Living Daily with Climate Change on the Lower North Shore

Yesterday, Today and Tomorrow

Research report
Canada Research Chair With Living Milieux of the North

Chaire de recherche du Canada
avec les milieux de vie du Nord

MRC du
Golfe-du-Saint-Laurent

Living Daily with Climate Change on the Lower North Shore Yesterday, Today and Tomorrow

Research report
Canada Research Chair With Living Milieux of the North
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A special thank you to the administrative staff of local committees, municipalities, and the Golfe-du-Saint-Laurent Regional County Municipality, as well as the elected officials and members of the Pakua Shipi and Unamen Shipu Innu Councils. We want to thank the Unamen Shipu Health Center, the North Shore Integrated Health and Social Services Center, and the Québec Ministère des Transports et de la Mobilité durable for providing access to their valuable data. Thanks to the Société historique de la Côte-Nord and the Centre d'archives de la Côte-Nord of the Bibliothèque et Archives nationales du Québec.

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Abstract

This research report documents the multifaceted transformations being experienced by communities on the Lower North Shore in relation to climate change. The lack of a continuous road link through this region makes it particularly vulnerable to climate-related disruptions, due to its heavy reliance on maritime and air transport, as well as the marked snowmobile trail in winter, known as the Route Blanche. Intra- and inter-regional mobility is often compromised, affecting access to essential services, in particular. The research aims to better understand the transformations of this living milieu and the resulting social, cultural, environmental and economic impacts. Its objective is to analyze the population's needs in terms of travel and transport, as well as the strategies deployed and planned to adapt to these transformations.

The research is based on a total of 217 testimonies gathered through 42 individual interviews, 17 participatory mapping workshops, a survey, participant observation and a review of institutional and personal archives. The results are presented in a complementary way in this research report and via an online narrative map featuring 20 thematic videos.

By mobilizing local knowledge and experience, the research highlights the extent to which climate change hinders mobility, undermines the stability of infrastructure, jeopardises access to essential services, particularly healthcare, and disrupts cultural and social practices, whilst also affecting the economy and demographics through the exodus of young people, in addition to the existing ageing of the population. Indeed, it demonstrates that climate change exacerbates the effects of geographical isolation on other socio-demographic, economic and transport-related issues in this region. The most widely expressed need is the extension of route 138. It is considered the most transformative adaptation measure, as it is seen as an essential prerequisite for climate adaptation, access to services, economic development, the survival of communities, and the overall vitality of the region.

The report concludes with a series of recommendations relating to mobility and transportation infrastructure, health and social services, the economy, education, culture, local knowledge and social cohesion, the environment and biodiversity, governance and land-use planning, as well as research, documentation, promotion and awareness.

Keywords: Climate change; way of life; mobility; transportation and infrastructure; essential services; Route 138; Route Blanche; identity and sense of belonging; visions for the future; vitality; adaptation; Lower North Shore; Nitassinan; Golfe-du-Saint-Laurent Regional County Municipality.

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List of acronyms

CIEREH	Comité institutionnel d'éthique de la recherche avec des êtres humains (Institutional Ethics Committee for Research Involving Human Subjects)
CISSS	Centre intégré de santé et de services sociaux (Integrated Health and Social Services Centre)
CLSC	Centre local de services communautaires (Local Community Services Centre)
CTQ	Commission de toponymie du Québec
ISQ	Institut de la statistique du Québec
MAMH	Ministère des Affaires municipales et de l'Habitation du Québec (Ministry of Municipal Affairs and Housing of Québec)
MTMD	Ministère des Transports et de la mobilité durable du Québec (Ministry of Transport and Sustainable Mobility of Québec)
MSP	Ministère de la Sécurité publique du Québec (Ministry of Public Security of Québec)
MTQ	Ministère des Transports du Québec (Ministry of Transport of Québec, former name for MTMD, commonly used on the Lower North Shore)
PAAR	Regional Air Access Program
RCM	Regional County Municipality
SOPFEU	Société de protection des forêts contre le feu (Wildfire Protection Society)
STQ	Société des traversiers du Québec
UQAM	Université du Québec à Montréal
ATV	All-Terrain Vehicle
SUV	Sport Utility Vehicle

Introduction

During the summer of 2023, the Regional County Municipality (RCM) of Golfe-du-Saint-Laurent issued a call for projects to "enhance knowledge and understanding of climate change in the Lower North Shore," and more specifically to "document weather-related hazards and demonstrate how difficult and complex travel can be for residents of the RCM of Golfe-du-Saint-Laurent." This research project aims to inform local, regional, provincial, and national key actors of observable and projected climate trends in the region, and their impacts on the mobility of the population.

Climate change, often discussed in terms of numbers and statistics, takes on a whole new dimension here. In the Lower North Shore, these impacts are told through everyday practices and the way people perceive their living milieu, its infrastructure, and its services; they are found in stories rooted in the places that are transforming before the very eyes of those who call them home. It is their voices that describe it, with great precision, finesse, and sensitivity, highlighting their attachment to the land. This research adopts a qualitative approach that pays attention to the rhythms of local and regional way of life, seasonality, and the multifaceted transformations of the land, ranging from the microscopic to the spectacular. It is therefore from this geographical perspective that this study of climate change, conducted with the people of the Lower North Shore, looks beyond pure climate data.

Unprecedented data have thus been collected, providing a guide for decision-makers on the adaptation measures needed to maintain or even improve access to transportation and essential services in the region. The close relationship between the way of life, climate change, road infrastructure, and territorial conditions affecting northern milieux is put forward in this work.

This report and the accompanying narrative map were produced by the team of the Canada Research Chair With Living Milieux of the North, led by Professor Laurie Guimond at the Department of Geography at the Université du Québec à Montréal (UQAM), after the invaluable participation and involvement of the local population in this research. Their observations, stories and testimonies about climate change issues affecting their region as well as its vitality in general are extremely rich.

This research was co-funded by the RCM of Golfe-du-Saint-Laurent, the Société du Plan Nord, and the Canada Research Chair With Living Milieux of the North. It was carried out in close partnership with the RCM and the five municipalities of the RCM, namely Côte-Nord-du-Golfe-du-Saint-Laurent, Gros-Mécatina, Saint-Augustin, Bonne-Espérance, and Blanc-Sablon, with the support of the Innuat communities of Pakua Shipi and Unamen Shipu.

Research Problem

The RCM of Golfe-du-Saint-Laurent lies south of the vast ancestral territory of the Innuat, Nitassinan (Map 1, see Chapter 2). It follows the coastline of the Gulf of Saint Lawrence for approximately 400 kilometres. It is located at the eastern end of the province of Québec, bordering Newfoundland and Labrador.

The RCM of Golfe-du-Saint-Laurent has several regional characteristics, which are discussed throughout this report. However, in the context of this discussion, it is crucial to emphasize that no continuous road links cross this region, making it isolated and even insular in some places. Indeed, route 138 only partially traverses this territory, at the border with Labrador (Blanc-Sablon to Old Fort), in the west (Kegaska), and between La Tabatière and Mutton Bay (Map 2). Half of the non-Indigenous communities (7/14) and both Innuat communities (2/2) are therefore isolated from the rest of Québec and Labrador (Maps 4, 5, 6, 7, 8, 9, 10, and 11). Two communities are doubly isolated, both locally and regionally: Harrington Harbour (an island) and Saint-Augustin (separated from Pakua Shipi by the Saint-Augustin Pakua Shipu River, accessible only by sea or air, or, in winter, by the Route Blanche, which crosses the river (Maps 4 and 10). As of the writing of this report, two sections of road are under construction in the Lower North Shore: Kegaska-La Romaine/Unamen Shipu and Tête-à-la-Baleine-Mutton Bay (Map 2).

Residents are therefore highly dependent on climatic conditions for intra- and extra-regional travel, relying on snowmobiles, all-terrain vehicles, boats, hovercraft, ferries, planes, helicopters, and cars. The impacts of climate change, particularly concerning the viability of the Route Blanche, as well as the access to the hinterland, coastlines, and islands, are all sources of concern for the Coaster and Innuat, who are witnessing their living milieu change at an unprecedented pace. As a result, there is growing pressure to extend route 138 as a response to these ongoing changes.

These pressures are nothing new; the lack of a road was first documented as early as 1897 by historian Huard while sailing along the North Shore (Dionne, 1985), and it has been more widely advocated for since the 1950s (Couture-Cossette, 2024, 8). While numerous studies have been conducted, particularly regarding the extension of route 138, and despite the residents of the Lower North Shore witnessing decades of unfulfilled election promises, the region remains without a year-round drivable road. This geographical isolation thus hinders the region's dynamism, vitality, and development (Simard, 2015). Communities live either in anticipation of the road or in despair and frustration. For an in-depth geography study of living in Tête-à-la-Baleine (Lower North Shore) in the absence of route 138, see Couture-Cossette (2024) and Couture-Cossette and Guimond (2026).

Regarding climate change, data from predictive models clearly demonstrate trends resulting from certain warming: past, present, and future (Ouranos, 2025a; 2015). However, little social science research has been conducted with communities in this region, such that their

reality remains poorly understood, if not unheard, as revealed by the findings of the present research. How is climate change experienced daily? What are its multifaceted impacts on individuals, communities, and more broadly, the entire territory? What adaptation measures and strategies are in place, and which ones are being considered? The RCM therefore wanted to document this issue through an original research specific to the territorial, cultural, and social reality.

Research Objectives

The *general objective* of this research is to document the extent to which climate change is transforming the living milieu and influencing the mobility and daily lives of residents of the RCM of Golfe-du-Saint-Laurent and Innuat communities.

The *specific objectives* are as follows:

1. Describe past, present, and projected climate trends in the Lower North Shore.
2. Understand the **transformations of the living milieux and way of life** on the Lower North Shore within the context of climate change, along with the resulting social, cultural, environmental, and economic repercussions. Special attention is paid to local, regional and interregional mobility, as well as to the way of life, the meanings and fundamental values associated with the land.
3. Analyze the **needs** of the population in terms of mobility, transportation, and essential services, as well as the **strategies** deployed and projected by communities to adapt to the major transformations of their living milieu.

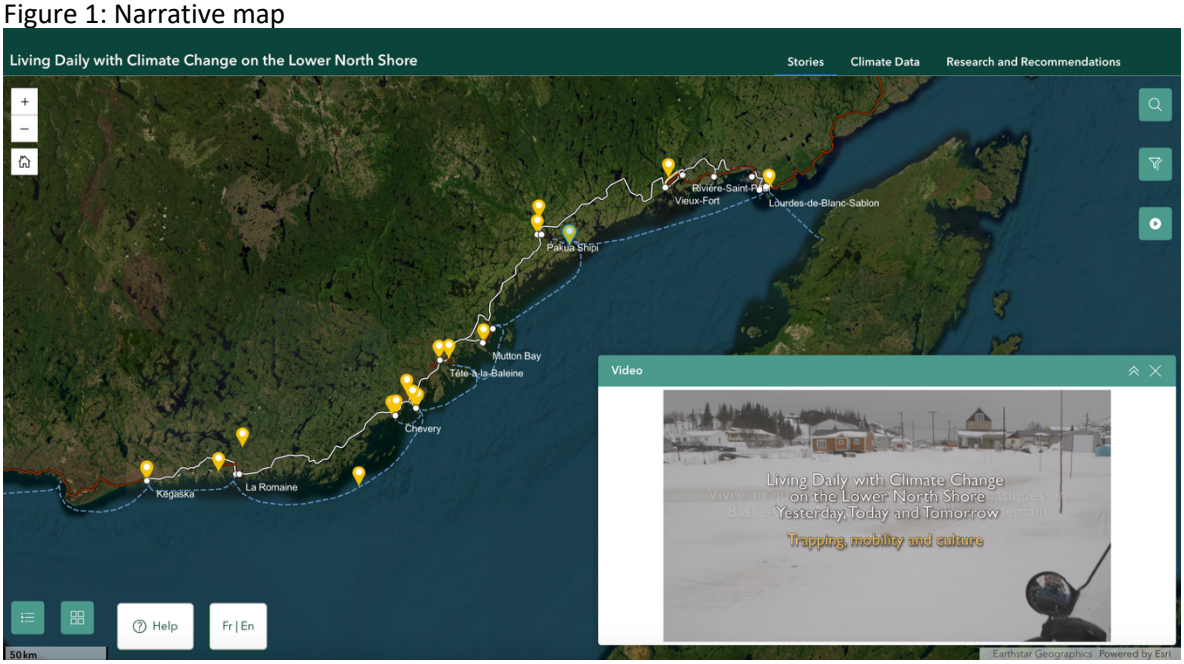
Interpretative and Reading Tools

Narrative Map and Videos

To mobilize the knowledge resulting from this research among different audiences, this research report and a narrative map are presented as complementary outputs. They are intended for individuals, organizations and businesses working either directly or indirectly with the Lower North Shore. The target audience is therefore broad, ranging from residents who want to better understand climate change in their region, to key players who need data to support their activities, to policymakers who want to choose informed adaptation choices.

The narrative map, available in open access, brings together the key findings of the research, presented through 20 bilingual videos organized by regional themes identified by the research participants (Figure 1). These clips are included separately in this report where relevant (see List of videos).

Figure 1: Narrative map



Source : https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114

Report Structure

Following this introduction, the report is structured as follows: Chapter 1 introduces the geographical and climatic context of the RCM of Golfe-du-Saint-Laurent. Chapter 2 provides an overview of the research methodology. Chapters 3 to 7 present the findings: a) climatic phenomena (3); b) issues related to transportation and mobility (4); c) issues related to essential services (5); d) climate change and way of life (6); e) future visions, route 138, and other adaptation strategies in response to these issues (7). The report concludes with a summary of findings and a series of recommendations.

The results and analyses are organized according to the following diagrams (Figures 2 and 3). This configuration is intended to be flexible and organic. It stems from the analysis, which demonstrates beyond any doubt how interconnected the results are. Whether it concerns the state of services, cultural and social practices, climate change, sociodemographic situations, or the economy, every element overlaps. The presentation of the results and interpretations is organized as such for the sake of clarity; however, the information could be structured according to a different logic. This strong interconnection between the cultural, social, political, economic, and professional dimensions, and even extending to individual identity and perception, highlights how the land itself is central to life in the Lower North Shore.

Climate change serves as the narrative thread that ties this report together. It is inseparable from the climatic phenomena it accentuates, both in magnitude and frequency, including on the North Shore (RNCREQ, 2015; Ouranos, 2020). These changes are widely discussed by the participants of our research project, who observe and describe them with great sensitivity

(Chapter 3). The term "climatic phenomenon" refers, for example, to temperature, precipitation, wind, and storms (Ouranos, 2025b). These phenomena have multiple impacts on natural and human systems, affecting both material and emotional realities (Ouranos, 2020). In this report, we classify them into seven types of impacts (Figure 3).

Figure 2: General structure of the presentation of results and analyses

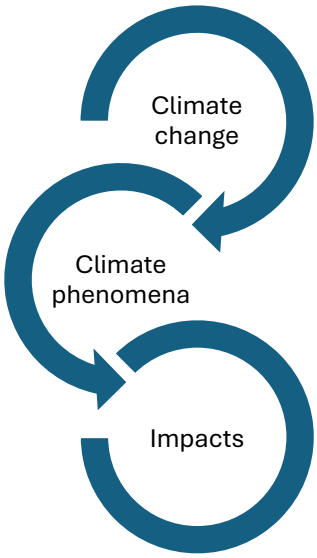
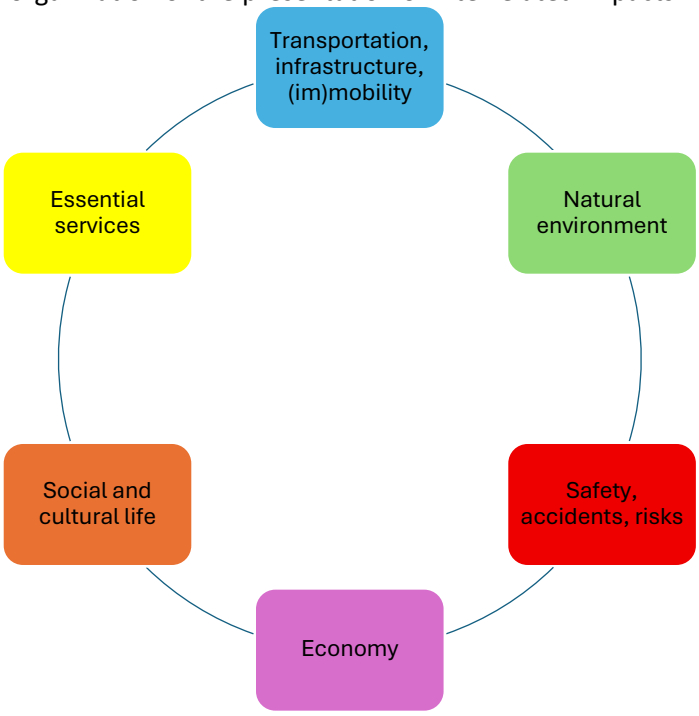


Figure 3: Thematic organization of the presentation of interrelated impacts



Vocabulary related to the RCM of Golfe-du-Saint-Laurent

The RCM of Golfe-du-Saint-Laurent takes its name from the Gulf of Saint Lawrence, along whose shores it lies. The region is commonly named as the Lower North Shore in reference to an older regional designation still used today. This term refers to three geographical subregions of the North Shore, namely the RCM of the Haute-Côte-Nord (from the Saguenay River to the Pessamit Shipu (Betsiamites River)), the Moyenne-Côte-Nord, now called the RCM of Minganie (from Mishta-shipu (Moisie River) to the Grande rivière Natashquan Shipu), and the Lower North Shore (from the Natashquan Shipu River to Blanc-Sablon). In accordance with local and regional expressions, we primarily use the name Lower North Shore in this report and on the narrative map, while acknowledging that this region is located on the Nitassinan.

Transcription of local expressions and accents, and Innu-Aimun

Out of respect for local expressions, we have opted for verbatim transcription, preserving as much as possible the local accents and regional modes of expression. For instance, the cargo ship Bella Desgagnés is often referred to in the feminine:

> Well, [laughs] that could be a touchy subject for some! The Bella's on time… rarely… There's been some big storms **she's** been in, so **she's** had to bypass towns and such. That can be a hot topic for a lot of towns. Instead of waiting in port, **she** passes and… passes the port of call, and **she** goes on to the next one with perishables, uh, fruit and vegetables, groceries—all the things that the towns down below it need (Kegaska 25).

Also, Coasters sometimes conjugate verbs in the third person singular that are in the second person singular or third person plural: "*You know for the airport you gotta have access… you know. And like now,* ***they goes*** *over and an hour they stop at 10:00. Now it's perfect to give a go by skidoo*" (Saint-Augustin 9). In French, we have transcribed expressions from spoken language such as « pis » for « puis » (then), « faque » for « donc » (so), « y » for « il y » (there), « icitte » for « ici » (here), « pu » for « plus » (no more or more), etc.

To facilitate comprehension of both the French and English versions of the report, quotations in English have been translated into French, and quotations in French have been translated into English. No interviews were conducted in Innu-Aimun.

We choose not to gender the word Innu in English because Innu-Aimun has no feminine or masculine gender. When applicable, we use the term Innuat, which is the plural form of Innu.

Credits and References

To keep the report concise, photo credits and other references are only provided below a table or figure when they are not attributed to the Canada Research Chair With Living Milieux of the North. All maps were produced by Mourad Djaballah, cartography technician in the Department of Geography at UQAM.

Chapter 1

Geography and Climate of the Lower North Shore

This chapter offers an insight into the unique geography of the Lower North Shore and its climate. It examines both natural and cultural landscapes, community dynamics, and their settlement history, highlighting their specific characteristics in terms of essential services and transportation infrastructure. Furthermore, it presents some of the climatic factors that shape the daily lives of residents. This chapter provides the basis for understanding the impacts of climate change in this region.

1.1 Natural and Cultural Landscapes of the Lower North Shore

Located on the Canadian Shield, within the Greenville geological province, the topography of the Lower North Shore consists of an inland plateau and a rocky coastline composed of islands and dominated by peat hummocks, host to Ericaceae and lichens (Ibrahim, 2011). The latter are conducive to the growth of lingonberries (also known as *graine rouge*, *berri*, *partridgeberries, airelle, redberry*), cloudberries (*plaquebière, bakeapple*, *chicoutai),* cranberries, crowberries (*baie noire, camarine noire, blackberry*), blueberries, and raspberries, which are emblematic berries of this boreal region. Furthermore, they are home to plants with medicinal properties, such as fir and black spruce buds, Labrador tea, and sweet gale, among others.

Several rivers, including the Petit Mécatina River, the Pakua Shipu (Saint-Augustin River), the Olaman, the Coxipi, the Saint-Paul (named Quitzezaqui, meaning "big river," by the Inuit, Aisimeu Shipu, meaning "river of the Eskimos," by the Naskapi, and Aiahtshimeu Hipu, meaning the same thing, by the Innuat[1]), along with lakes nestled in the valleys, form its hydrographic network. These rivers and their tributaries cross the region along a north-south axis, emptying into the Gulf of Saint Lawrence. Significant peatlands are also found near the river mouths. Further south, the mossy spruce-stand bioclimatic domain is characterized by a coniferous forest cover dominated by black spruce. More marginally, at the eastern end of the region, the forest tundra domain gives way to tundra vegetation (Government of Québec, 2022). This land is also home to a diversity of wildlife and fish species, including woodland caribou, Atlantic salmon, cod, halibut, capelin, herring, mackerel, shark, crab, lobster, sandhill crane, eider and other sea ducks, shorebirds such as northern gannets, puffins, sea lions, whales, American martens, red foxes, arctic foxes, minks, beavers, among others.

Several waves of human migration have succeeded one another on this territory, now known as the Lower North Shore. The earliest traces of occupation by the First Nations date back to just over 8,000 years ago in the Blanc-Sablon region (Chevrier, 1996a; Pintal, 1998) and around 7,500 years ago in the easternmost part of the North Shore (Chevrier, 1996a). This presence was initially focused on adapting to the land, shaped mainly by marine resources,

[1] Information taken from the website of the Commission de toponymie du Québec.

and gradually transitioned toward inland occupation for caribou hunting and fishing (Duhaime, 2001). This presence continues to this day. The descendants of these nomadic hunters, the Innuat of the low-coast region, are now settled in Pakua Shipi and Unamen Shipu (Chevrier, 1996b), yet they still maintain an intimate relationship with Nutshimit (life inland where Innu culture and language is practiced). While forced sedentarization has caused immeasurable consequences for the Innuat way of life, the practice of Innu-aitun (Innu culture) and Innu-aimun (Innu language) is very much alive in these communities, fostered by their geography and the isolation of the region.

More recently, the Inuit frequented the eastern part of the Lower North Shore to hunt seals and caribou, first 3,000 years ago, and again 1,300 and 1,500 years ago (Chevrier, 1996a). Although they are no longer present as a distinct ethnocultural group in this region, some of their descendants are native to Saint-Augustin, Old Fort, and St. Paul's River (Duhaime, 2001).

Around the turn of the 15th century until the end of the 16th century, French cod fishermen intensively frequented the region via the Strait of Belle-Isle, which was also used by Basque whalers, who were particularly active on the Lower North Shore between 1550 and 1600. They were followed by Jersey cod fishermen near Blanc-Sablon from 1784 onwards, who remained there for nearly a century (Duhaime, 2001). While these maritime-focused activities did not result in permanent settlements, they nonetheless shaped the Euro-Canadian settlements of the Lower North Shore, with arrivals from Jersey, Scotland, England, and France. Between 1840 and 1860, leaving behind agricultural lands and overcrowded parishes, about twenty families from Montmagny, L'Islet, Bellechasse, and Québec City arrived, some of whom later returned south (Charest, 1970). A migration of approximately thirty Newfoundland families on the Lower North Shore, arriving primarily in the 1870s and 1880s for the cod fishery, largely explains the region's Anglophone settlement (ibid.). Thus, fishing and trading posts shaped the spatial distribution of the population, as well as the regional identities (Remiggi, 1980).

The Newfoundland settlement represents the last major migration to the Lower North Shore, which nevertheless experienced demographic growth due to natural increase until the 1970s. Since then, the sociodemographic situation has been weakened by an exodus of people seeking employment or education opportunities, for example. This is evidenced by the closure of the village of Aylmer Sound in 2006 due to demographic decline and service rationalization (RCM of Golfe-du-Saint-Laurent, 2017). The moratorium on cod fishing enacted in 1992 also significantly undermined the region's economy.

This precarity, reflected in regional economic and demographic data, is a source of concern for most of the individuals we met during this research. The median total income (before-tax income) of people aged 18 and over in 2022 was $44,700, and the employment rate for workers aged 25 to 64 for the same year was 66%, compared to 81% for Québec as a whole

(Institut de la statistique du Québec (ISQ), 2024). The average annual population growth rate over five years is -5.5[2]. With a value of -10.83, the RCM du Golfe-du-Saint-Laurent falls within the 5th quintile in Québec in terms of economic vitality index, placing it among the least vitalized regions in Québec[3] (ISQ, 2024). The situation is comparable in Pakua Shipi and Unamen Shipu, where the economic vitality index was -10.2 and -12.9, respectively in 2020, and where the median income was $35,926 and $30,718, with employment rates of 59% and 52% (ISQ, 2023). In contrast, the Innuat communities of Pakua Shipi and Unamen Shipu have experienced strong and rapid population growth since they became sedentary in the 1960s.

