

SPECIAL EDITION: INTERVIEWING STUDENTS CONSTITUTING THE NEXT GENERATION!



Gabrielle Plourde is a Master's student in the Université du Québec à Rimouski's Maritime Resource Management program.

She is currently a student representative on the Maritime Resource Management graduate study programs committee and a student member of the Maritime Resource Management graduate study programs self-assessment committee. Among other things, these positions allow her to promote the interests and concerns of the students in the program.

Gabrielle is also the recipient of the **2021 SODES Next Generation Scholarship**.

Véronique Nolet began her university studies in Biology at the Université du Québec à Rimouski in 1999. A go-getter by nature, she started working soon after obtaining her Bachelor's degree.

Gradually, her work turned to various issues related to protecting and preserving marine mammals in the St. Lawrence and to how underwater noise caused by commercial navigation impacts them.



CRÉDIT : SARAH SCOTT

In 2020, Véronique decided to do her Master's degree at the Université du Québec en Outaouais in order to help Québec's port-sector actors develop and implement measures to attenuate the effects of underwater noise on the St. Lawrence beluga population.

In fall 2021, you submitted a research project for the 2021 SODES Next Generation Scholarship. Could you briefly outline it for us?

Gabrielle : First off, it's important to understand that crab and lobster processing activities generate significant amounts of processing residues, including co-products such as the crustaceans' shells and body fluids.

Currently, these residues are primarily landfilled or given to farmers to spread on their fields. This waste management method is not ideal, given the high economic and environmental costs it entails. It is sub-optimal since these co-products can be made into value-added products, potentially turning this source of spending into a source of additional income for processors. This research project seeks to illustrate the technical and economic benefits of processing crab and lobster co-products in Gaspésie and includes sensitivity analyses.

The study will make it possible to create a new decision-making tool for the processors concerned by this investment project. The methodological approach we have chosen is a series of semi-structured interviews with Gaspésie processors aimed at identifying various managerial

issues. This qualitative component of the project will enable us to validate risk levels identified in a prior literature review. Secondary process design-related data will also be collected from the study's partner, Merinov, and cross-referenced with the data gathered in the literature review and the interviews.

Véronique : Yes! It's really wonderful that you give students working on a marine sector-related project the opportunity to take things further, in addition to giving them visibility.

The purpose of my research project is to begin deliberations on potential roles that ports could play in supporting and implementing management measures aimed at reducing the impact of ship-generated underwater noise on the St. Lawrence Estuary beluga population.

Given the role Canadian Port Authorities (CPA) located in Québec play among Québec maritime-sector actors, my project will focus primarily on CPA activities, although I will also look at ports located in the beluga's summer habitat.

My project seeks to determine whether measures aimed at reducing ship-generated underwater noise in beluga habitats exist and, if so, how they can

take ship operators' operational reality into account, as is currently the case, as well as ports' operational, regulatory and commercial realities.

This academic project falls under a research initiative funded over 5 years (2018-2023) by the Ministère des Forêts, de la Faune et des Parcs. A terrific multidisciplinary team has formed in recent years at the Université du Québec en Outaouais under the supervision of Professor Clément Chion. Various projects are associated with this team, always aimed at reducing the impact of commercial ship traffic and other watercraft (mainly recreational boaters, ferries and whale-watching boats) on the St. Lawrence beluga population.

What concrete contribution can your research project make to maritime industry stakeholders?

Gabrielle : This project is important for the maritime sector since it constitutes another step towards implementing an income-generating process for the processing industry. By processing co-products into value-added products for human and animal consumption, processors will gain access to a new market sector.

Further, considering the role this

industry plays in the region's economic development and the interdependence of the different links in the seafood value chain, developing these co-products could prove both environmentally and economically relevant. In fact, this project could lead to investments in plant infrastructures.

Finally, diverting these co-products from landfill sites would improve the processing sector's environmental performance, thereby constituting responsible maritime economic development.

