-sector environmental strategy rests on the following points:

- the policy on sustainable agriculture;
- the implementation of the *Règlement sur la réduction de la pollution d'origine agricole*;
- the development of agri-environmental fertilization plans;
- the agri-environmental investment support program;
- the finalization of a management model that links fertilization with soil support capacity;
- a dynamic approach to pesticide-use based on plant health and a new pesticide management code;
- programs for providing information, creating awareness and technology transfer;
- the search for a balance between agricultural producers' right to produce and the right of the population to a healthy environment;
- the implementation of an approach facilitating the introduction of new technology;
- the *filière porcine*'s agri-environmental plan and the growing management of environmental responsibilities by the agricultural industry itself;
- increased accountability of agricultural professionals with respect to the environment;
- odor and noise control in agricultural areas.

4.2.2 Strategy for the Protection of Waterways in Agricultural Areas

With its strategy for waterway protection in agricultural areas (*Stratégie pour la protection des cours d'eau en milieu agricole*—Annex 7), created and made public in 1991, the Quebec government has made a concerted effort to implement a policy aimed at improved control of non point source pollution. As a framework for governmental action toward waterway protection in the agricultural sector, its effectiveness relies on stakeholders—including of course, the farmers themselves—being more accountable for environmental matters. It sets out goals, makes practical recommendations and proposes an action plan to improve agricultural-sector waterways by the year 2000. The five objectives of the strategy are:

- to create an integrated water management plan aimed at maintaining watershed and sub-watershed hydrological equilibrium—ensuring that cultivated soils are well drained and irrigated—controlling floods and protecting groundwater;
- to reduce agricultural soil loss, waterway shoreline erosion and sedimentation;
- to ensure water quality such that it can be treated for human consumption, animal watering, irrigation and both recreational and industrial activities;
- to maintain the equilibrium of aquatic and riparian ecosystems;
- to ensure the continuity of governmental investment.

4.2.3 Quebec Policy on Sustainable Agriculture

In 1995, the Quebec government launched its policy on sustainable agriculture (Annex 8). This policy is the result of a forum on sustainable development, held in 1994, that assembled some 40 organizations from the agricultural, fishery, processing and distribution sectors; the affected federal and provincial ministries; and environmental, municipal, university, health care and consumer groups. The forum's goal

was to define the components of a policy that would reconcile economic growth with resource and environmental protection.

This policy is structured around four major concerns held by the bio-food sector: to produce healthy, nutritious foods, to protect resources and the environment, to support competition, and to work toward peaceful **co-existence**. Overall, it aims to establish, together with partners, a balance between environmental, economic and social concerns. To this end, the five-year plan prioritizes five courses of action:

- an overall adaptation of bio-food sector businesses with a view to the implementation of an integrated resource management plan;
- the promotion of global strategies, built on regional or sector-based cooperation, that encourage stakeholders to share responsibilities related to sustainable development;
- the revision of policies and programs in order to encourage the implementation of bio-food practices that are compatible with sustainable development;
- the encouragement of research and education in order to improve sector-based knowledge and technology and to ensure adequate training of human resources;
- access to information for both agricultural stakeholders and the general public.

A follow-up committee, made up of agricultural-sector partners has also been set up in order to support the spirit of cooperation necessary to ensure a coherent plan of action. For such a policy to be successful, it must have the support of all stakeholders. This is why the Quebec government and its various departments try to affect change through cooperation and by offering support for the implementation of solutions by means of:

- an educational approach based on awareness, training and knowledge transfer, and focused on individual bio-food sector workers at every level of the industry;
- an incentive-based approach accompanied by measures that call on stakeholders to define and implement new practices;
- an appropriate regulatory approach;
- an approach that offers a period of adaptation and that, for each new measure, sets out precise objectives, a timetable and periodic overviews.

Overview of the Quebec Policy on Sustainable Agriculture

Quebec launched its policy on sustainable agriculture in 1995. The Quebec government, its personnel and its agencies spent that year determining and approving the policy's content, and putting measures into place to carry out the activities stipulated in the implementation plan. The next year, 1996, was dedicated fostering support and a sense of accountability among the stakeholders for the major challenge that is sustainable development. Implementation of the policy will progress increasingly rapidly until the year 2000, at which time, the Government of Quebec and its agencies will be up to date with regard to sustainable development.

The role played by the Quebec government and its agencies concerning sustainable development takes several forms (Annex 9), a number of which are presented in the overview of the policy on sustainable agricultural development: consulting and integrated management services, technology transfer and

adaptation assistance for businesses, research and development, financial support for producers and organizations through various programs and agreements, and a number of projects and requirements of governmental agencies. Each of these activities adhere to the goals of sustainable development, while still forming a coherent whole.

a) Consulting and integrated resource-management services for agricultural producers

In order to promote the integrated management of resources in agricultural operations, Quebec offers specialized consulting services that help to reconcile economic and environmental objectives.

Governmental experts propose various integrated management tools such as agri-environmental fertilization plans and integrated resource-management plans.

Agri-environmental fertilization plans promote—at the individual farm level—a global approach to fertilization needs. These plans aim to optimize organic fertilizer use (e.g., spreading periods, rates of application), to reduce losses to the environment and to ensure the suitable use of non-organic fertilizers. Over the course of 1995, governmental consultants received training in the use of, among other things, the computer application called *Conseil-champs*, in order to accelerate the production of agri-environmental fertilization plans.

With a view to long-term conservation, the integrated resource-management plan was designed to develop a global vision of an operation's needs and limitations on water- and soil-resource levels. MAPAQ has produced conservation plans, the adoption of which are conditional to obtaining financial assistance for resource conservation projects, since 1990. In 1995, however, in order to better comply with the requirements of integrated management, a more global plan was developed and is presently available to agricultural producers who wish to integrate sustainable development techniques into their operations. It consists of a strategic planning process at the individual farm level that promotes the implementation of new agricultural practices which will also have tangible economic and environmental benefits. Adopting this new plan remains a condition—within the framework of the financial assistance program for agri-food businesses 1996–1999 (Annex 10) and the financial assistance program for agri-environmental investment 1997–2002 (Annex 11)—for financial aide from the Quebec government for water and soil resource development and conservation projects, as well as the construction of manure storage facilities.

b) Consulting and integrated resource-management services at the regional level

The Quebec government also promotes integrated resource management at certain regional levels, particularly drainage basins. Indeed, this type of area is ideally suited for integrated resource management, especially with regard to the improvement of water quality.

Quebec also encourages group consulting and the creation of regional organizations that identify local problems and propose suitable solutions. Over the last few years, a number of agricultural drainage basin projects have been initiated by the Quebec government or have benefited from governmental cooperation, for example:

- **Two water management projects, carried out under the Canada-Quebec Agreement for Sustainable Agriculture (Green Plan) (Annexes 12 and 13)**

These two projects are currently under way in the drainage basins of the Turmel and Saint-Esprit waterways, situated in the Beauce (Sainte-Marie) and near Joliette (Saint-Jacques and Saint-Alexis) respectively. The projects' goals are to assess the impacts—primarily on water quality but also on soil quality—of new agricultural conservation practices. The Quebec government provides the administrative and agronomic framework for agricultural businesses to accelerate this process and assist regional management of the project.

· **The Boyer River restoration project in the Chaudière-Appalaches region**

This project involves various regional stakeholders and has the primary objective of restoring the river's smelt spawning grounds. Other goals include the reduction of non point source agricultural pollution, the stabilization of shorelines, a more efficient use of organic fertilizer and an overall improvement in water quality in order to benefit the population of the basin. The Quebec government has provided both technical and financial support for this very large project. Agricultural operations whose activities pose risks to the environment have benefited from some financial assistance and consulting services. Over the past two years, agricultural enterprises have invested nearly C \$500 000 while government partners (both federal and provincial) have directly contributed C \$250 000 to aid operators. These investments are aimed at the protection of the river and its banks as well as the adoption of agricultural practices that contribute to soil and water conservation. This project is continuing in a spirit of cooperation and partnership.

· **The restoration of Perron Creek in the Lac-Saint-Jean area**

This project has been carried out by farmers living along the creek near Saint-Prime in cooperation with government and regional partners. After several years of hard work and investment, for which the Quebec government has provided the technical and financial framework, the creek's environmental management plan—aimed at slowing water erosion, stabilizing the river banks, de-polluting the creek and regenerating the habitats of several animal species—has nearly been completed.

With a view toward the optimum use of regional resources, the Quebec government supports—with consulting services and, when needed, financial assistance—projects that improve the coexistence of agriculture and wildlife. Several examples are:

· **The Turmel Creek wildlife restoration project**

In cooperation with partners, the Quebec government is involved in the wildlife restoration of Turmel Creek, in the Beauce. With the overall objective of re-establishing the Brook trout population, this project is working to stabilize river banks and install riffles and pools in the river bed. Marshes have also been created as waterfowl resting and feeding areas.

· **Riverbank stabilization of the Coaticook River**

The Quebec government has supported important riverbank stabilization work along the Coaticook River. Planting vegetation has reduced riverbank erosion, and fish habitat in this river will be considerably improved.

c) Technology transfer and business adaptation

The Quebec government promotes knowledge sharing, particularly knowledge that comes out of research. Sharing knowledge in this fashion means that information is transferred to the farm operators who need it most so they can adapt more quickly to new agri-environmental requirements.

Government of Quebec experts spend much of their time distributing, extending and explaining new agricultural information. Many active demonstration sites have been established to exhibit new, more environmentally-friendly agricultural practices and equipment under real conditions. In 1995–1996, Quebec financially and technically supported nearly 450 pilot and technology transfer projects that affected 15 000 farm operations (both in the field and the classroom—see Annex 9). New breeding and animal waste storage methods are constantly being evaluated, especially for the pork-producing sector. Information sessions, mini-colloquiums and workshops with expert speakers are also organized throughout Quebec. Whether initiated by the Quebec government or in partnership with other organizations, these activities serve to make new knowledge more easily accessible and available to farm operators; activities dealing with sustainable development are extremely popular with the agricultural sector.

Quebec also supports an agri-environmental awareness tour of farm operations by a number of regional and specialist federations of the UPA; this tour has received more than C \$450 000 over the last five years. Quebec also financially supports an agri-environmental farm network created in the UPA regional federation areas of Lévis-Bellechasse, Rive-Nord and Lotbinière-Mégantic.

d) Research and development

In order to promote the development of new knowledge in the area of sustainable development, Quebec has included this theme in its research programs. It also ensures that such programs respond to both the economic and environmental needs of the bio-food sector.

