

Fisheries and aquaculture

news

Minister's message

Last September 22, the representatives of Québec's aquaculture industry gave me their final report and recommendations. The report concludes the work undertaken following Québec's commercial aquaculture forum. This endeavour was an opportunity to mobilise pisciculturers, mariculturers, industry partners and the Ministry to propose possible solutions to the challenges and issues the aquaculture industry faces today.

I would like to congratulate all sector stakeholders who in the past year have joined the various work groups. They have dedicated their time and energy to dealing with the problems that affect the aquaculture sector and to proposing appropriate actions.

I report I received contains numerous recommendations that aim to ensure the future of commercial aquaculture in Québec and I am committed to act on it quickly. To this end, over the course of the next few weeks, the Commercial Fisheries and Aquaculture General Directorate team will be working with industry partners to translate the report's recommendations that fall under Ministry jurisdiction into concrete actions.

Over the years, numerous efforts have been made by and for this industry by aquaculturers and the Government of Québec. It is now important to make sure we have all the tools we need in hand to rally the rest of the sector players so we can continue to develop commercial aquaculture in Québec.



MNA for Kamouraska-Témiscouata, Minister of Agriculture, Fisheries and Food, Minister responsible for Canadian Intergovernmental Affairs and the Reform of Democratic Institutions, Deputy Government Leader and Minister responsible for the Bas-Saint-Laurent Administrative Region

CLAUDE BÉCHARD

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Forum québécois sur l'aquaculture commerciale

Québec's commercial aquaculture follow-up committee presents its final report

By **Alain Desrosiers,**

Aquaculture and Sustainable Development Directorate

Last September 22, the two co-chairs of Québec's commercial aquaculture follow-up committee, Normand Roy and Stéphane Morissette, who respectively chair the freshwater aquaculture networking table and the mariculture table, presented their final report to Claude Bécharde, the Minister of Agriculture, Fisheries and Food. It sets out all the actions proposed by the 11 work groups.

When they presented their report, Roy and Morissette mentioned that the document intersected the expectations expressed by industry representatives at the forum held in Grande-Rivière on October 16, 2008.

We felt it appropriate to present an overview of the principal recommendations proposed by the follow-up committee.

Mariculture

- Reduce the financial precariousness of mariculture enterprises and mitigate financing-related difficulties:
 - By setting up financing support conducive to business consolidation;
 - By making a safety net available to enterprises; and
 - By recapitalising the Société de développement de l'industrie maricole investment fund.
- Reduce the difficulties associated with market sales of mariculture products generally:
 - By establishing support for the Comité de commercialisation des produits maricoles and by allocating financial support for this committee's actions; and
 - By putting in place measures that would facilitate the shipment of live products from producing regions to conditioning sites (mussels) or to points of sale (scallops).
- Reduce year-to-year production variability through a more secure juvenile supply:
 - By setting up a mariculture site monitoring program;
 - By relaxing the rules governing the transfer of live organisms, keeping in mind the true risk of introducing non-native species; and
 - By developing measures to mitigate the presence or activities of predator or competitive species.

- By ensuring that harbour facilities and services adequately meet the needs of mariculture enterprises:
 - By building or setting up adequate harbour facilities; and
 - By developing or establishing a network of mariculture "farms".
- Assure the continued existence of research and development, technical assistance, follow-up and monitoring programs:
 - By extending the technical assistance program to all productions, and by ensuring the continued presence of mariculture engineering expertise; and
 - By maintaining R&D efforts made in the mariculture sector.

Pisciculture

- Provide access to a short-term risk management program by putting in place a safety net for aquaculture activities;
- Reduce investor's uncertainties about potential changes in acts, regulations and directives, etc. by establishing a mechanism that would permit preliminary consultation of pisciculture clientele; and
- Increase the profitability of enterprises to improve sector growth:
 - By stepping up the support available to enterprises in the area of financial programs;
 - By making available to the sector specialised skills in the fields of zootechnics (animal breeding) and genetics; and
 - By improving access to "green technologies".