The permanent settlements of the Lower North Shore consist of the Innuat communities of Pakua Shipi and Unamen Shipu, the francophone communities of Tête-à-la-Baleine and Lourdes-de-Blanc-Sablon, the francophone and Wolastoqey (Maliseet) community of La Romaine, and the anglophone communities of Kegaska, Chevery, Harrington Harbour, Mutton Bay, La Tabatière, Saint-Augustin, Old Fort, St. Paul's River, Middle Bay, Brador, and Blanc-Sablon. Each of these communities has a unique history of settlement marked by local and regional socio-territorial transformations. Despite a low population density across a vast territory covering nearly 400 kilometres of coastline, the Lower North Shore shares a strong regional identity that stretches from Blanc-Sablon to Kegaska. This regional identity is further strengthened by the need to mobilize for better access to essential services, which requires efficient and accessible transportation, especially in the context of climate change and the multifaceted sociodemographic and economic challenges facing the region.

1.2 Settlement History, Transportation, and Local Services

Today, the settlement units of the Lower North Shore consist of the two Innuat communities of Pakua Shipi and Unamen Shipu, as well as the five municipalities that encompass several communities. This section provides a general description of these units based on their settlement history, transportation services, and various local services[4].

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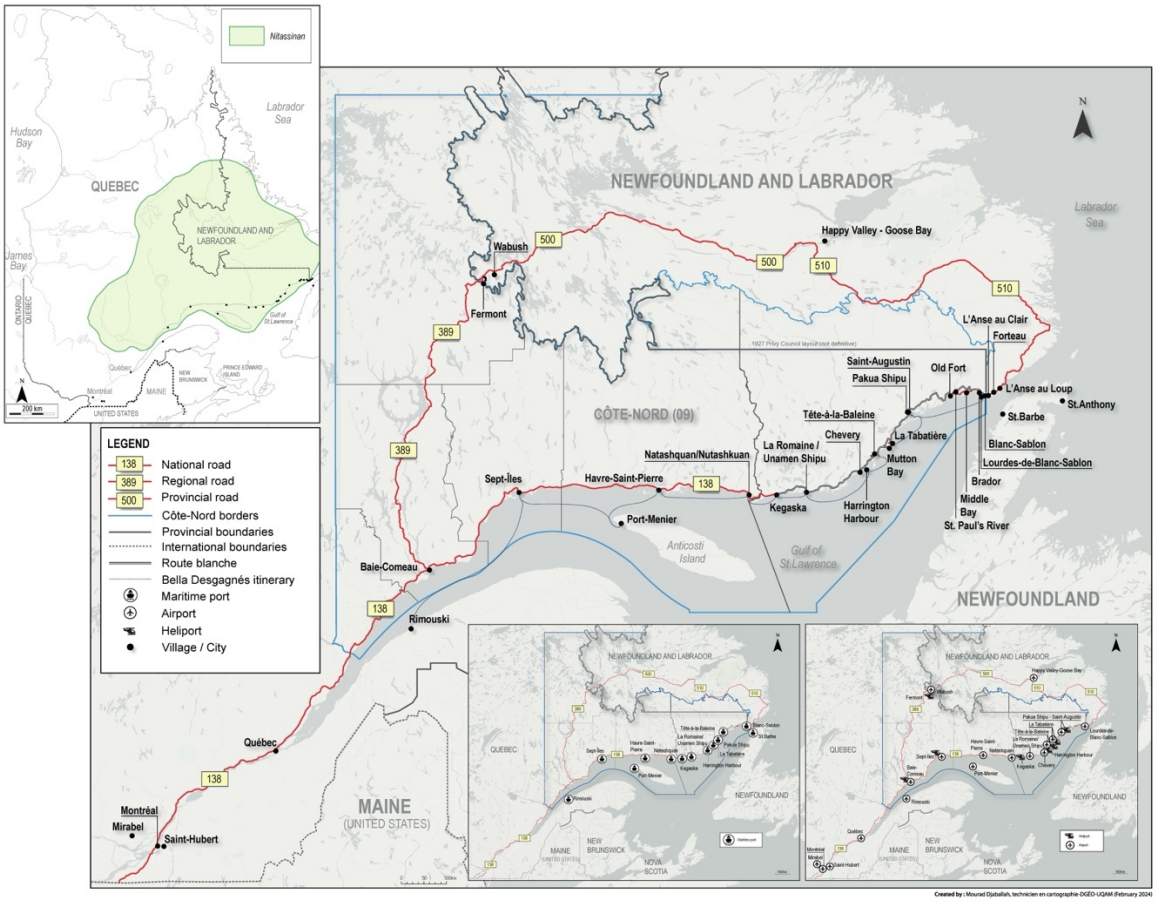
[2] The average annual population growth rate, expressed in thousandths, ''represents the average annual change in population over a five-year period relative to the average population for that period in a given territory'' (ISQ, 2024). This data compilation excludes data from the community of Pakua Shipi et d'Unamen Shipu.

[3] The economic vitality index "is the geometric mean of normalized variables for three indicators: the median total income of individuals aged 18 and over, the rate of workers (share of people who are employed) aged 25 to 64, and the average annual population growth rate over five years. Each of these indicators represents an important aspect of vitality, respectively living standards, the labour market, and demographic dynamics. […] A negative value generally means that the municipality is behind in terms of economic vitality in relation to the majority of Québec municipalities, and conversely, a positive value means that the municipality is ahead of most municipalities" (ISQ, 2023).

[4] To keep this presentation concise, only health services, social services, education, and transportation infrastructure are mentioned. Most communities have at least one general store, accommodation, public safety

Map 1 represents the Innu land upon which the Lower North Shore is situated, Nitassinan, as well as a regional overview, including land, maritime, and air transportation infrastructure, while geolocating the Lower North Shore in its extra-regional context.

Map 1: Nitassinan, the Lower North Shore, and its Transportation Infrastructure



Map 2 shows route 138 and the Trans-Labrador Highway (389 in Québec and 500, 501 in Newfoundland and Labrador), as well as sections of route 138 currently under construction in the Lower North Shore region. Map 3 indicates the Route Blanche, the snowmobile trail marked and maintained by the Québec Ministère des Transports et de la Mobilité durable (MTMD).

services (Innu, provincial, or federal) and other basic municipal services, postal service, Desjardins service center, church, and some tourist infrastructure (e.g., interpretive panels, interpretation centers, museum, cafés or restaurants, walking trails, etc.).

Map 2: Road Connections at the Eastern and Eastern Ends of the Lower North Shore and other Sections of the Discontinuous Route 138

Map 3: Route Blanche in 2025, According to the MTMD Route

On the Lower North Shore, air transportation is crucial for daily mobility related to medical appointments, family or social visits, work, or supplies. In 2024, it is organized as follows:

- Most communities are served by air. Air Liaison has a monopoly, except in Lourdes-de-Blanc-Sablon, which is also served by PAL Airlines[5].
- Tête-à-la-Baleine and La Tabatière are served only by helicopters, operated by Heli Express, a partner of Air Liaison.
- The Société des Traversiers du Québec (STQ) manages year-round transportation between Harrington Harbour and Chevery via water taxi; during the freeze-up and thaw periods, this is replaced by a helicopter service provided by Héli-Express. In recent years, even when the Route Blanche is open, the helicopter service continues to operate to assist more vulnerable populations.
- The STQ manages year-round transportation between Saint-Augustin and Pakua Shipi. A hovercraft operates year-round, except when the Route Blanche is open. During the freeze-up and thaw periods, or when the local barge is out of service, the STQ uses a helicopter to transport goods.
- Each community has access to an airport and/or heliport for emergency evacuations by MédÉvac or, in extreme cases, by the Canadian Armed Forces.

Pakua Shipi

The community of Pakua Shipi is located at the mouth of the Pakua Shipu salmon river, known by its colonial name, the Saint-Augustin River. In Innu-aimun, Pakua Shipi means "sand river" in reference to its sandy bottom, but also "shallow," "dry," or "dried up" river (Commission de toponymie Québec [CTQ], 2024 and Dictionnaire Innu-aimun-mashinaikan dictionary, 2025). The Innuat have been navigating it northward for thousands of years to reach the inland hunting and fishing grounds, Nutshimit, and southward for the summer season. The construction of a commercial fur trading post established by the Hudson's Bay Company in the 18th century at the mouth of the river, coupled with sustained evangelization efforts, transformed this way of life.

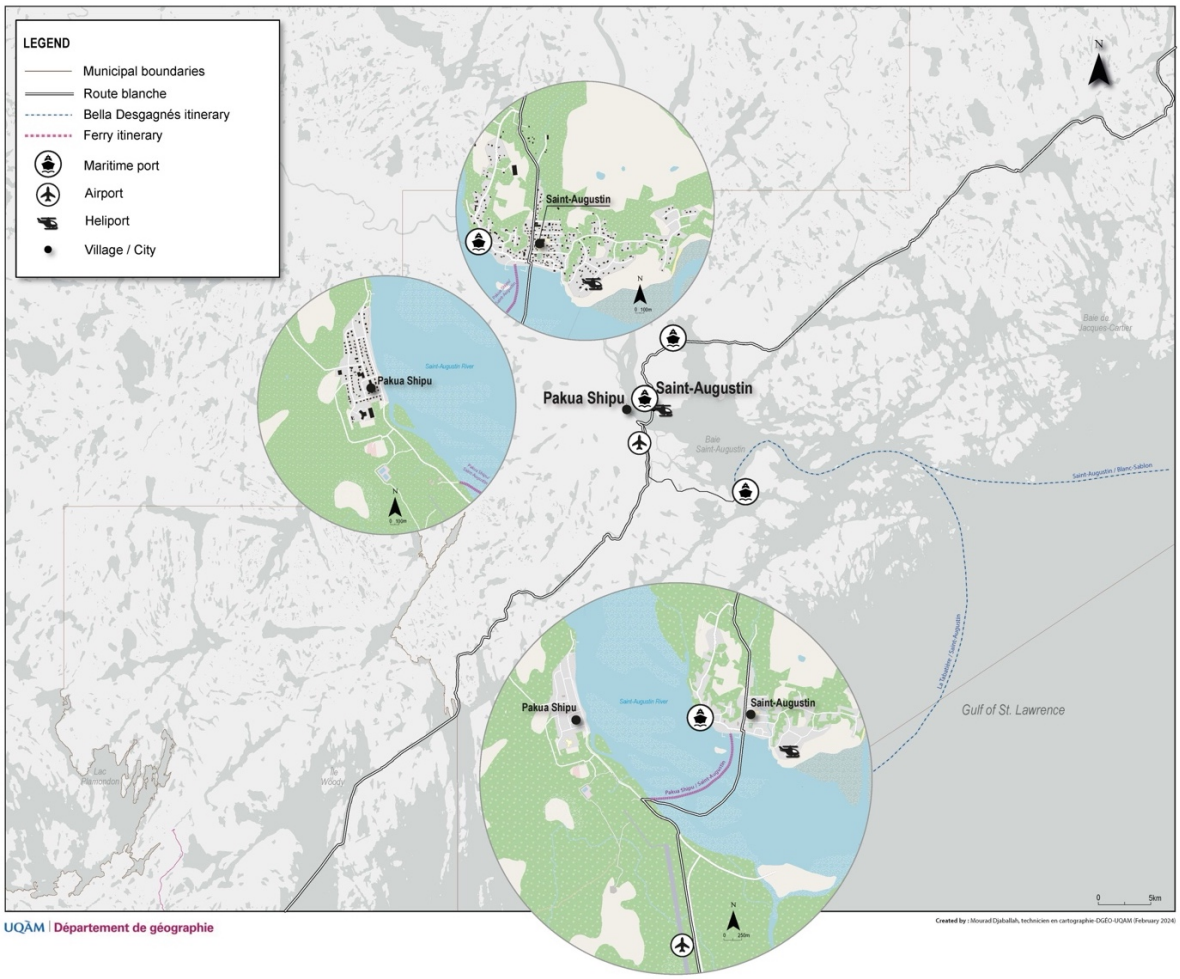
In 1961, the federal government, supported by the local missionary priest, orchestrated the deportation of 65 Innuat from Pakua Shipi to the community of Unamen Shipu. The intention was to consolidate the Innuat of the Lower North Shore into a single community, an assimilationist project that ultimately failed. In an act of resistance and affirmation, about 20 individuals returned to Pakua Shipi on foot in 1963, and others followed closely behind, using other means of transportation in subsequent years (Jérôme et al. 2022). In 1971, houses were

[5] Since January 2026, Central Mountain Air has been offering scheduled flights to the Lower North Shore, thereby enhancing air service options in the region. It provides service to some villages, but the airline only has a Dash-8, which is not always suitable for certain flying conditions as it requires a higher ceiling for landing.

built by the federal government. Since then, the community has held the status of an "Indian settlement," which means that it possesses no reserve lands, unlike most non-treaty First Nations communities in Québec. As of 2023, 384 Pakua-shipiunnuat live there (Ministère des Affaires autochtones et Développement du Nord Canada, 2023).

Near Pakua Shipi, there is an airport, a heliport, and a federal dock (Map 4). The hovercraft *L'Esprit-de-Pakuashipi*, which can carry 16 passengers, as well as personal watercraft (jet skis, rowboats) and snowmobiles in winter provide transportation between Pakua Shipi and the municipality of Saint-Augustin, located on the opposite bank of the river. The community of Pakua Shipi has a primary and secondary school and a childcare center. The Pakua Shipi Health Center has been autonomous since 1999 due to a comprehensive funding agreement between the Pakua Shipi Innu Council and Health Canada (Pakua Shipi Health Center, 2025).

Map 4: Local Map of Pakua Shipi and Saint-Augustin



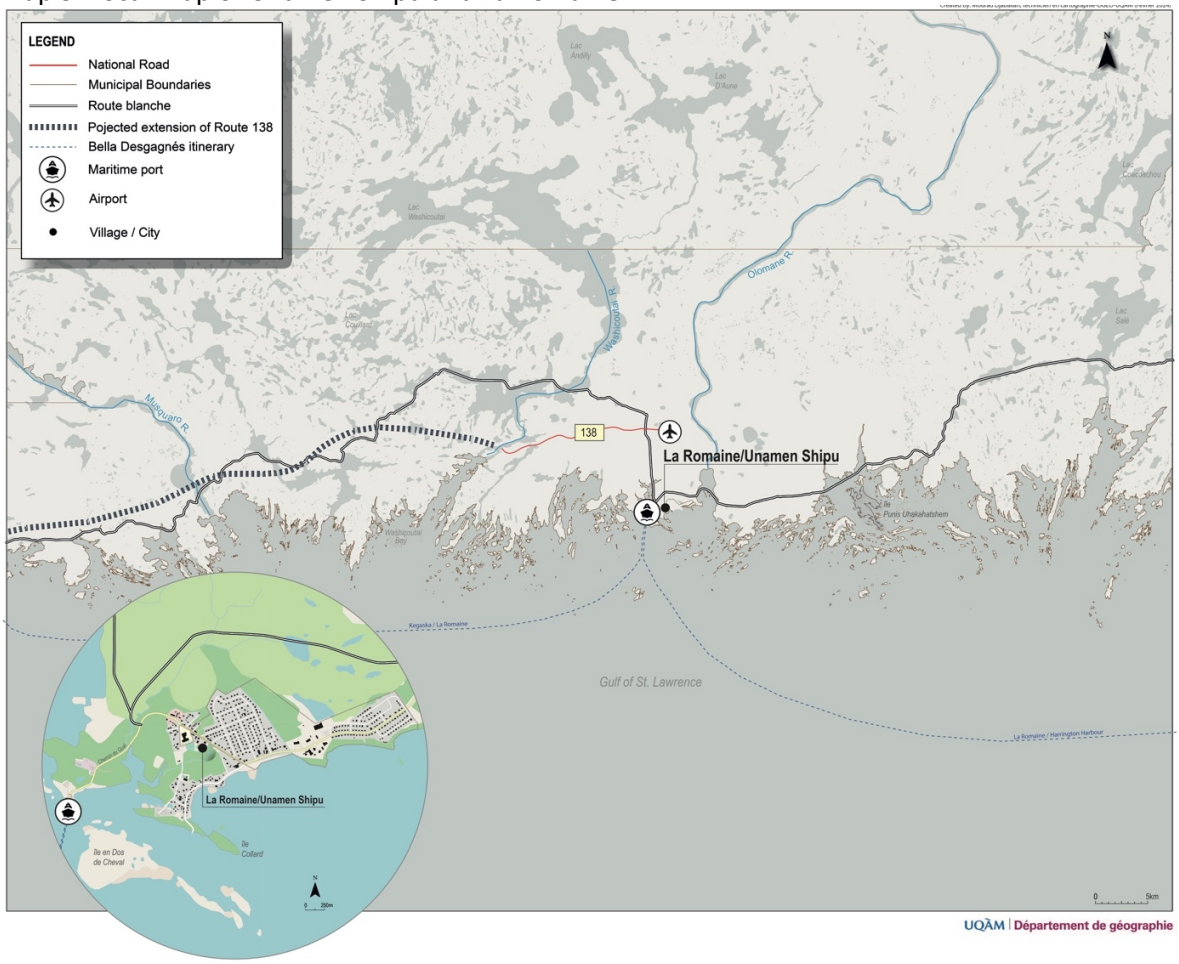
Unamen Shipu

The community of Unamen Shipu is located at the mouth of the Olaman River, which flows into the Gulf of Saint Lawrence. The name Unamen Shipu is derived from the place name

Olamen, referring to the red ochre deposits found along the riverbanks. This site has been frequented for thousands of years by the nomadic ancestors of the Innuat of Unamen Shipu, and more recently by the French, who established a fishing and trading post there around 1710. This post was taken over by the Labrador Company of Québec in 1780, and then by the Hudson's Bay Company from 1922 to 1925 (CTQ, 2025). The Unaman-shipiunnu were officially settled by the Canadian government and missionaries in 1956, the date the reserve was created under the *Indian Act*.

In 2023, the population of Unamen Shipu was 1,198, in addition to 79 non-resident members (Department of Indigenous Affairs and Northern Development Canada, 2023). An airport, a heliport, and a federal wharf serve the community (Map 5). At the time of writing, the section of road between Kegaska, the community further west, and Unamen Shipu-La Romaine is under construction. A childcare center, two schools offering preschool, elementary, and secondary classes, a health and social services center, and a community radio station serve the Unaman-shipiunnu. In La Romaine, a few meters from Unamen Shipu, there is an adult education center and other public and private services available to both communities.

Map 5: Local Map of Unamen Shipu and La Romaine



Blanc-Sablon

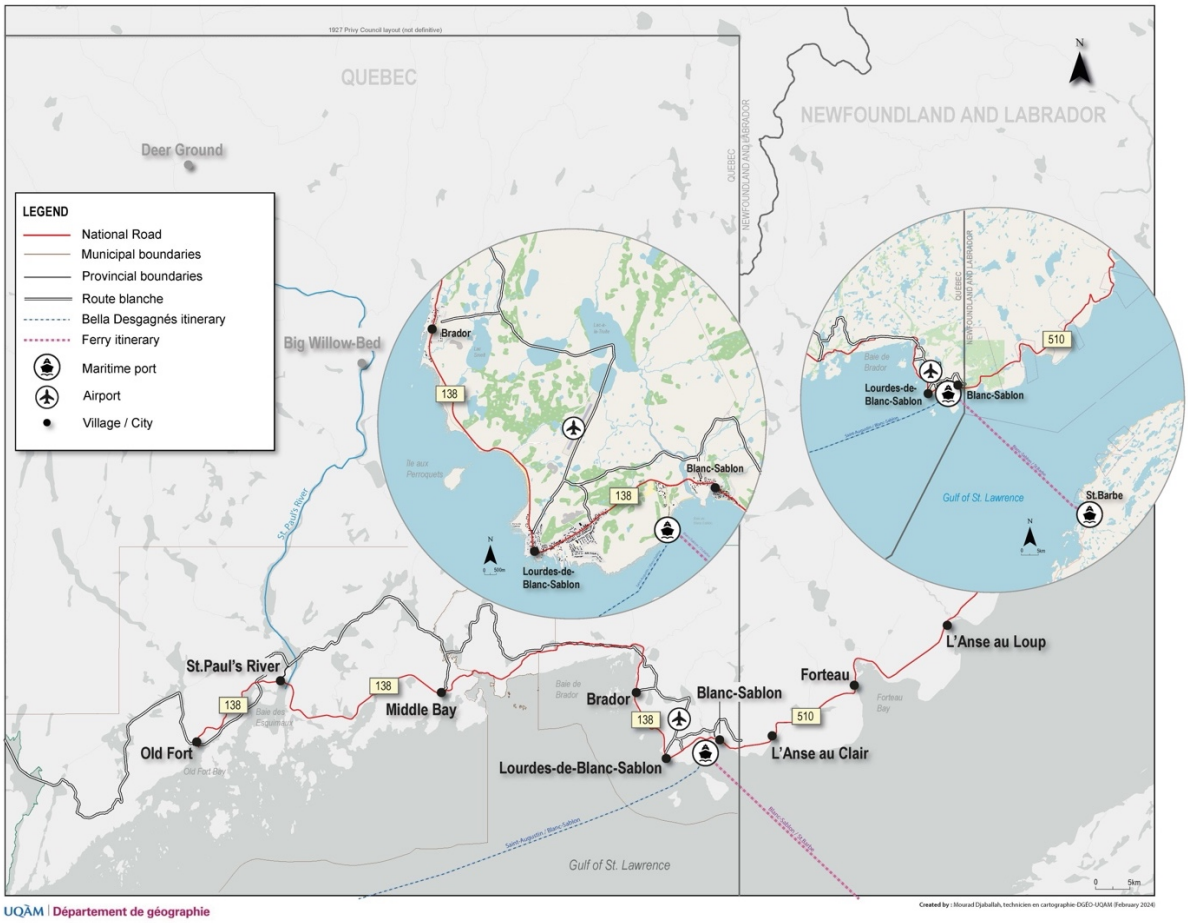
Blanc-Sablon, Lourdes-de-Blanc-Sablon and Brador

Blanc-Sablon is the easternmost municipality on the Lower North Shore, located on the border of Labrador. An important cod-fishing port, initially seasonal from the 1500s onwards, then more permanent in the 19th century with the arrival and settlement of French Canadians from Montmagny and Québec City in particular, Acadians and migrants from the island of Jersey, followed by fishermen from Newfoundland. Blanc-Sablon is home to both English-speaking and French-speaking populations. The municipality acts as a regional service center for the Lower North Shore. The toponym Blanc-Sablon was likely named by the first Europeans to visit the region and refers to the fine white sand that forms the long sandy beaches that characterize the landscape (CTQ, 2025).

Following an administrative restructuring of the Lower North Shore, which consolidated all the coastal villages within the municipality of Côte-Nord du Golfe Saint-Laurent between 1963 and 1990, the municipality of Blanc-Sablon was created in 1990. It is composed of the communities of Lourdes-de-Blanc-Sablon, Blanc-Sablon, and Brador, which have a total population of 1,081 (ISQ, 2025). These communities have access to the *Centre multiservices de santé et de services sociaux de la Basse-Côte-Nord*, which receives patients from across the Basse-Côte-Nord region, a childcare center, a preschool through high school, an adult education center, a school services center, and a community radio station.

In terms of transportation infrastructure, Blanc-Sablon provides a ferry service across the Strait of Belle Isle, linking Newfoundland, the Lower North Shore, and Labrador (Map 6). In addition to the federal wharf, the municipality has an airport, a heliport, and a road connecting it to Baie-Comeau and elsewhere in Québec via the Trans-Labrador Highway. Blanc-Sablon is linked to the municipality of Bonne-Espérance further west via a 69-kilometre section of route 138.

Map 6: Local Map of Blanc-Sablon



Bonne-Espérance

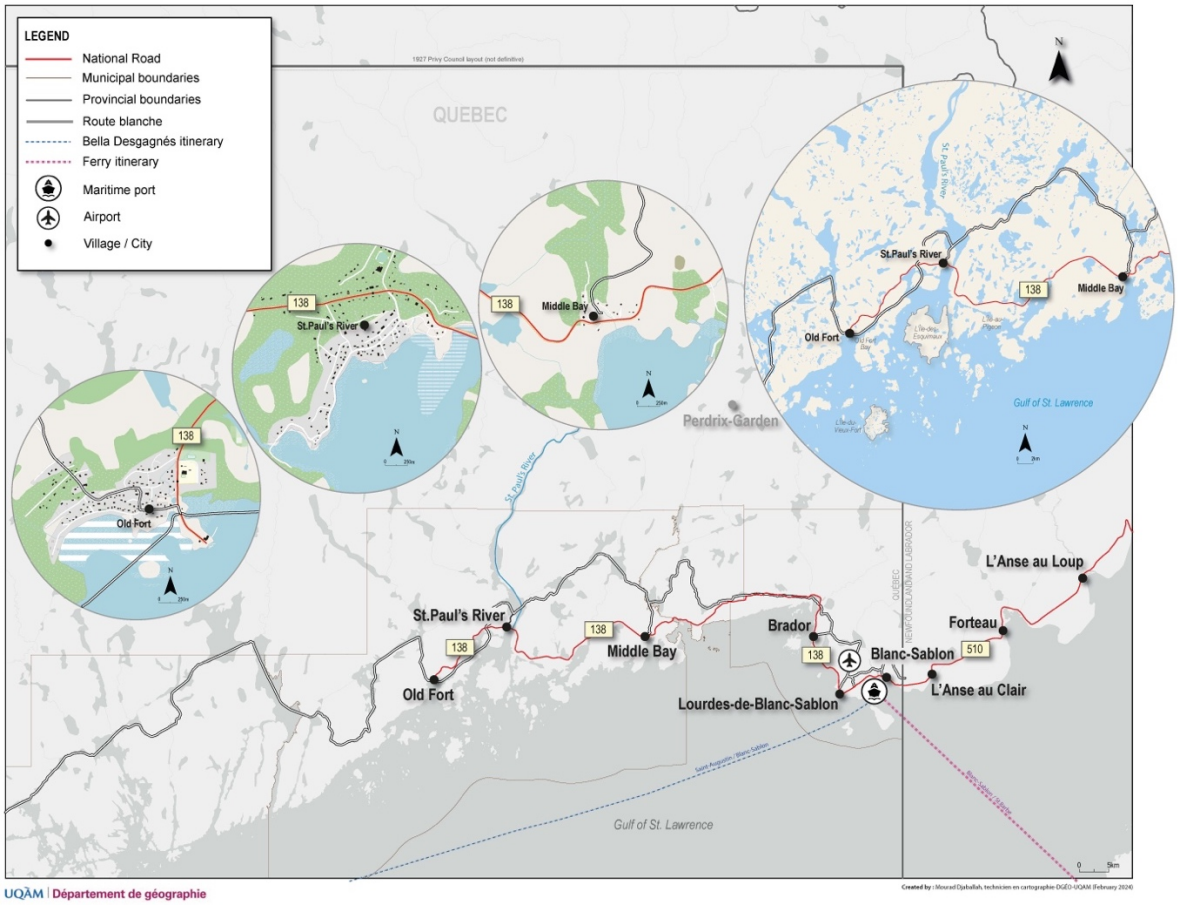
Middle Bay, St. Paul's River and Old Fort

Since 1990, the municipality of Bonne-Espérance has brought together the anglophone communities of Middle Bay, Rivière-Saint-Paul, and Vieux-Fort, which, like those of Blanc-Sablon, had been part of the Côte-Nord du Golfe Saint-Laurent municipality since 1963. These communities evolved around fishing and trading ports located on the islands and bays along the coast. Seal hunting, salmon fishing, and then cod fishing were decisive factors in the history and economy of this territory, which welcomed migrants from the islands of Jersey, Gaspé, and Newfoundland who practiced transhumance between the mainland and the islands near the fishing sites (Abbott, 2023). Their descendants still occupy the offshore islands, mainly for vacation purposes (Abbott, 2025). Families from neighbouring fishing stations, and even from Blanc-Sablon, also settled there (Charest, 1970, 83). According to toponymist Jean Poirier (1993), the origin of the place name Bonne-Espérance remains to be proven. The total population of Bonne-Espérance in 2024 is 677 people (ISQ, 2025).