The Quebec research sector benefits from a fish and agri-food research council (*Conseil des recherches en pêches et agroalimentaire du Québec*—COPRAQ) that makes available a great deal of funds for various research projects, including sustainable development work. COPRAQ funds a systemic research program that takes social, environmental economic and technical factors into consideration. The number of such projects has grown from 4 in 1993 to 19 in 1995 for a total of C \$1.7 million. Moreover, the science and technology policy for the Quebec bio-food sector (*Vers une politique scientifique et technologique pour le secteur bioalimentaire québécois*—Annex 14) places a high emphasis on sustainable agriculture. Organizations must submit a declaration of environmental compliance before any funding is granted.

The Government of Quebec has also invested in multidisciplinary research in order to develop a more global vision of production systems. For example, research projects are currently underway to develop new methods of reducing pesticide and non-organic fertilizer use, and new environmentally-friendly techniques for raising livestock. Between 1993 and 1995, the government spent more than C \$400 000 on research into the efficient use, storage and spreading of organic fertilizers as well as their impact on water and the environment in general. Quebec is also involved with certain research projects carried out under an assistance program for manure management (*Programme d'aide à l'amélioration de la*

gestion des fumiers—PAAGF). Given the quality and relevance of these projects' results, the Government of Quebec has taken on the responsibility of distributing and making the data available. This new knowledge means that more environmentally-friendly organic fertilizer management techniques can be introduced or adopted; this is particularly useful for the pork producing industry.

Recently, a soil quality observation program was implemented to ensure that soil quality is monitored in the long term and to better serve the agricultural sector. In 1995, 15 permanent monitoring sites were in operation and a new component, with the goal of measuring the effects of production systems and growing practices on drainage water quality, has been added to the program.

In order to make available strategic information with respect to interactions between the agricultural sector and resource and environmental conservation, and to target governmental actions more effectively, the Quebec government is finalizing an agri-environmental production indicator methodology. It uses a special approach (*“Pression—État—Réponse”*) to better respond to requirements of the government and certain partners.

The “pressure” indicators (i.e., allowing an evaluation of environmental pressures exerted by agricultural activities) are currently in use. The focus is on organic and non-organic fertilizer management as well as cropping systems.

e) Financial Support

- ***Canada-Quebec Subsidiary Agreement for Sustainable Agriculture***

Before developing its sustainable development policy, the Quebec government entered into an agreement with the Government of Canada called *l'Entente auxiliaire Canada-Québec pour un environnement durable en agriculture* (Annex 15). This agreement was signed in February 1993 and will end in December 1997. Under this agreement, the two governments invested more than C \$34 million in sustainable development. It outlined various plans of action, such as research programs, technological innovation, the promotion of new techniques, advisory groups and drainage-basin water management. Projects were required to focus on the following areas:

- improvement of water quality and reduction of non point source pollution;
- conversion and management of by-products from agricultural processing industries;
- resource conservation and integrated fertilization;
- plant protection;
- wildlife/agriculture co-existence.

Research projects were focused on the overall effort toward crop protection, the improvement of water quality, pollution reduction, resource conservation, integrated fertilization and the improved use of by-products from the agri-food processing sector.

Technological innovation projects dealt primarily with plant protection, resource conservation and integrated fertilization.

Promotional projects were principally aimed at new techniques for more effective resource conservation, chemical reduction, manure management and various environmentally-friendly growing

techniques. At the educational level, this program allowed the development of projects dealing with integrated resource conservation, pesticide reduction and global integrated fertilization plans.

12 advisory groups were formed, bringing together 290 farm operators who, with the help of specialists, learned about the feasibility and cost-effectiveness of sustainable agriculture in Quebec. As a result, non-organic fertilizers and pesticides were greatly reduced on these farms, each of which now has a resource conservation plan in place.

The last part of the agreement—drainage basin water management—allowed two projects to be undertaken: one in the Beauce and another north of Montreal.

- **Assistance program for the improvement of manure management (PAAGF)**

By 1988 it was clear that regulatory control measures were insufficient by themselves to reach agricultural pollution reduction targets. In order to accelerate the process, the Quebec government instituted an assistance program for improving manure management (*Programme d'aide à l'amélioration de la gestion des fumiers*—PAAGF). This program provided farmers with financial support for the construction of manure storage facilities and the purchase of specialized equipment.

From 1988 to 1997, C \$114 million was granted to 6 965 projects for the construction or modification of storage facilities. This resulted in the proper storage of more than 12 million cubic metres of manure produced by nearly 698 000 animal units. Priority was determined by taking into account, depending on the severity of the case: herd size; manure type; distance from wells, lakes, marshes, swamps, streams, rivers, roadside ditches, or other waterways appearing in the public record or on maps, and; proximity to inhabited areas.

The PAAGF was complemented by research, development, promotion and demonstration components in order to promote the development and implementation of effective manure management techniques. 47 research and development projects (Annex 16) were undertaken in the following sectors:

- environmental impact and awareness;
- environmental impact reduction techniques (facilities, equipment, etc.);
- management support tools for environmental action.

A last component of the PAAGF was aimed at setting up manure management agencies for operations with insufficient land on which to spread their manure. This component paved the way for the partnership approach described in section 4.4.

- The assistance program for agri-environmental investment

The PAAGF has been replaced by an assistance program for agri-environmental investment (*Le Programme d'aide à l'investissement en agroenvironnement*—Annex 11) which falls suitably under the extension of the Quebec government's policy on sustainable agriculture, adopted in 1995. New regulatory measures to control agricultural pollution have changed manure spreading periods and manure storage limits. They also require farm operators to hold agri-environmental fertilization plans. Such measures have had a significant financial impact on producers and the Quebec government is aware that it must support farm operators in their efforts to rise to these new environmental challenges.

It is for this reason that the assistance program for agri-environmental investment, which comes into effect in June 1997, was adopted.

This program aims to, among other things, assist in the adoption of farming practices and technology that will encourage resource and environmental conservation. Over a period of five years, it should resolve the problems surrounding manure storage and improve the management of both organic and non-organic fertilizers; to this end, a sum of C \$319 million has been projected. This program is administered by the MAPAQ and has four components: manure storage facilities, manure treatment procedures, manure-spreading equipment and agri-environmental consulting services.

- Manure storage facilities

This program provides for the financing and construction of manure storage facilities such that farm producers can increase their storage capacity to 250 days. This objective can be reached either by an increase in storage capacity or a reduction in the volume of manure to be stored.

The financial aid is adjusted depending on the type of manure stored and the size of the operation. The aid applies to professional service costs, storage facility construction work or an alternative MAPAQ-approved solution. The deadline for project completion varies depending on herd size. Until March 1999, the program will deal with the largest operations (i.e., more than 100 animal units) and will expand to include operations with less than 50 animal units by March 2002.

- Manure treatment procedures

This component of the program aims to diminish the volume of manure that must be transported or converted. Priority will be given to operators or groups of operators that are situated within municipalities and have been identified as having surplus volumes of manure according to the *Règlement sur la réduction de la pollution agricole*. Financial assistance applies to costs for partial or complete manure treatment methods and cannot exceed C \$60 000.

- Manure-spreading equipment

By encouraging the use of specialized liquid manure spreading equipment, this component of the program aims to improve manure management and reduce odors. The financial aid applies to the purchase of spraying bars and cannot exceed C \$3 000.

-Agri-environmental consulting services

This component assists farm operators in developing a global vision of their businesses with a view to sustainable agriculture, and in accelerating the implementation of environmentally-friendly farming techniques. It also encourages the exchange and transfer of knowledge and the creation of agri-environmental fertilization plans.

Specifically, it provides financial assistance (maximum of C \$500 per member operator for 5 years) covering a portion of admissible costs to operators belonging to an agri-environmental club in partnership with an agronomist. In order to qualify, the club must produce, among other things, an annual work plan that deals with both the establishment of global objectives for sustainable agriculture and the development of agri-environmental fertilization plans.

f) Programs and requirements of government agricultural agencies

Two Quebec agencies have put measures into place that encourage practices that are resource- and environmentally-friendly: an agricultural finance commission (*la Société de financement agricole du Québec*—SFA) and an agricultural insurance board (*la Régie des assurances agricoles du Québec*—RAAQ).

In 1995, the SFA integrated support for operations using environmentally-friendly practices into its programs. These programs offer reduced interest rates for five years to farm operations that invest in complying with environmental standards; when necessary, the SFA requires an authorization certificate to be issued by the MEF.

The RAAQ, in partnership with the MEF, has implemented a pilot project on pork producing farms in the Chaudière, Yamaska and Assomption river watersheds. This project offers compensation to operators holding MEF authorization certificates; the RAAQ hopes to expand this project to other types of producers.

With a view to encouraging farm operations to practice more effective integrated resource management, the RAAQ requires insured operators to have crop and agri-environmental fertilization plans. The agency also encourages operators to rotate crops; in 1996, it required potato producers to implement a crop rotation of two years of potatoes followed by one year of cereal or green manure.

Thus, there are a number of activities that exist other than the implementation and enforcement of regulations. This being said, regulatory measures play a major role in Quebec's agri-environmental strategy, as will be seen in the following section.

4.3 Regulatory Enforcement

4.3.1 A Historical Overview of Agri-environmental Regulation in Quebec

The first efforts to manage agricultural pollution problems date back to the adoption of the Environmental Quality Act in 1972. Nevertheless, it was with the adoption of the Regulation respecting the prevention of water pollution in livestock operations on 10 June 1981 that real action was taken concerning agricultural pollution in Quebec.

The Regulation's first years were dedicated to solving the most serious cases. For this reason, compliance with liquid manure management standards was made a priority; this concerned primarily the storage of animal wastes from pork and poultry operations, which posed the greatest environmental risk. It is also for this reason that a storage and spreading equipment authorization procedure was set up and applied throughout Quebec.

After many months of consulting with health care representatives, environmental groups (some of whom are signatories to the Submission filed with the CEC) and agricultural sector officials, the Government of Quebec implemented the *Règlement sur la réduction de la pollution agricole* on 3 July 1997; this new regulation is better suited to the realities of today's agricultural sector.

The next section outlines the Quebec government's primary methods for managing and monitoring the enforcement of its environmental regulation in the agricultural sector.

4.3.2 Regulatory Enforcement in Quebec

In Quebec, the control of agricultural activities can be classified into two main categories: the examination of the activity before its implementation (“analysis”) and the monitoring of the project developer's compliance with regulations (“monitoring”). The judicial framework put into place by the Quebec government permits intervention in both categories. Since 1988, the MEF has assigned some 42 people to the tasks of controlling agricultural activities in Quebec: 26 for analysis and 16 for monitoring.