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Québec 



Mettez le Québec
dans votre assiette!



Québec

Choosing Québec food products: A small step that will take us a long way

By **Françoise Nicol,**

Analyses and Policies Directorate

By **Karine Villemaire,**

Magdalen Islands Regional
Directorate

Choosing Québec food products not only means buying food you will enjoy, it also means encouraging our people and economy. It's a small step that will take us a long way. This is one of the central messages put forward in this second year of the three-year campaign to promote made-in-Québec foods (*Mettez le Québec dans votre assiette!*). The latest component of the campaign was launched on September 8 by the Minister of Agriculture, Fisheries and Food, Claude Béchard. In doing so, the Minister confirmed his Ministry's commitment to continue to promote Québec food products in 2009-2010.

INNOVATIONS

- A new 30-second TV ad will be aired to showcase the know-how of the more than 485,000 Québécois who are passionate about the food they produce and the significant economic benefits generated when you buy Québec food products.
- Promotional ads will be aired on the radio and appear in magazines and on the Internet this fall to encourage Québec consumers to make it a daily practice to choose foods that are produced and processed here.
- More than 9,000 products featuring the *Aliments du Québec* (Québec foods) and *Aliments préparés au Québec* (Prepared-in-Québec foods) logos will help consumers identify Québec foods.

Photo: Michel Laloux.



The Minister of Agriculture, Fisheries and Food, Claude Béchard, in the company of representatives of the Société des chefs cuisiniers et pâtisseries du Québec

Looking at the outcome of its first year, the promotional campaign has convinced Québécois so far. In fact, the data gathered indicates that the television ads aired during the first year of the campaign instilled brand awareness in an estimated 75% of the population. In addition, it is estimated that four million consumers and stakeholders – wholesalers and distributors throughout Québec – were made aware of the importance of choosing Québec food products by means of the various actions and activities implemented by the Ministry and its partners.

Moreover, Québec fish and seafood were given a place of choice at the exhibitions, fairs and trade shows with which the Ministry of Agriculture, Fisheries and Food was associated. In fact, the *Mettez le Québec dans votre assiette!* (Put Québec on your plate!) signature was proudly deployed at events like GourmetFest, an activity organised as part of Gaspé's 475th anniversary celebrations, and the opening of the lobster season on the Magdalen Islands as well as at the Sept-Îles public market.

For more information about the campaign and how to recognise made-in-Québec food, and for recipes, etc. visit the Web site at www.assiette.qc.ca

Monitoring and biological follow-up to support Québec's mariculturiers

Helping producers make the right decisions at the right time

By **Georges Cliche** and **François Bourque,**

Magdalen Islands Mariculture Centre

For several years, Québec's mariculture industry had been calling for the establishment of a monitoring and biological follow-up service, prompted by the need to secure an annual supply of quality spat and optimise rearing activities. In fact, to be able to make the right decisions at the right time, producers need to have precise data every week on the evolution of biological cycles of certain species that coexist in the water column. For instance, they must know when the species spawn and not only how larvae abundance and settlement are evolving in the species they want to harvest but also in the undesirable species that settle on collectors.

In 2008, a comprehensive analysis of industry needs encouraged the Ministry of Agriculture, Fisheries and Food and the mariculture industry development corporation (Société de développement de l'industrie maricole – SODIM) to set up a service of this type for mussels and scallops in Gaspé Peninsula and Magdalen Islands waters. Beginning in 2009, this service was also made available to North Shore mariculturiers thanks to the efforts of aquaculture technicians based at the North Shore Aquaculture Centre.

Using the data provided to them, mariculturiers can now determine the best time to deploy their collectors or to carry out

operations to protect spat from predators. For instance, larvae monitoring tells producers when sea star larvae have finished settling. Mussel farmers can then brine their collectors without running the risk of having new sea stars settle on the collectors and attack the young mussels.

