

# FISHERIES & AQUACULTURE

## NEWS

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As 2020 comes to a close, it's fair to say that the last few months have been fraught with challenges. The consequences of the COVID-19 pandemic on our daily lives have necessitated rapid adaptation on everyone's part. Québec's fishing and aquaculture industry adapted to these exceptional times and has proven itself dynamic, watchful and prepared to weather a storm! During this crisis, I had the opportunity to stay in constant touch with industry representatives in order to seek joint solutions. There is no denying it: fishers, aquaculturists and processors are committed to working together during difficult times. This synergy enabled them to achieve, under the circumstances, good results this season.

This year, it is clear that the efforts made to promote Québec fish and seafood have paid off. In fact, these products have enjoyed great success among consumers. It is necessary to further develop the Québec market and increase the presence of local aquatic products over a longer period of the year. We have a wealth of high-quality aquaculture products in Québec. It is important to promote them and to give them a prominent place on local markets.

As you know, the question of food self-sufficiency in Québec is important to me, and the fishing and aquaculture industry can contribute to it. In fact, I recently announced several measures aimed at increasing Québec's food self-sufficiency. For example, the challenge involving replacing \$12 worth of imported products with Québec products. Another that comes to mind is the Stratégie nationale d'achat d'aliments québécois, as well as the financial assistance granted to the Conseil de promotion de l'agroalimentaire québécois, which will strengthen the promotion of Québec foods to consumers through the "Aliments du Québec" brand. But beyond all these measures, I would like to remind you that collaboration across the entire fish and seafood value chain is an essential part of improving consumer access to our products. It begins with the fishers and aquaculturists, then goes through the processors, retailers and food service businesses, before finally reaching the consumer.



Minister of Agriculture,  
Fisheries, and Food

**ANDRÉ LAMONTAGNE**

I want to take a moment to wish each and everyone of you, along with your families, my best wishes for the holiday season. May you have a happy and prosperous New Year. There are still challenges ahead, but you can rest assured that I will keep the channels of communication open so we can continue to join forces to build a diversified Québec throughout the province, for the benefit of citizens and companies alike.

Happy holidays!

## EXTERNAL SUPPLY: A NEW CHALLENGE FOR THE INDUSTRY

By **Danielle Bouchard**,  
from the Direction régionale de la Gaspésie

In collaboration  
with **Jean Paradis and Gabrielle Lafond Chenail**

Northern shrimp landings have declined in all Atlantic provinces. In Québec, landed volumes in 2019 were down 54% compared to 2015. In addition, again for Québec, this situation resulted in a 37% drop in the value of landings, despite a 37% increase in prices.

This decrease is creating supply problems for shrimp processing companies in the Gaspésie, Lower St. Lawrence and North Shore regions. Factory workers are also affected by declining activity and fewer work hours.

To mitigate their supply difficulties as well as to ensure their long-term survival, the companies have decided to import frozen shrimp. Supply sources include Canada or foreign countries. Imported shrimp does differ slightly from one species to another, but the real challenge is in processing a frozen raw material.

The maturation process has to be altered to process a thawed product and a slightly different species. The shelling process also needs to be adjusted. All these operations must be tested and standardized using

specialized equipment. The finished product is often referred to as "double frozen shrimp."

Shrimp maturation is an essential controlled ageing process used to soften the shell to facilitate shucking. Improper maturation will have a direct impact on the yield and profitability of operations. If shrimp maturation is incomplete, the mechanical action of the shucking equipment must be increased, and this results in a lower meat yield. Conversely, a shrimp that is too mature may break and lose market value compared to a whole shrimp. In addition to the intrinsic characteristics of the raw material, several factors influence the success of this process: temperature, pH, maturation time, air injection and the composition of the maturation solution (recipie).

These new maturation processes use pumps and several tanks with a capacity of several thousand pounds each. In these tanks, the frozen shrimp can be divided into separate maturation batches. By improving processes, the operation can be optimized, namely by alternating batches and cleaning activities between them. Installing a high-performance system can reduce the maturation time from 48 hours to 24 hours, while still allowing the possibility of optimizing this time depending on the target species. In addition, the processes are based on aeration systems for the maturation solution that maintain a homogeneous temperature during thawing.

In addition to having invested more than \$5 million since 2016 in acquiring new equipment and improving their facilities and systems, Les Pêcheries Marinard Itée and La Crevette du Nord Atlantique inc. have carried out numerous tests to find the optimal combinations to make the processing of double frozen shrimp profitable.