As has been previously mentioned, the Environmental Quality Act, the Regulation respecting the prevention of water pollution by livestock operations (Q.2, r. 18)—replaced by the *Règlement sur la réduction de la pollution agricole* on 3 July 1997—and the *Règlement sur l'évaluation et l'examen des impacts sur l'environnement* (Q.2, r.9), affect the establishment of farms and the resultant agricultural activities. To these judicial tools are added two directives. The first concerns the prevention of air pollution from livestock operations (*Directive sur la protection contre la pollution de l'air provenant des établissements de production animale* (D-038)—Annex 17), and sets limits for distances between breeding establishments and areas that are inhabited or that must be protected from odors. The second directive concerns manure storage (*Directive sur l'entreposage du fumier, du lisier ou du purin* (D-016)—Annex 18), and establishes standards by which manure storage facilities are considered watertight.

Starting in September 1996, the MEF adopted a new analytical framework concerning applications for authorization certificates for pork-production operations¹³ (Annex 19). A supplementary document called *Informations supplémentaires concernant les projets d'établissement de production animale* (supplementary information concerning livestock operations—Annex 20) gives details about information breeders must furnish under this new framework. Specifically, it deals with project data concerning implementation and operation; the physical, biological and socio-economic characteristics of the project's location; environmental impacts; and the measures proposed to reduce environmental impacts. Based on this information, the MEF is able to identify more complex environmental problems and ensure that proper mitigation measures are in place.

Thus, since 10 June 1981, livestock operators who wish to establish, expand or modify an operation must first apply for an *authorization certificate*.

The Analysis Component

The EQA, the *Règlement sur la réduction de la pollution agricole*, the two directives and the supplementary documents require applicants to furnish the Quebec government with information such as localization and construction plans, the agronomic parameters giving rise to the project and the means

¹³ To date, more than 500 projects have been examined under this complementary administrative provision.

and methods of manure disposal. Applicants must submit this information by completing the authorization certificate application form. (Annex 21)

This information is rigorously analyzed to ensure that regulatory and administrative standards have been met. Next an analytical report is prepared that either approves or refuses the authorization, after which the applicant is notified of the result. Operators submitting incomplete projects are notified by government analysts; generally, however, projects are modified such that they comply with the required standards, thus official refusals are infrequent.

With this method of project control, all agricultural-sector clients, without exception, are subject to the same strict analytical process. In this way, quality control is carried out *before* a project goes ahead.

In addition, the *Règlement sur l'évaluation et l'examen des impacts sur l'environnement* subjects the largest projects to a review process different from the one described above; to date, only two projects have undergone this type of analysis. As mentioned in section 3.1.4, this process deals with the construction or expansion of one or several buildings in an operation where the total number of housed animal units equals or exceeds 600 (for liquid manure) or 1000 housed animal units (for solid or semi-solid manure).

This procedure is much more stringent and requires that an environmental impact directive be drawn up when the project is filed with the MEF. This study is carried out by the developer and filed with the MEF, who determines its admissibility before making it public. Generally, certain changes are required before the document is deemed admissible. Next, it undergoes a period of public consultation, at which time anyone can request that public hearings be held. After reviewing the requests, the MEF can order that public hearings be held at Quebec's environmental public hearing office (*Bureau d'audiences publiques sur l'environnement*—BAPE).

On the basis of BAPE hearings and the MEF's analysis of the project, the Minister determines whether the project should be authorized or not, and the Cabinet either approves, refuses or decides on conditions for its approval. While operators who obtain authorization certificates through this process can carry out their projects and begin breeding operations, they are no less subject to monitoring by government inspectors than any other operator.

The Control Component

While the analysis component applies to new or modified facilities, the monitoring component also applies to already-existing operations that have not been modified. Thus, the MEF uses the monitoring component to both determine the compliance of work completed under the provisions of authorization certificates and to monitor the agricultural practices, good or bad, of all farm operations.

Each regional department of the MEF has a monitoring plan that is based on a general procedure and adapted to local conditions (Annex 22). A new procedure, reflecting the requirements of the 3 July 1997 regulation is currently being prepared

Monitoring parameters fall into two categories: compliance with agronomic and engineering standards, and compliance with operational standards. Specific structures subject to monitoring are farm buildings and storage facilities. As a general rule, manure storage pit volumes are also measured in order to

ensure that storage times, which depend on herd size, are respected. Operational parameters include herd count, validation of spreading records, and compliance with spreading boundaries, spreading dates and spreading agreements.

Monitoring activities in the field are adapted to regional circumstances, but the approach outlined by Quebec's legislation prioritizes the examination of project design (*a priori* monitoring) rather than requiring the eventual demolition of badly designed or poorly located structures. It is because the MEF places such an importance on analysis that its field monitoring efforts can be targeted more precisely, according to the following circumstances:

- written and verbal complaints deemed relevant by the monitoring division;
- requests from MEF officials;
- requests from sector units;
- inspections for compliance with issued authorizations;
- follow up on environmental emergencies;
- follow up after investigations;
- follow up on notices of violation.

As an example, aerial surveys done in the fall have helped to locate and bring to trial, producers that spread manure on frozen or snow-covered soil.

Both the inspection and investigation processes used by the MEF are described in a guide to inspection procedures (*Guide sur le processus d'inspection*—Annex 23). Inspection and investigation are two very different concepts. Inspection is an action whereby a duly assigned government employee enters an area without any prior suspicion that an infraction has been committed. Investigation is a search undertaken in order to take measures against infractions. The overall process can be summarized as follows:

- first, an inspection record (*fiche d'inspection*) is created from certain trigger elements and information already on file with the MEF concerning the operation to be inspected;
- the inspection is then carried out and the results compiled in an inspection file (*dossier d'inspection*). Depending on the findings, a decision is made whether or not to issue a violation notice (*avis d'infraction*) which, depending on the case, includes a deadline for compliance. Once the deadline has passed, a second visit is carried out and the findings are noted in the inspection file. If the offender has not complied, recourse measures are evaluated and civil or criminal proceedings are initiated. Administrative remedies such as ministerial orders (*ordonnances ministérielles*) are also considered.

The monitoring statistics, presented in Table 1, clearly show that the number of inspections is growing, rising from 658 in 1994–1995 to 2 106 in 1996–1997. Substantial increases are also shown in the numbers of complaints received (from 93 to 154), violation notices issued following inspections (from 187 to 423), and investigations (from 28 to 51). In cases of non-compliance, violation notices generally allow the situation to be rectified without having to resort to investigations or judicial proceedings.

Table 1

MINISTÈRE DE L'ENVIRONNEMENT ET DE LA FAUNE

REGULATORY ENFORCEMENT STATISTICS

Regulations, Directives and Policies	Analysis						Monitoring											
	Requests for official documents			Requests processed			Inspections			Complaints processed			Violation notices			Investigation requests		
	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95
Sector: Agriculture																		
Prevention of air pollution for livestock operations (D.038)	72	464	265	99	439	188	132	192	70	0	12	5	9	12	8	0	1	1
Regulation respecting the prevention of water pollution in livestock operations	1819	1376	1043	1630	1348	920	2106	1689	658	154	190	88	414	414	179	51	84	27
Sub-total	1891	1840	1308	1729	1787	1108	2238	1881	728	154	202	93	423	426	187	51	85	28
Sector: municipal																		
Water collection and distribution directive (D.001)	713	465	674	704	513	843	53	89	230	11	3	4	13	3	17	2	2	6
Sewer system(D.004)	392	686	693	409	736	526	39	53	37	8	13	6	6	11	8	1	4	3
Policy on the protection of riverbanks, shorelines and floodplains (R.17.1)	730	657	638	628	712	458	768	647	238	130	171	106	151	170	86	19	35	29
Regulation respecting solid wastes(R.3.2)	144	162	152	158	166	184	1656	1936	2546	170	250	190	410	545	680	62	95	173

Regulations, Directives and Policies	Analysis						Monitoring											
	Requests for official documents			Requests processed			Inspections			Complaints processed			Violation notices			Investigation requests		
	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95
Regulation respecting drinking water (R.4.1)	0	0	0	0	0	0	1-3	443	292	14	19	6	55	147	170	3	16	13
Regulation respecting the storage of used tires (R.6.1)	6	2	1	3	1	2	70	90	159	3	3	3	13	13	16	2	8	9
Regulation respecting water and sewer companies (R.7)	78	87	102	79	80	72	45	80	51	10	15	17	20	35	34	13	8	14
Sub-total	2063	2059	2260	1981	2208	2085	2734	3338	3553	346	474	332	668	924	1011	102	168	247
Sector: Industrial																		
Mining industry (D.019)	41	20	16	34	21	32	110	78	75	0	0	0	29	40	38	2	2	4
Rehabilitation of contaminated sites policy P.002	69	47	25	63	42	30	518	378	460	36	34	28	44	38	94	12	18	22
Regulation respecting pulp and paper operations (R.12)	46	17	37	37	32	46	75	81	93	2	1	1	3	10	56	0	1	3
Regulation respecting pulp and paper operations (R.12.1)	77	108	90	75	127	46	311	215	33	5	2	4	75	54	2	2	4	0
Regulation respecting quarries and sand pits (R.2)	388	353	361	383	415	417	1050	894	989	94	148	119	219	271	367	61	71	91
Regulation respecting atmospheric quality (R.20)	181	160	194	215	196	284	542	546	611	102	131	131	123	120	230	25	41	40

Regulations, Directives and Policies	Analysis						Monitoring											
	Requests for official documents			Requests processed			Inspections			Complaints processed			Violation notices			Investigation requests		
	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95
Regulation respecting ozone-layer depleting substances (R.23.1)	0	0	0	0	0	0	506	624	1839	5	5	1	29	130	445	1	6	3
Regulation respecting bituminous concrete plants (R.25)	31	23	29	31	27	27	99	64	65	1	7	4	10	7	15	2	6	7
Regulation respecting biomedical waste (R.3.001)	9	5	11	5	11	21	194	347	458	1	4	3	11	39	50	0	3	1
Regulation respecting hazardous waste (R.3.01)	432	486	399	459	495	459	1962	2043	2517	76	121	63	243	278	392	40	35	78
Sub-total	1274	1219	1162	1302	1366	1362	5367	5270	7140	322	453	354	786	987	1689	145	187	249
Sector: Pesticides																		
Regulation respecting pesticides	5849	5559	6985	5445	5354	6823	312	604	978	6	17	0	65	152	331	4	7	10
Directive on pesticides	47	60	42	42	53	40	41	83	10	2	5	3	2	12	3	1	2	1
Sub-total	5896	5619	7027	5487	5407	6863	353	687	988	8	22	3	67	164	334	5	9	11
Sector: Other																		
Other interventions not designated by regulations, policies or directives	359	529	419	363	482	408	583	498	893	93	166	133	71	120	234	24	33	149

Regulations, Directives and Policies	Analysis						Monitoring											
	Requests for official documents			Requests processed			Inspections			Complaints processed			Violation notices			Investigation requests		
	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95	96-97	95-96	94-95
Environmental Quality Act, activities not falling under regulations, policies or directives (R.0)	1551	1726	1508	1615	1757	1571	2592	2588	1269	222	334	231	530	459	319	146	128	114
Sub-total	1910	2255	1927	1978	2239	1979	3175	3086	2162	315	500	364	601	579	553	170	161	263
GRAND TOTAL	13034	12992	13684	12477	13007	13397	13867	14262	14571	1145	1651	1146	2545	3080	3774	473	610	798

Table 2 below displays various statistics concerning fines and prosecutions for environmental violations in the agricultural sector. This data shows that since the NAAEC has come into effect, fines totaling more than C \$460 000 have been levied in this sector alone.