As for the optimisation of rearing activities, using the data provided to them on a weekly basis, producers can choose the best times to carry out farming operations while protecting the molluscs from predators and other undesirable species. For example, larvae monitoring tells them precisely when the mussel larvae settlement period ends in the lagoons. Knowing this, scallop farmers can then put their young scallops in the rearing baskets when there is less chance of mussels settling in large numbers on the baskets, which would hinder scallop survival and increase basket cleaning costs.

Going by the comments received so far, the services offered since 2008 satisfy Québec's mariculturiers and are of practical assistance to them when it comes to identifying the best time to successfully carry out some of their production activities.

Québec Greenland halibut industry monograph

By **Jean-Michel Poulin,**

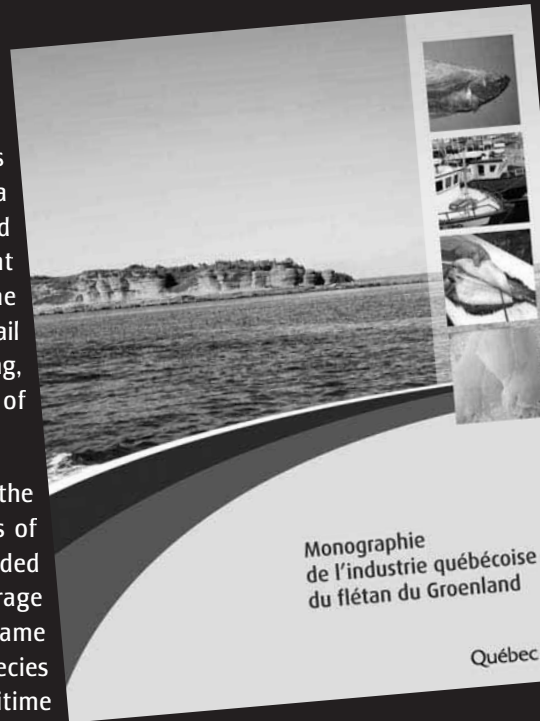
Analyses and Policies Directorate

The Ministry of Agriculture, Fisheries and Food recently published a monograph on Québec's Greenland halibut industry. This document presents a general portrait of the industry, notably by discussing in detail the management, harvest, processing, merchandising and marketing of Greenland halibut.

It is important to point out that for the last five years, nearly 3,000 tonnes of Greenland halibut have been landed annually in Québec, with an average value of \$6 million. During the same period, products derived from this species and processed in Québec's maritime regions were worth \$9.5 million every year.

In terms of value, Greenland halibut was the fourth most important marine species landed in Québec in 2008, after snow crab, American lobster and northern shrimp.

This document has been posted on the MAPAQ Web site at the following address: www.mapaq.gouv.qc.ca/Fr/Peche/md/Publications/.



Monographie
de l'industrie québécoise
du flétan du Groenland

Québec

Fall: Mackerel time!

By **Françoise Nicol,**

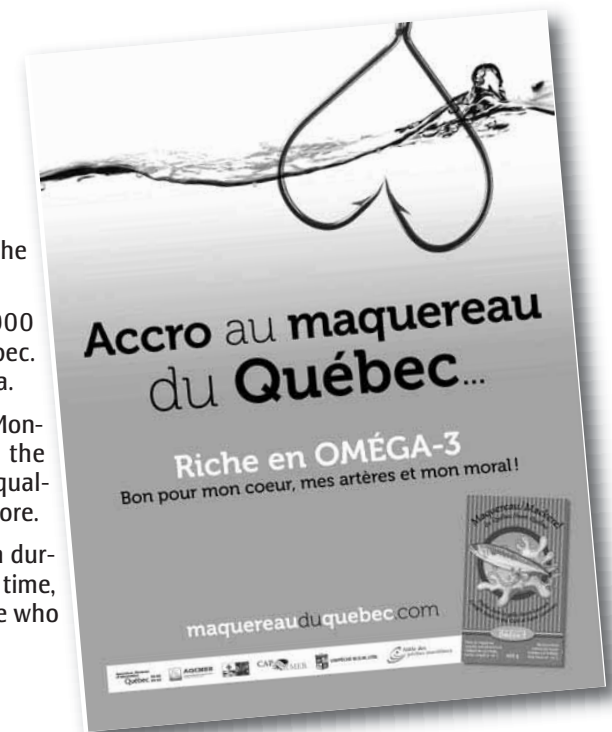
Analyses and Policies Directorate

The maritime fisheries table and its partners in the catch, processing and marketing sectors have decided to take advantage of the fall mackerel fishing season to introduce a second campaign to promote Québec mackerel filets.