The segment of route 138 connecting the municipalities of Bonne-Espérance and Blanc-Sablon ends at Old Fort (Map 7). There are no airport services within the municipality of Bonne-Espérance. Residents must travel to Blanc-Sablon airport or heliport via route 138. The same applies to access to the Bella Desgagnés cargo-passenger ship, which only docks in Blanc-Sablon.

St. Paul's River is home to a local community service center that serves the communities of Old Fort and Middle Bay, as well as a high school and an adult education center. Old Fort's school brings together students from prekindergarten through grade 6 from neighbouring communities.

Map 7: Local Map of Bonne-Espérance



Saint-Augustin

The origins of the village of Saint-Augustin date back to the establishment of a trading post by the Hudson's Bay Company in the 18th century. It takes its name from Augustin Le Gardeur de Courtemanche, the first concessionaire appointed "king's commander of the Labrador coast in 1714" (CTQ, 2025). Over the years, seal hunting, salmon fishing, and cod fishing attracted migrants from England, elsewhere in Québec, and Newfoundland. Its

linguistic heritage is English, and it remains the primary language spoken there today. The coastal communities of Pakua Shipi and Saint-Augustin have coexisted since the establishment of these new coastal populations. Saint-Augustin was officially incorporated on January 1, 1993, after withdrawing from the Municipality of Côte-Nord du Golfe Saint-Laurent, of which it had been a part since 1963. The population of Saint-Augustin was 427 people in 2024 (ISQ, 2025).

In terms of air service, only the heliport provides direct access to the community (Map 1). The airport and federal wharf are located on the other side of the Pakua Shipu Saint-Augustin River, which can be crossed by hovercraft, personal watercraft (jet skis, rowboats), or snowmobile. Saint-Augustin has a school serving students from prekindergarten through Secondary 5, an adult education center, a local community service center, and a community radio station.

Gros-Mécatina

La Tabatière and Mutton Bay

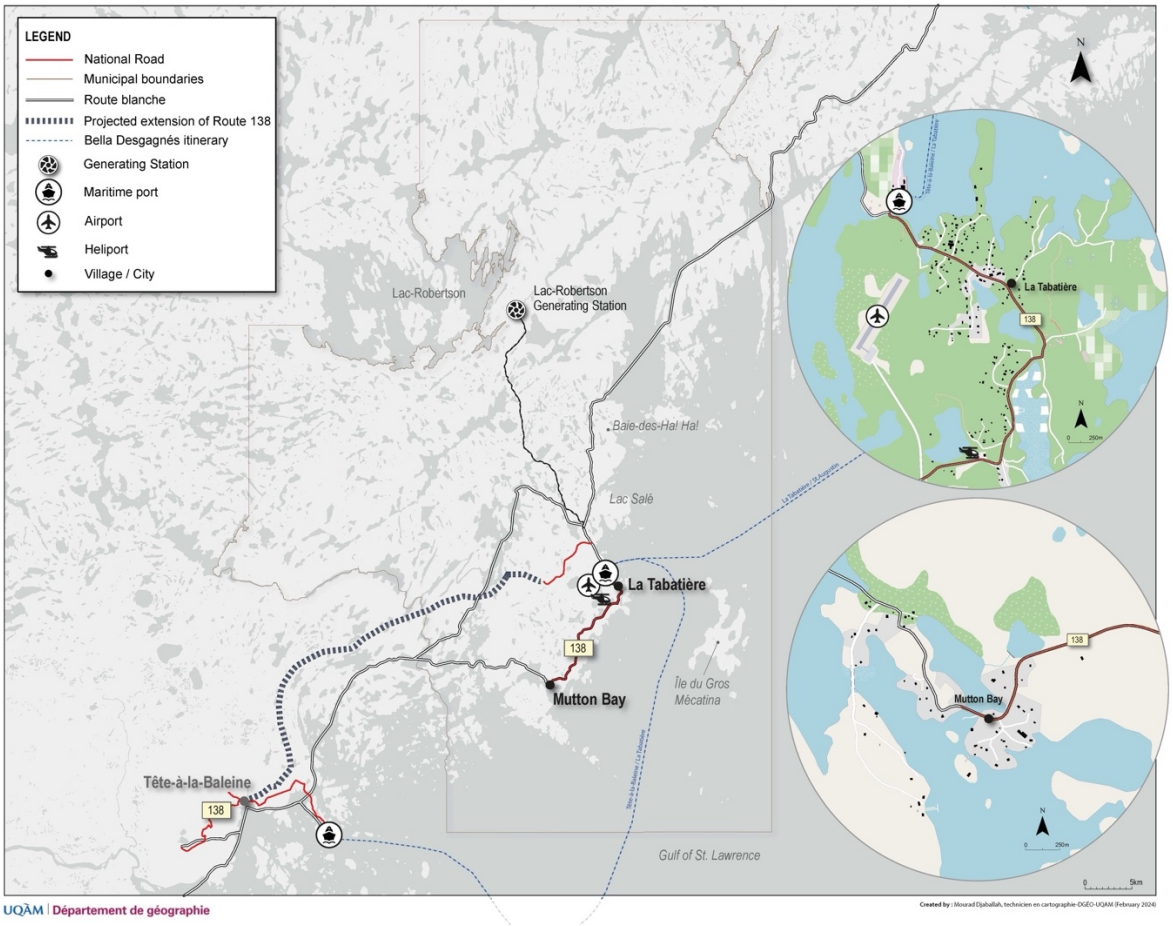
The municipality of Gros-Mécatina, established in 1994, brings together the communities of La Tabatière and Mutton Bay, which were formerly part of the municipality of Côte-Nord du Golfe Saint-Laurent since 1963. In 2024, 343 people live in the municipality of Gros-Mécatina (ISQ, 2025). According to the CTQ, the Innu word *makatinau*, which means "it's a big mountain," is the origin of the name Gros-Mécatina (2025).

In 1820, Samuel Robertson, a Scottish fisherman, founded a permanent settlement there. He was joined by Jersey Islanders in 1855, followed by Newfoundland families, for seal hunting (Bonnière and Perrault, 1960) and cod fishing. According to the CTQ, the origin of the toponym La Tabatière is the Innu word *tabaquen*, which became *tapatienne*, then Tabatière, meaning *sorcerer* (2025). Today, English is the language spoken in La Tabatière, as it is in Mutton Bay.

Indeed, families from Newfoundland settled in Mutton Bay in the 1870s for fishing. Two hypotheses could explain the origin of the toponym Mutton Bay: "the metaphor [of] the whitening foam of the waves" [or] "the hills that surround the bay" (CTQ, 2025).

Mutton Bay has a heliport, a local community service center (CLSC), and an adult education center. In contrast, La Tabatière has a local community service center, a school for prekindergarten to Secondary 5 students, as well as an airport and heliport that serve both communities (Map 8). A 9-kilometer paved road segment of route 138 connects the two communities. Deforestation work began in 2024 to connect these communities to Tête-à-la-Baleine, a project that remains unfinished at the time of writing.

Map 8: Local Map of Gros-Mécatina



Côte-Nord-du-Golfe-du-Saint-Laurent

Between 1963 and 1990, all villages on the Lower North Shore were part of the municipality of Côte-Nord du Golfe Saint-Laurent, which was managed by an administrator appointed by the Department of Municipal Affairs (MRC du Golfe-du-Saint-Laurent, 2017). Following a major restructuring in the 1990s on the Lower North Shore, the five current municipalities were created. The one now called Côte-Nord-du-Golfe-du-Saint-Laurent includes the five communities of Tête-à-la-Baleine, Harrington Harbour, Chevery, La Romaine, and Kegaska, with a total population of 767 (ISQ, 2025). These communities span approximately 195 kilometers along the Route Blanche route designated by the MTMD. Each community has a local municipal committee that ensures the link between the community and the municipality, whose administrative offices are in Chevery.

Tête-à-la-Baleine

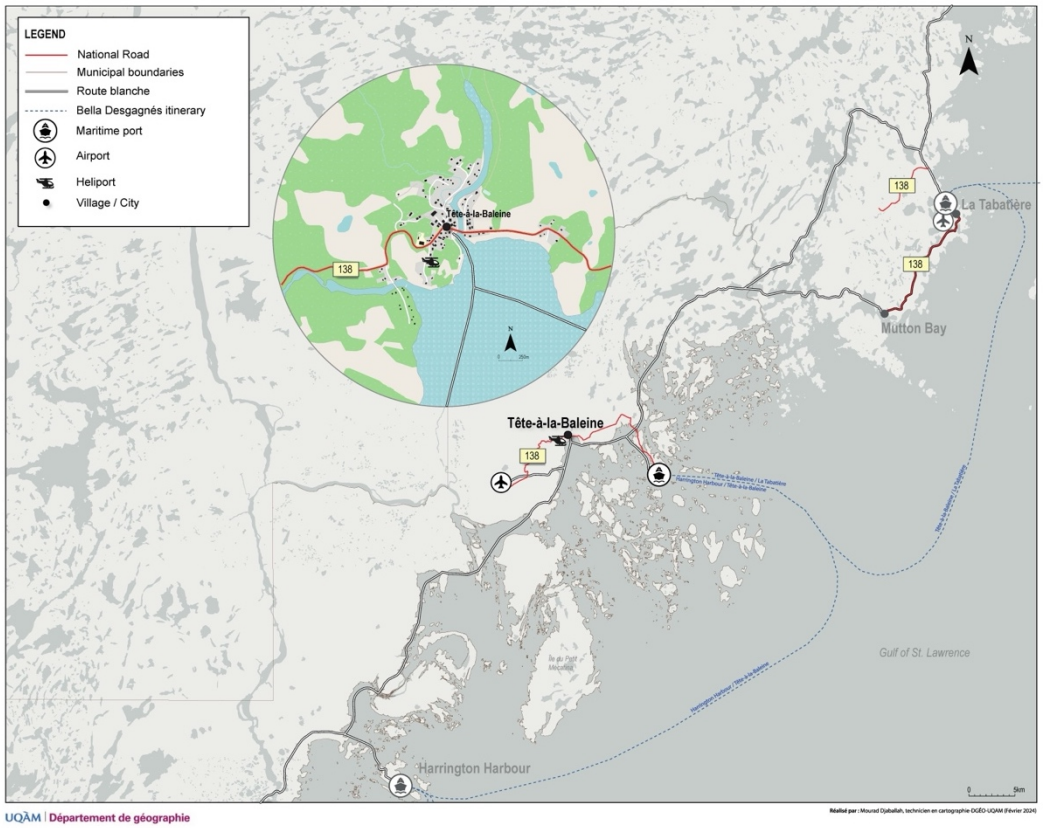
Over 200 years ago and throughout the following decades, the first permanent "*baleinois*" settlements were established on the islands of the archipelago off the coast of Tête-à-la-

Baleine. Due to harsh living conditions during the winter season, families gradually relocated to the mainland. These settlements, whose residents came from the islands of Jersey, Berthier-sur-Mer, Saint-Michel-de-Bellechasse, Québec City, and, more recently, Newfoundland, were scattered between the islands and the mainland (Lévesque, 2021). These families eventually settled near Baie Plate, where the village of Tête-à-la-Baleine was founded. Close ties with the islands were maintained as villagers practiced transhumance, seasonal migration between the mainland and the islands near fishing sites (Bonnière and Perrault, 1960). The *Baleinois* continue to visit the islands in the summer.

Despite its francophone and anglophone origins, French is the primary language spoken in Tête-à-la-Baleine. The toponym is said to come from the name "*Île de la Tête à la Baleine* [Whale Head Island], which formerly referred to Mercier Island. In Labrador and Anticosti, Father Victor-Alphonse Huard noted in 1897 that: "One of the islands in this archipelago resembles a whale's head rising above the waters; and this is enough to understand the appropriateness of the name, which later extended to the entire locality"" (CTQ, 2025, our translation).

Tête-à-la-Baleine has a local community service center, a school serving students of all grades, an adult education center, a community radio station, an airport, a heliport, and a federal wharf (Map 9).

Map 9: Local Map of Tête-à-la-Baleine (Municipality of Côte-Nord-du-Golfe-du-Saint-Laurent)

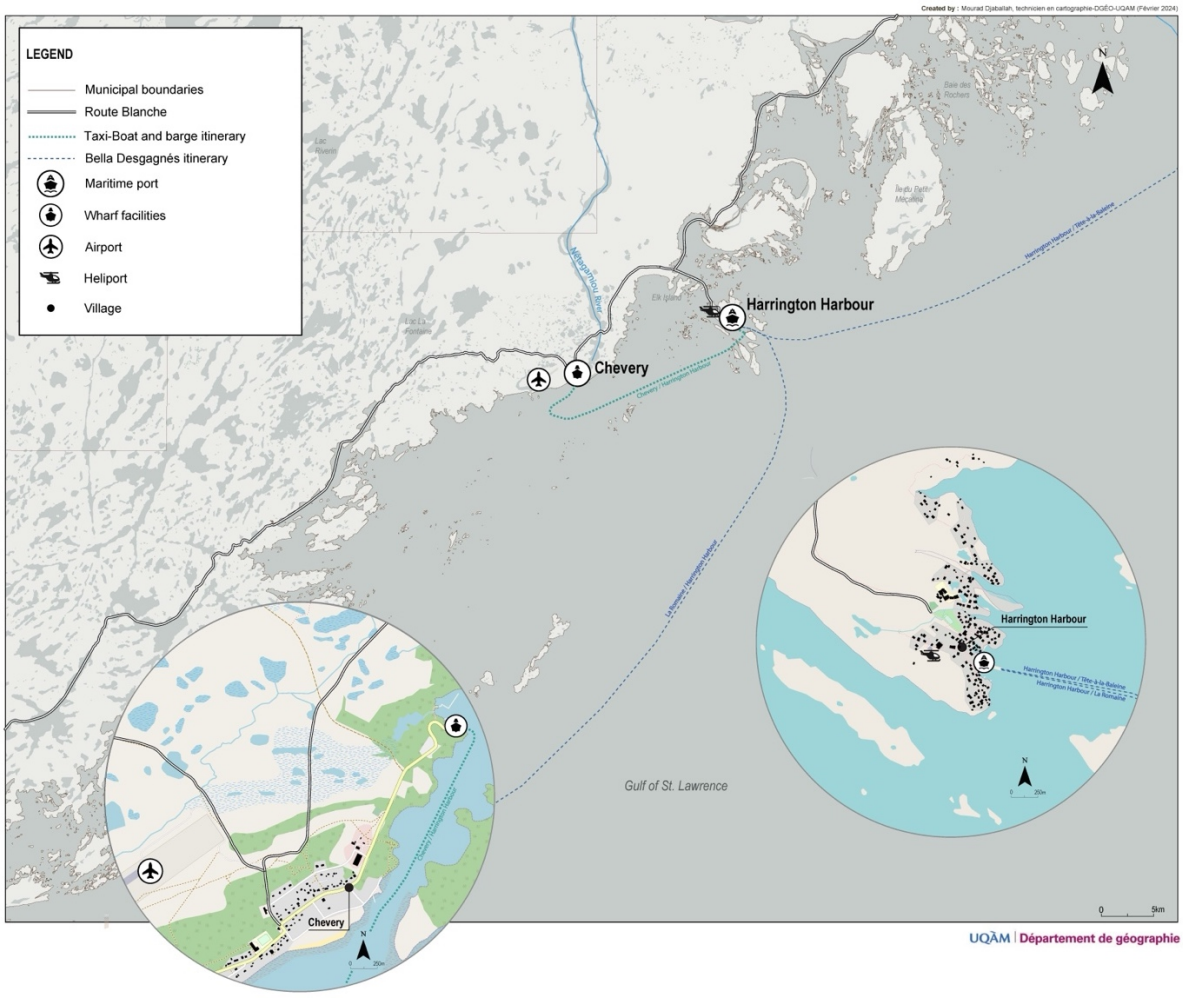


Harrington Harbour

For thousands of years, the island was frequented by Indigenous peoples for fishing, and by Europeans at the turn of the 15th century. In 1871, a permanent settlement took shape with the arrival of migrants from southwestern Newfoundland (Harrington Harbour Tourism Association, n.d.). Cod fishing and seal hunting were practiced there for decades. Furthermore, many families in the Harrington Archipelago practiced transhumance.

The residents of Harrington Harbour now have access to a local community service center, a long-term care center (CHSLD), a school providing education from preschool to secondary 3, and an adult education center. In terms of transportation, the cargo ship Bella Desgagnés docks there during the operating season. Additionally, the ferry Les Eaux Scintillantes and a barge freight service, the Mécatina II, both connect the wharves of Harrington Harbour and Chevery, depending on ice conditions and other factors. There is also a heliport, allowing passengers to travel between the island and Chevery (Map 10).

Map 10: Local Map of Chevery and Harrington Harbour (Municipality of Côte-Nord-du-Golfe-du-Saint-Laurent)



Chevery

The first permanent settlement in the area now known as Chevery dates to the 1930s. An experimental farm was established there near the Cross River by the Anderson family, with support from the federal government. This farm remained active until World War II (Voyages Coste, 2025). In the 1950s, several families from the fishing hamlets along the nearby coastline called for a permanent solution to gain access to better services, particularly in education and health. Thus, the village of Chevery was founded in 1960, making it the most recent settlement on the Lower North Shore. The toponym Chevery refers to Captain Jean-Baptiste Chevery (CTQ, 2025), who was shipwrecked nearby in 1747 (Harrington Harbour Tourism Association, n.d.).

Chevery is the administrative center of the Lower North Shore, housing the headquarters of the RCM of Golfe-du-Saint-Laurent and the offices of the municipality of Côte-Nord-du-Golfe-du-Saint-Laurent. The community has a local CLSC, a school offering preschool through high school (Secondary 3) education, an adult education center, a school service center, an airport, and a heliport. In addition, a river shuttle system (water taxi) for transporting passengers (Les Eaux Scintillantes with a capacity of 12 passengers) and freight (Mécatina II barge) is in place for travel between Chevery and Harrington Harbour (Map 10).

La Romaine

The settlement of the current village of La Romaine occurred gradually near trading posts and fishing stations for salmon and cod fishing, seal hunting, and trapping. Colonization is said to have begun more intensively around 1860 (La Romaine, n.d.), primarily by fishermen from Québec City, Berthier-sur-Mer, and neighbouring islands inhabited during the summer season. Some descendants of the Musquaro community have been recognized as Wolastoqiyik (Maliseet) since the 1990s[6].

Regarding health and social services, there are no longer any local services in La Romaine; however, residents of La Romaine can use the services of the neighbouring Innu community of Unamen Shipu through a service agreement. An adult education center provides educational services to both local communities. An airport and a federal wharf serve both communities (Map 5). Construction of the section of route 138 connecting La Romaine and Unamen Shipu to Kegaska and the rest of Québec is currently underway.

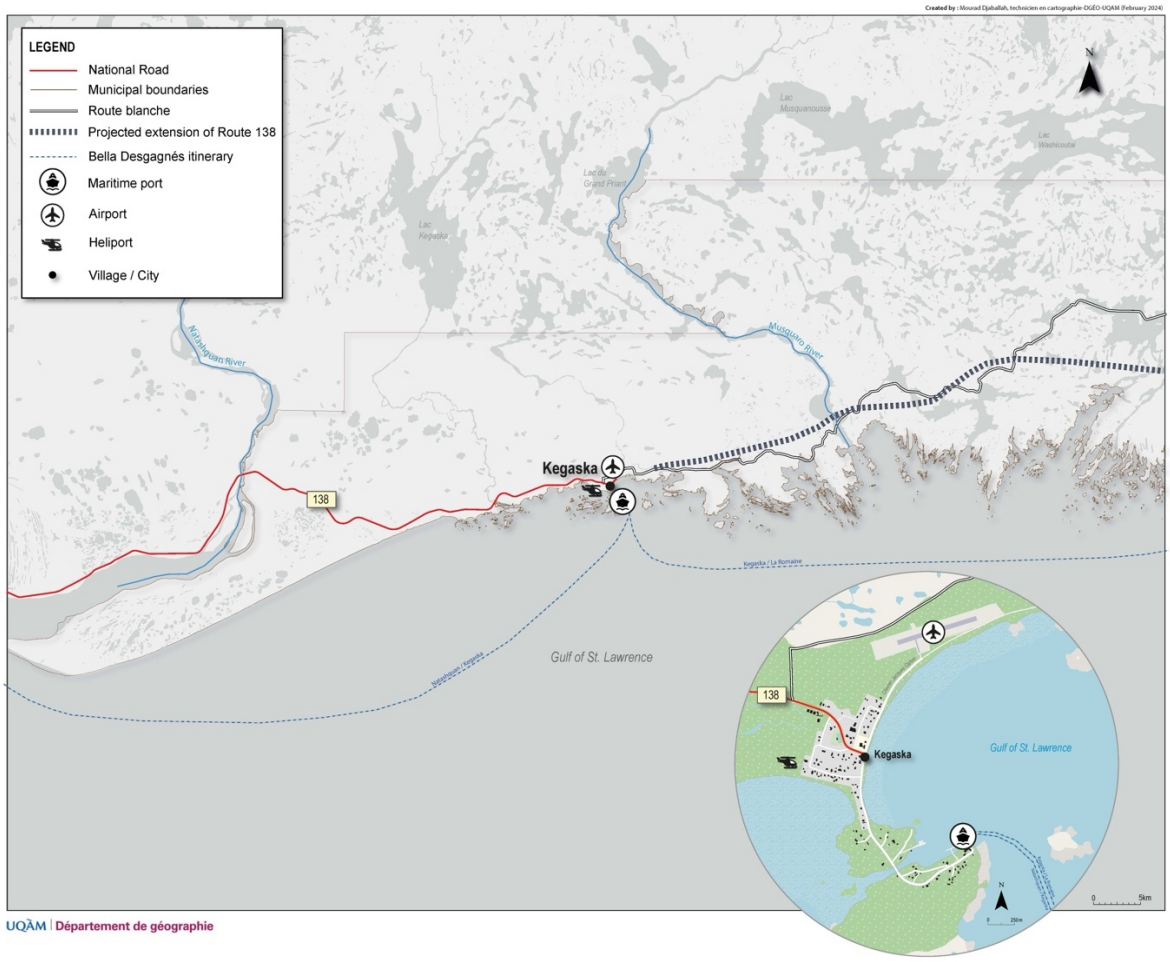
Kegaska

Kegaska is the westernmost community of the Lower North Shore. In 1852, a few Acadian families from the Magdalen Islands settled there, but they left about twenty years later,

[6] For the history of the hamlet of Musquaro, where many residents of La Romaine have roots and still maintain ties today, as well as the history of the Jenniss family of La Romaine, recognized in the 1990s as members of the Maliseet of Viger First Nation (Wolastoqiyik Wahsipekuk), see the report by Michaud (2008).

replaced by Newfoundland fishermen who in turn also departed by the late 1880s (CTQ, 2025; Charest, 1970). Other families of Newfoundland descent subsequently established themselves, making it an anglophone community to this day. Kegaska has been part of the Municipality of Côte-Nord-du-Golfe-du-Saint-Laurent since 1963. In 2013, it became physically linked to Nutashkuan, Natashquan, and the rest of Québec via route 138. Currently, it is home to a primary and secondary school, an adult education center, a CLSC, an airport, a heliport, and a federal wharf where the Bella Desgagnés docks (Map 11).

Map 11: Local Map of Kegaska (Municipality of Côte-Nord-du-Golfe-du-Saint-Laurent)



1.3 A Warming Climate

According to the Intergovernmental Panel on Climate Change, polar regions worldwide are likely to experience warming at a rate twice as fast as that of the rest of the planet (IPCC, 2021). In Québec, the **average annual temperature** has increased by 1.1°C over the last 70 years, while the global average annual temperature has risen by 0.8°C (Ouranos, 2025a). Across the Lower North Shore, climate projections for the inhabited portion of the RCM of

Golfe-du-Saint-Laurent indicate an increase in the annual average of daily temperatures ranging from 1.3°C to 4°C (*ibid.*)[7].