Table 2

**STATISTICS ON MEF-INITIATED LEGAL ACTION
IN THE AGRICULTURAL SECTOR**

YEAR	NUMBER OF VIOLATORS	NUMBER OF CHARGES LAID	AMOUNT OF FINES ASSESSED (\$K)
1994	72	135	207,4
1995	80	197	182,8
1996*	88	53	69,6
1997*	20	1	0,6
TOTAL	260	386	460,4

*Partial data as certain cases are still pending before the courts.

These statistics show clearly that, taken as a whole, the actions undertaken by the MEF ensure that the Government of Quebec has not failed to enforce its environmental legislation in the environmental sector. Moreover, Table 1 highlights the considerable effort expended in the agricultural sector as compared to other sectors (municipal, industrial, pesticides etc.).

The provisions in the EQA concerning record-keeping by the MEF have been integrated into an administrative system and are managed by a computer system. This lends transparency to information held by the MEF because, under the provisions of the *Loi sur l'accès aux documents des organismes publics et sur la protection des renseignements personnels* (act respecting access to documents held by public bodies and the protection of personal information), it is available from various service points around the province.

This data-compilation methodology allows the MEF to follow up on all of its activities in all sectors. This was how the statistics for the last three years concerning the enforcement of the Regulation respecting the prevention of water pollution by livestock operations, were generated.

Table 1 is a compilation of MEF interventions in various sectors. As shown, since April 1994 (i.e., essentially since the NAAEC has been in effect), the MEF has received 5 039 requests for official documents, most of which were requests for authorization. 4 624 requests were processed according to the procedures outlined above. The number of requests was up considerably over the last year, increasing by 45 percent over 1994–95.

The Quebec government enforced the Regulation respecting the prevention of water pollution by livestock operations for 16 years. Changes in the agricultural sector and society at large, however, have required that existing agri-environmental legislation be updated.

4.3.3 More Suitable Regulatory and Administrative Procedures

On 3 July 1997, Quebec's *Règlement sur la réduction de la pollution d'origine agricole* officially came into effect. While the new regulation governs livestock operations in much the same way as the preceding one, it also focuses much more on manure spreading, notably by requiring farm producers to adopt agri-environmental fertilization plans and apply their recommendations. Obviously, such significant changes to environmental regulations in the agricultural sector are not made without meticulous planning and organization.

Training and instructing MEF personnel

Before the new regulation came into effect, all agricultural-sector employees from the regional departments were invited to an information session. At this time, personnel were able to ask questions and obtain answers concerning the principles of the regulation and the file-transfer mechanism used to bridge the new and old procedures.

This information session was the first in a series of training sessions; future sessions will deal with specific themes or topics and will determine common guidelines for regional departments. The first of these sessions will be held in the autumn and will deal specifically with deciding on which monitoring strategy to adopt. The enforcement of the new regulation will also be supported by two guides and a data base that will ensure the efficient case-analysis and effective monitoring of agricultural operations.

Regulatory interpretation guide

This guide is used exclusively by MEF personnel charged with applying the regulation and was made available when the new regulation came into effect. It deals with: how to analyze agricultural files; which points to verify; and which documents to provide when applications for authorization certificates for establishing, modifying or expanding farm operation are requested. Aspects of monitoring, such as the interpretation of the regulation's wording so that it is applied consistently province-wide, are also dealt with.

Guide to agri-environmental fertilization

The agri-environmental-fertilization-plan concept is the cornerstone of Quebec's new environmental legislation in the agricultural sector; it makes modifications to agricultural practices—the only real way to make substantial environmental gains—possible. This guide is intended for use by officials responsible for designing agri-environmental fertilization plans and assists in establishing plan content. In particular, it deals with the integration of the environmental issues that must be paramount in such a plan's design. A first version of the guide should be released in the fall of 1997.

Agricultural data base

A new data bank will replace the one presently in place and will facilitate the enforcement of the new regulation. Indeed, the "register," requisite under Section 118.5 of the Environmental Quality Act, is no longer sufficient to respond to the needs of the new regulation. Information concerning the number and types of animals, the types of crop grown and the area under cultivation is necessary if an efficient regulatory monitoring strategy is to be adopted. This information exists in other Quebec government data bases, notably that of the MAPAQ. In the near future, an agreement will be drawn up with the

access to information commission (*Commission d'accès à l'information*—the agency responsible for administering the access to information act) which, once approved, will allow the MEF to access MAPAQ data available on farm operations registration forms (Annex 24). Under the agreement, the MEF will be allowed to know or determine the contact information of producers who:

- are required to keep spreading records;
- are obliged to have agri-environmental fertilization plans;
- are required or exempt from being equipped with storage facilities;
- are not eligible for special provisions;
- are subject to the transitional or final provisions or the new regulation.

A similar agreement will be signed with the RAAQ (*Régie des assurances agricoles*); information concerning MEF breeding permits, which set out production limits, will be made available to the RAAQ so that producers do not receive compensation above the limit stated on their permits. In this way, economic incentives will promote environmental regulatory compliance.

4.3.4 The Introduction of Agri-environmental Fertilization Plans

The Government of Quebec believes that the agri-environmental fertilization plan is the best instrument for changing agricultural practices. Past experience has shown that substantial reductions in agricultural pollution can be made by changing cultivation practices, particularly since point source pollution is now under control.

The purpose of the agri-environmental fertilization plan is to ensure that animal wastes, composts or non-organic fertilizers are spread over areas of cultivated land that have the capacity to support such applications. A well-implemented plan will thus effectively limit the risks of water contamination normally associated with fertilization; it establishes specific fertilization limits for each type of cultivation—limits based on a balance between a crop's expected nutritional needs and the contributions of the soil and all types of fertilizer.

Plans are prepared and signed by an agronomist (one who has been officially recognized by a professional body) or by a professional technician working under the responsibility of an agronomist. Agricultural producers who have completed training that is recognized by the Quebec government can also prepare their own plans. Plans must be accompanied by the spreading record for the growing year preceding that of the plan. The record also allows the government to verify if the recommendations contained in the plan have been respected.

Finally, it is not possible to design an agri-environmental fertilization plan without first analyzing the soil of the land for which the plan is to be created. Such analyses significantly reduce environmental risks by determining the soil's nitrogen, phosphorus and pH levels, so that future fertilization limits can be established. Standardized soil-sampling procedures are included as annexes to the regulatory interpretation guide and will be included in the guide to agri-environmental fertilization so that all designers of agri-environmental fertilization plans will be able to apply them. The soil analysis procedures for phosphorus are included in Annex IV of the *Règlement sur la réduction de la pollution d'origine agricole*, as this regulation applies directly to soil phosphorus content. The procedures for other parameters (organic matter, aluminum, potassium, etc.) are outlined in an official

document of the Quebec crop producer's council (*Conseil des productions végétales du Québec—AGDEX 533*) entitled “*Méthode d'analyse des sols, des fumiers et des tissus végétaux*” (procedures for soil, manure and vegetal tissue analysis).

In short, the Quebec government has left nothing to chance to ensure that its agri-environmental fertilization plans are practical and represent agricultural realities. The new regulation, which was adopted on 3 July 1997, outlines specific requirements for creating agri-environmental fertilization plans, and while the government wishes to give complete latitude to the agronomists responsible for these plans with respect to their powers of recommendation, the MEF will verify, using a sampling method, the quality of the plans in order to identify weaknesses, make recommendations and take any necessary action.

4.3.5 Towards a Reasonable Balance Between the Right to Produce and the Right to a Healthy Environment

The peaceful coexistence of various uses of agricultural land is a governmental priority. To this end, the Quebec government has invited the agricultural, environmental, municipal and governmental sectors to take part in numerous discussions and negotiations. These talks led to the adoption of the *Loi modifiant la Loi sur la protection du territoire agricole et d'autres dispositions législatives afin de favoriser la protection des activités agricoles* (Act modifying the Act respecting the protection of agricultural lands and other legislative provisions promoting the protection of agricultural activities—Annex 25), which came into effect on 20 June 1997. This law implements measures that confirm farmers' right to practice agricultural activities in agricultural areas, municipal sector responsibility for land stewardship, and citizens' rights to environmental quality and health protection.

Shortly after this legislation was adopted, the *Règlement sur la réduction de la pollution d'origine agricole* came into effect on 3 July 1997. The near simultaneous adoption of this regulation and the 20 June bill was a gesture aimed at reassuring the people of Quebec that, in spite of the rights granted in the law, agricultural producers would continue to be required to respect environmental standards concerning the pollution of water and soils. This obligation stems from the repeated commitment of the Quebec government—now entrenched in the 20 June bill—that conditions favorable to farming should not be created at the expense of resource and environmental protection. Moreover, amendments have been made to the Environmental Quality Act such that, henceforth, local municipalities will have sole authority over the regulation of odors stemming from agricultural activities. Thus, in this respect, the right a healthy environment as set out in the EQA will be ensured through municipal regulation.

4.3.6 The Management of Agricultural Noise and Odors

On 18 June 1998, a draft regulation on noise was released, which, depending on the results of consultations, could be adopted in the near future. With respect to odors, a governmental policy paper was drafted for use by regional county municipalities so that these policies could be integrated into their development plans and eventually included in municipal regulations.

4.4 Quebec Governmental Incentives

In 1988, the Government of Quebec initiated incentives aimed at encouraging public involvement in the protection of the agricultural environment. These incentives have resulted in a growing partnership among agri-environmental stakeholders and a new consideration of economic factors in the management of agricultural operations. What follows are a number of examples of the fruit of these incentives.

4.4.1 Increased Cooperation in Agri-environmental Management

In the early 1990s, the Quebec government strongly encouraged the initiation of local and regional organizations of stakeholders wishing to actively participate in a more effective management of the agricultural environment. Here are several examples:

The creation of surplus manure management agencies in the Chaudière, Assomption and Yamaska river valleys¹⁴

Surplus manure management agencies have been created in three of Quebec's most problematic hydrographic basins with respect to animal-waste management. The mission of these agencies is to appropriately use and dispose of the manure in their respective regions, taking into account agronomic, environmental and economic factors.