The campaign will get underway on October 19 and last six weeks. It aims to stimulate the interest of consumers by marketing 100,000 pounds of individually frozen, vacuum-packed Atlantic mackerel filets that will be distributed through large grocery chains in Québec. The product is prepared and marketed by Cap sur Mer, a Magdalen Islands firm, and Unipêche MDM, based on the Gaspé Peninsula.

Inspired by the formula used for earlier campaigns to promote lobster and mussels, radio messages will be aired, primarily in the Montréal area. Promotional material will also be distributed at over 600 points of sale throughout Québec. In addition, the **maquereauduquebec.com** Web site will post recipes and general information about this species and the exceptional nutritional qualities that make it a food of choice that you should put at the top of your shopping list when you head out to the grocery or fish store.

It is important to point out that in March 2007, Québec consumers were able to learn more about this product via a first campaign during which some 40,000 pounds of filets – vacuum-packed in 400-gram bags – were sold at Metro and Provigo-Loblaws stores. At the time, the Atlantic mackerel was a new choice for Québec consumers. In fact, this pelagic fish is generally eaten whole, and only by people who already know and appreciate it or by immigrants – primarily those from European countries.



Economic partnership agreement between Canada and the European Union

Initiation of negotiations

By **Maité Chavez,**

Policies and Analyses Directorate

On May 6, 2008, at the Canada-European Union Summit held in Prague, the delegates from Canada and the European Union (EU) officially announced the start of negotiations to establish a comprehensive economic partnership agreement. These negotiations began in October 2009 and if the timeline set by both parties is met, an agreement could be concluded in 2012. The next step now is for the Canadian delegation to define the detailed mandate for Canada's negotiations in collaboration with the provinces.

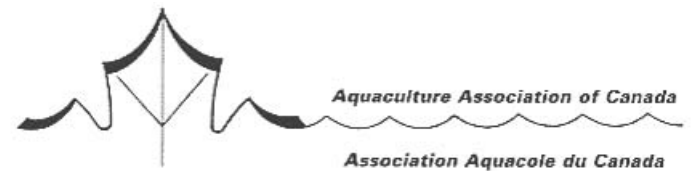
To this end, Pierre-Marc Johnson, head negotiator for Québec, met with fisheries sector representatives during an information session in Montréal on August 31. They informed him of their expectations with respect to the economic partnership agreement.

For the circumstance, the fisheries industry was represented by Jean Paul Gagné, director of the Association québécoise de l'industrie de la pêche, who was accompanied by Jean-Marc Marcoux, president of Unipêche M.D.M. Itée, Martin Lapierre, director of La Crevette du Nord Atlantique inc., and Pierre-Michel Laverdure, director of the Association québécoise de commercialisation de poissons et fruits de mer. The Ministry of Economic Development, Innovation and Export and the Ministry of Agriculture, Fisheries and Food (MAPAQ) were responsible for organising the meeting.

Of the industry demands, the ones concerning tariffs received particular attention. Indeed, most of the Canadian fisheries products exported to EU member countries are subject to tariffs that can exceed 20%, depending on the species involved, the type of product and its ulterior use. The industry notably demanded to have tariffs on fish and seafood from Québec eliminated. However, the species that will be given priority treatment during the negotiations are the northern shrimp, Atlantic cod, lobster and Atlantic mackerel. The industry also pointed to the situation hindering the marketing of seal and its derivative products.