The remainder of this section details the projections of certain **key climate indicators**, which emerged as priorities through testimonies gathered during interviews and participatory mapping workshops conducted on the Lower North Shore for the RCM under a high-emissions scenario (SSP2-7.0) with horizons ranging from 2050 to 2100[8]. It also examines their consequences on climate events (floods, inundations, coastal erosion, forest fires, and biodiversity) and on certain realities specific to life on the Lower North Shore (mobility, the Route Blanche, wood harvesting, and access to food resources), which will undoubtedly be disrupted by these transformations.

First, warming primarily signals significant transformations in winter temperature patterns. Indeed, the **number of days marked by freeze-thaw events** during December to February is projected to increase by an average of 4 to 10 days (Ouranos, 2025a). This indicator influences the thickness and duration of ice cover in both coastal and fluvial environments, which plays a major role in protecting shorelines and unconsolidated coasts from wave-driven erosion (Galbraith et al., 2021). To this is added the predicted rise in relative sea level (Boyer-Villemaire et al., 2016; James et al., 2014) and an increase in the frequency of storms and high-wind events (RNCREQ, 2015). A decrease in the durability of the ice cover could thus increase coastal vulnerability to erosion episodes. Furthermore, the viability and predictability of the Route Blanche, the snowmobile trail that crosses wetlands and numerous watercourse crossings, are threatened; this is already complicating winter travel and will do so even further in the future. In fact, its opening has often been compromised over the past fifteen years, a subject that will be discussed in greater depth in Chapter 4 (4.3.1.5).

Concerning precipitation, an increase in the **total annual amount of rain** ranging from an average of 112 mm to 226 mm is expected for the RCM's inhabited coastal territory, while the **total annual amount of solid precipitation (snow)** could see an average decrease of 28 mm to 94 mm (Ouranos, 2025a). This inversion of the liquid/solid proportion of annual precipitation is a direct consequence of the warming of average temperatures. Together, these two trends are causing a shift in the timing of flood events toward earlier in the year, as well

[7] The research team primarily drew on the work of Hermoso de Mendozaet al. (2023) to guide its analysis of past, current, and projected climate trends on the Lower North Shore. The *Climate Portraits* portal of the Ouranos Consortium (Ouranos, 2025a) was used to generate climate projections for the RCM of Golfe-du-Saint-Laurent, with a specific focus on its inhabited coastal areas.

[8] The Ouranos portal uses the 1991–2020 reference period to calculate climate normals, in accordance with the World Meteorological Organization's recommendation (Ouranos, 2024). Ouranos offers several time horizons for climate projections, ranging from 2001 to 2100 (2024). According to Ouranos, "it is important to use at least 30 years of climate data to distinguish natural variability cycles from climate change" (2024). It should be kept in mind that the further the time horizon is into the future, the greater the uncertainty regarding the projections (ibid.). For more information on the Ouranos Consortium's Climate Portraits portal, its climate data sources, and its methodology, refer to https://portraits.ouranos.ca/en/sources?e=CMIP6&src=espog

as in the associated ice break-up events. Although these were historically more significant and damaging for riverside communities (episodes of river flooding and bank erosion), we are currently witnessing an increase in the frequency and intensity of autumn and winter floods, which are particularly linked to liquid precipitation in fall and winter. With this increase, rain struggles to infiltrate the ground, which has begun to freeze and runs off directly into watercourses rather than being absorbed by soft soils. The increase in freeze-thaw events combines with this trend, leading to unusual floods for residents, marked by intense and particularly rapid river ice breakups, with increased risks of floodwaters freezing in inundated areas, including inside buildings and homes.

Furthermore, the **frequency and extent of wildfires** are also likely to be exacerbated by climate change, as has been observed in recent years in the boreal forests of Côte-Nord and elsewhere in Québec, notably in Eeyou Istchee Baie-James and Abitibi. Beyond their impact on forest-based activities, these fires threaten public safety in Lower North Shore communities, where isolation is already significant, and mobility in the event of a disaster is very limited.

Finally, all these climatic transformations are expected to impact the **distribution and migratory patterns of plant, fruit-bearing, and wildlife species**. Disturbances caused by insect outbreaks (e.g., the spruce budworm, whose life cycle is likely to be favoured by climate change) are expected to intensify and multiply (RNCREQ, 2015), creating significant challenges for forest-based activities, among others. Berry-picking activities, which are particularly important to harvesters on the Lower North Shore (Doonan, 2019), will also be disrupted by changes in species distribution and seasonality. The biological cycles and migration of several aquatic species (seal, salmonids, cod, halibut, mackerel, herring, capelin, crustaceans, ducks, and seabirds, etc.), which underpin fishing-based livelihoods and the regional economy on the Lower North Shore, are also expected to be disrupted, transforming regional fishing practices (zones, stocks, methods, etc.). Similarly, changes are expected in the distribution and movement of small game (beaver, hare, fox, etc.) and large wildlife (moose, caribou, etc.), which will have consequences for hunting and trapping practices on the Lower North Shore. Access to these food, fisheries, and wildlife resources will undoubtedly require major adaptations in a climate undergoing rapid transformation.

In conclusion, this overview of Lower North Shore communities highlights that each has limited access to certain essential services, which is largely explained by the available modes of transportation and the condition of the transportation infrastructure. These challenges are exacerbated by the multifaceted and growing effects of current climate change, which profoundly affect this territory and which its residents are already facing.

Chapter 2

A Multi-Method Approach to Studying the Experience of Climate Change on the Lower North Shore

A set of complementary qualitative and quantitative methods was employed to document how climate change is transforming the living environment of the Lower North Shore and Nutshimit. The methodological approach relies on two categories of information sources: the collection and analysis of primary data, and the collection and processing of secondary data. Primary data consists of original data gathered by the research team, essentially through fieldwork on the Lower North Shore, as opposed to secondary data, which are pre-existing, accessible data, such as previous research reports. There were constant back-and-forth exchanges with project partners for approval and support in data collection, and for the validation of results.

2.1 Primary Data Collection

The research team obtained ethical certification from UQAM's Institutional Committee on Human Research Ethics (CIEREH) (certificate no.: 2024-6407) and received the oral consent of the Innu Councils of Pakua Shipi and Unamen Shipu for all primary data collection within this project.

Most of the data collection was conducted during a five-week stay on the Lower North Shore in February and March 2024, during which the research team visited all 14 villages of the RCM of Golfe-du-Saint-Laurent as well as the two Innuat communities. A potential source of bias arises from the fieldwork that was conducted during the winter, and the winter of 2024 was particularly mild. For example, it was common for rainfall, rather than snow, to alter the travel plans of the people we met. We ensured that questions addressed other seasons and other years, and participants were generally very forthcoming about seasonal dynamics, well beyond winter and spring conditions.

For all the methods presented below, participant inclusion criteria were as follows: 1) Being 18 years of age or older[9]; 2) Being a permanent resident or worker on the Lower North Shore for at least one year or holding a position capable of informing the research objectives within the essential services or transportation sectors.

In total, the research team gathered the testimonies from **217 individuals**[10] across all primary data collection activities (not including individuals met spontaneously through participant observation and during everyday activities). This represents a significant proportion,

[9] Except for one video filmed with a child accompanied by her hockey coach to illustrate the impacts of climate change across generations. The research team obtained parental consent for the child's participation.

[10] It should be noted that it is normal for the total number of participants across all methods (217 people) not to correspond to the sum of individuals per method. This is because some participated in the research through more than one method. For example, almost everyone who participated in the videos were also met during the collective mapping workshops. It is possible that some people interviewed or present at a mapping workshop also participated in the online survey; therefore, the actual number of people who shared their experiences may be slightly lower than indicated here. As the online survey was anonymous, the research team could not determine with certainty the exact number of people who participated in the research more than once.

accounting for 4.5% of the total Lower North Shore and Innu population, estimated at 4,877 people (ISQ, 2025; Aboriginal Affairs and Northern Development Canada, 2023).

A clear enthusiasm for the research topic and a strong need to speak out on the matter were deeply felt in the field, as evidenced by Table 1. Indeed, for nearly all methods, the number of participants exceeded expectations. Regarding the online survey, the actual participation rate was slightly lower than the projected rate. However, this remains more than sufficient to identify major local and regional trends from the data.

Table 1: Number of activities planned and conducted for each method

Method	Planned	Conducted
Semi-structured individual interviews	12	42
Collective mapping workshops	9	17
Videos	12	19
Online Survey	135	112

2.1.1 Method 1 – Semi-Structured Individual Interviews

A total of **42 semi-structured individual interviews** were conducted, each lasting between 40 and 90 minutes. The majority were carried out in person during the fieldwork, with a few conducted via videoconference upon our return. All interviews were audio-recorded with the participants' consent to ensure an accurate transcription of their comments, thereby allowing to emerge key themes central to understanding the local and regional issues under study.

The interviews were conducted with three target groups: 1) residents of the Lower North Shore, almost all of whom hold positions related to the themes of this research (31 people); 2) current municipal elected officials and municipal[11] civil services employees (8 people); and 3) key players from the regional health and transportation sectors (3 people).

The interview guide covers the following themes: perceptions of changes of the Lower North Shore's way of life in relation to climate change; its positive and negative impacts; traditional practices and local knowledge; existing or desired adaptation needs and strategies; specific and shared issues across the Lower North Shore; and visions for the future of the region. Participants from the third target group were not interviewed using the interview guide, as they were met specifically to obtain statistics to inform this report.

Upon arrival in each village, the research team first visited the municipal partners' office to identify key resource persons to meet with, drawn from both target groups one and two. These individuals were then contacted directly by email or telephone. Furthermore, to broaden the

[11] Current municipal elected officials and municipal civil service employees are also residents of the Lower North Shore. The distinction between the two groups is relevant insofar as particular attention was paid to questions in the interview guide regarding the organization's mandate and local and regional governance issues for the second group.

pool of people interviewed, residents were also contacted via local radio broadcasts, which is a common practice in the region, Facebook posts on the official pages of municipalities, villages, and Innuat communities, posters displayed in local businesses, and an online survey. To encourage participation and acknowledge their contributions, a symbolic amount was offered to each participant, except in cases where the interview was part of their professional duties (target groups 2 and 3).

The **sociodemographic profile** of the interviewees is as follows. We have information on 40 of the 42 people who participated in interviews. This profile is based on this sample of 40 people (98% of the total). Women are underrepresented (just over one-third) compared to men, as are those aged 18-29 years old (2.5%). Participants aged 30 and over account for more than 80% of participants, and nearly half of them are between 50 and 64 years old.

The majority of interviewees spent most of their youth (80%) or adult life (85%) on the Lower North Shore. Nearly all (95%) reported permanent residency on the Lower North Shore. All five municipalities and both Innuat communities are represented in this sample. Thus, most respondents have lived or worked on the Lower North Shore for 20 years or more (78%). Half of the remaining 22% did not answer the question. Half of the participants are employed, and more than a quarter are retired or semi-retired.

Respondents identify primarily as Coasters (70%), sometimes as Innuat (5%), while others identify with other Québec regions or Québec (7.5%), or did not respond (17.5%).

2.1.2 Method 2 - Collective Participatory Mapping Workshops

More flexible and spontaneous than semi-structured interviews, participatory mapping, as we used it in this research, is intended to be an exercise in collective interpretation of the living environment using geographical maps. To this end, we used large-scale printed local and regional maps (Maps 1, 4 to 11), on which participants were invited to share their experiences of the territory, identify places sensitive to climate change, and draw their movements as they were in the past and are in the present (Figure 4).

In the field, it quickly became apparent that it was helpful to use local and regional maps in individual interviews, just as it was useful to refer to the individual interview guide during mapping workshops. As a result, the distinction between the two methods proved less relevant than anticipated. Nonetheless, the collective nature of the mapping workshops fostered rich discussions that likely would not have occurred with individual interviews alone. On the other hand, individual interviews allowed for free discussion, without potential influence from the group.

Thus, **17 participatory mapping workshops** were held on the Lower North Shore, bringing together between two and eight people each time, for a total of 56 participants. The workshops lasted an average of two hours. Participants were recruited in the same manner as

those participating in individual interviews and received the same symbolic honorarium. The workshops were audio recorded with their consent.

Figure 4: Examples of two participatory mapping workshops

Regarding the **sociodemographic profile**, we have information on 36 of the 56 people who participated in participatory mapping workshops. This represents a sample of 36 people (62% of the total). Men and women are represented almost equally (19 men, 17 women). Among the approximately 90% who provided their year of birth, more than 40% are 65 years of age or older, and the rest are distributed fairly evenly between the 30-49 and 50-64 age groups. Three-quarters of the participants spent their youth on the Lower North Shore, and just over two-thirds spent most of their adult lives there, while 17% spent most of their adult lives outside the North Shore. A strong majority (89%) reported permanent residence on the Lower North Shore, located in each of the five municipalities and two Innuat communities.

Three-quarters of respondents have lived or worked on the Lower North Shore for 20 years or more, the same proportion as in the interviews, with an additional 8% having lived or worked there for between 15 and 20 years. The remainder have been there for less than 9 years (6%) or did not respond. Participants are mainly employees (39%) and retirees (36%).

As with the interviews, most participants identified as Coasters (two-thirds) and a few as Innuat (8%), with the addition of one individual identifying with both categories. However, the rest of the participants identified more diversely: Maliseet, Métis, or other.

2.1.3 Method 3 - Videos

In addition to interviews and group workshops, short videos were filmed on-site, to give the residents a voice. These videos, which last two to five minutes, were filmed in locations sensitive to climate change, as identified by the participants (Figure 5).

A total of **20 videos** were filmed with 17 individuals. They are distributed as follows: Lourdes-de-Blanc-Sablon (1), St. Paul's River (1), Saint-Augustin (1), Pakua Shipi (2), Mutton Bay and La Tabatière (1), Tête-à-la-Baleine (2), Harrington Harbour (4), Chevery (3), La Romaine (1), Unamen Shipu (1), Kegaska (2), on the waters of the Gulf of Saint Lawrence (1).

The recruitment process took place during individual interviews and collective participatory mapping workshops. Participants were invited to participate in a brief filming session following the activity. To encourage participation and recognize their contribution, participants were offered a symbolic honorarium. Care was taken to foster a diversity of perspectives, themes, and sociodemographic profiles. It should be noted that in a few specific cases, the individuals filmed did not participate in either the interview or the workshop.

Figure 5: Examples of filming sessions

Chevery Bonne-Espérance Saint-Augustin

The editing of the videos, enhanced with archival imagery, was carried out upon returning from the field and throughout the analysis process. They were approved by the participants and project partners before being incorporated into the narrative map and this report.

2.1.4 Method 4 - Online Survey

Residents of the Lower North Shore were also invited to take part in a short, anonymous online survey regarding mobility practices and access to essential services in the context of climate change. The Lime Survey platform was chosen for this project because it allows data to be stored securely on UQAM's institutional servers.

This method enabled quantitative data to be collected across the entire study area. In total, **112 individuals** responded to the survey, representing every municipality and Innuat community. Solicitation was carried out via local radio stations, the official Facebook pages of municipalities, villages, and communities, and through posters displayed in local businesses (Figure 6). To encourage participation and highlight the contribution, a gift card from a local business was raffled off to all survey participants.

Figure 6: Poster Distributed Online and in Public Spaces on the Lower North Shore

The profile of respondents to the survey is as follows: 80% are women or identify as such, and 20% are men or identify as such. Ages range from 20 to 82, with a predominance of 50-64 years old (39%) and a quarter of 30-49 years old (26%), followed closely by those aged 65 and over (21%). Most identify as Coasters (80%), while the rest are evenly divided between Innuat and other identities. All communities of the Lower North Shore are represented at least once, including the now closed village and resettled community of Aylmer Sound.

Nearly all the respondents have their permanent residence in the Lower North Shore, and 85% have spent most of their adult lives within the RCM, with nearly half of them living in St. Paul's River, Lourdes-de-Blanc-Sablon, or Harrington Harbour. Similarly, 90% spent most of their youth on the Lower North Shore, with 40% of them in La Tabatière, Harrington Harbour, or St. Paul's River.

More than two-thirds have lived or worked on the Lower North Shore for over 20 years, and a minority for 15 to 20 years. Finally, two-thirds of respondents are employed in the transportation, supply, health and social services, education, tourism, and commercial fishing sectors. A minority are retired, and just under one-third are students or unemployed at the time of responding to the survey.

2.1.5 Method 5 - Field Observation

Primary data collection was conducted in the context of participant observation in the field by the research team. Observations on the geographical, sociocultural, and political conditions of the study area were thus compiled for winter, particularly regarding transportation service interruptions and the passability of the Route Blanche. It should be noted that Professor Laurie Guimond has been working in the region for nearly 25 years and can therefore supplement the observations across all seasons. Furthermore, participant observation provided an opportunity to collect spontaneous testimonials on site, beyond the formal interviews. However, the team was in a position of non-obtrusive participant observation, meaning that their presence in the field was publicly announced, which may have influenced the discourse of some individuals for various reasons.

2.1.6 Primary Data Analysis

The analysis of primary data was conducted after returning from the field. Individual interviews, collective mapping workshops, open-ended questions from the online survey, and field notes were transcribed in full by six transcribers and then coded by theme in NVivo qualitative analysis software by a team of three analysts. These themes emerged from the interview guide and all the data gathered through all methods. The coded data subsequently underwent rigorous analysis by a team of six analysts for each theme: 1) a horizontal analysis (case-by-case); 2) a vertical analysis (frequency table, compiling recurrences); 3) a cross-sectional and comparative analysis to highlight major trends. These qualitative analyses were then juxtaposed with the analysis of the maps produced by the participants in the field, to produce a visual narrative of the territory co-constructed by its inhabitants.

The qualitative analysis was supplemented by a quantitative analysis of data from the online survey. Statistics were produced for each theme. Accordingly, in this report, survey data are presented in addition to qualitative analyses when they are available and applicable.

2.2 Secondary Data Collection

Secondary data were not collected by our research team, as it already exists. These data allow us to refer to other work carried out on the Lower North Shore, including university studies, public surveys, census data, statistical or climate data, and other scientific writings or grey literature[12]. This data is primarily presented in Chapter 1 of this report. To our knowledge, on the Lower North Shore, there is a lack of social any humanities sciences research, especially on the specific issues related to the transformation of the living milieu due to

[12] "Grey literature refers to any type of document produced by government, administration, education and research, commerce and industry, in paper or digital format, protected by intellectual property rights, of sufficient quality to be collected and preserved by a library or institutional archive, and which is not controlled by commercial publishing" (Schöpfel, 2012).

climate change. However, the unpublished study on the climate change adaptation plan commissioned by the Pakua Shipi Innu Council (AECOM, n.d.) is an exception. We now provide some clarifications regarding the review of institutional and personal archives mobilized as part of our research.

2.2.1 Method 6 – Review of Institutional and Personal Archives

A review of institutional archives at the *Société historique de la Côte-Nord* in Baie-Comeau and the *Archives nationales* in Sept-Îles was conducted with the aim of enhancing the narrative maps and videos with historical images and texts. With the same goal in mind, the research team also reached out to the population of the Lower North Shore via social media to obtain personal photos and videos, both past and present, illustrating specific topics discussed in interviews and workshops. Here, there was also a high level of participation, with **124 personal photos and videos** received from **20 people**. To encourage participation and highlight their contribution, a draw for a gift card from a local business was organized among those who sent in personal archives.

We also had access to anonymized data collected in 2023 by the administration of the RCM of Golfe-du-Saint-Laurent (MRC du Golfe-du-Saint-Laurent, 2023). This data was collected through a call for testimonials from the population of the Lower North Shore regarding the transportation crisis. Some of these testimonials are included in this report.

In conclusion, the integration of qualitative and quantitative data derived from primary and secondary sources made it possible to identify with a high degree of confidence the major trends emerging from the empirical material for each theme studied. These trends were then used to shape the various deliverables. It should be reiterated that the research team collected testimonials from 4.5% of the total population of the Coasters and Innuat, laying the groundwork for unprecedented work on climate change in the Lower North Shore. The following chapters present the results that emerged from this work.

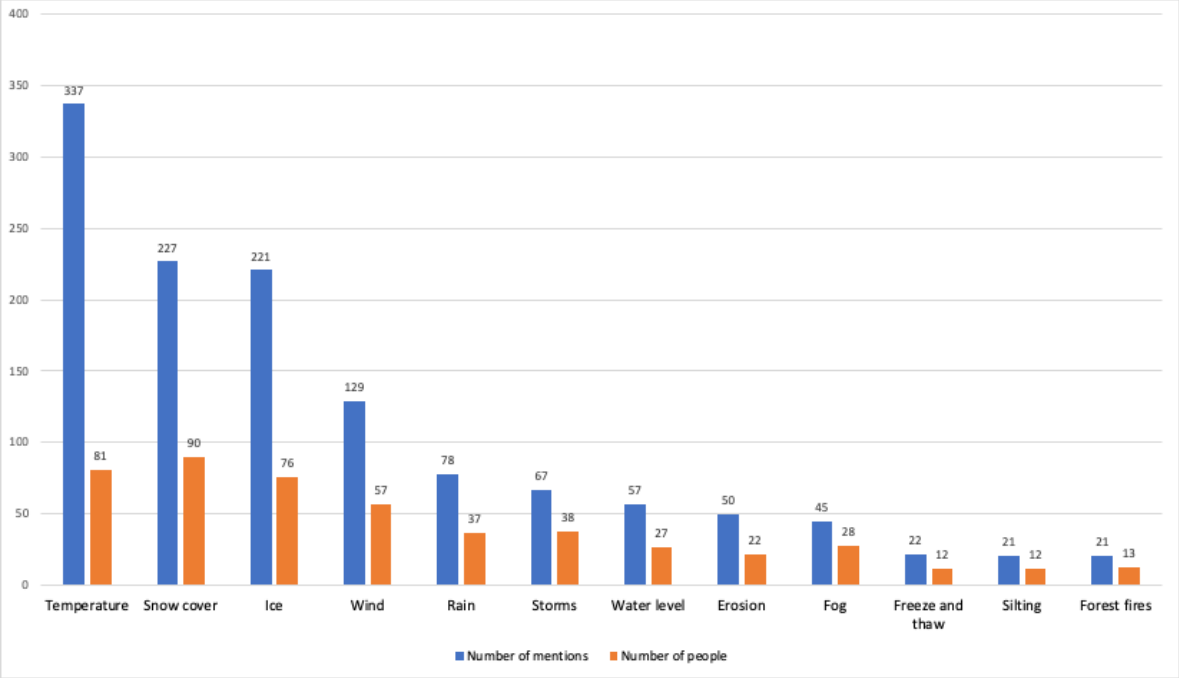
Chapter 3

Observed Climatic Phenomena and Vulnerable Sites

This chapter concerns climate phenomena and the specific locations affected, according to the research participants. The analysis of the testimonies collected on observed climate-related changes has made it possible to identify several climate phenomena experienced to varying degrees on the Lower North Shore and classify them into **12 broad categories**. These are listed in descending order, according to the number of mentions: 1) temperature, 2) snow cover, 3) ice, 4) wind, 5) rain, 6) storms, 7) water level, 8) erosion, 9) fog, 10) freezing and thawing, 11) silting, and 12) forest fires. Figure 7 shows the number of mentions (in blue) and the number of people (in orange) for each climate phenomenon experienced on the Lower North Shore.

Temperature clearly ranks first with 337 mentions by 81 people. In second and third place are snow cover (227 mentions, 90 people) and ice (221 mentions, 76 people). **The difference between the number of mentions and the number of people is indicative of the intensity with which these phenomena are experienced**; on average, the people interviewed mentioned temperature four times each, snow cover 2.5 times each, and ice three times each as phenomena that they have observed changing in recent years or that have had an impact on their way of life. The intensity decreases as we move away from the predominant phenomena.

Figure 7: Climate Phenomena Observed on the Lower North Shore



The major trends for each of the 12 climate categories are presented successively for the sake of clarity, but it should be noted that the phenomena described are interconnected and influence one another. In part 3.13, the places considered by the population to be most sensitive to climate change are briefly presented.

3.1 Temperature

The main trend observed for this category is **an increase in temperatures**. This is manifested through several observations made by participants, with a predominance of mentions of a general increase in ambient temperature tied with an increase in water temperature:

> The waters are a lot warmer than they used to be (La Tabatière 4)[13].
>
> Once it was, you get a warm year, once in a while. Now you get a cold year once in a while (Bonne-Espérance 4D).

Of all the mentions regarding temperature, just over half refer to seasonal variations, primarily shorter winters that start later, end earlier, and are less cold, with half of these mentions specifying a decrease in extreme cold, which participants noted ranges from -20°C to -40°C. Hotter summers are also predominant in the discussions, with a minority of individuals mentioning longer summers. As for spring and fall, the trends are less pronounced, with a minority of mentions of a warmer and longer fall and a longer spring. Their comments highlight these meteorological and climatic changes observed over time:

> The weather has changed, especially in the last, let's say, ten years. There's… winter's very short (Harrington Harbour 39).
>
> But since 2010 you know, we kind of hold our breath and wait for winter to begin, but it's not there. It's like, it's like we're in permanent fall or spring (Chevery 31).
>
> Well it's definitely milder for sure, like the weather isn't as cold. In the past we used to have like – 20's from December till the end of February almost the whole period and now we get it partly in January and a little bit in February (Blanc-Sablon 5).
>
> We got warmer, warmer, warmer, winters (Saint-Augustin 15).
>
> Autumn lasts much longer (La Tabatière 46).
>
> Winters ain't what they used to be. Back in the day, we'd get them -30s for weeks on end, you know? We didn't have none of that this winter. Maybe a -25 once or twice, -20 for a couple of days, and then that's it! (La Tabatière 48).