As for the ministère de l'Agriculture, des Pêcheries et de l'Alimentation, it has supported the various projects of these companies by committing more than \$2.4 million to them. This financial commitment has made it possible to make the companies' activities profitable, to safeguard the jobs that are so important to coastal communities affected by the drop in supply and, lastly, to ensure the continuation of a prosperous industry.

**SECTOR-WIDE DIAGNOSIS OF THE NORTHERN SHRIMP INDUSTRY**

**By Omar Sarr,**  
from the Direction des analyses et des politiques des pêches et de l'aquaculture

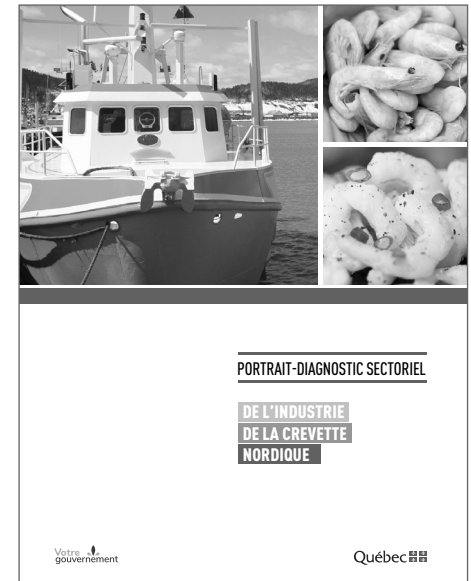
If you are interested in Québec's shrimp industry, you should know that, on October 30, the ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ) published a monograph on the northern shrimp industry that outlines the changes in this industry from 2015 to 2019.

The elements that make up the Sector-Wide *Diagnosis of the Northern Shrimp Industry (Portrait-diagnostic sectoriel de l'industrie de la crevette nordique)* are compiled during the periodic review of the activities of the Office des pêcheurs de crevette de la Ville de Gaspé in relation to the sale of shrimp landed in this town. This periodic review is conducted every five years by the Régie des marchés agricoles et alimentaires du Québec. For the year 2020, the periodic review took place on December 2, 2020.

The document deals with various facets of the industry, such as the resource itself and its management, catches, landings and prices, sales made by plants located in maritime regions of Québec, as well as sustainable development. With respect to the resource itself, assessments conducted by the Department of Fisheries and Oceans Canada show that the main indicator of the state of northern shrimp stocks in the Estuary and Gulf of St. Lawrence is declining. This has resulted in a 50% reduction in the fishing quotas allocated to Québec fishers over the 2015-2019 period. During this period, the reduced quotas resulted in a 54% decrease in the volume of northern shrimp landings in Québec and a 37% drop in landed value, despite a 37% increase in prices.

The decrease in landings has created supply issues for shrimp processing companies in the Gaspésie, Lower St. Lawrence and North Shore regions. These difficulties

resulted in a 53% drop in the value of sales made by these plants between 2015 and 2018. These conditions are affecting plant workers who are seeing their work hours reduced; they also have an impact on the incomes of fishers and fisher's helpers.



The sector-wide diagnostic also reveals that the northern shrimp industry adheres to the principles of sustainable development adopted in Québec, particularly with regard to the following: health and quality of life, social equity and solidarity, environmental protection, economic efficiency, participation and commitment, precaution, preservation of biodiversity, compliance with the support capacity of ecosystems and responsible production and consumption.

For more information, please read the monograph available at [www.mapaq.gouv.qc.ca/portraitcrevette](http://www.mapaq.gouv.qc.ca/portraitcrevette).

**OVERVIEW OF ACTIVITIES IN THE COMMERCIAL FISHERIES AND AQUACULTURE SECTOR IN 2019-2020: INDUSTRY INVESTMENTS!**

**By Michelle Parent,**  
from the Direction régionale de la Gaspésie

**FINANCIAL MEASURES ARE DEPLOYED ACCORDING TO THE FOLLOWING FOUR AXES:**

- Fishing fleet
- Research & development
- Collective initiatives
- Processing, aquaculture and biomass conversion

**FISHING FLEET:**

- 15 measures committing \$725,000 in financial assistance for future generations
- 68 measures in the form of loan guarantees for a total of \$45.8M