Véronique : Commercial shipping is the main source of low-frequency anthropogenic noise in the maritime sector. Consequently, any increase in shipping traffic, on a regional or global scale, has the potential to significantly disturb the acoustic (sound) environment of aquatic species already perturbed for various other reasons (contaminants, lower numbers, prey availability and quality, habitat degradation and loss, etc.).

My project entails undertaking a deliberation process to ensure that as many stakeholders as possible are included in the search for and implementation of mitigating measures aimed at reducing ship-generated underwater noise.

Due, in great part, to Green Marine's environmental certification program, Québec's port actors are well aware of the underwater noise issue, which is gaining ground in terms of relative importance. I hope that my project will allow us to chart a course to help Québec port actors determine how they can play a bigger role in the efforts made to reduce the impact of underwater noise on the beluga.

Where does your interest in the maritime sector come from?

Gabrielle : Since I grew up in the Eastern Townships, my contact with the St. Lawrence River was limited to special occasions, like the holidays. Back then, I had no idea that the River played such a strategic, essential role in my daily life, for example, in terms of bringing me consumer goods.

Last year, when I moved to Trois-Pistoles, where I can see an impressive number of ships on the River every day, I began to get seriously interested in this industry. I learned about piloting ships and the strategic role the region had played since colonization, basically many chapters of history that allow us to better understand the St. Lawrence's importance today. I consider this knowledge essential, given how much we depend on imports.

Personally, I make sure to share the knowledge I've acquired with my friends and family when they come to visit. However, I think the maritime sector would benefit from Quebeckers being more aware of the important role the St. Lawrence plays in their daily lives.

I chose to sign up for a Master's degree in Maritime Resource Management after reading an article explaining that the vast majority of products from fishing in Québec were exported and that we consume imported products of lower quality. A number of factors account for this situation. I chose to devote my two years at the Master's level to studying maritime resource management to understand the different approaches that could change attitudes and habits both in the industry and among consumers.

Véronique : Although I'm currently a full-time student at the Master's level at Université du Québec en Outaouais, I have many years of work experience under my belt! I'm not a young student...

My fascination with the maritime sector goes back to my early twenties, when I was studying Marine Biology at Université du Québec à Rimouski. I was especially attracted to and intrigued by lighthouses – how they work - and the mythical job of

lighthouse keeper. Ships impressed me because they were so big and mysterious. It was hard for me to believe that people like me could be at the helm of such floating behemoths.

My professional duties led me to board these giants of the sea for several days at a time, thereby demystifying operations aboard ship while maintaining my admiration for the people who devoted their careers and lives to them.

If we asked you to travel forward in time, how would you imagine the maritime industry of the future?

Gabrielle : I think that the maritime sector of tomorrow will definitely have to do everything it can to contribute to the fight against climate change and to the efforts to maintain biodiversity. I hope that the sector will have a progressive vision and be open to technological innovations. If each link in the seafood value chain makes the efforts required to reduce its emissions, together, we will move in the right direction. Finally, I hope that the maritime sector of the future will serve its people: I hope that Quebeckers will take back the River's resources.

Since I moved to this region, one of things I love most is going to the fishmonger's

and eating seasonal products. I would just like to share this experience with my friends and family throughout Québec.

Véronique : My vision of the maritime sector of the future involves an active, transparent, engaged multi-sectorial community bent on sharing knowledge and helping find solutions and compromises, in which each stakeholder will be able to actively listen to others' operational reality. This way of working would definitely enable maritime-sector actors to better protect aquatic ecosystems, by having access to the latest scientific data on specific issues and by having them explained by experts who can express them in laymen's terms so that stakeholders can understand the real impacts. This knowledge-sharing model would also allow the scientific community to better understand and integrate into its deliberations the issues maritime sector actors face in terms of operational, political and economic constraints as well as those linked to marine safety and security.

We hope you have enjoyed this month's special edition. We invite you to follow [Gabrielle Plourde](#) and [Véronique Nolet](#) on their social networks!