In addition, a small proportion of observations addressed the unpredictability of the weather, the general shift in the seasons, the increase in extreme weather[14] conditions, and the increase in humidity and bad weather. To a lesser extent, people also mention a decrease in the number

[13] For reasons of confidentiality and anonymity, only the name of the community and the participant code are identified. This code refers to the chronological order of empirical activities. The letter designates a participant when there is more than one participant in participatory mapping workshops. For resource persons outside the Lower North Shore, they are identified by an O (for organization), followed by the activity number. For quotes from data from a survey previously conducted by the RCM, TÉM RCM (for RCM testimony) is indicated.

[14] When a person mentioned changes in the "weather" without further precision, this was analyzed as a change in temperature.

of heat waves, cooler summers, colder springs, uncertain winters, shorter springs, changes in spring, and a drier climate.

3.2 Snow Cover

The **decrease in the amount of snow on the ground** stands out far ahead among mentions concerning snow cover, with just under half of the mentions referring to it. Some people go further by stating that there is no snow at all or no longer any snow. Unsurprisingly, the remarks concerning snow cover are often associated with the state of winter. Participants frequently mention that winters are shorter than they used to be, which aligns with the findings in the previous phenomenon concerning temperature. To a lesser extent, people point to milder winters. Similarly, it is estimated that the amount of snow has varied from one winter to another in recent years, with some winters seeing significant snowfall and others very little; snow arriving later in the season and melting earlier; unpredictable or unstable winters; and less frequent snowstorms:

> Like this year [winter 2024] has been a really, really, (hesitates) probably one of the worst winters I've seen, snow-wise (Bonne-Espérance 2A).
>
> Tremendous change (Bonne-Espérance 6C).
>
> We don't get no snow now, that we used to, that our grandfathers did (Bonne-Espérance 6D).
>
> There's no snow (Saint-Augustin 16).
>
> People are really taking notice of the temperature and how there's less snow (Pakua Shipi 12).
>
> Snow, big change in the snow over the years, for sure (Saint-Augustin 64).
>
> Nowadays, we hardly get any winters at all anymore (La Tabatière 43).
>
> It's March 15th, and I have no problem to come down the road in my truck right now if I wanted to. As for what snow do come, winter will not be saved anymore at this point. Ah, every year the winters are getting shorter. The ice, Route Blanche is not open long anymore. We might get a couple months, due to the ice (Chevery 32).
>
> You know, back then, we'd be out on our skidoos right up 'til the end of April (La Romaine 24).

Added to this are more isolated but revealing observations, such as winters that are said to be different from those of the past, without specifying in what way, snow arriving earlier in the season, or changes in the texture of the snow: "Not even the snow is the same. [...] it's a different kind of snow. [...] it's like walking in salt or sugar" (Mutton Bay 53). Others speak of rain mixed with snowfall, snow moving further north inland, unpredictable winters, snowfall that is not uniform across the Lower North Shore, with some villages receiving less than others, and one mention that there are still snow and snowstorms. As an example, these photos illustrate how snow cover varies from year to year (Figure 8).

Figure 8: Segment of Route 138 at the entrance to Mutton Bay, which usually transforms into the Route Blanche during winter. This passage is locally known as *The Cut*

Mid-April 2022	Late April 2022	Late March 2024
Route Blanche open	Route Blanche closed	Route Blanche closed

Left and center photos: Michaël Després.

3.3 Ice

It is impressive to note the precision with which participants describe the changes they have observed in the ice, going so far as to specify which types of water bodies are affected and in what way. In general, they name, in descending order, **the decrease in ice *ex aequo to* the absence of ice,** late freezing, decrease in ice thickness, early melting, shorter ice season, and inconsistency in ice conditions:

> It's really not solid, the bottom's just not strong enough [...] and if there's a drop, you could punch right through, just like that (La Tabatière 45A).
>
> The Olomane River… these last two years, she hardly froze up at all. Well, she froze, but way too late in the season (Unamen Shipu 20A).
>
> There was always lots of ice in the spring, big icebergs and so on and so forth. Everything frozen from… far as the eye can see. You could go travel outside the towns to go to the next town by the ocean, 'cause it was always frozen. That, you don't see anymore. I've been living here, like I said, 30 years. Maybe once since I've been here? (Kegaska 25).
>
> Uh the ice… places that have been travel over for years are suddenly not freezing like they always did… (Blanc-Sablon 1).

When breaking down the dominant hazards, it is noteworthy that participants speak of the **decrease in ice** mostly in general terms, "*And this year was exceptional, we hardly had any ice!*" (Blanc-Sablon 65), then by naming the ice bridge, bays, streams, sea ice, icebergs, rivers, ponds, the gulf, and, surprisingly, the *mornes* (ice-covered hills) of La Romaine. Regarding the **absence of ice**, we find much the same references, with general mentions, the ice bridge, the gulf, the bays, the rivers, the sea ice, the river rapids, the streams and lakes, the ponds, the rocks, the port of Harrington Harbour, and the wharf at La Romaine.

Furthermore, certain locations are named more frequently as being affected by transformations of the ice. The ice bridge[15] connecting Chevery to Harrington Harbour is at the top of the list, which is not surprising, as the island's residents are heavily dependent on the ice bridge for snowmobile travel in winter. Observations there include an absence of ice, a decrease in the presence and thickness of the ice, a shorter operating season, instability of the ice bridge, non-uniform ice cover, and early melt:

> This winter, I'll tell you, that ice bridge didn't last long at all. I'd say maybe, I don't even know if it held up for two weeks, maybe right around there (Chevery 28).
>
> And the way it's coming, in a few years' time I figure we're gonna have no ice in there… For the travel at all. [...] It seems like every year's getting less and less… (Harrington Harbour 40).

Next are the bays. The Lower North Shore includes numerous bays, and some were explicitly mentioned by participants, including La Romaine Bay, Salmon Bay, Blanc-Sablon Bay, Brador Bay, Chevery Bay, and Baie Plate (Figure 9). According to participants, these bays freeze later, freeze less or not at all, or thaw earlier:

> We used to go just up across the bay, across Middle Bay into here and go on right up, right to, right to Old Fort and no more. You can't travel that in the last 15 years or more. No way in traveling it. Don't stay in. Like it may freeze for a day or two and then the next day it's gone again. But I used to come in in December and would stay 'till May, late May, early June something, some years. We don't get anymore, anymore (Blanc-Sablon 7A).
>
> We could go to Salmon Bay probably in… mid-January in the past, and, last week they were still trying to measure the ice to get there. And this is almost March (Bonne-Espérance 2B).

Figure 9: Examples of bays that were once solidly frozen in March: Baie Plate in front of the village of Tête-à-la-Baleine (left) (2024) and the bay in front of La Romaine/Unamen Shipu (right) (2024)

Left photo: Raphaëlle Ainsley-Vincent.

[15] For analysis purposes, whenever a Harrington Harbour resident mentioned a change in the ice, it was counted as referring to the ice bridge, even if it was not explicitly named. The cultural and geographical context of Harrington Harbour suggests that the risk of error in this assumption is negligible.

The Saint-Augustin River ranks third among the locations most affected by ice. Participants mention that the river ice melts earlier and freezes later. There has been a decrease in the presence and thickness of ice. Others describe the ice as "*choppy*," lacking snow cover, and report shorter ice jams and breakups (Figure 10):

> Normally… in the fall, like early fall, and that, you got until November… and it's froze up. Now, this year, in January, in December, the ice came out of the river! On account of the rain, and that. Everything come back out. The ice was about, maybe… 10, 12 inches thick. Everything come out, same as summer. I went up on my trapline in December, in a […] boat, it's just… I never… None of us ever seen that, that time of the year, the ice coming out (Saint-Augustin 14).

Figure 10: River before the spring 2022 flood that caused flooding in Saint-Augustin

Photos: Valérie Driscoll

The other bodies of water, mentioned less frequently, are, in descending order: rivers, the Gulf of Saint Lawrence, sea ice (salt water), ponds, creeks, and lakes.

Finally, the interviewees occasionally shared certain more isolated observations, such as the reduction or absence of "northern ice," described as "spring pack ice coming from Labrador" (Bonne-Espérance 75) (Video 1) or, in one case, the presence of northern ice, a decrease and absence of drift ice in the spring, melting of the ice cap, and rivers freezing earlier.

Video 1: Way of Life, Traditions, Route Blanche and Tourism (Bonne-Espérance)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A28

3.4 Wind

When participants discuss the observed transformations related to the wind, the first thing that comes up is an **increase in wind intensity**. The terms used to describe this phenomenon include "*high winds*", "*really strong winds*", "*we never get wind like that before*", and "*strong winds, too strong winds*". Several people go so far as to specify wind velocity to support their statements. One of them recounts, as an example of this wind intensity, that the roof of the Chevery arena collapsed (Figure 11). Three people mention what is considered a "*normal*" wind speed today in the Lower North Shore (30-50 km/h, 40-70 km/h for a storm, under 90 km/h for Blanc-Sablon), and nine people quantify the speed of strong winds (25 km/h (1 person), 80 km/h (1), 100-135 km/h (5), 150 km/h (2)). The testimonies collected clearly illustrate an intensification of winds on the Lower North Shore:

> I'm just saying that you see a lot more high winds nowadays. You know, like… Blanc-Sablon, I have some friends down there, they say anything less than 90 is… They call it just a breeze (Chevery 32).
>
> It's some big changes, I'm tellin' ya. It's blowin' way harder now — gusts of 100, 110, 115 [km/h]. We get them way more often than we used to. I mean, we had them before too, but now it's much more, and it's all the time (La Romaine 22).
>
> I heard that before of... going to the cottage and the shed is missing! […] It blows away with the wind! And my niece, this was about 8 or 9 years ago, her husband built her this brand-new cottage, it was gorgeous, and they went out in the spring and it was gone! They did find it up in a cove somewhere, turned upside down. It blew right off, it blew over, yeah (Saint-Augustin 8).

Ranked second among the dominant trends is an increase in the presence of wind, with mentions such as "*a lot of wind*" and "*more wind*." This is followed, in order, by an increase in the strength and frequency of windstorms, constant winds "*always windy*", "*southernly winds*," more frequent winds, winds blowing from all directions, erratic winds, and "*northeastern winds*." It is interesting to note that, overall, almost three-quarters of the references to wind are not associated with a particular season, a minority are associated with summer, very few are associated with fall and winter, and only one is associated with spring, as revealed in these excerpts:

> We're livin' in the wind pretty much day in, day out now. Without it… I mean, even when it's not a full-blown storm, it's just… them calm days, we don't hardly get 'em no more (La Tabatière 43).
>
> The last 10 to 12 years is that the wind seems to be constantly blowing. Strong winds are always blowing… every direction (Saint-Augustin 16).
>
> Back then, you'd get your storms, two or three big blows in the fall, but now, it's like summer's gone, and it's heavy winds pretty much every single week (La Tabatière 47).

Figure 11: Roof of the Chevery Arena Ripped off by Extreme Wind Gusts

Photo: Karine Monger

3.5 Rain

The primary changes mentioned by the interviewees are an **increase in winter rainfall**, more rain in general, and episodes of heavier rainfall[16]. Similarly, interviewees report rainstorms[17] in winter and rain mixed with snow. A minority state that there have been rainy winters in the past and that this is therefore not a new phenomenon. Other seasons were also mentioned as being rainier than in the past, but to a very small extent, with three mentions for spring (all in March) and two mentions for fall and summer. More marginally, participants mentioned freezing rain, more frequent rain, rain over longer periods, winter hail, and precipitation that falls as rain or hail in Unamen Shipu but as snow in Saint-Augustin:

> A lot more rain in the winter months because it's milder (Bonne-Espérance 3C).
>
> It's just rain, rain, rain, and more rain, all the time (Unamen Shipu 19B).
>
> I think there was maybe only once this winter where we got snow without getting rain right on top of it [...] we'll get 20 centimeters of snow, but then we get 15 millimetres of rain over it, sometimes more, so... it just turns into slush [mixture of snow, water and sand or abrasive salts that forms in winter on roads, paths or pavements] (La Tabatière 48).

3.6 Storm

Regarding storms, they are mainly described as **more powerful and more frequent**. A minority of people mentioned that there were storms, without qualifying them. When a season is specified, it is mostly fall, followed by summer, with single mentions of spring and winter. Interestingly, storms are characterized by an increase in the strength and frequency of storm surges and wave heights amplified by winds ("*tide surge*", "*sea surge*", "*rogue*

[16] There was a period of heavy rain while the research team was in the Lower North Shore (February 29, 2024), which may have influenced the participants' responses.

[17] The frequency of mentions of rainstorms vs. heavy rain should be interpreted with some caution. When participants used the term "rainstorm", it was counted under "storm", but when they used the terms "heavy rain" or "downpour", it was counted under "heavy rain". This may simply be a difference in the way people express themselves and not a real difference in the idea being conveyed.

wave"[18]), by hurricanes, by strong winds[19], and as a cause of erosion. A small proportion of people point out that storms are starting earlier in the season, while others mentioned that stronger storms occurred in the past compared to today, citing the 1998 ice storm and that storms are less frequent but more violent nowadays:

> And there is no small storms, it's all bigger storms. […] When it blows, it blows (Saint-Augustin 64).
>
> We seem to get more wind and… higher uh… bigger storms than we normally did (La Tabatière 52).
>
> With the climate change, there's more storms and that now, here, especially in the fall… (Kegaska 26A).
>
> Now there's a storm surge with every…almost every storm we get now (Kegaska 25).

3.7 Water Levels

Regarding water levels, according to participants, **the general trend is upward**. Interestingly, a distinction in trends is noted depending on the type of body of water. While all mentions concerning the sea indicate a rise in water levels, the results are more mixed for rivers, lakes, and ponds, with almost the same number of mentions indicating a rise and a fall in water levels, making it impossible to identify a trend for these bodies of water. A small number also mention an increase in high tides, as well as flooding, especially in the spring:

> But what I find, too, I find now when we get, like, major storms, 100, 120 kilometres to water, like the sea level, especially high tide... it goes farther inland (Blanc-Sablon 65).
>
> It's getting higher tides [in the river inland] for the last…last couple years now […] the water'd be so high it'd be unreal. And that' be late in the fall (Saint-Augustin 14).
>
> In the communities, even the lakes and ponds as you're driving, you'll notice that a lot of them, the water has gone down a lot, whereas they are right up high on the bay (Bonne-Espérance 3B).

3.8 Erosion

When it comes to erosion, interviewees do not describe the phenomenon itself, or describe it only briefly, but rather name **places that are susceptible to it**. Some villages appear to be more affected than others. Kegaska (Video 2) and Blanc-Sablon[20] are at the top of the list,

---

[18] A rogue wave is an extremely high and sudden ocean wave, unrelated to a storm (Office québécois de la langue française, 2010).

[19] These consist of mentions that explicitly link powerful winds to storms. In cases where only wind power was mentioned, it was categorized under 'wind'; therefore, more people may characterize storms by an increase in powerful winds.

[20] That the village of Blanc-Sablon and the Municipality of Blanc-Sablon, of which the village is part, were recorded without differentiation.

followed by Chevery (Video 3), Saint-Augustin (Figure 12), Harrington Harbour, Pakua Shipi, Unamen Shipu, La Romaine, and Lourdes-de-Blanc-Sablon. For the three most affected villages, specific locations are identified as being affected or at risk of erosion. In Kegaska, the people interviewed mention the beach, particularly the section connecting the village to the peninsula where the federal wharf is located (Figure 13), the road along the beach, sandbars, and the coastline. In Blanc-Sablon, they mention the beach, the road between Blanc-Sablon and Brador, and the coastline. In Chevery, participants mention the beaches, cliffs, and dunes along the coastline:

> And much more erosion. Like, both sides, the west side and the east sides. Erosion is… If there's not something done on this side, the east side, like, here? If we ever get another major storm like we had two years ago, I'm scared that it could go. It could be another island made (Kegaska 27A).
>
> Down in Kegaska, since 2021, they've been losing the shoreline. I don't even know how many meters now. You know, those storms... they just ate the beach right up. (La Romaine 24).
>
> Nowadays, there's hardly any room left on the beach. The bank just drops off steeply now, straight into the water (Blanc-Sablon 55).
>
> There's erosion all along the full length of the beach. Those south and southwest winds they're ravaging the houses right on the water because there's no sandbar left to protect them. They've already had to move two houses and a school board building. (Chevery 56).

Figure 12: Example of an eroding site along the banks of the Saint-Augustin - Pakua Shipi River

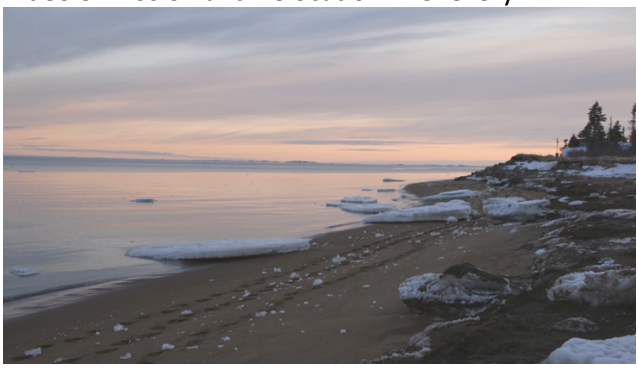
Figure 13: Kegaska and the peninsula where the wharf that hosts the Bella Desgagnés is located

Photo: Scott Orborne

Video 2: Erosion in Kegaska

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A3

Video 3: Erosion and Relocation in Chevery



Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A12

3.9 Fog

Note that this category includes both fog and mist without distinction[21]. The main trend is an **increase in fog**, which can occur in summer or be a general increase, without specifying the specific season. The presence of fog in winter is explicitly mentioned several times, with the clarification that this is a new phenomenon. Indeed, participants note that in the past, fog was mainly limited to the summer months, with July being the most affected. As for the increase in fog, fall is rarely mentioned, and spring is not mentioned at all. These excerpts describe these "anomalies" in relation to fog:

> Well, sure, we had fog before, anyway, in August, there was always fog, every August. But now, it's not just in August; it's often, often, often. I'd say it's ten times worse here than it used to be for the fog. Back then, everyone said: August is the month for fog. At the start of the month, it might've lasted a week, maybe ten days, but now you can get it in June, July, August, September... regular fog. We're stuck with it. I think it's the climate change doing that, I'm pretty sure (La Romaine 22).
>
> You probably seen some fog [this winter], which is very… not normal, compared to the last like, five ten years (Harrington Harbour 26).
>
> The weather yes, hum, foggy conditions, and we're getting fog in… in the wintertime. You know, it's… you're not… I shouldn't say you're not supposed to, but… We have fog in the wintertime, three or four days of fog, five or six days of fog. Only it's July weather (Saint-Augustin 16).
>
> Now, this is what we get [in winter]: rain and fog. That's climate change for sure (Pakua Shipi 13).

To a lesser extent, participants mention longer periods of fog mainly in summer, but also generally "*constant fog*" (Blanc-Sablon 7C)), with very few mentions for winter. A minority of individuals mentioned that fog episodes are more frequent across all seasons (Figure 14). Marginally, one person mentioned an abnormal absence of fog, and another mentioned a decrease in fog in winter.

> And I've never seen it. We've had fog here before, but maybe two max, three days. But this was eight days it was... impossible for the planes to fly in or out. So that's something I've never seen before. [...] And then it was less than two weeks later [...] and we were stuck there for three days because of fog (Chevery 30).
>
> Matter of fact, just last summer we had five days of fog straight, right around the end of June... near the Saint-Jean-Baptiste holiday. I mean, it stayed foggy for five days straight (Unamen Shipu 59).

[21] Fog and mist refer to the same phenomenon, with the only difference being visibility. Fog is defined as visibility at ground level of less than one kilometer, while mist is defined as visibility greater than one kilometer (World Meteorological Organization, 2025).

Figure 14: Fog during the winter

Photo: Karine Monger

3.10 Freeze-Thaw Cycles

The freeze-thaw phenomenon is named in relation to **mild spells, primarily in winter and spring**, and sometimes in fall. The people interviewed also mentioned that rapid temperature fluctuations cause alternating episodes of snow, rain, and ice:

> You might have 20 below, - 20° Celsius. Two days later, you see it warming up (Blanc-Sablon 65).
>
> It's changing. It doesn't freeze up like it used to. And when it does freeze, it's like... well, sometimes it thaws out just as fast. Like today, when we started out, it was bitter cold. Then, all of a sudden, it changes! (Pakua Shipi 13).

3.11 Sand Accumulation

Sand accumulation does not appear to be a regional phenomenon, but rather specific to certain localities. **Saint-Augustin stands out in first place**. Residents of this village are equally concerned about the sand accumulation of the Saint-Augustin-Pakua Shipu River and its mouth, commonly known as "*the bay*" (Video 4). They are worried about the difficulty, if not impossibility, of navigation at low tide, and the sand accumulation associated with the decrease in ice, which is necessary to carve out a channel during the spring breakup:

> One year […] waters were exceptionally low [in the river]. And even when the spring tides are on, the high tides and low tides, even a small boat can't get through (Saint-Augustin 8).
>
> This is why the sand is built up because we don't have so much ice going out because of the climate change. We don't get… you know last year we never had no snow. We just had ice and ice just melted out up the river and came down in little pieces. [...] So this is how that affects the, that's how come the sand…if it went out with a big push it would took the sand with it, right? (Saint-Augustin 9).
>
> You got to go out in these bays, and it's all sand. Now, there is no channel (Saint-Augustin 14).

Video 4: Pakua Shipu River, Wildfires, Local Travelling, and Access to Nutshimit (Pakua Shipi)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A29

Unamen Shipu is mentioned twice, once in reference to the accumulation of sand on the seabed and the formation of sandbars along the coastline of the Gulf of Saint Lawrence due to erosion of the banks, making navigation difficult at low tide and even at high tide.

The community of Tête-à-la-Baleine is mentioned twice – first for the increase in sand at low tide, and more surprisingly, for the disappearance of dunes that once protected the ice from winds, making access to the islands more difficult today. In Kegaska, there are two mentions of sand accumulation at the former lighthouse site, which is also experiencing significant erosion. Finally, Chevery and Blanc-Sablon each have a single mention.

3.12 Wildfires

When participants talk about wildfires, they primarily refer to **an increase in their frequency and the heightened risk associated with their spread**. Risk factors have been identified, namely a drier climate and an increase in high winds. Other factors are mentioned marginally: warmer climate, decreased precipitation, and lightning. There is a certain amount of concern about the increase in wildfires (Video 4):

> We saw a lot of wildfires last year, and we're not safe from that here either. You see all these trees so close to the houses; if a fire ever broke out, it would be a real disaster. It's the kind of thing we're gonna have to start thinking about sooner or later (Chevery 33).
>
> So they worry more like if you know a big storm is coming or in the summer fires being lit and all that (Mutton Bay 51).

Taken together, these climate trends generated several different impacts, affecting both travel within and outside the region, as well as access to essential services on the Lower North Shore. They have a profound effect on the way of life of the Coasters and the Innuat.

3.13 Vulnerable Areas

During interviews and participatory mapping workshops, we asked participants to identify places considered vulnerable to climate change at the local scale. The goal was to geolocate these critical hotspots[22].

Several locations were named within the communities listed in Appendix 1. However, it appears that some are more affected than others, depending on the season. It is interesting to note that it is not only residents of the village in question who mention these locations as being sensitive, which is indicative of high mobility and regional awareness throughout the Lower North Shore, as told by this resident of Kegaska:

> I know in Saint Augustine, they have a hovercraft that travels back and forth across the river due to, uh, freeze-up and thaw. And then, they use a helicopter to cross them back and forth. Same as Harrington Harbour. They have a helicopter, which is a shame, because those guys should have at least a bridge, something to connect them to Chevery. They've been fighting tooth and nail for years and years, because… due to climate change, or whatever, they're, that… They call it a bar. It's a ice… bar, or a ice road that, that, that, they need the cold for it to stay. And that's the only way they can get off the island. They live on an island. And, uh, they had it, I think, this year, for a couple of days or a week, or whatever it was, and now it's gone. So now they're stuck on the island again. And they've been fighting tooth and nail to get a, a bridge or something there to get, to help them, but it's never gonna come. Like I said, we're the forgotten people back this way (Kegaska 25).

The ice bridge connecting Chevery to Harrington Harbour is the location most often cited as being sensitive to climate change during the winter. Rising temperatures and the resulting decrease in ice and snow cover are limiting the number of days this section of the Route Blanche is open. In fact, it has not been open at all in the last two winter seasons (2022-2023, 2023-2024) (MTQ, 2024).

The Saint-Augustin Pakua Shipu River is also identified as a highly sensitive location by people from several villages, both in winter and summer. In winter, the section of the Route Blanche connecting the communities of Saint-Augustin and Pakua Shipi does not freeze as it used to and is closed more frequently. In summer, silting of the river makes crossing difficult, if not impossible, at low tide. More frequent freeze-thaw cycles also affect the transition periods between seasons, when no means of transportation seems entirely suitable. In all cases, climatic phenomena create major mobility challenges, cutting off access to the Lower North Shore villages.