**RESEARCH & DEVELOPMENT:**

- 18 new research and development projects implemented, focusing on innovation
- Total investments of \$13.9M
- Total financial assistance of \$4.7M

**COLLECTIVE INITIATIVES:**

- 12 projects implemented
- Total investments of \$1.2M
- Total financial assistance of \$819,000

**PROCESSING, AQUACULTURE AND BIOMASS CONVERSION:**

- 40 projects completed
- Total investments of \$21M
- Total financial assistance of \$7.1M

**IMPACTS ON EMPLOYMENT:**

- 31 jobs created and 679 jobs secured

## AVAILABLE COMPENSATION FOLLOWING A SHIP-SOURCE OIL SPILL

By Sébastien Cyr,  
from the Centre d'expertise en gestion des  
risques d'incidents maritimes (CEGRIM)

Did you know that a fund exists to compensate people who have suffered damages related to any type of oil from any type of vessel anywhere in Canadian waters?

### WHAT IS THE SOPF?

The Ship-source Oil Pollution Fund (SOPF) has existed for 30 years. Its role is to facilitate the settlement of ship-source pollution claims in Canadian waters, while protecting taxpayers. Canada's compensation system is based on the fundamental rule that the owner of a ship is primarily liable for oil pollution damages caused by their ship, according to the "polluter pays" principle.

### WHO IS ELIGIBLE FOR COMPENSATION?

The purpose of the SOPF is to settle reasonable claims for oil spill response costs or to support preventive measures taken to mitigate damage caused by an oil spill—or the risk of a spill—from any class of ship in Canadian waters or for spills of unknown origin. The Fund also pays for any material damages resulting from oil contamination, as well as lost wages or profits, costs of environmental restoration, loss of livelihood, losses relating to cultural or ceremonial practices, etc. The fisheries sector may also be entitled to special compensation for expected future losses (interim or emergency compensation) or for losses suffered as a result of a spill outside Canadian waters.

### WHO CAN MAKE A CLAIM?

All persons engaged in activities in the fisheries sector (catching, mariculture, processing, selling, etc.) can benefit from the services of the Ship-source Oil Pollution Fund. However, over the past 30 years, the SOPF has received only about a dozen claims from people working in the fisheries sector, representing less than 1% of the total compensation paid by the fund.

### WHERE CAN MORE INFORMATION BE FOUND?

Within the last year, the SOPF has developed a guide for the fisheries and mariculture sector to explain how the compensation program works, outline the types of damages covered by the fund and describe how to complete the claim form. In addition, the SOPF regularly offers clients in the fisheries sector the opportunity to participate in one-hour webinars to help them better understand the entire compensation process.

Finally, on September 22, at the request of the Centre d'expertise en gestion des risques d'incidents maritimes (CEGRIM), the SOPF offered specific training to employees of the various regional branches of the ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ). This means that, should a marine incident occur, you will be able to contact the MAPAQ office in your region and a member of staff will be able to direct you to the right person or briefly explain the details of how the program works.

CEGRIM is an interdepartmental organization that brings together seven ministries and aims to ensure integrated management of the risks of maritime incidents for riverside communities, industry and Québec government partners.

For more information, please visit the following websites:

- The SOPF:  
<http://sopf.gc.ca/>;
- The CEGRIM:  
[www.securitepublique.gouv.qc.ca/securite-civile/cegrim](http://www.securitepublique.gouv.qc.ca/securite-civile/cegrim).

## FINANCIAL ASSISTANCE PROGRAM FOR FISHING COMPANIES: OPPORTUNITIES AT YOUR FINGERTIPS!

Do you have a project you want to undertake for your fishing business? Are you interested in acquiring a fishing company? Would you like to receive competitive financing in collaboration with your bank?