These agencies are made up entirely of regional stakeholders and their governing boards are comprised primarily of local representation in order to ensure that their activities respond to the needs of their clientele. The Government of Quebec provides financial assistance and the framework necessary for these agencies to reach their goals; by 1999, nearly C \$10 million will have been granted to these agencies for start-up costs, consolidation and specialist services. Moreover, in 1996, the Regulation respecting the prevention of water pollution by livestock operations was modified in order to grant certain powers to these agencies. As a result, producers with surplus liquid manure situated in areas with high breeding concentrations must use the services of the regional management agency if they wish to construct or expand breeding-related facilities.

The activities of these agencies are strictly monitored by follow-up committees made up of representatives from municipal, provincial, environmental and public health sectors. The agencies are accountable for their actions and, if they are deemed insufficient, must improve. They are required to file the following items with the follow-up committee:

- accurate records for manure spreading done under their authority;
- a spreading plan that forecasts manure management for the coming growing period;
- a report of activities outlining the differences between the forecast (plan) and the actual activities (record).

The powers granted to these agencies can be revoked at any time by the Quebec government if these requirements are not met. Any such revocation would lead to a moratorium on production in areas of high breeding concentration. In short, these management agencies promote regional cooperation among

¹⁴ See the hydrographic basin maps of these rivers in Annex 27.

the various stakeholders while giving the Quebec government the final say if an agency cannot guarantee that its activities are environmentally sound.

The creation of local round table committees

The Government of Quebec promotes the formation of round table committees in order to discuss local problems surrounding the agricultural environment. Two types of committees have thus been instituted: one, made up of citizens, interest groups and municipal representatives, discusses various given themes; the second, made up of citizens and formed after a request for a certificate of authorization is filed for a given project, has the mandate of discussing the various details of the proposed project.

Some committees give themselves the specific mandate of following up on construction projects and even, occasionally, post-construction monitoring. The thematic committees allow participants to discuss agricultural problems, and, in particular, problems related to pork production. These discussions deal with basic issues such as:

- the capacity of the area to support the amount of manure it produces;
- the principles of regional regulatory control;
- the conformity of insurable production volumes with those authorized by environmental regulation;
- the problems surrounding drinking water in agricultural areas;
- consultative committees with regional county municipalities (*municipalité régionale de comté*—MRC).

In other respects, the Quebec government occasionally must call upon mediators to resolve disputes between parties clashing over certain local problems. This method of conflict resolution was used twice in 1996–97. The preliminary results obtained from these mediations bear out the interest shown by the parties for this procedure.

The pork industry's agri-environmental plan: an example of the agricultural sector taking environmental responsibility

The *filière porcine* is a voluntary association of pork producers, pork processing companies, distributors, universities and government representatives (Canada and Quebec). Its goal is the long-term development of a viable economic basis for the pork producing sector. This association has developed an agri-environmental plan with a view to developing pork production within a context of respect for the environment and a balance between social and economic factors.

The plan has three basic components: the creation of an agri-environmental profile of Quebec-based pork producers, the technical guidance of these producers and, thirdly, the implementation of an agri-environmental certification process for pork producers.

The goal of creating an agri-environmental profile of the pork-producing sector is to determine the present environmental practices of pork producers as compared to regulatory and certification standards. The profile will establish agri-environmental objectives for all facets of pork production, particularly with respect to odors and water quality. It will also establish qualitative and quantitative

parameters for each operation. Periodic updates of the profile will allow the monitoring of improvements in production and pork producers generally.

Technical guidance will promote the adoption of new liquid-manure management practices among pork producers as well as the use of other conservation tools such as soil analysis, fertilization plans, spreading records and nutrient budget analysis. Technical guidance assists producers with, among other things, the certification process and speeds up technology transfer.

The certification of pork producers aims to motivate operators to adopt more environmentally-friendly practices. Certification facilitates the monitoring of regulatory enforcement as well as the achievement of the agri-environmental plan's objectives through the gradual integration of an initial environmental component into the overall certification process.

The plan also includes other elements such as research and technology-transfer, creating awareness and providing information for pork producers, public outreach, and hiring various personnel. Research and technology-transfer activities are aimed primarily at evaluating new technologies for reducing odors and suitable uses for liquid manure. The focus is on financing research in these areas and ensuring the results are published. The goal of creating awareness and providing information is to promote environmentally-friendly practices, guidance and certification among pork producers. The purpose of public outreach is to increase public awareness of current production practices, their limitations, their regulatory framework and economic factors.

Partnership with agricultural professionals

The close monitoring of Quebec's 35 000-odd agricultural producers is a colossal task for government inspectors alone. For this reason, the Quebec government has undertaken to secure the cooperation of agricultural professionals (i.e., agronomists), who also have the mandate, through their professional association, of protecting the environment and public health. Thus, agronomists must consider a piece of land's historical background and operators' prior practices of before making any recommendations. In this way, if residues from previous fertilization are detected, future fertilization can be reduced.

4.4.2 Taking New Economic Factors into Account in Farm Management

Partnership aside, the Government of Quebec realized that new economic factors could also be advantageously employed in the effort toward better management of the agricultural environment.

In a first phase, the Quebec government ensured that financial assistance, insurance and income stabilization programs were benefiting only those operations in possession of authorization certificates in due form. Similarly, private financial institutions followed suit and now require agricultural operators to have authorization certificates before any financing is granted.

The same regulation that requires operators with surplus manure to turn it over to manure management agencies also promotes taking economic factors into account in farm management. Indeed, manure management costs are billed to operators, who must then factor them into their production costs.

Quebec has also formed a work group to develop a manure management model based on soil support capacity.¹⁵ By creating parameters that define support capacity this model will, in the near future, foster a market for cultivated land: farmland with a high support capacity will have greater value, both in regions with a manure surplus and other regions of Quebec.

Agri-environmental fertilization plans also add value to agricultural land; in fact, requirements to hold and implement such plans generates a demand for land that can accommodate manure products. For the Quebec government, such a market facilitates the control process. First of all, the best guarantee that the manure will be spread properly on the land receiving it is the satisfaction of the client receiving the product. Growers will not accept poor quality manure because they then risk destroying the structure of the soil and its subsequent support capacity. Nor will they risk accepting manure not specified in their agri-environmental fertilization plans, as these plans and records could be checked by the government and penalties imposed. Moreover, there is no economic advantage to accepting more fertilizer than is necessary as growers must pay by the volume of manure received.

In this way, governmental monitoring of spreading will be facilitated. Efforts will consist primarily of administrative verification (records, plans, cross-checking with existing databases) and field verification will be focused on the most problematic areas. Other follow-ups in the field will be done primarily by agricultural professionals responsible for fertilization recommendations before their professional order.

¹⁵ Support capacity: the intrinsic capacity of cultivated soil from a given parcel of land to support the application of manure or non-organic fertilizers.

5. COMMENTS ON THE ALLEGATIONS IN THE SUBMISSION

In this section, Canada responds to the Submitters' allegations. These have been consolidated into 11 principal allegations and a response is provided for each one.

5.1 *Failure to Enforce Environmental Standards*

The Submitters, non-governmental organizations (NGOs) operating in the Quebec environmental sector, assert that there is a “failure to enforce” many environmental standards where agriculture is concerned. To be more specific, for years the government of Quebec has been failing to enforce certain environmental protection standards regarding the agricultural pollution emanating from livestock operations, particularly those of pork producers. (Page 2 paragraph 1 of original French version (OFV))

This failure to enforce the standards that apply to such agricultural activities has serious consequences for the health of Quebec watercourses, and, consequently, that of shoreline populations. Agricultural development which is not viable from a sustainable development perspective causes significant environmental problems, leading to various economic and social costs. (Page 2, paragraph 2, OFV)

As stated in Article 5 of the NAAEC:

With the aim of achieving high levels of environmental protection and compliance with its environmental laws and regulations, each Party shall effectively enforce its environmental laws and regulations through appropriate governmental action, subject to Article 37...

Various relevant provincial authorities have been contacted in writing, and requests for access to information have been filed, in order to determine the degree of failure to enforce the laws and regulations regarding livestock operations (...).Mr. Caron specified that the information concerning the number of investigations had been removed from the diskette. The reason given for this erasure was that these data were not relevant to the initial request. Mr. Caron estimated that his Minister had conducted 4 or 5 investigations. (Page 3, paragraph 2, and page 2 paragraph 7, OFV)

Canada's Response

Canada maintains that the Government of Quebec has met the objectives, duties and obligations of the NAAEC and complied with Article 45.

Canada stresses that, in addition to its approach based on prevention and accountability, Quebec has introduced a monitoring mechanism for enforcing the EQA and its regulations, and appointed and training 42 inspectors. Inspectors have access to application guides and computer support in their enforcement duties. In other respects, selective monitoring techniques are employed. For example, aerial surveillance is used to locate producers that spread manure on frozen or snow-covered ground and initiate proceedings against them.

With respect to monitoring, since 1994, 42 700 inspections have been carried out, of which 6 875 were in the agricultural sector; 3 942 complaints were processed, of which 482 were agriculture-related; 9 399 violation notices were issued, of which 1 601 were in the agricultural sector; and 1 881 investigations were carried out—189 in the agricultural sector. A press release is issued for each fine of more than C \$2 000. Also, monthly press releases, available on the Internet, list the number of fines levied and the amounts imposed by region. A list of businesses and individuals convicted is also available upon request to the MEF.

When authorities deem it appropriate, judicial proceedings against violators are initiated. In 1996, 88 agricultural businesses were convicted and fined nearly C \$70 000. The preceding year, 80 businesses were fined C \$182 800 and in 1994, the number of businesses convicted was 72, with fines totaling C \$207 400.

Finally, Article 119 of the Environmental Quality Act gives authorized government officials powers to enter a property to take samples, install measuring equipment, carry out analyses, review records or inspect the premises in order to enforce the EQA and its regulations. Moreover, under Article 120.1 of the same act, authorized government officials may carry out searches in accordance with the Code of penal procedures.

Nevertheless, Quebec environmental policy in the agricultural sector has been weighted towards a global approach based on accountability, group action and partnership rather than on *a posteriori* monitoring. By prioritizing enforcement activities in this way, the most serious environmental problems can be dealt with, as much for the industrial and municipal sectors as for the agricultural sector. Government directions and environmental policies have led to a definite improvement in the quality of drainage basins with high animal concentrations. These improvements are noted in an MEF report (Annex 28) and a publication by the same author (Annex 29). These documents observe, among other things, a reduction of water phosphorus content since 1979, which the author attributes to municipal water treatment and the suitable storage of manure.