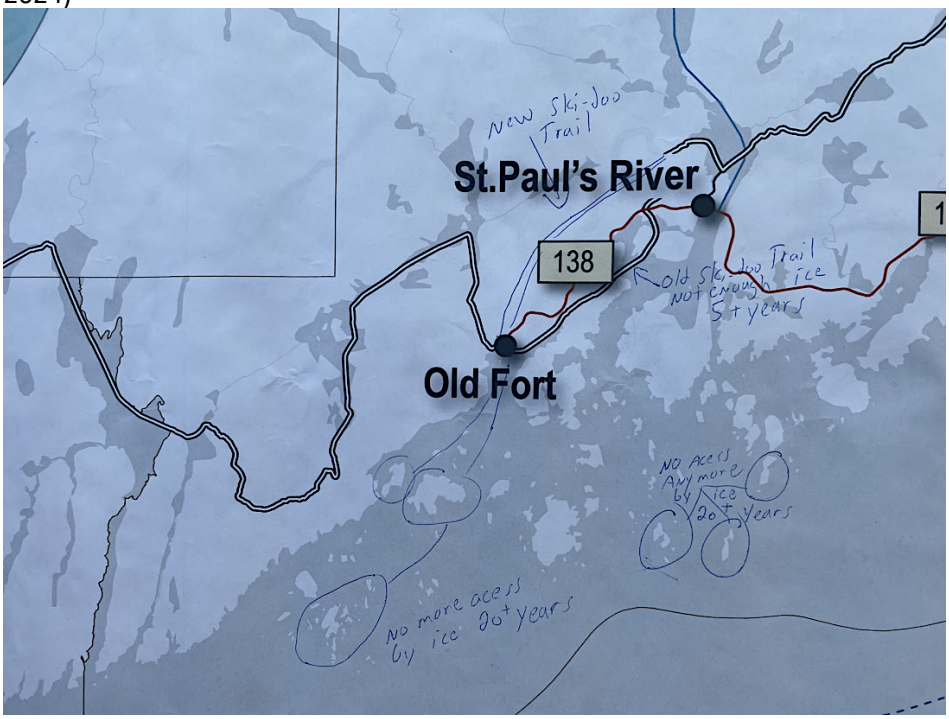
In third place are **Saint-Paul's River islands**, which have not been accessible in winter for many years due to reduced or absent ice (Figure 15). Importantly, unlike the two previous

[22] This report does not claim to map all locations sensitive to climate change on the Lower North Shore. Its purpose is rather to give a voice to the Coasters and the Innuat, to represent their reality. This list is therefore not exhaustive.

cases, only residents of the municipality of Bonne-Espérance identified this location as being sensitive to climate change. The high number of mentions for St. Paul's River islands can be explained by the fact that several group interviews were conducted in this village, which tends to increase the representation of a specific site:

> 4D – By truck. […] Across the ice. You can't do that, well… 35 (thinking), yeah about 30 years ago...
> 4A - In the truck, I'd say 25 years ago we went around Whale Island […] It used to be travelable by, by snowmobile. […]
> 4B – These islands here [he points out at the islands] you could travel by snowmobile all winter. They went off… St. Paul's River […] And now you can't… like never… hardly ever now (4ABD).

Figure 15: Annotated Map from a Participatory Mapping Workshop in St. Paul's River (February 2024)



It should be noted that during the data analysis, it was sometimes difficult to determine the exact locations, as they were often associated with a municipality rather than a village (in the case of Blanc-Sablon and Bonne-Espérance) or associated with travel between them. This demonstrates that the issue of mobility is central to the impacts of climate change experienced on the Lower North Shore.

3.14 General Perception of the Impacts of Climate Change

According to the interviewees, the term "climate change" evokes different images and draws on different knowledge and experiences. Similarly, perceptions of climate change are not uniform, and significant uncertainty remains regarding the overall scientific and factual

understanding — including causes and consequences, as well as runaway effects, tipping points, and the interrelationships between various phenomena, for example.

In this study, the questions were designed to highlight the disruptions experienced at the local and regional scales. It may be natural for climate change to be perceived in this way rather than as a set of large-scale, globally interconnected phenomena.

For some people, climate change is perceived as a natural climate cycle that has been evolving since the last ice age. However, an awareness seems to be taking hold, and they note that things will no longer be as they once were:

> And it's coming faster than what people think. [...] since the Ice Age we've been warming up. That's normal. If not, we'd still be in the Ice Age. The only thing, now, is what I think, it's just proceeding faster than what it should pass. [...] And the… the less cold you get, it seems like everything is going faster (Saint-Augustin 14).

The tangible effects of climate change, such as reduced snowfall or disruptions to activities vital to communities (fishing, snowmobiling), serve as "*wake-up calls*"; they prompt awareness and reflection on these issues: "*I think climate change is a wake-up call for us and everybody on the planet*" (Bonne-Espérance 6A). The climatic phenomena observed and described by residents of the Lower North Shore significantly impact their way of life in a variety of ways. The major climate trends and vulnerable areas outlined in this chapter should be kept in mind for the remainder of this report, as their cross-cutting nature means that they continually resurface.

Chapter 4

Transportation and Mobility Issues

Transportation and mobility significantly impact daily life on the Lower North Shore, at local, regional, and interregional levels. We will see that even within a single community, access to certain key locations is sometimes compromised. As these communities are isolated or distant from one another and, for the most part, not connected to the road networks of Québec or Newfoundland and Labrador, transportation is crucial for accessing essential services and for intra-, inter-, and extra-regional mobility.

This chapter provides an overview of the mobility practices of people living on the Lower North Shore, their travel habits, the quality of transportation services, and the impact of climate change on these services. Using various analytical frameworks, including an assessment of transportation services by research participants, the need for their improvement will be highlighted.

4.1 Primary Needs: Route 138 and Improved Transportation Services

Through interviews, mapping workshops, and the online survey, participants were asked about the needs they considered to be priorities for the Lower North Shore. Unsurprisingly, the main need identified was **route 138**. Given its significance and its relevance to all the issues addressed in this research, a large part of Chapter 7 is devoted to it. The second most frequently identified need was the **improvement of existing transportation**, which will be discussed in more detail below:

> Right now, we're truly at the mercy of the transportation companies. I'm telling you, if we just had the... the freedom to travel when we wanted, that alone would be a massive change (La Tabatière 43).
>
> If there could be frequency and stability, well, that would be great... (Unamen Shipu 59).
>
> I think... access, first of all, like I said... access to transport, right now that's the number one priority. Whether it's for food, or... because health services are... it's hard. If you're sick, it's very hard. Uh... so that has to be improved (La Tabatière 54).
>
> Give you more access, you could travel maybe twice a week instead, instead of once a week. Planes, could be more flights (Saint-Augustin 64).

4.2 Travel Profile: Modes of Transportation and Patterns of Use

The results of the online survey provide an overview of the modes of transportation used and respondents' satisfaction with these modes for local, regional, and extra-regional travel. Since these are survey results, percentages are provided to facilitate the presentation of major trends[23].

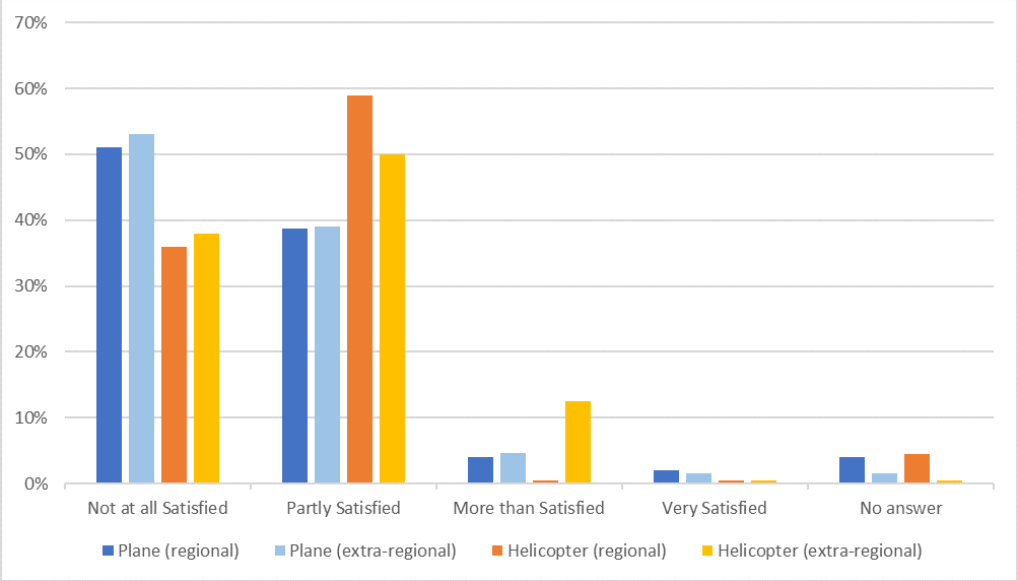
[23] Totals are not necessarily the same for each survey question, as the 112 respondents did not systematically answer every question. Consequently, the percentages shown are based on available data and may be slightly underestimated.

Coasters use a wide variety of transportation methods on a daily basis. **Snowmobiles** and **cars** are the most frequently mentioned, used for local travel (58% and 55%, respectively), regional travel (39% and 21%), and extra-regional travel (15% and 33%). For all these types of travel, the **Bella Desgagnés** and **helicopters** are also important for 14% to 29% of respondents. **The ferry** (river shuttle or water taxi) **between Chevery and Harrington Harbour**, Les Eaux Scintillantes, enables local to extra-regional transportation for 13% to 17% of respondents, mainly in these two communities.

The **airplane** is widely used on the Lower North Shore, accounting for 57% of respondents for extra-regional trips, 44% for regional trips, and 31% for local travel[24]. Local travel also relies on **personal boats** (39%), **walking** (31%), and **all-terrain vehicles** (ATVs) (29%). The **hovercraft between Saint-Augustin and Pakua Shipi**, L'Esprit-de-Pakuashipi, is also used by 10% of survey participants, mainly from these two communities. Finally, it should be noted that 21% of respondents also use **personal boats** for regional travel.

Overall, respondents are very satisfied to extremely satisfied with **personal transportation** (snowmobiles, personal boats, ATVs, etc.). However, people are less satisfied, and sometimes dissatisfied, with the **Bella Desgagnés** and **the taxi-boat between Chevery and Harrington Harbour.** The **helicopter** generates even greater dissatisfaction (27% of users say they are not at all satisfied with local travel, 36% with regional travel, and 38% with extra-regional travel), and more than half of respondents say they are not very satisfied (60%, 59%, and 50% for the three scales) (Figure 16). The most criticized mode of transportation is the plane, with 51% to 53% of users dissatisfied and 39% to 40% somewhat dissatisfied, regardless of the level of travel.

Figure 16: Satisfaction rates among air transportation users for regional and extra-regional travel



[24] This percentage regarding local air travel is somewhat surprising. We hypothesize that for some individuals, the term *local* may have been interpreted as *regional*.

In terms of transportation use by the Lower North Shore population for personal purposes such as visits, recreation and shopping, **snowmobiles**, **cars**, **ATVs** and **walking** are the most frequently used means of transportation. **Personal boats** are also versatile, although to a lesser extent, and are used primarily for subsistence, cultural or spiritual practices, recreation or visits. The **Bella Desgagnés** and the **ferry** can be used for all types of activities, but are primarily used for visits, supplies and recreation. The **taxi-boat** Les Eaux Scintillantes is used more for medical and professional reasons than the Bella Desgagnés. The **hovercraft** is mainly used for supplies, professional reasons and visits. Finally, the main reasons for using **airplanes** and **helicopters** are medical reasons and visits, followed by professional reasons and leisure. Other uses are more limited, particularly for air travel.

4.3 Transportation and Transportation Infrastructures

This part begins by presenting an overview based on the survey regarding the impact of climate change on daily life in the Lower North Shore, in terms of cancellations and service disruptions, particularly according to seasonality. For the sake of clarity, it is then organized by means of transportation and the infrastructure that supports them: air (aircraft, airport, helicopter and heliport); sea (Bella Desgagnés cargo-passenger ship, personal boats, river shuttles, ports and quays); land (snowmobiles and the Route Blanche; cars and local roads, Route 138 and the Trans-Labrador Highway).

Data drawn from interviews, participatory mapping workshops, and participant observation provide a better understanding of the transportation situation and infrastructure on the Lower North Shore, based on the following dimensions: cost, timetable and frequency, service and route, management, policies and programmes, equipment and, finally, isolation, which overlaps each of these dimensions. The results clearly demonstrate that the poor quality and availability of transportation services are strongly felt and explicitly mentioned by everyone. This portrait highlights the various transportation-related issues, which are not caused solely by climate change but can be exacerbated by it.

4.3.1 Climate Change and Transportation

In response to the survey question, *How does climate change affect daily life in the Lower North Shore?*, the top three answers were almost tied in terms of frequency, followed closely by the other answers. The first relates to weather conditions that make travel unsafe (55%). The second concerns the unreliability of transportation services, including delays, interruptions, cancellations or outright lack of service (54%). The third relates to access to other communities on the Lower North Shore (54%). The fourth focuses on the delivery of goods (48%). The fifth relates to more complicated access to the interior and the islands (40%). Sixth, access outside the Lower North Shore is affected (39%), followed by weather-related damage to infrastructure or equipment (26%). **For all modes of transportation and services combined, these data highlight the significant impacts of climate change on transportation on the Lower North Shore.** Marginally, only one positive point was raised in interviews concerning airport infrastructure and climate change. Milder winters reduce the use of de-icer on runways, and less snow removal is required.

Climate change seems to affect the daily lives of survey respondents most significantly when it comes to local travel. Nearly half (47%) say that climate change has prevented them from travelling at least five times locally in the past year, and 20% have experienced this more than 15 times. For regional travel, only 37% of respondents reported at least five instances of being prevented from travelling due to climate change during the year, and 30% for extra-regional travel, while 17% and 9%, respectively, said they had experienced this more than 15 times.

In response to the question, *In your opinion, which modes of transportation or infrastructure are most affected by climate change?*, the descending order is as follows: snowmobiles (53%); the Route Blanche (53%); airplanes and airports (41%); Bella Desgagnés (40%); the ice bridge between Harrington Harbour and Chevery (29%); helicopters and heliports (22%); personal boats (19%); the ferry between Chevery and Harrington Harbour (16%); Route 138 (14%); hovercraft between Saint-Augustin and Pakua Shipi (12%); municipal road (10%); then car, ATV, dike and wharf (4% each). It goes without saying **that climate change affects every means of transportation and every transportation infrastructure to varying degrees on the Lower North Shore.**

4.3.1.1 Travel Cancellations

We asked respondents to count the number of times their trips had been cancelled in the past year due to climate change causing damage, delays, or safety issues, regardless of the mode of transport. When it came to travel within their community, inland or on the islands, only 14% of participants did not have to cancel any trips during this period, while 37% had to cancel between one and four times, 22% between five and nine times, and 25% more than ten times. For travel to another community on the Lower North Shore, only 11% did not have to cancel a trip, compared to 45% between one and four times, 16% between five and nine times, and 22% more than ten times. Finally, for trips outside the region, only 7% of participants did not have to cancel a trip last year, compared to 39% who had to do so between one and four times, 12% between five and nine times, and 9% more than ten times. It is clear that **the majority of travel plans for residents of the Lower North Shore, whether short or long, near communities, within the region or outside it, are significantly affected by climate change several times a year**. This can have a major impact on quality of life, particularly regarding access to healthcare, and on personal expenses related to cancellations (refer to the transportation usage section above). We will return to this shortly.

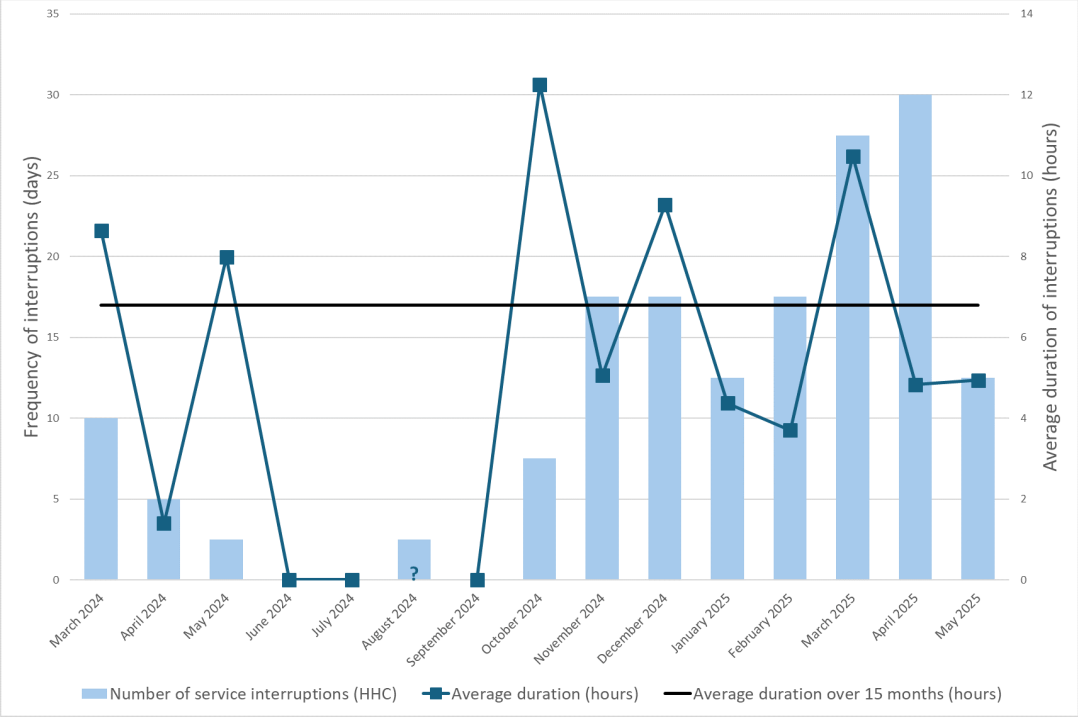
4.3.1.2 Changes in Seasonality

Transportation-related temporality highlights seasonal climate pressures. In the past, the transitional seasons of spring and autumn were the most unstable due to freezing and thawing, making mobility more unpredictable. People now notice that winter and summer are equally unpredictable seasons, causing significant service disruptions. Winters are milder, shorter, with less snow and more rain. They now experience fog in winter and summer and more frequent wind gusts (see Chapter 3). Nevertheless, the winter months seem to be more significantly affected by disruptions and a lack of transportation services due to climate change. Respondents ranked the months of the year with the most significant absence or

interruption of transportation services due to climate change in descending order: January, February, March, December, April, November, October, July, May, September, August, and June.

This generally aligns with our empirical observations, as revealed by a compilation of service interruptions based on text message alerts sent by the STQ between March 18, 2024, and May 14, 2025, a period of approximately 14 months[25]. The results, presented in Figures 17 and 18, show that the months most affected are those in winter and spring. Thus, service interruptions on the ferry connecting Harrington Harbour to Chevery are mainly concentrated between November 2024 and May 2025, with a sharp increase in March and April. In addition, there are peaks in the average duration of interruptions in March, May, October and December 2024, as well as in March 2025. As for the connection between Pakua Shipi and Saint-Augustin, weather-related interruptions seem to be concentrated between November and May. December 2024 saw a much higher-than-average number of interruptions, many of which were unjustified. It is therefore not possible to determine the cause of these unjustified interruptions.

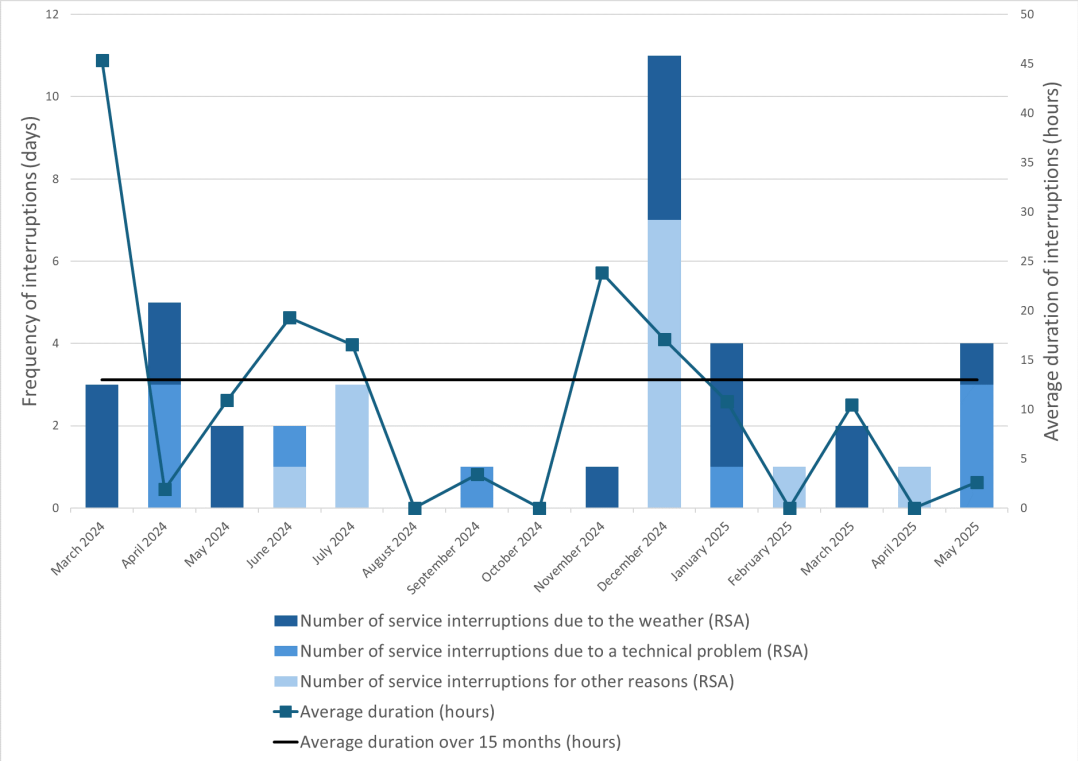
Figure 17: Frequency and average duration of service interruptions between Harrington Harbour and Chevery (March 2024 – May 2025)



Compilation based on text alerts issued by the STQ from March 18, 2024, to May 14, 2025.

[25] Following unsuccessful attempts to obtain the official registry of service interruptions for the Chevery-Harrington Harbour and Pakua Shipi-Saint-Augustin ferries from the STQ, we compiled and analyzed the alerts issued by the carrier. These alerts contain information regarding the dates, times, duration, and reasons for service interruptions on these two ferry routes.

Figure 18: Frequency and average duration of service interruptions between Pakua Shipi and Saint-Augustin (March 2024 – May 2025)



Compilation based on text alerts issued by the STQ from March 18, 2024, to May 14, 2025.

4.3.1.3 Air Transportation

Airplanes and Airports

Air transportation is available year-round. Depending on weather conditions and seasonality, air travel is sometimes the only option for getting around; for example, when the Route Blanche is closed in winter. However, the testimonials reveal that the services offered are not designed to adequately meet user demand. They feel that schedules are highly unpredictable and that there is uncertainty about the reasons for delays or frequent route changes when these are not due to weather conditions (e.g., storms or fog). This unpredictability forces passengers to allow a lot of time for travel, when this mode of transportation should be shorter and more efficient than the Bella Desgagnés or snowmobiles, for example:

> In the falls we have big storms with a lot of rain, a lot of wind. So if you're traveling by plane, that may not be a good time. […] So it's something... where... we rely on the airlines for... to get in and out during the summer, it's something we've never seen before. Not to this extent. […] So it's always affecting not only people coming back, but people getting out. And you always have to adjust your vacation... based on you know, the airlines and the weather (Chevery 30).

> Well, you got really lucky. You know, around here, people call them "Air Maybe" (Chevery 32).

> We're so used to planning every move, it's like second nature to us now, leaving a whole week early just to make sure we catch a flight out of Québec City, for example (La Romaine 24).
>
> I've got so many stories of family members being delayed, rerouted, or just dropped off halfway to their destination, left waiting for hours and hours. It's six-hour delays in Québec City for mechanical issues, people forced to take a bus from Québec to Montréal because there weren't any planes, and never knowing which airline terminal you'll end up at for God knows what reason (TÉMMRC 35).
>
> We were stuck all day in Chevery without a single word of explanation [...]. Then at five PM, I got a message telling me the weather was bad. The sun was shining, and there wasn't a breath of wind! Our flight finally showed up at 11AM Saturday morning, and it cost us an extra 1,800 dollars just to change our connecting flight (TÉMMRC 30).

Flights mainly operate from Monday to Friday, and the number of aircraft does not seem sufficient when this is the only means of transportation available. This inadequate service sometimes even forces travellers to book charter flights to travel on weekends or during busy periods, for example, following disruptive weather events that prevent the use of other modes of transport. Charter flights are, in a way, a very expensive last resort, in addition to being subject to the same weather limitations and possible delays or cancellations.

We should add that an aviation professional has pointed out that airports in the region are not equipped with technology that would allow aircraft to land in foggy conditions. This limits flights in a context of climate change, where foggy conditions are on the rise:

> Our airports are not equipped with any ILS systems [Instrument Landing System] for people, the planes can't come in on fog, or, you know, or overcast, they can't land, they can't take no chance (Blanc-Sablon 65).

Considering all the flight delays and cancellations, interviewees point to the inadequate facilities and basic services offered at airports on the Lower North Shore. They criticize the lack of food services, drinking water, baby-changing facilities – in short, the necessary amenities when they must spend several hours waiting, most of the time unexpectedly.

Also noted: the complete loss of air services in Kegaska, which no longer has an airport due to the arrival of Route 138; the use of helicopters rather than airplanes; the absence of an airport in Saint-Augustin. In Blanc-Sablon and Bonne-Espérance, access to the Trans-Labrador Highway facilitates mobility, but the same complaints are heard there, particularly in relation to the need for efficient air service, especially in the event of evacuation. The issue of air transportation specifically related to health care will be addressed in Chapter 5.