As for MAPAQ, it insisted on the importance of including in the future agreement an exception to the export products approval measures that apply at present to unprocessed marine products. Under the *Marine Products Processing Act* (R.S.Q., c. T-11.014), the Government of Québec requires marine products landed in Québec to undergo minimal processing here before they are shipped outside the province. This exception has already been granted in the *North American Free Trade Agreement* (NAFTA).

It is important to point out that the EU is the world's largest market for fish and seafood, importing nearly 40% of the world's marine product exports. The EU is Québec's second largest export market for seafood; \$15.6 million worth of marine products were shipped from Québec to the European Union in 2008.



Annual meeting of the Aquaculture Association of Canada

Challenges for everyone!!

By **Madeleine Nadeau,**

Magdalen Islands Mariculture Centre

Last May, the Aquaculture Association of Canada held its annual meeting in Nanaimo, British Columbia, focussing on the theme *Aquaculture: Meeting the challenges*.

Integrated multi-trophic aquaculture (IMTA), alternative shellfish aquaculture, environmental concerns and invasive species figured prominently amongst the challenges that need to be met by those involved in aquaculture today.

IMTA drew particular attention. This novel approach aims essentially to re-utilise waste matter (feed, faeces or nutrients) from fish farms with cage rearing systems by introducing the culture of invertebrates (mussels or sea urchins, etc.) or seaweed into the system. When this concept is applied, all the components of a system acquire an economic value.

During the event, Dr. Thierry Chopin, of the University of New Brunswick in Saint John, and Shawn Robinson, of Fisheries and Oceans Canada's St. Andrews Biological Station, were presented with the 2009 Research Award of Excellence for their outstanding contributions to this new approach. These researchers succeeded in moving the concept forward to the pre-commercial stage and in mobilising actors from a range of disciplines and several provinces to pool their efforts towards making this a true advance in aquaculture. IMTA now enjoys the support of several environmental groups as well as the general public, which will inarguably facilitate its development.

By Marc Veillet,

Innovation and Technologies Directorate

Live wells: A good way to extend the live lobster marketing period?

To help the firm Les Producteurs de homards de Grande-Rivière determine the ideal conditions for holding lobster in live wells after the end of the fishing season so it can supply the market for a longer period of time, a research activity was conducted in two stages in 2008 and 2009, the goal being to obtain a good survival rate and a meat quality that would interest consumers.

Like the fishing season, the period during which the crustacean is available on the market is relatively short. To keep live lobster on the market longer, it must be held in live wells. However, the lobster holding conditions that exist at present in the industry are not suitable for holding these animals optimally. Merchants have a very limited leeway after the end of the fishing season: as the water temperature in the live wells rises naturally over the course of the summer, physiological transformations occur in the lobster, and they soon are no longer suitable for consumption.

When they are caught, lobster are exposed to a variety of stresses (for instance, exposure to the air or differences between the water temperature of their holding tanks and the seawater where they were caught) that influence the quality of their meat. To measure a lobster's state of health, physiological changes can be assessed by measuring the animal's total haemolymph proteins. A true indicator of the lobster's state of health when put into the context of ecological and dietary factors, total haemolymph proteins can be used to predict physiological processes like moulting, egg extrusion and even mortality.

Impact of water temperature

To understand some of the problems associated with holding lobster for extended periods in live wells, the researchers attempted to demonstrate the importance of temperature to lobster survival. Because the lobster is a cold-blooded animal, its physiological functions are directly impacted by the temperature of the water in which it lives. For the experiment, male and female lobster were held in tanks that were continually supplied with seawater. In some tanks, the water was cooled to between 5°C and 10°C; in the other tanks, the temperature followed the variations in ambient temperature. In addition, the lobster fasted while the experiment was underway.

The results obtained imply that the state of health of lobster is tied to conservation conditions and that the more demanding conditions for the crustaceans occurred when experimental temperatures were at their upper and lower limits. When lobster are held in live wells for long periods of time, it is essential to slow the natural transformations that would occur if they were in the sea: meat quality depends on this.