Contact an official from the ministère de l'Agriculture, des Pêcheries et de l'Alimentation's regional branch for more information. Program details are also available online on the Ministère's website: [www.mapaq.gouv.qc.ca/ProgrammeEntreprisesPeches](http://www.mapaq.gouv.qc.ca/ProgrammeEntreprisesPeches)



Photo : © MAPAQ

## RECIRCULATION IN AQUACULTURE: A WAY OF THE FUTURE!

By **Nathalie Moisan**,  
from the Direction de l'estuaire  
et des eaux intérieures

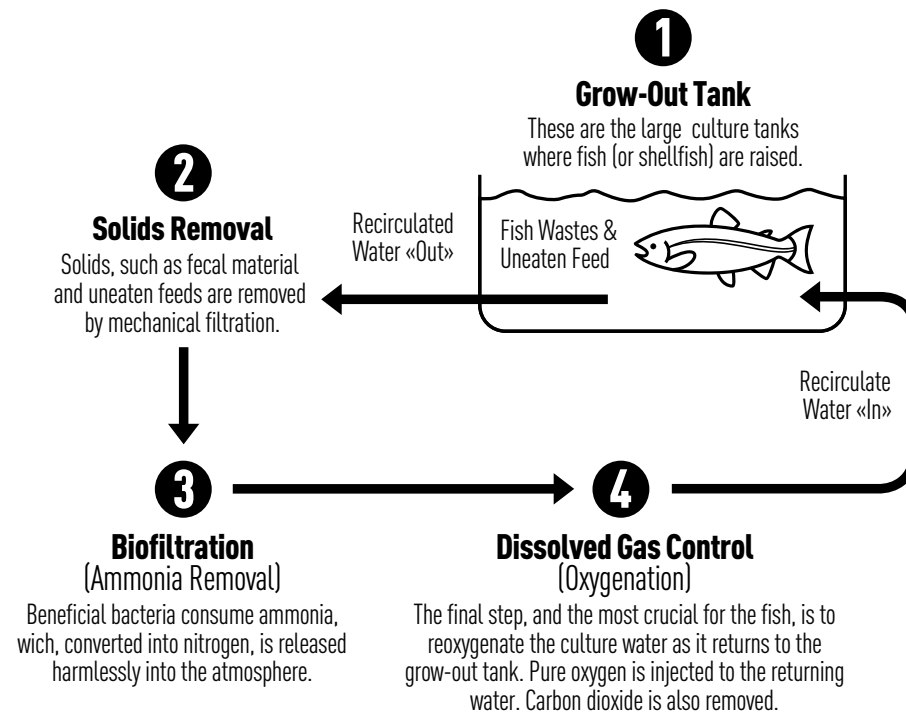
Did you know that you can now raise fish in the middle of the desert? That sunrises and sunsets, streams or rivers and different water salinities can be reproduced, all in fish tanks? But how does it work?

In fish farming systems using indoor tanks, the fish environment can be fully controlled and water can be recirculated for reuse. This is called a "recirculating aquaculture system." This closed-loop system is designed to minimize water consumption, as water is reused after being filtered, sterilized and reoxygenated. This explains why a fish farm can be built in an environment where water is in short supply.

The technology also enables treatment of fish farm effluents by facilitating recovery of phosphorus. Moreover, these effluents are reduced compared to conventional open-loop systems. They also provide increased biosecurity for fish by isolating them from external parasites, viruses and pollutants. As a result, significantly fewer drugs and treatment products are used.

Water is initially introduced into the rearing ponds and, when it drains out, solids such as feces and uneaten feed are removed via mechanical filtration. The water is then pumped through bacterial filters that are used to transform harmful products such as ammoniacal nitrogen into non-toxic products. Once purified, the water is rerouted to the fish and the loop continues without end. A small amount of water does need to be added periodically to compensate for evaporation (see the following diagram).

### Simplified Process Flow Diagram for Recirculating Aquaculture Systems (RAS)



Taken from: Fish 20. Market Report. 2015.

### RECIRCULATION IN QUÉBEC

This aquaculture production system thereby paves the way for the use of water and waste treatment technologies promoting sustainable development in this industry. In Québec, recirculation is currently not widely used by the aquaculture industry, but it is emerging as a forward-looking solution to support the growth of fish farm product supply, particularly for companies seeking to target the consumer market with their production.

A pilot project is currently underway at a Québec fish farm. Several objectives are being pursued in terms of both the approval of fish waste treatment and the effects on fish health.

The ministère de l'Agriculture, des Pêcheries et de l'Alimentation is working with fish farms to introduce recirculation technologies that will improve their environmental performance and provide better conditions for fish to support faster growth!

For more information, please contact the Direction régionale de l'Estuaire et des eaux intérieures.

## MAPAQ'S REGIONAL BRANCH IS AT YOUR SERVICE!

Are you in need of financial assistance to undertake a project or would you like to know if you are eligible for a program? Would you like to fill out a form or do you have questions? Your regional branch is at your service!

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