Transportation costs are a major concern or even a burden for the people we met. Air travel stands out as the most expensive means of transportation for the population, whether for medical care or other reasons (for more information on this subject, see Part 6.5). These expenses increase significantly as conditions on the Route Blanche deteriorate. In this regard, we should not overlook the *Programme d'accès aérien aux régions* (PAAR) funded by the

Government of Québec. When data was collected on the Lower North Shore in the winter of 2024, the 2022 version of the programme was in effect. However, this has been revised and, since 3 February 2025, the ticket purchasing process has been simplified, and ticket prices[26] have been further reduced. This has led to a marked increase in the number of tickets sold on Air Liaison's inter- and intra-regional flights in the Lower North Shore (Drouin, 2025). Some of the issues raised in the testimonials have been considered in the new version of the programme, such as the automatic application of the discount percentage when purchasing a ticket. Thus, in the winter of 2025, residents of communities on the Lower North Shore not connected to the road network were eligible for a cash refund of 60% of the value of their ticket (Ministère des Transports et de la mobilité durable (MTMD), 2025). For example, a round-trip flight between Saint-Augustin and Saint-Hubert (Montréal) in April 2025 costs approximately $3,600. In their testimonials, users complain about the time required for reimbursement, which forces them to have the cash available when purchasing tickets, the cost of which is exorbitant. The current PAAR covers flights from participating airlines in Montréal, Saint-Hubert and Québec City to and from targeted remote or isolated regions such as the North Shore. These flights cost 500 dollars round trip or $250 one way (MTMD, 2025). These flights cannot be reimbursed by an employer. In interviews, users also complain that the most frequent destination for Coasters (Sept-Îles) does not allow them to purchase a plane ticket at this price. Even with a 60% cash rebate, their round-trip plane ticket can be more expensive than the $500 subsidised ticket allocated to people travelling to Montréal, Saint-Hubert or Québec City.

Helicopters and Heliports

The use of helicopters is mainly restricted to areas with more complex transportation routes, such as Saint-Augustin, Pakua Shipi, La Tabatière, Mutton Bay, Tête-à-la-Baleine, Harrington Harbour and Chevery. Other communities do not depend on this form of transport, except in emergencies, where the emergency medical evacuation service (Medivac) is used. According to testimonials, in the absence of other means of transport, the helicopter service seems useful and appreciated, but with several caveats, such as the fact that the service is not available permanently and that the schedule is very limited, as flights can only be made during the day.

Tête-à-la-Baleine and La Tabatière's residents must be flown by helicopter to Chevery, as the landing strips in these communities are too short for the new aircraft. Between Saint-Augustin and Pakua Shipi, helicopters take over when the hovercraft is not operational, when sandbars limit the use of personal boats to cross the river, or when the Route Blanche is closed in winter. Ultimately, the only means of transportation between Harrington Harbour and Chevery are the river shuttle (taxi-boat) or snowmobile in winter when conditions permit. The helicopter provides backup when these means are not available. However, its size limits the number of passengers and the quantity and volume of goods that can be transported:

[26] It should be noted that the current version of the PAAR will conclude on March 31, 2027.

> But right now, we're just stucked with helicopter. And the pilot makes the decision when he's flying or when he's not, so. And lots of time we grumble, because the weather looks nice enough for us to travel, and they won't travel for us, so... (Harrington Harbour 40).
>
> Also the services provided by the STQ do not meet our needs as you can only do so much by helicopter (Harrington Harbour 85).
>
> They got to shut down at 6:00 in the evening… […] They'll throw a helicopter; they'll throw a service there that don't work a 100% (Saint-Augustin 9).

4.3.1.4 Maritime Transportation

Bella Desgagnés

The Bella Desgagnés is a cargo ship that serves the ports of Sept-Îles, Port-Menier, Havre-Saint-Pierre, Natashquan, Kegaska, La Romaine, Harrington Harbour, Tête-à-la-Baleine, La Tabatière, Saint-Augustin and Blanc-Sablon, departing from Rimouski (Video 5). It carries cargo and residents and visitors (Figure 19). When it entered service, from April to January, it made a single round trip per week between Rimouski and Blanc-Sablon[27]. This frequency caused discontent and did not meet the needs of residents on the Lower North Shore:

> With only one boat per week, we are hostages of our region! (TÉMMRC 1).
>
> The main impact of climate change is the loss of predictability for services that are already thin here because of our isolation. For instance, if the boat can't stick to its schedule one out of every four times starting in the fall, it's hard to have any confidence that things will go smoothly the rest of the time (Tête-à-la-Baleine 66).

According to testimonies, service is becoming even more limited due to climate change, particularly during strong winds and storms. Although the Bella Desgagnés is now equipped with an improved GPS (satellite geolocation system), allowing it to remain in position longer to wait for strong winds to subside, some docks remain difficult to access due to the ship's imposing size and the height of its cargo. For example, the islands off Tête-à-la-Baleine make navigation difficult if weather conditions are not optimal. As a result, the Bella Desgagnés sometimes continues on its route and only stops on its return from Blanc-Sablon if conditions have improved. This uncertainty affects people's activities and community services, as described by Coasters:

> But for the sea, for the Bella Desgagnés, yeah. There's been a lot of issues with her. A lot […]. The Bella's on time… rarely… There's been some big storms she's been in, so she's had to bypass towns and such. That can be a hot topic for a lot of towns. Instead of waiting in port, she passes and… passes the port of call and she goes on to the next one with perishables, uh, fruit and vegetables, groceries — all the things that

[27] Live ship's position can be viewed at: https://relaisnordik.com/horaires-et-tarifs-traverser/position-du-navire/

> the towns down below it need. They're a necessity for survival, a necessity for business (Kegaska 25).
>
> The start of winter is the worst, 'cause it feels like we're less prepared for it then. We've got the boat, but... it does whatever it wants. It's the biggest and tallest ship we've ever had, yet it gives us the worst service because... we just never know. You'll hear it's supposed to be in Tête-à-la-Baleine at 3:00, but it might be 3:00 a week from now by the time it shows up. It's honestly ridiculous (Tête-à-la-Baleine 48).

To improve service, some people are proposing the addition of a passenger boat that would make shorter trips and thus increase the frequency of crossings, including between Kegaska and La Romaine, which would make it easier to access Route 138 from Kegaska:

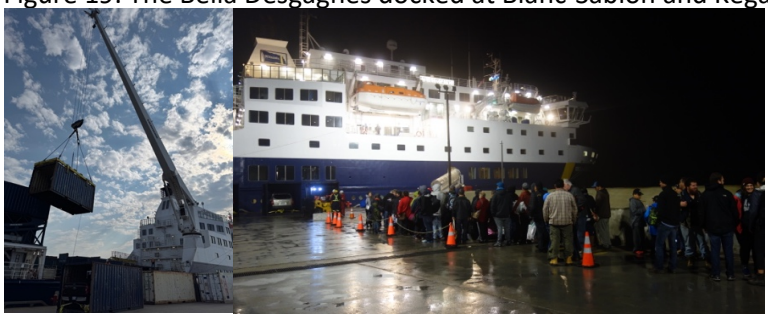
> From Kegaska to… to Blanc-Sablon, we should have two trips a week instead of one. Just for the passengers. Maybe they can have another boat just for passengers, you know. Give you more access, you could travel maybe twice a week instead, instead of once a week (Saint-Augustin 64).

Residents of the Lower North Shore have not expressed much opinion on the issue of maritime transportation costs. This may be because they have access to special rates for travel on the Bella Desgagnés. For example, in 2025-26, it will cost $270.43 (excluding taxes and port fees) for an adult resident of the Lower North Shore to travel from Rimouski to Blanc-Sablon (one way), compared to $448.91 for a non-resident (Relais Nordic Inc., 2024).

Video 5: Cargo and Passenger Ship Bella Desgagnés

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A31

Figure 19: The Bella Desgagnés docked at Blanc-Sablon and Kegaska



Personal watercraft

Personal watercraft (boats, jet skis, etc.) are used unevenly across all and within communities. For example, they are commonly used in La Romaine and Unamen Shipu to travel to Kegaska, a 2-hour 15-minute trip that provides access to Route 138. They are also used as alternatives to snowmobiles, hovercrafts and helicopters in Saint-Augustin and Pakua Shipi, to ferries, helicopters or snowmobiles between Harrington Harbour and Chevery, or to travel between Kegaska and La Romaine-Unamen Shipu without waiting for the Bella Desgagnés. According to them, this mode of transportation is more reliable and faster than aeroplanes, helicopters, hovercraft, water taxis or the Bella Desgagnés. However, high winds limit the use of personal watercraft, including for travelling offshore to the islands. Other reasons that encourage people to use personal watercraft are often related to the failure of other modes of transportation, such as the hovercraft in Saint-Augustin and Pakua Shipi, or the helicopter or river shuttle in Harrington Harbour and Chevery, as recounted in the following story:

> It was last spring. I had a doctor's appointment I had to get to, but the helicopter never showed up for me. They said it was a mechanical issue, no big deal, right? Except I'd been waiting two years for that appointment. So, I had to take my own boat to Chevery because the water taxi couldn't make it either. There were actually two nurses here who were trying to get out for their time off... for their leave. I took them along in the boat too! Just to get to Chevery. Sometimes, it feels like we're going backwards in time (Harrington Harbour 40).

Les Eaux Scintillantes Taxi-Boat and the Mécatina II Barge

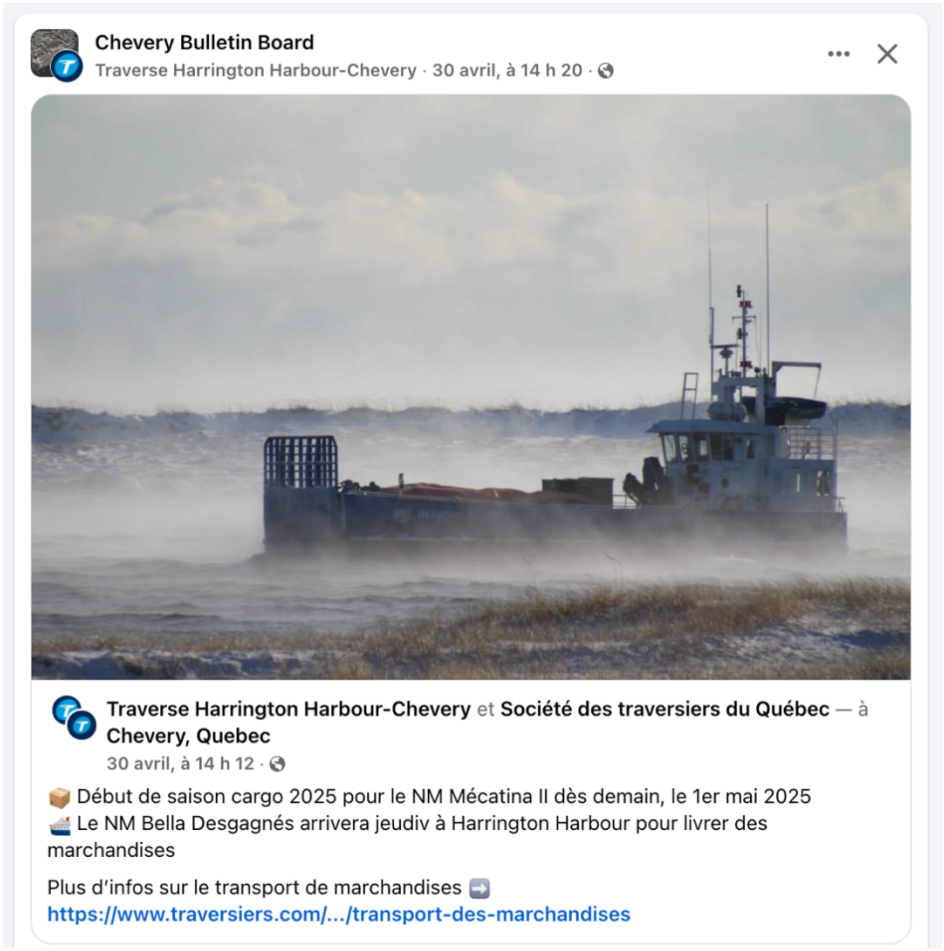
The Les Eaux Scintillantes taxi-boat (Figure 20) is essential for the communities of Harrington Harbour and Chevery, which depend on it for access to Chevery Airport, the Bella Desgagnés in Harrington Harbour, and each other. However, this service is criticized for the lack of service connecting Chevery Wharf and Chevery Airport, which are 2.8 km apart. The Mécatina II barge provides maritime transportation for goods between these two communities, whether from the Bella Desgagnés or from inland areas (such as timber harvested by residents of Harrington Harbour) (Figures 21 and 22).

Both crossings can be affected by storms or strong winds. Ice also causes problems, particularly by preventing the use of the barge and boats on the Netagamiou River between Chevery and Harrington Harbour.

Figure 20: The Les Eaux Scintillantes Taxi-Boat Docked at the Harrington Harbour Wharf

Figure 21: The Mécatina II Barge Heading Toward Harrington Harbour

Figure 22: Facebook Announcement of the Start of the Cargo Season (May 1, 2025) for the Mécatina II



The Qajaq W. ferry

The Qajac W. ferry shuttles between Blanc-Sablon and St.Barbe (Newfoundland and Labrador), providing access to other services on the island of Newfoundland (shops, grocery stores, health services, etc.). There is some dissatisfaction with this service, which is described as "*unreliable*" and "*poorly organized*", and is also affected by climate change:

> If you wanna drive, you have to… You either have to go by the Trans-Labrador Highway, and, depending on what the weather is like, you don't know if you can go that way, or you can go by the ferries, which, the weather also affects that, it's more days that we can't go than what we can, sometimes (Bonne-Espérance 2A).

L'Esprit-de-Pakua Shipi Hovercraft and Barge

The testimonies reveal widespread dissatisfaction with the river shuttle service, the hovercraft L'Esprit-de-Pakua-Shipi, between Saint-Augustin and Pakua Shipi communities, particularly regarding its very limited timetable and frequent service interruptions. This compromises access to the airport for passengers travelling to or from Saint-Augustin.

Saint-Augustin does not have its own airport, which means that passengers must cross the river to reach the airport located on the Pakua Shipi side. If a plane lands after the hovercraft service has ended for the day, passengers must stay in Pakua Shipi for the night. Similarly, if it is impossible to cross the river due to weather conditions or mechanical failure, passengers from Saint-Augustin will miss their flight.

Access to local services and workplaces is also compromised. Employees who work in Pakua Shipi and reside in Saint-Augustin often must take time off work or opt to work remotely from home, when possible, as they are unable to travel to their workplaces. The same is true for a minority of students who live on the opposite bank from their school. This lack of mobility also affects Pakua Shipi residents, preventing them from accessing shops and services on the other bank, such as grocery stores, the Desjardins service centre, and the post office.

The freeze-thaw seasons are reportedly particularly difficult periods, as the hovercraft appears to be less efficient in the presence of ice and frequently has to be taken out of service for maintenance when the first ice appears, causing service interruptions. In the winter of 2023, hovercrafts were used simultaneously with helicopters as an adaptation measure in response to the inability of regular service to meet demand, whereas normally the latter replaces hovercrafts when they cannot operate. However, this solution is not permanent, as the cost of maintaining both services at the same time is too high: "*it can't do the job*" (Saint-Augustin 9); "*Somebody needs to look at the numbers and put a value on our lives. Right now it's pretty pricey what they're paying to move us nowhere*" (Saint-Augustin 8); "*Crossing the river, we have a problem*" (Saint-Augustin 15). Frustrations stemming from precarious mobility are palpable throughout all the accounts:

> We've been living with the helicopter last year. […] The hovercraft broke down on the 18th of December and never came back until May. They never got it fixed. So you know all that time with the helicopter… and they give so many dirty excuses like they only got one pilot, they got to shut down at 6:00 in the evening… […] So you come in [you arrive on the airplane], your plane is there and there's no helicopter so you gotta find a way. Sometimes, I know a few times, the little [personal] airboat there, [name], sometimes they go and picks them up. But I mean it's never a life where you can get out off a plane, go in your car or get a taxi or get someone to bring you, it's

> always that stress of looking and, and sometimes you don't feel like asking. […] This is not, it's not due to climate change it's due to the service itself but… you know because of the climate change lot of stuffs happen with the wind and all this stuff. So uh…(Saint-Augustin 9).

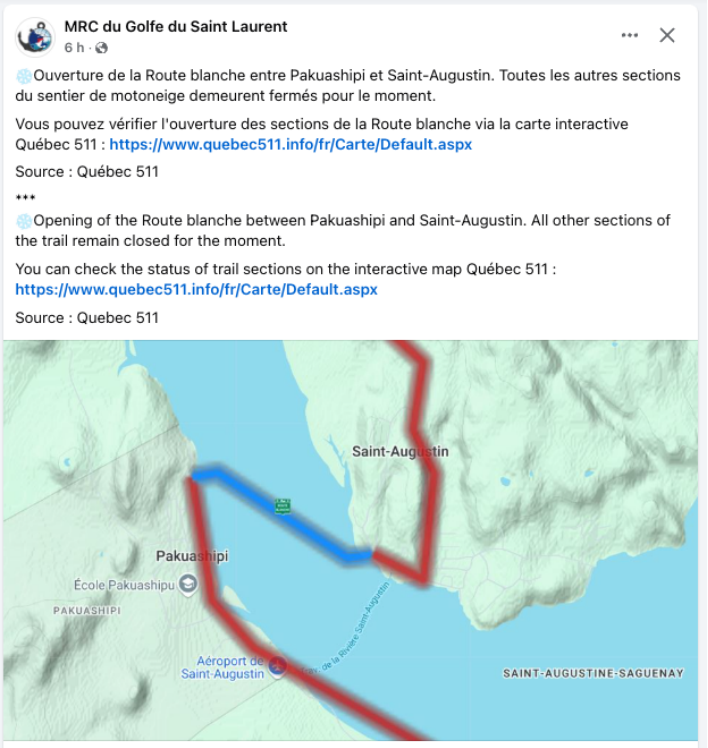
The barge service used to transport goods between the Pointe-à-la-Truite and Saint-Augustin wharves is also frequently compromised, essentially for the same reasons, as told by this participant:

> Well they know every year is getting worse. […] And when the ice comes down they have to take the barge out of the water cause it's not safe. So they removed the barge from the water. But just after they removed it from the water, all the ice went out and it was like summer again! And the town was without supplies for six weeks. The only thing that the STQ would bring to the village was meat, bread and vegetables. Like you need more than that to lead a normal life right? And plus the winter stocks for the stores. You cannot order it and not bring it to the village because the building can only hold so much. So it was ending up, the winter stock was left outside in sea cans before the pressure got on to move it by helicopter. But this year, they have a new director, and I will give her credit, she has..., she is doing what has to be done. She's not worrying about the budget. Like I said, she had the helicopter and the hovercraft going at the same time, like for days and days on end. Things have gotten better, but its not..., they can't do it, the resources that they have cannot provide the 24/7 service (Saint-Augustin 8).

In short, the transportation situation in Saint-Augustin is extremely complex. For example, see Appendix 2, which explains the terms and conditions for cargo transportation for the 2025 season on the Saint-Augustin-Pakua Shipu River. The population must remain constantly alert to changes in service offerings through various means, including alerts received from the STQ, community radio, social media, informal networks, etc., as illustrated by these communications (Figures 23 and 24).

Figure 23: Post from the CJAS Community Radio Station in Saint-Augustin on Facebook

Figure 24: Facebook Post from the MRC du Golfe-du-Saint-Laurent



4.3.1.5 Land Transportation

Snowmobile and the Route Blanche

All people interviewed note that winter conditions significantly restrict snowmobile use. Milder winters cause a decrease or even absence of ice, less snow and early spring rains (Figures 25 and 26). Travel is unpredictable and difficult to organize:

> Travelling by snowmobile used to be nice; we could start pretty early, most times... I mean, we weren't going to La Tabatière in November or December, but normally by January... as soon as the boat stopped running, the machines were out, and you could count on them. But now you can't — you really can't count on... you can't plan anything because it's hard, it's just really hard (Tête-à-la-Baleine 45A).

According to them, certain routes, such as the one between La Romaine and Tête-à-la-Baleine, are practically impassable, as winter conditions are no longer suitable for mobility. The ice bridge between Chevery and Harrington Harbour struggles to freeze, making this area particularly risky, if not impassable (Video 6). In the case of Pakua Shipi and Saint-Augustin, the use of the Route Blanche is essential to connect the riverside communities and the respective services they offer to each other. However, conditions are becoming increasingly difficult due to continuous freezing and thawing (Video 4). Neither boats nor snowmobiles can be used: "*And there's always that in-between stage, where it's not... You can't go in a boat, you can't go in a snowmobile, so they're landlocked. Unless they want to get a plane*" (Bonne-Espérance 2A).

Figure 25: Difficult snowmobile conditions. Mutton Bay, Chevery, La Romaine, Blanc-Sablon, Saint-Augustin, March 2024

Figure 26: Route Blanche West of Chevery

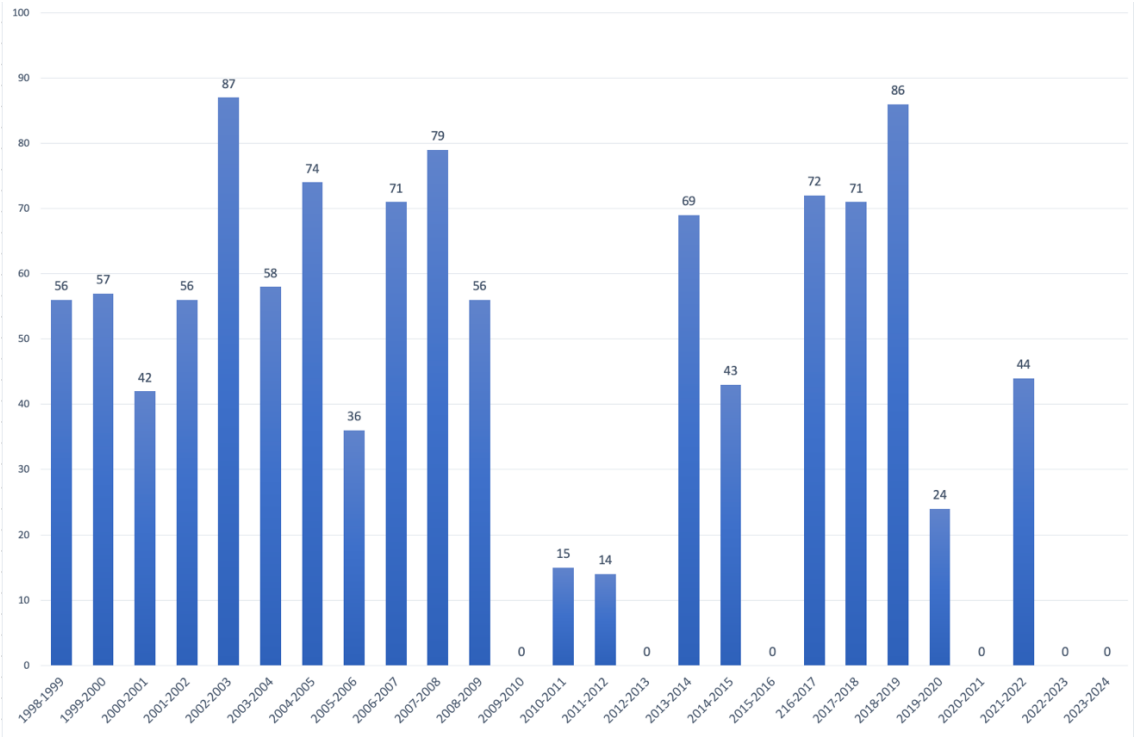
Photo: Jenna Cox

Video 6: Route 138 and the Ice Bridge in Harrington Harbour

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A8

The Route Blanche is open for shorter periods. Whereas it used to be passable from December-January to March-April, reports indicate that it is now mostly impassable from early March onwards due to early rains and warm temperatures (Video 1). In fact, the last time the Route Blanche was fully open was in 2022, whereas in previous decades it was normally open for two to three months. Moreover, its opening was very limited between 2010 and 2013, with complete closures in those two winters in addition to the winters of 2016, 2021 and 2023. Figure 27 shows the number of days on which the Route Blanche was fully open for each year from 1998 to 2024, i.e. the number of days on which all sections of the road were open simultaneously. This is a total number of days, which does not necessarily mean that these days were consecutive: there may have been interruptions. The survey results show mixed satisfaction with snowmobiling for local travel (30% *very* or *extremely satisfied* and 28% *somewhat* or *not at all satisfied*), regional travel (11% and 27% respectively) and extra-regional travel (7% and 8% respectively).

Figure 27: Complete Opening of the Route Blanche in Number of Days (non-consecutive), from 1998 to 2024



Compiled by the research team based on data from the MTQ (2024a).

When conditions allow, snowmobiles offer a significant sense of freedom, as they are the only means of transportation that are not bound by timetables and can be adapted to the individual's journey:

> As I said the freedom, the freedom to move, the freedom to do what you want on your schedule, without having to rely on or wait for a plane, or a boat, or a helicopter, or whatever. The freedom to just move is, is what we need, is what we..., you know (Chevery 31).

Snowmobiles are therefore used to transport equipment from the east (Blanc-Sablon, Bonne-Espérance or Newfoundland and Labrador) or from the west (from Kegaska or elsewhere in Québec), to fetch firewood and for short weekend trips, rather than planning several days to take a plane that does not serve or serves very few Lower North Shore communities on weekends. For the people of Unamen Shipu and La Romaine, snowmobiles provide easy access to Kegaska and Route 138 heading west. People travel by snowmobile to Kegaska, where they leave a vehicle parked, and then take the road west. Without access to the Route Blanche, they depend on helicopters, planes, personal boats or the Bella Desgagnés. Planning trips for medical appointments in winter, for example, is made easier by snowmobiles:

> If the service is not running or something, they're gonna take a chance and go on skidoo [to cross the river], people is doing that... it's uh... sad you know that you got to live in so much pressure all the time (Saint-Augustin 9).

When it comes to costs, everyone we spoke to agreed: apart from cars, snowmobiles are the most affordable mode of transportation on the Lower North Shore. However, in the context of climate change, investing in a snowmobile is becoming less and less profitable, as the number of possible trips per winter is significantly reduced and the risk of breakdowns or accidents increases (Chapter 6). This creates inequalities in access to mobility: "*Snowmobiles* […]. *It's gonna be a rich man's toy more than they are now*" (Saint-Augustin 16).