Initially, government action was aimed principally at research and development, the control of point source pollution, promotion and demonstration, surplus manure management and environmental follow-up. Efforts against non point source pollution were subsequently added.

With regard to prevention, authorization is required for establishing, enlarging or modifying a livestock operation, as well as for changing the type of breeding or increasing the number of animals in an operation. Before an authorization certificate is issued, authorities ensure that the project complies with the procedures described in section 4. To this end, between 1994 and 1997, the MEF processed 4 624 requests, primarily requests for authorization.

Larger projects are subjected to a special process within the *Règlement sur l'examen et l'évaluation des impacts sur l'environnement*. This process requires, among other things, that project developers file environmental impact assessments with the MEF. This procedure for impact assessment falls under the jurisdiction of the *Bureau d'audiences publiques sur l'environnement* (environmental public hearings agency).

In order to make its actions more transparent, the MEF has set up a public information service that is available throughout Quebec. Moreover, public information offices have been established in every region for the province. These offices also serve to explain the procedure that developers must follow in order to successfully complete projects.

The Government of Quebec, through the MEF, publishes a state-of-the-environment report every five years. Additionally, 250 studies dealing with the quality of the aquatic environment were published between 1976 and 1997; 16 of these deal specifically with agricultural activities since 1994 (see list in Annex 30).

In accordance with Article 118.5 of the Environmental Quality Act, the Quebec government holds, *inter alia*, public registers concerning:

- applications for authorization certificates, certificates, authorizations or permits;
- issued authorization certificates, certificates, authorizations or permits;
- environmental impact studies;
- orders and notices prior to the issue of orders rendered under the EQA;
- de-pollution programs submitted or approved;
- decisions rendered
- attestations of compliance issued;
- applications and re-applications for de-pollution attestations submitted, and all applications to amend an attestation;
- proposed, issued or amended de-pollution attestations and all notices of intention to refuse;
- application records submitted for public hearings and all comments by persons or municipalities transmitted during the period set aside for consultation of the record;
- statements of results relating to the monitoring of contaminant discharge and all reports and information furnished to the Minister under regulation;
- characterization studies and all requested decontamination or restoration programs;
- notices served by the Minister.

Under the *Programme d'aide à l'amélioration de la gestion des fumiers* (PAAGF), 6 965 projects were voluntarily submitted and carried out by producers with the goals of: regulatory manure storage; supporting associations of producers wishing to take advantage of professional consulting services in order to develop a global outlook of their enterprises within the context of sustainable agriculture; the adoption of environmentally-friendly farming practices; the exchange and transfer of knowledge; and the development of agri-environmental fertilization plans.

With the support of the Quebec government, the *filière porcine*—an association of pork producers and processing businesses, distributors, universities and the governments of Quebec and Canada—was established. The purpose of this voluntary association is the development of pork production on a long-term, viable economic basis and in a context of respect for the environment.

In 1992, surplus manure management agencies were established in regions where high livestock concentrations could cause serious harm to the environment. These agencies have the mandate of

disposing of manure in an environmentally-friendly fashion. They are accountable for their activities before committees made up of local representatives.

The establishment of pig farms is facing growing tensions between citizens and developers. Several projects that have complied with the EQA, its regulations and directives, are contested by citizens acting alone or by organized groups. Confronted with such opposition, MEF representatives participate on twenty-odd committees of two types: thematic committees, made up of citizens, groups and municipalities; and citizens' committees. These committees are instituted when request for authorizations are filed and are aimed at discussing submitted projects.

The Government of Quebec promotes partnership. This is why the MEF has joined forces with many organizations that manage practical research projects on drainage basins—projects are that are distinctive because they are sector-based. The Minister also participates on several committees set up by the rural municipal community with the objective of completing an inventory of drinking water resources.

5.2 Well-Known Environmental Problems

The Submitters allege that:

Both the Quebec authorities and the public at large are well aware of the environmental problems caused by agricultural activities. (Page 2, paragraph 3, OFV)

Canada's Response

Agricultural pollution can be divided into two categories: point source and non point source. Point source agricultural pollution comes from a specific site that is observable and recognizable. On the other hand, non point source agricultural pollution does not come from a specific point, rather an entire agricultural area; it reaches waterways by way of ground water runoff or by surface runoff following precipitation.

The problems surrounding non point source pollution are difficult to pinpoint and in the agricultural sector, the large majority of pollution is non point source. Government intervention must be global in nature and must change farmers' cultivation methods. Studies show that the over-application of fertilizers can lead to the presence of these same substances in surface water and, occasionally, in ground water. Nevertheless, it is impossible to determine the exact source of these pollutants, whether they be non-organic fertilizers or manure, and whether or not their presence is a result of soil saturation stemming from agricultural practices in previous years. Climate, and soil pH, structure and humidity level are all elements that interact to affect the capacity of soil to absorb fertilizers. It is a phenomenon that is still poorly understood.

Long-term studies are presently underway to determine soil's capacity to absorb fertilizers. These studies should lead to more specific fertilization recommendations that take into account soil capacity while ensuring adequate crop yields. The *Règlement sur la réduction de la pollution d'origine agricole* requires producers to hold agri-environmental fertilization plans for every plot of cultivated land. These plans will allow a better dissemination of study results once they are available.

5.3 Non-Compliant Manure Storage Facilities

The Submitters allege that:

The volume of manure stored in facilities that do not comply with regulations exceeds 9 million cubic meters per year and the spreading surface available near the production sites is only sufficient for 3.6 million cubic meters per year. (Page 2, paragraph 5, OFV)

Furthermore, the document *État de l'environnement au Québec 1992*, chap. 7: 'L'activité agricole' (Appendix 2), published by the *Ministère de l'Environnement du Québec*, mentions that 'In 1991, there were still approximately 10,000 livestock operations that had not complied with the regulations.' (Page 2, paragraph 6, OFV)

Canada's Response

The Government of Quebec has prioritized liquid manure storage, which has a higher polluting potential. The problems surrounding this type of manure have now been dealt with and subsequent government actions will be aimed at the storage of solid manure. Starting in March 1999, new measures will allow operations with more than 100 animal units to comply with manure storage regulations. Operations with fewer than 50 animal units will be compliant by March 2002. This new program will allow 8 900 operations to comply with regulations over the next few years.

In response to a lack of manure-spreading surface, the Quebec government has, since 1992, supported three manure management agencies in regions where operations have insufficient surface on which to spread their manure products. These agencies have the mandate of managing the use and disposal of surplus manure by optimizing the areas available for spreading. Since 1996, new regulations have required producers with surplus manure to use the services of these agencies.

5.4 Failure to Comply with the Environmental Quality Act and the Regulation respecting the prevention of water pollution by livestock operations

The Submitters allege that:

The present submission refers to the following statutory and regulatory provisions:

- Sections 19.1 and 20 of the Environment Quality Act
- Divisions IV, V, VI, and VII of the Regulation respecting the prevention of water pollution in livestock operations (Pages 3 and 4, OFV)

Canada's Response

Allegations by the Submitters of non-compliance with legislation concern both the general provisions against polluting contained in the Environmental Quality Act and more specific standards in the Regulation respecting the prevention of water pollution by livestock operations, which were summarized in sections 3 and 4.

As was stated in section 4 of this document, operators holding an authorization by the MEF must comply or commit to complying with all requirements prior to authorization being granted. This precondition applies to all new breeding establishments as well as all operations that undertake

modifications or expand existing facilities. More than 4 624 requests have been processed in this manner under the Regulation respecting the prevention of water pollution by livestock operations since the NAAEC has come into effect.

For existing operations to which no modifications have been made (and thus are not covered by the authorization procedure), more than 4 847 inspections have been carried out since 1994 to determine if they comply with various regulatory provisions.

Finally, concerning the enforcement of Article 122.1 of the EQA, the MEF does resort to the provisions of this article when necessary. Because, however, revoking authorization means the cessation of an operation's activities, this power is used to penalize operators for non compliance with regulations only as a last resort.

5.5 Failure to Apply Legal Tools Concerning the Agricultural Pollution of Waterways and Groundwater

The Submitters allege that:

Pollution of watercourses from agricultural sources is one of the most important environmental problems in Quebec, mainly by the chemical and microbiological contamination of surface water and groundwater. Legal tools have been set up in order to prevent the negative environmental impacts of these agricultural activities, but failure to enforce these laws and regulations makes it impossible to respond effectively to these problems. Significant harm is thus done both to the environment and to populations, especially those living near places where livestock operations are concentrated. (Page 8, last paragraph 5, OFV)

The Chaudière, Yamaska and L'Assomption river basins are the Quebec regions that are the hardest hit. (...) The *Conseil des directeurs de santé publique du Québec* has said it fears 'for the health of the province's population if measures are not taken quickly for better control of agricultural pollution.' (Page 9, paragraphs 3-5, OFV).

Discharges resulting from the raising of cattle, poultry, and swine contain bacteria and parasites which can be transmitted to humans, especially through contamination of springs used for drinking water. Thus pig slurries can pose serious health problems, including certain forms of cancer (see documents in Appendices 11, 12, 13, and A-127). Indeed, numerous fungi, bacteria, viruses, pinworms, and protozoa are associated with the agricultural activities involved in livestock production; their health repercussions are a direct result of poor management at livestock operations and failure to comply with statutory and regulatory provisions.

There are very high chemical risks (contamination with zinc, copper, phosphorus, ammoniacal and organic nitrogen, nitrites and nitrates, etc.) More and more frequently, contamination of wells by nitrogen fertilizers is observed (p. 5, Appendix 11); citizens thus suffer long-term, chronic exposure to these contaminants. Pesticide or nitrate contamination of the water table which provides drinking water for human populations has become a conspicuous problem. In certain regions where many livestock operations are concentrated, inhabitants have often been warned to boil their water (Appendix A-91). Surface drinking water is usually chlorinated, but if

deterioration of water quality is great (due to agricultural activity, for instance) a "conventional" type of water treatment is required, a type which the treatment plants in most Quebec municipalities do not offer (Page 9, last two paragraphs and page 10, first paragraph, OFV).

Regarding the harm done to the environment, a major increase in phosphorus and nitrogen emission has been noted in past years, but the exact degree of damage is not known. (...) Consequences of these high discharge levels include the premature aging of watercourses through algae growth (Appendices 12 and A-80); they can also lead to the disappearance of species or habitats (e.g., the rainbow smelt, Appendices A-78, A-120, and A-122). The case of Missisquoi Bay on Lake Champlain is an example of the environmental impacts of pollution from agricultural sources (Appendix A-83). For some years now, the bay has been invaded by stinking, microscopic algae that cover the surface in the summer, due to an excess of phosphorus. According to an article published in *Le Devoir*, only 56 of the 399 livestock farms in the region were found to comply with storage standards (Appendix A-83). (Page 10, paragraphs 3 and 5, OFV)

Canada's Response

Canada once again maintains, as with the first allegation, that it enforces its laws and regulations in accordance with Article 5 of the NAAEC.