A water temperature of 10°C seems to be a good compromise to extend conservation since fairly high protein levels – a sign of good health in lobster – are maintained at this temperature. In addition, little change in protein concentration was observed over the course of the summer, which indicates that the physiological processes and stress were well controlled. The males appear to be better candidates because they are less affected by temperature variations than the females, which are more likely to extrude their eggs.

Impact of lobster density

The researchers also assessed the "maximum biotic load", in other words, the maximum number of individual lobster that can be held in a given volume of water before high mortality occurs. For this experiment, a closed circuit system was used in which the water was purified and cooled to 10°C. Again, the stress suffered by the lobster was assessed by measuring the haemolymph protein concentration.

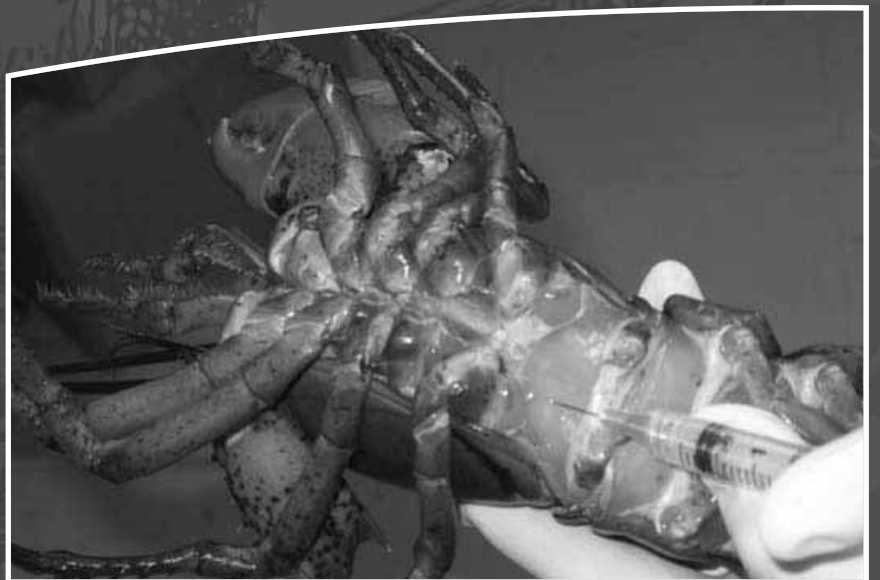
Three loads were assessed: 80, 100 and 120 kg/m³. The highest mortality was observed in the tank with the highest load. The best lobster health condition was obtained in the tank with a biotic load of 100 kg/m³. In the 80 kg/m³ tank, the lobster had more opportunity to encounter weak individuals, which then became easy prey.

Also, cooling the water to 10°C delayed moulting. In contrast to lobster in the wild which moult at that time of the year, 95% of the individuals held in the tanks had reached only the early stages of moulting by the end of the experiment.

Sensorial analysis

A sensorial analysis conducted at the end of the experiment showed a slight difference in appreciation between the lobster held in the tanks and freshly caught lobster: the panellists preferred the latter. However, this difference would only be noticeable to a knowledgeable consumer since the comparative results were fairly close. On the whole, the results indicate that in all cases, the panellists were pleased with the lobster although they were more critical of the texture and taste of the tank-held lobster.

The meat yield of lobster that had fasted for nine weeks was 5% lower than the meat mass of freshly caught lobster. We know this difference has little harmful impact on the survival of individuals, since lobster often fast naturally when moulting or reproducing. In economic terms, we must keep in mind that this lobster would be marketed at a time when there are no longer any fresh Gaspé Peninsula lobster available at fish stores.



To measure a lobster's state of health, physiological changes can be assessed by measuring the animal's total haemolymph proteins.

PHOTO: CAMGR, MAPAQ

The reports on the two components of this study on holding lobster for extended periods – *Conservation prolongée du homard* (Research and development report No. 171) and *Conservation prolongée du homard volet 2 : charge biotique maximale* (Research and development report No. 176) are available on the MAPAQ Web site at the following address: www.mapaq.gouv.qc.ca/Fr/md/Publications.