To reiterate, the Quebec government's approach to the agricultural environment is a global one, based on accountability, group action and support, into which enforcement measures are integrated. Nevertheless, the Quebec government allocates considerable resources for dealing with environmental problems related to agriculture, and these resources are in addition to those allocated to the industrial and municipal sectors.

Quebec governmental intervention is concerned with the storage and elimination of manure as well as the adoption of environmentally-friendly growing practices. In addition, integrated fertilization plans, which provide for better usage of nitrogen fertilizers, are available to producers.

In the case of Missisquoi Bay, it should be underlined that the pollution sources are multiple and partially extraterritorial. The reduction of phosphorus in this region is currently the subject of an agreement between Quebec and the states of Vermont and New York (Annex 31). The objective of this agreement is to identify the sources of this phosphorus, to decide on means to remedy the situation, and to clarify the sharing of responsibilities between Quebec and the other Parties. Finally, Missisquoi Bay's primary tributary, the *rivière Aux Brochets*, is part of an action plan aimed at helping the agricultural, municipal and industrial sectors work together to reduce pollution.

5.6 Harm from Odors Caused by Manure-Spreading

The Submitters allege that:

As for the odours caused by manure-spreading, they can trigger nausea, vomiting, insomnia, stomach upsets, loss of appetite, and even depression (Appendices 11 and A-128). According to Dr. Benoît Gingras, 'Unpleasant odours can affect such physiological functions as heart rate

and brain activity in ways that show up on an electroencephalogram.’ Page 10, paragraph 2, OFV)

Canada’s Response

The allegations concerning odors caused by manure-spreading can be found in the section of the submission pertaining to the notion of harm. The guidelines for submissions to the CEC Secretariat clearly state that in considering the allegations of harm, the Secretariat must determine if the alleged harm is a result of asserted failure to effectively enforce environmental law or if the harm relates to the protection of the environment or the prevention of danger to human life or health.

With respect to odors, the Submitters make no reference to any failure to effectively enforce environmental law. The assertions concerning odors would seem rather to be based on harm to human health. In this regard, the Submitters are satisfied with making a general statement on the potentially harmful effects of odors caused by manure-spreading. Nevertheless, the Submitters provide no details showing that such impacts do exist in Quebec. The texts quoted in the submission are based on studies carried out in the US. Moreover, these studies do not clearly and directly evaluate the effects of odors caused by agricultural activities; they simply point to the fact that offensive odors can affect physiological functions.

Nevertheless, Quebec continues to be concerned about spreading-related odors and has undertaken various initiatives aimed at their reduction. Thus, the *Programme d’aide à l’investissement en agro-environnement* includes the goals of improving manure management and reducing odors through the use of specialized spreading equipment for liquid manure. Within the context of this program, Quebec promotes the increased use of new techniques and spreading equipment that will eventually replace old spreading canon technology, which is banned under current regulations.

Moreover, as a facet of its agri-environmental plan, Quebec is drawing up a profile of the pork-producing sector in order to determine current environmental practices. This overview will aid in the development of agri-environmental objectives for the whole sector, particularly with regard to odors and water quality. This initiative will allow improvements made by individual operations to be followed up on.

Finally, a governmental guideline concerning odor management (Annex 32) has been developed with a view to integrating these guidelines into municipal regulations.

5.7 The Difficulty of Private Remedy Due to the Systematic Failure to Enforce Environmental Standards Throughout Quebec

The Submitters allege that:

The problems posed by failure to enforce the legal provisions concerning livestock operations, as raised by the Submitters, have an impact on Quebec as a whole. The proliferation and concentration of operations of this type in certain Quebec regions causes major deterioration in the water quality of many watercourses, due to the combined action of various agricultural operations, many of which may not comply with the environmental standards in force. Thus it becomes extremely difficult for those affected to ensure that their rights are respected by using

private remedies directed at many possible culprits, since the pollution comes from multiple sources. (...) There is a persistent pattern of failure to enforce standards throughout Quebec. Given the significant number of violations, individual remedies cannot provide permanent solutions for the harm done to both environment and population. By this submission, the Submitters demand that the situation be studied in order to find the flaw preventing the establishment of appropriate means to enforce the law. By identifying such means, this type of activity can be better supervised throughout Quebec in the future. (Page 10, last paragraph and page 11, first paragraph, OFV)

Canada's Response

The Submitters did not use every means of recourse available to them. These means were presented in section 3 (requests for notices, inquiries or injunctions).

Since 1994, the Government of Quebec has processed more than 610 complaints, proof that it pays special attention to complaints and requests from citizens and citizens' groups. The MEF follows up on such requests and complaints to ensure that legislation is being complied with. It should be noted that certain complaints have led to changes in the terms of authorizations. Such actions by citizens can only support the Government in its efforts to ensure that agricultural activities are conducted in a context of respect for the environment.

Canada contends that a more detailed examination of the subject at issue in the Submission, in order to identify means to better manage agricultural activities in the future, is neither necessary nor justified given the efforts undertaken by Quebec over the past years to implement a new management framework for agricultural pollution. Indeed, at the time the Submission was filed the new *Règlement sur la réduction de la pollution d'origine agricole* was in the process of being adopted and, as stated in section 4, measures within the governmental strategy to promote sustainable agriculture were being implemented.

Canada considers that, as far as was possible, public consultation allowed the concerns of stakeholders to be included in a general consensus. The consultations held on the draft *Règlement sur la réduction de la pollution d'origine agricole* and the work of the round table on this regulation, the Act to amend the Act to preserve agricultural land and other legislative provisions in order to promote the preservation of agricultural activities, and government policy relating to odor management all bear witness to this fact. Consequently, the search for means to improve the management of agricultural activities would not raise any new issues that would benefit the group concerned.

5.8 Highlights of the Auditor General's Report to the National Assembly for 1995-1996

The Submitters quote the following portions of the Auditor General's report:

- a) The Minister has not found a solution for the problems of excess manure-spreading, which are the greatest cause of non point source pollution. (...) out of C \$4.4 million paid in compensation by the *Régie des assurances agricoles* to some fifty producers in 1994, more

than C \$0.8 million would seem to be accounted for by unauthorized units. (Page 11, paragraph 4, OFV)

b) As of 1981, serious problems involving contamination and deterioration of the underwater environment, caused by a high concentration of pork producers, led the government to call a moratorium in three regions in order to limit the development of this type of livestock operation. Two of the three moratoriums have since been lifted and the third is about to be. However, the Minister cannot yet count on proper management of then-existing manure surpluses or of those resulting from the 15 percent increase in pork production seen over the last five years. (Page 11, paragraph 5, OFV)

An investigation conducted on members of an excess manure management firm, filed in 1995, mentions a discrepancy of approximately 23% between authorized livestock and the livestock owned by pork producers. (Page 12, paragraph 1, OFV)

c) The Ministry does not have an overall picture of its clients. It is nearly impossible to be familiar with all the characteristics of an operation, its production, its financial situation, and the aid it receives. In addition, the agricultural operations record card includes much data that is incoherent or incorrect. (Page 11, last paragraph, OFV)

A comparison of the Ministry's information with that of organizations indicates that the record card includes much data that is incoherent or incorrect, concerning both the producer's gross revenues and the livestock in the producer's possession. (Page 12, paragraph 4, OFV)

d) Some producers thus continue to receive financial aid from the Ministry and other organizations, even though they do not comply with the requirements of the Ministère de l'Environnement et de la Faune and do not spread their farm fertilizer in the proper manner. (Page 12, paragraph 3, OFV)

Canada's Response

It must first of all be mentioned that certain facets of the Auditor General's mandate are in perfect agreement with the general objectives of the NAAEC. By making his report and recommendations public, the Auditor General promotes transparency, public participation and compliance with the law. The points raised in the Auditor General's report formed the basis of a series of comments by the MAPAQ, which were, in fact, included in the report itself (see excerpt in Annex 33). In several cases, the report raised interesting questions to which the MAPAQ quickly responded. What follows is a summary of the primary comments made by the MAPAQ relating to the questions raised.

a) The Government of Quebec has taken significant measures toward finding solutions to the manure-spreading problem. With respect to livestock operations, a pilot project dealing with pork production is presently underway. Its goal ensure that insurable stock is limited to the units authorized by the MEF under the Regulation respecting the prevention of water pollution by livestock operations.

Once the results of the project have been evaluated, this policy will be incorporated into the regulation during the regulatory overhaul of the stabilization insurance program scheduled for the autumn of 1997, and will be in effect for all livestock operations.

b) It is important to make a distinction between individual farm surpluses in a given river basin and the capacity of that basin to absorb this surplus. Manure management agencies have been established in the most problematic areas of the Assomption, Yamaska and Chaudière river basins, where there has been an overall manure surplus in relation to the whole region. In other areas of the above river basins, the problem is different because, according to current standards, there is generally sufficient agricultural land on which to spread the surplus manure.

In June 1996, amendments to the Regulation respecting the prevention of water pollution by livestock operations gave legal basis to the provisions for farmers to use manure management agencies to handle surplus manure. These provisions were integrated into the new *Règlement sur la réduction de la pollution d'origine agricole* and are, in addition to requirements for developing agri-environmental fertilization plans, some of the Quebec government's preferred tools for dealing with the problem of excess manure.

The MAPAQ has placed a high priority on good manure management and the optimization of spreading. It also monitors treatment techniques and evaluates their contribution to the resolution of the surplus manure problem in the medium-term. The MAPAQ and the MEF also examine ways to improve manure management cost internalization.

c) The MAPAQ, in cooperation with the *Régie des assurances agricoles* and the *Société de financement agricole*, is currently undertaking a unique identification project that will lead to a better understanding of the agricultural community. The registration of agricultural operations in 1997 is being carried out taking this unique identification into account.

d) The *Régie des assurances agricoles* and the MEF are presently looking for a solution to this pressing problem. The *Société de financement agricole* requires agricultural operations to hold MEF authorization certificates before financing any modernization or expansion projects, or any other projects. In order to be eligible for PAAGF financial aid, agricultural operations must comply with authorized numbers for animal units. Moreover, the MAPAQ creates an agri-environmental file for every operation wishing to apply to the program on the basis of authorized animal units.

5.9 Study Paper on the Capability of Soil in Quebec to Support Livestock Operations

The Submitters allege that:

The concentration of livestock production in certain regions without province-wide spreading, coupled with the use of mineral fertilizers, result in the use, year after year, of quantities of phosphorus and nitrogen many times greater than what the plants require, and soil overfertilization. (Page 12, paragraph 5, OFV)

Canada's Response

Levels of phosphorus and nitrogen in the waterways of agricultural areas are concerns in all countries that have agricultural production.

First, the Submitters appear to denounce the concentration of livestock production in certain regions without province-wide spreading. As a solution to the manure-spreading problem, this subject would have to be evaluated in order to determine the extent to which regions where there is little livestock production would be able to take in manure from other regions.

Secondly, there has been no significant increase in nitrogen or phosphorus levels over the past few years. In reality, levels of these elements were higher at the end of the 1970s, a time when environmental regulation did not exist. In itself, this fact demonstrates the falsehood of claims to the effect that the Quebec government has not enforced its regulations. The introduction of regulations in 1981 has led to the practical elimination of the high concentration areas that existed previously.

This situation can be explained by the construction of manure storage facilities which, coupled with regulatory monitoring by governmental authorities, has made possible the virtual elimination of areas, previously observed in surface water, with high concentrations of nitrogen. On the other hand, a certain amount of nitrogen and phosphorus naturally precipitates out of manure that is now stockpiled and spread on agricultural land. This results in the phenomenon of higher background levels for these elements when surface water is tested.

Nevertheless, the Quebec government has taken measures to reduce these background levels by requiring producers to prepare and implement agri-environmental fertilization plans. From now on, such plans are required for all “high risk” producers, and must be put into place according to a pre-determined schedule in the new, recently-implemented regulation.

Missisquoi Bay

In their submission, the Submitters use Missisquoi Bay as an example. This body of water is presently the focus of an action plan for reducing phosphorus levels, whether the sources are municipal, industrial or agricultural in nature.

Over the last few years, Quebec has placed a priority on municipal and industrial wastewater treatment and the water-tight manure storage in the Missisquoi Bay drainage basin.

On 28 October 1996, Quebec renewed the *Entente intergouvernementale sur la coopération en matière d'environnement relativement à la gestion du lac Champlain* (see Annex 31). This agreement commits Quebec, together with its partners, to reducing the influx of phosphorus into Missisquoi Bay. This agreement is put into concrete form in the action plan entitled “Opportunities for Action.”¹⁶

On 18 December 1996, Quebec agreed to participate in a workgroup proposed by the State of Vermont in order to look into ways of reducing phosphorus levels in Missisquoi Bay. The group’s mandate is to reach a technical agreement on the sources of phosphorus, to determine methods of remedying the problem and to propose a distribution of responsibilities between Quebec and the other Parties to the agreement.

¹⁶ LAKE CHAMPLAIN MANAGEMENT CONFERENCE, 1996. “Opportunities for Action - An Evolving Plan for the Future of Lake Champlain Basin,” 92 pages.

In August 1993, the MEF carried out an environmental appraisal of the *rivière Aux Brochets*¹⁷. This river was studied because 85 percent of its length is within Quebec's territory, it is situated in a region with a high concentration of agricultural activities and data on both land use and environmental appraisal was available. Moreover, it is a major tributary of Missisquoi Bay. This study clearly showed that the water was characterized by high concentrations of nutrients and suspended solids, high turbidity and poor bacteriological quality. It also found that the main sources of phosphorus discharge into the *rivière Aux Brochets* are, in no particular order:

- natural releases from woodlands;
- effluent from treatment plants, aerated or non-aerated ponds, and sewer systems in which water is not treated;
- non point source pollution from residences not connected to sewer systems;
- industrial effluent;
- point source and non point source pollution from both livestock and crop production;
- riverbank erosion.

This study clearly shows that while the agricultural sector does contribute to the presence of phosphorus, it cannot be held solely responsible for the levels found in Missisquoi Bay, or the rest of Quebec.

As a result of this data, the MEF is currently developing an action plan aimed at the agricultural, municipal and industrial sectors. One of this plan's key elements is to ensure that the various stakeholders, including MAPAQ, the UPA, the State of Vermont and other sector representatives, work together. Moreover, MAPAQ is also taking action in the *rivière Aux Brochets* basin to promote sustainable agriculture through the use of integrated fertilization plans and integrated soil and water resource management plans, the efficient use of pesticides and non-organic fertilizers, and training in sustainable agriculture. There also exists a Quebec citizens' advisory committee of for the management of Lake Champlain. This committee provides public representation within the context of the New York-Vermont-Quebec cooperation agreement.

5.10 Failure to Respect the Principles of Transparency and Public Participation

The Submitters allege that:

In addition to its failure to enforce certain legal provisions, the Submitters maintain that the Quebec government has not respected the principles of transparency and public participation, pursuant to objective h) stated above, in developing new environmental standards concerning agricultural pollution. Indeed, environmentalists and municipal representatives were excluded from the Parliamentary Commission that dealt with the amendments to various Quebec laws, including the Environment Quality Act, associated with the "right to produce" (Bill 23) (Appendix A-79).

¹⁷ CAUMARTIN, J., R. VINCENT, 1994. "*Diagnostic environnemental de la rivière Aux Brochets*," ministère de l'Environnement et de la Faune, Direction des écosystèmes aquatiques, 96 pages.

Furthermore, through the intervention of the MEF, the Quebec government set up a consultative committee to discuss reforms on this question: the *Table de concertation sur le projet de règlement sur la réduction de la pollution agricole*. This committee includes representatives from the agricultural, municipal, health, and environmental sectors who are working to raise and solve the problems that result from the activities of livestock operations. Its members have denounced an agreement reached by the government and the *Union des producteurs agricoles* (UPA), from which all other participants are totally excluded. This agreement deals with new rules that will be set up to control the activities connected with livestock operations (see the documents in Appendices 18 to 22).

The Submitters denounce the way the provincial authorities have acted. A joint position statement had been prepared by all members of the *Table de concertation*, but this position statement has been ignored since signing of the agreement with the UPA. (Page 14, paragraphs 2, 3 and 4, OFV)

Canada's Response

The draft *Règlement sur la réduction de la pollution d'origine agricole* was published in the *Gazette officielle du Québec* on 24 August 1994 so that all interested persons could submit comments. The government met with 11 organizations representing farmers, citizens, municipalities, and health- and environmental-sector stakeholders in order to explain the content of the proposed regulation. Written statements were filed by 25 persons or organizations, a list of whom can be found in Annex 34.

Because of the great divergences of opinion over the draft regulation, the MEF created a Round Table in May 1995 so that consensus could be reached. Once again, representatives from the principal organizations and ministries involved (environment, health, agriculture, municipal—see Annex 35) participated in the Round Table discussions and work groups, and all signed the Round Table's report. Indeed, one of the authors of the Submission participated in these activities.

The preliminary draft of the Act to amend the Act to preserve agricultural land and other legislative provisions in order to promote the preservation of agricultural activities, known also as the *loi sur le droit de produire* (right to produce act), was the subject of a parliamentary commission. In August and November of 1995, 23 persons and organizations appeared before the commission and two other organizations filed written statements. One of the Submitters was included on the commission's agenda and was scheduled to appear but withdrew and did not file a written statement. A list of participants in this commission can be found in Annex 36.

In addition to the public consultations concerning this draft bill, another parliamentary commission was held on a proposed government policy for the management of annoyances in the agricultural sector (odors, noise and dust). Twenty three organizations, both municipal and environmental, (see list in Annex 37) representing a variety of interests presented written statements.

Contrary to allegations made by the Submitters, Canada believes that public participation is an important part of the process of creating laws and regulations concerning agricultural activities, and that stakeholders from all sectors were given the chance to express their concerns. Correspondingly,

Canada considers that it has completely complied with the provisions of Article 4 of the NAAEC dealing with publication and public consultation of laws and regulations.

The Submitters denounce the agreement concluded between the MEF and the UPA while the members of the consultative committee were reaching a joint position. The Government of Quebec considers that the adopted regulation is in keeping with the spirit of the committee's report. Moreover, on 12 November 1996, just as the directions of the future regulation on agricultural pollution were about to be presented to the nongovernmental members (see Annex 38), these same members demanded to meet with the Minister of the Environment (MEF). At the point when the Minister was to make his presentation, the members from the nonagricultural sectors left the meeting. Quite obviously, these stakeholders did not take advantage of every avenue of recourse.

5.11 The failure to enforce environmental legislation cannot be justified by the criteria stated in Article 45 of the NAAEC. A thorough study by the CEC would identify appropriate governmental measures for environmental protection. Request for a response and the creation of a factual record.

The Submitters allege:

Likewise, the Submitters maintain that the failure to enforce the aforementioned statutory and regulatory provisions cannot be justified by the criteria set out in Article 45 of the NAAEC. (Page 14, last paragraph, OFV)

Indeed, a thorough study conducted by the Commission for Environmental Cooperation will make it possible to identify the appropriate measures the Quebec government should put in place, in order to achieve a high level of environmental protection and compliance with the environmental laws and regulations that apply to livestock operations. (Page 14, paragraph 1, OFV)

The Submitters demand that a response be requested from the Party concerned and that the Secretariat develop a factual record on this issue. (Page 15, paragraph 3, OFV)

Canada's Response

Quebec has decided to adopt a dynamic, proactive control strategy for environmental protection in the agricultural sector. It is a global strategy and includes both an analytical component (i.e., the examination of agricultural activities before they are implemented), and a monitoring component (the verification of a project's conformity). The regulatory enforcement statistics presented in section 4.3.2 show very clearly, by the considerable increase in the numbers of inspections, investigations and violation notices, that Quebec is ensuring that its environmental legislation in the agricultural sector is being effectively enforced. They also show how enforcement efforts have been distributed among the various sectors.

This dynamic control strategy is particularly suited to Quebec's evolving agricultural sector and the problems surrounding point source and non point source agricultural pollution, the latter of which is a challenge of world-wide proportions. The sustainable development approach has been adopted as a basic framework for all governmental policy. The Government of Quebec firmly believes that, above

and beyond regulatory enforcement, accountability in the agricultural sector is key to any significant progress from an environmental quality point of view.

Nevertheless, Quebec is aware that reaching and maintaining targeted levels of environmental protection will require constant effort: the open and transparent approach adopted by Quebec concerning environmental questions means that these levels are constantly being raised. In this respect, the Auditor General's report is a preferred tool because it identifies certain agriculture-related environmental problems. Following the Auditor General's recommendations, the necessary actions have been taken in order to find solutions to these problems. In the agricultural sector, the dynamic and proactive strategy used for environmental protection has allowed Quebec to reach its environmental goals. In light of the Quebec government's considerable efforts toward environmental protection, it is difficult to believe that reaching environmental goals would be facilitated by the creation of a factual record.