Cars, Local Roads, and the Trans-Labrador Highway

For most communities on the Lower North Shore, only local roads a few kilometres long allow for car use. These roads are not cleared of snow in winter, further limiting vehicle use, which represents a financial burden: "*I got nice vehicles but four kilometres of road to use them!* […] *You still gotta pay full coverage, but my truck sits four months out of the year*" (Chevery 32).

Although difficult weather conditions limit their use, the Trans-Labrador Highway provides access to Newfoundland and Labrador, and the ferry allows access to the island of Newfoundland. This enables the delivery of food supplies and the transportation of goods, as well as facilitating interprovincial travel to Blanc-Sablon and Bonne-Espérance. In general, when the opportunity arises, the car is the preferred means of transportation, which reiterates the need to extend the road link between Kegaska and Old Fort.

4.3.1.6 Main Criticism Regarding Transportation Management

The testimonies raise serious concerns about transportation and infrastructure management, as well as the decisions and actions taken by governments and private companies. Widespread dissatisfaction, particularly with air transportation, is expressed in the survey, as *dissatisfaction* or *low satisfaction* (*somewhat dissatisfied*) rates for these modes of transportation remain between 87% and 95% of respondents for local, regional and extra-regional travel. Furthermore, in the accounts gathered during interviews and participatory mapping workshops, Chevery emerges as a particularly critical area in terms of air transport, where a stop is mandatory to take the helicopter to La Tabatière and Tête-à-la-Baleine, then Harrington Harbour when the ferry is not in operation.

Air Liaison is particularly targeted here for offering "*poor service"*, described by the following expressions: "*unreliable*", "*unpredictable*", "*mismanagement"*, "*lack of communication"*, "*no accountability"*, ‘‘*very unorganized"*, "*lack of professionalism"*, "*total lack of respect"*. The lack of or poor communication is noted when it comes to informing passengers of schedules and the reasons for delays or cancellations. As these delays and cancellations are becoming more common, particularly due to the increase in the frequency of storms and fog, the transportation experience is becoming even more difficult and unpleasant. Air Liaison's lack of responsibility in the face of climate change and the proper treatment of its passengers is clearly identified:

> It's getting very hard to tell the difference between climate change and corporate decisions when it comes to travel reliability. Even in similar weather, you'll see

> transport decisions change for reasons that have nothing to do with the climate. Yet the weather is almost always the excuse they give customers to explain away major cancellations or long delays (Tête-à-la-Baleine 66).
>
> Our air service has gone downhill to the point of being absolutely atrocious. The airline takes zero responsibility for getting you from point A to point B. If they decide to bump someone from a flight, that person has no recourse at all. Communication between the airline and its customers is very limited (Harrington Harbour 81).
>
> The companies serving this region treat the residents terribly (Chevery 91).
>
> Transportation is bad. [...] It's actually rubbish, here on the Coast, because of the company and just the way things are run (Mutton Bay 53).
>
> The company just wasn't willing to take all the paying passengers, all because of the total lack of patience and respect they show people (TÉMMRC 14).

Some passenger stories even reveal discriminatory or inhumane treatment. For example, the use of boarding ramps for people with reduced mobility is reportedly at the discretion of the pilot. Two testimonies report that a pilot repeatedly refused to install the ramp for a passenger with reduced mobility, thereby preventing them from boarding the aircraft.

In addition to their limitations related to climate change, the stories highlight widespread dissatisfaction with transportation options. Mechanical breakdowns, technological limitations of vehicles, infrastructure, and transportation choices depending on the season are all difficulties encountered by travellers on the Lower North Shore. Examples include the Tête-à-la-Baleine airport, which is considered too small to accommodate the aircraft models serving the region, and the lack of a deep-water port in Chevery. The aircraft are described as too small, old and outdated, often requiring repairs or maintenance. When there are delays or cancellations in transportation services, mechanical problems are among the reasons most frequently identified: "*It's still very problematic. [...] Appointments cancelled because the plane doesn't take off, whether it's due to mechanical failure or the weather*" (O60).

In connection with mechanical problems with aircraft, the issue of passenger safety is highlighted in the testimonies, especially on airplanes. Equipment is described as leaking oil, poorly insulated, lacking fuel for the entire flight, or emitting smoke inside the aircraft during operation, as reported in this travelogue:

> I travelled from La Tabatière to Montréal with Air Liaison, and it was hands down one of the worst travel experiences I've ever had. I left La Tabatière at 12:30 PM and didn't get to Gatineau until 3:30 PM the next day. After landing in Québec City to switch planes, a few of us noticed workers messing with the aircraft we were supposed to board for Montréal in the dark, using nothing but a flashlight. Two hours later, they had us board that same plane. Fifteen minutes into the flight, I saw smoke coming from my seat. I panicked; I'd never seen anything like it and I knew it wasn't right. To make things worse, the co-pilot comes out of the cockpit, stares at the wing through the window right next to me, just shakes his head, and walks back. Moments later, the pilot announces we're turning back to Québec due to a "technical issue".

> We found out later that we'd spent 30 minutes of a 50-minute flight in a plane where the landing gear wouldn't retract; it could have been catastrophic. After another two hours at the terminal, they told us the plane was broken and couldn't be fixed in time, and that they'd be picking passengers at random to board a 9-seater instead (TÉMMRC 14).
>
> [This is a perfect] example of how Air Liaison ignores safety regulations whenever it suits them. I couldn't believe what was happening. They asked my husband to get off the plane because the flight was overbooked, telling him he'd be on the evening flight. I told the agent right then and there: he's not getting off, and there's no way he's on an evening flight because those don't even exist for La Tabatière or Natashquan. As an agent, he should've known that. He went back outside but came back a minute later to ask the mother of a little boy who had a paid seat to hold her child in her lap so the overbooked passenger could take the seat instead. To my total shock, the mother agreed, and the extra person took the seat (TÉMMRC 32).

A deterioration in transportation services has been observed on the Lower North Shore over the last few decades, which can be explained by a lack of willingness on the part of companies or governments to improve services or a failure to listen to the negative experiences and concerns of the population. This has led to widespread frustration and dissatisfaction with transportation service managers:

> The people on the Coast deserve better than this. For years, we've sat by in silence while the quality and availability of air services just fell apart, but it's time for that to stop (TÉMMRC 41).

There is a lack of understanding regarding certain decisions, such as the awarding of air transportation contracts, the route and frequency of the Bella Desgagnés ferry, the investment of significant sums in inadequate means of transportation, such as the hovercraft in Saint-Augustin and Pakua Shipi, and the replacement of the Twin Otter aircraft serving Tête-à-la-Baleine and La Tabatière with a helicopter[28]. Despite new technologies, a certain nostalgia can be detected in the testimonials regarding the old modes of transportation that served the Lower North Shore in the past. For example, ships preceding the Bella Desgagnés, such as the Jean-Brillant and the Nordic Express, were smaller and more manoeuvrable, making it easier to navigate in high winds and enter certain ports. One thing is certain: transportation methods and equipment on the Lower North Shore have evolved and changed significantly over the years, from dog sleds to snowmobiles, all-terrain vehicles, and a wide range of air, maritime and land vehicles (Video 7). According to the people we met, this has not always been for the better, especially since climate change is imposing new modes of transportation. In Chapter 7, we will return more specifically to the issue of transportation management in terms of adaptation to climate change.

[28] The Twin Otter has a capacity of 18 seats, which is better suited to the needs of the communities than the helicopter, which can only carry four people at a time, requiring several return trips between Tête-à-la-Baleine and Chevery, and between La Tabatière and Chevery.

Video 7: Memories of Dogsled Travelling (La Romaine)

Source : Larry Beaudoin et ses chiens de traîneaux. 1964. Cote P12, S2, P110. Fonds Groupe d'action et de développement économique et culturel de la Basse-Côte-Nord - Archives nationales à Sept-Îles. Id 798801. Access to video: https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A16

Considering the results of this research, it is clear that on the Lower North Shore, transportation services are either lacking or unsuited to the realities of the region and its people. The following chapters will reveal how this situation is worsening in the face of global warming.

Chapter 5

Challenges Related to Essential Services

This chapter explores issues related to essential services on the Lower North Shore, discussing citizens' perceptions and experiences as well as priority needs. The first part presents a general assessment of essential services, highlighting their limited accessibility and decline, often exacerbated by climatic and geographical challenges. The second part details priority needs, including the extension of Route 138, which is seen as a key solution for improving mobility, access to services and regional vitality. It also examines the need for improvements in the areas of health, the economy, communications and municipal services. The main finding of this chapter is that all of these needs are closely linked to the service and efficiency of transportation on the Lower North Shore.

5.1 General Assessment of Essential Services

The Coasters we met first highlighted the limited access to essential services in their region, linked to the precarious transportation situation caused by the geography of isolated communities. They also observed a decline in services coinciding with the demographic and economic devitalization of communities. Overall, half say they are dissatisfied with essential services due to their absence, inaccessibility or decline. They believe that climate change is having a negative impact on these services.

5.2 Priority Needs

In line with the previous chapter, **Route 138** is clearly identified as an essential need for the citizens of the Lower North Shore. It is repeatedly highlighted as a solution to the problems of the Lower North Shore during interviews and workshops, with 59 people mentioning it 142 times with conviction. Route 138, perceived as so essential and indispensable, has come to channel frustrations related to several other issues on the Lower North Shore:

> Uh, I mean, you're going to get the same answer from everybody on the Coast. I mean, they need to push the 138 through (Harrington Harbour 39).
>
> Please complete the 138 between Kegaska and Old Fort. This has been talked about for 60 years or more. It would save thousands of dollars per year if it was completed (Harrington Harbour 86).

The needs underlying this road involve climate change adaptation, freedom of movement, and access to services and goods both within other communities and outside the region. We will address this in greater depth in Chapter 7.

Demographic and economic vitality are also emphasized extensively. This vitality would be achieved through economic development or local and regional revitalization projects, demographic growth or any other project that could stimulate the region. While roads are often seen as the solution to ensuring this vitality, other concrete strategies for achieving it remain underemphasized in the discourse (Chapter 7). In short, this need for demographic and economic vitality is mentioned without much further explanation:

> We need some young blood yeah (Bonne-Espérance 4).

> I think it's because we do not have a lot of jobs in the economy here. There's nothing… I think the only thing really that would help it would be tourism. Like that would be a big asset. Like our youth that goes out to further their education, there's nothing really for them to come back to unless they… they want to do something like be an entrepreneur or something like that (Chevery 30).
>
> And, like I said, the 138 is… If that's not done in the next 15 years, there'll be not many [laughs] many villages on this coast that won't exist. It's an ageing population, and there's really nothing… for… You're not gonna bring any young people with any incentives to do anything… And it costs so much, like, to fly on this coast (Kegaska 27A).
>
> Progress and development will never happen if the road is not completed first (Harrington Harbour 86).

Participants raise the point that there is a real **need to adapt to climate change**, and that this requires a concrete plan to deal with its many consequences. The dominant adaptation measure in the discussions is the extension of Route 138. Others do not specify the nature of the necessary adaptations or say that infrastructure should be adapted, and citizens should be better educated about climate change:

> Climate change should be the number one priority (O60).
>
> No, taxes is not going to fix it. So, nothing. I mean, put a road through to give us more access so we don't have to rely on an airline and, and a, and a boat. And hoping winter's gonna save us for travel every year. […] We shouldn't have to be relying on hoping to see what the winter's gonna bring to help save us money (Chevery 32).

This last excerpt introduces the need to **improve existing transportation services**, both within and outside the Lower North Shore, particularly maritime and air services, and more specifically the Harrington Harbour-Chevery and Saint-Augustin-Pakua Shipi routes, as already discussed at length in Chapter 4.

The interviewees mentioned the **need for better representation**, on the one hand, serious consideration of local realities and citizen knowledge, and on the other hand, representation of the region in provincial and federal political bodies. At the provincial level, this need translates into a desire to be heard by elected officials:

> But for real, the government needs to step up and act. They need to start treating us like actual citizens, like taxpayers, and like people who need services just like everywhere else (La Romaine 24).
>
> If the 138 does not become a reality soon, the Lower North Shore will disappear along with the many years of studies to have everyone leave and not see a future here (Bonne-Espérance 90).
>
> We have to get management in a proper context, where they [the decision-makers] come in and they sit down and listen, on the scale, what we're trying to say about what we're seeing, what we're observing (Bonne-Espérance 6A).

> We are here, don't forget us. You know. That's it. There are people here on the Lower North Shore, not a big lot but we are here, don't leave us behind. Include us (Mutton Bay 51).

5.2.1 Focus: Healthcare

Healthcare and social services are essential services that are impacted by multiple factors, complicating not only their management but also access to and quality of services. Climate change and unpredictable weather have a significant impact on transportation. The inherent complexity of the health network, combined with the isolation and different parallel systems of the Innuat communities and municipalities, adds administrative and logistical difficulties. In this research, the issue of health and social services was spontaneously raised by almost all participants, demonstrating its importance to them. The close link between mobility and access to care is one of the hypotheses that could explain this high occurrence. To provide context, we first outline the Lower North Shore health system. We then describe the main issues encountered by the population in accessing health and social services.

5.2.1.1 Brief Overview of the Lower North Shore Healthcare Network

There are nine local community service centres (CLSC) on the Lower North Shore, located in Blanc-Sablon, Harrington Harbour, La Tabatière, Saint-Augustin, St. Paul's River, Mutton Bay, Kegaska, Chevery and Tête-à-la-Baleine. In Blanc-Sablon, a multi-service health and social services centre serves the local and regional populations. All of these establishments are governed by the Côte-Nord Integrated Health and Social Services Centre (CISSS), a provincial agency that oversees establishments from Tadoussac to Blanc-Sablon, including the Caniapiscau region. The CISSS de la Côte-Nord provides all health care in the region, except for the Innuat and Naskapi communities, which have their own independent health centres. Nevertheless, there are various forms of collaboration between non-Indigenous and Innuat centres, facilitated by an Indigenous liaison officer, especially in Unamen Shipu and La Romaine:

> For Unamen Shipu and La Romaine, given the geographical proximity of the two communities, the CISSS Côte-Nord has a long-standing partnership with the Indigenous health center to ensure that non-Indigenous patients are also cared for. The CISSS Côte-Nord provides a budget envelope to the Unamen Shipu health center so it can deliver primary care, much like a CLSC, to the residents of La Romaine. Pakua Shipu, however, is truly independent; they have their own health center, while the CISSS Côte-Nord operates its own facility in Saint-Augustin (O60).

There are not always doctors available at clinics and CLSCs. There are also no specialists on the Lower North Shore, which means that patients have to travel elsewhere on the North Shore or to Québec City when they need a specialist examination or consultation. In these situations, patients are placed on a waiting list by the CISSS de la Côte-Nord, which sets the appointments. Individuals are contacted directly by the hospital, or the CLSC is contacted and organizes travel (transportation and accommodation) to the appointment location. The entire organization differs depending on whether you are in an Innu or a non-Indigenous

community. The reimbursement terms also differ. Appointments for the population of La Romaine are managed by Unamen Shipu, under a historic agreement with the CISSS Côte-Nord. However, residents of La Romaine use Blanc-Sablon's air transport. The same applies to emergency evacuations, as La Romaine is twinned with Blanc-Sablon, unlike Unamen Shipu, which has access to its own evacuation aircraft.

The Innuat communities and municipalities each have their own transportation and accommodation management systems for getting to appointments. Unamen Shipu and Pakua Shipi can arrange transportation themselves or call on the Regroupement Mamit Innuat, which manages several essential services, such as transport to health services in Sept-Îles, but also to Québec City and Montréal. The Regroupement also contributes to accommodation and meal costs. As an example, this excerpt explains how medical appointments outside Unamen Shipu work:

> Just to give you an idea of how we're running right now: we have two 9-seater planes on Mondays, Wednesdays, and Fridays for clients with appointments in Sept-Îles. That gives us a pool of 18 passengers round-trip. We do two flights on Mondays, two 9-seaters going back and forth between Sept-Îles and La Romaine for hospital appointments. We're pretty much booked solid on those two planes. People usually head out Monday and come back either Wednesday or Friday... so the evening flights are always full (Unamen Shipu 59).

For patients from other villages on the Lower North Shore, the CISSS Côte-Nord's transportation and user fee reimbursement policy is managed directly by the provincial government. For citizens who meet a list of criteria, it covers airfare and a certain amount allocated for any expenses incurred during travel, such as meals, taxi fares and accommodation (CISSS Côte-Nord, 2025). Thus, the various management policies for appointments, travel and expense reimbursement are managed differently and in parallel depending on the community.

5.2.1.2 Medical Travel and Dissatisfaction

In addition to transportation for medical appointments, which is usually by airplane, emergency evacuations are also carried out by airplane, helicopter or the military, depending on the situation and weather conditions. The military airplane may sometimes depart from Gander (Newfoundland and Labrador). Evacuation airplanes may also depart from Montréal or Québec City:

> We just have to deal with it. We're constantly crossing our fingers when it comes to the planes, especially for medevacs. For instance, if a critical case came up today, it probably wouldn't be a regular plane coming for the patient. It would likely be the Armed Forces plane from Newfoundland, based out of Gander. For an emergency evacuation right now, the military would have to step in because commercial flights... they just can't fly today. Not unless the conditions change. Right now, there's no wind at all, but it's just a total whiteout with the fog (Unamen Shipu 59).

If the aircraft arrives from Newfoundland and Labrador, the person will be taken to a hospital in that province, then to Québec City and Sept-Îles once their condition has stabilized.

In interviews, it is repeatedly mentioned that transportation services, which are affected by climate change, alter accessibility to healthcare (Video 8). Fog is said to have a significant impact on medical transportation:

> You lose your appointment [because of fog] and then it might be months before you get another one (Blanc-Sablon 65).
>
> Regarding health, as the climate warms, we're seeing a trend of more fog during the summer. When you have fog, the planes can't get in, and that directly impacts access to services, like hospital services, for example. Because, as we know, for every village along the Lower North Shore, the main hospital hub is Blanc-Sablon (Chevery 33).

There is mention of "*harsh weather conditions*" (Bonne-Espérance 2A) that affect transportation services, in this case, air travel:

> [Because of climatic conditions], they have to reschedule. Sometimes there's people that their appointment's schedule could be three or four times before you finally get out to see your doctor specialist (Chevery 30).
>
> Currently, the situation is critical, people are unable to get to their appointments due to weather and plane unavailability for seats (Bonne-Espérance 90).

Video 8: Transportation and Access to Healthcare (Mutton Bay)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A19

The interviewees see it as somewhat normal that transportation services are affected by climate change, as well as the number of appointments and flights missed due to the weather:

> It's become so common that it doesn't work well — that I'm not even sure they have that many statistics on it (O60).

It goes without saying that transportation services often affect access to healthcare, leading to cancellations or delays in medical appointments. Although it is difficult to identify the exact cause of these cancellations or delays, they seem to be mainly related to climate change

or transportation service management. They cause a great deal of dissatisfaction and make access to medical care quite unpredictable:

> What I'm trying to say is that, on the Lower North Shore, we are constantly playing Russian roulette with our lives whenever it comes to medical transport (TÉM 34).
>
> The Lower North Shore is the only place where you have to take days off of work for to go to a simple… appointment (Chevery 32).

The same applies to the increasing complexity of managing drug stocks and the difficulties associated with supply, which is also greatly affected by transportation disruptions. There are many unforeseen events which can have serious consequences for patients who do not have access to the drugs they need.

The people interviewed generally expressed dissatisfaction with medical transportation services and the repeated accumulation of delays or cancellations due to more frequent storms and mechanical problems with the aircraft. The terms used to describe these services are often pejorative: "*Mediocre services*" (TÉM 9); "*I have never seen a situation so critical, so unacceptable, so intolerable*" (TÉM 1); "*We're going backwards instead of moving forward*" (Tête-à-la-Baleine 46); "*If you are sick, it is very hard*" (La Tabatière 54); "*It's way too dangerous*" (Blanc-Sablon 7C).

Given this situation, completing Route 138 seems to be a solution for improving medical transportation services. However, there is no consensus on how the road could actually improve care, nor is this always specified in the comments of those interviewed. Some believe that the road would allow for the consolidation of health services, while others consider that it would facilitate access to appointments. Based on their experiences, even if Route 138 was completed between Kegaska and Blanc-Sablon, a reliable air medical transportation service would still be essential:

> Will [the road] change our evacuation methods? I don't think so. Even if we evacuated people by road, especially for EVAQ [Québec aeromedical evacuations], we'd be talking about nearly six hours of driving. That would be impossible; plane evacuations will have to stay. It might only be for regular appointments that we'd use cars or buses; that's likely what would change, obviously, to save on costs. And as for using planes for regular appointments… There would probably be funding cuts from Health Canada (Unamen Shipu 59).
>
> Well, I think we need a reliable airline. Especially the one that works with the CISSS. I don't know who or what got bought over who, [laughs] if that made any sense. But that's not reliable (Kegaska 25).

In addition to the lack of general practitioners and specialists on the Lower North Shore, there is a shortage of health care services such as eye care, dental care, psychological care and various specialists such as physiotherapists and occupational therapists. Furthermore, access to health care entails additional costs:

> We have a real challenge accessing certain services. Take the dentist, for example. Try finding a dentist who's willing to come to La Romaine for a week now and then. The only dentist we have comes once a month for one week [...]. So, we often have to send people to Sept-Îles just for a dental appointment. Imagine the cost—the airfare alone! [...] [If]we had a dentist right here in La Romaine, it would probably help people travel less, and both kids and adults would have access to dental care more regularly (Unamen Shipu 59).

> We won't be able to travel between communities, which some communities depend on for services like the airport… health care services, sometimes the doctor, dentist, is only one village or the other, so in the winter, we maximize on that and travel to village… yes… [laughs] (Harrington Harbour 36).

The combination of issues such as climate change, isolation and dependence on air transportation (which comes with technical breakdowns and complex management) seems to exacerbate inequalities in access to healthcare on the Lower North Shore. Vulnerable populations, who are in greater need of care and services, are particularly affected by unforeseen events, whether climatic, administrative or mechanical. According to testimonials that reveal several shortcomings, access to healthcare seems to be inadequate for the elderly, people living with chronic illnesses and people with disabilities:

> A lot of times, our seniors are uprooted from their homes after a certain age because there's nobody here to help, help them with their services (Chevery 30).

> Sick people are being pulled out of their communities to go to hospitals; healthcare barely happens within the community itself. Some decide to stay because they want to live out their final days or face their illness at home, but they have to give up on medical care to do it. This happens all the time. Palliative care is far from optimal in our Lower North Shore communities, but people prefer substandard care if it means they can die in their own community. As for end-of-life distress protocols that might be needed, there are no doctors on-site to administer them (O60).

Despite certain climate change adaptation measures, such as the programme on assessing regional vulnerabilities and risks related to climate change to develop regional climate adaptation plans for public health (VRAC-PARC, 2025), certain measures or services should be prioritized for climate change adaptation or mitigation, according to the testimonies. For example, emphasis should be placed on prevention and the adoption of healthy lifestyles, which is a major challenge in a context where access to fresh food at reasonable prices is difficult. In order to encourage people to adopt healthier lifestyles, participants also stressed the importance of year-round sports facilities, such as arenas with refrigerated ice rinks, or community gardens to facilitate access to fresh fruit and vegetables. In addition, access to specific care for the elderly population is necessary, such as palliative or end-of-life care, which would allow elderly or sick people to end their lives in their own environment without having to give up care. Healthcare must be approached holistically. Solutions or measures cannot be implemented in isolation. A comprehensive overview and consultation with all stakeholders and decision-makers are required to develop viable solutions.

5.2.2 Retail and Businesses

Climate change is having a significant impact on businesses and enterprises, particularly in sectors that are already being affected. For example, the natural resources industry, which includes fishing and fish processing, trapping, agriculture and agri-food, and forestry, is affected by unpredictable weather and seasonal changes. When the people we met discussed local and regional businesses, enterprises and services, they mainly talked about loss (disappearance, decline, difficulties) or presence and transformation (evolution). Paradoxically, we noticed that local businesses and enterprises in the natural resources sector were described in terms of both loss and presence.

5.2.2.1 Decline

The **decline in service quality** is the issue most frequently mentioned, particularly in relation to the delivery or supply of food, goods or materials, generally linked to transportation by ship or road:

> Even the food, sometimes in the winter, it comes by plane. And if the weather is bad, it's tomorrow; if it's still bad, it's the day after. We have no choice, we're stuck living with it, but it's a huge problem. And even the boat, with climate change, sometimes the storms are so bad that it can't even dock here. So, the food goes all the way to Blanc-Sablon, and by the time the boat comes back and unloads it, it's often expired, especially the vegetables and the fruit. Those are climate changes that hit us hard (La Romaine 22).

> Sometimes the boat is scheduled to arrive, but then it just decides to bypass us completely. That's just how they work; they have everything. And what are we left with, zero. Nothing. So now, since it's not coming, it's going to be a long month of March (La Romaine 24).

Next, the **decline of local businesses** such as grocery stores, convenience stores, pharmacies, hardware stores, petrol stations, post offices, restaurants, bars and hairdressers is the most frequently mentioned issue. Finally, the **decline of businesses or establishments linked to natural resources**, particularly in the fishing, agri-food, forestry and trapping sectors, is also criticized:

> Some factories strictly processed cod. They had to open so many cod factories back then; it wouldn't stop. La Tabatière, that was huge. Now, there's nothing left. That used to be one of the biggest factories in the entire province of Québec, right there in La Tabatière. So many people worked there. They bought every kind of fish. [...] But those were different times... La Tabatière even had three big draggers back then (Tête-à-la-Baleine 44).

5.2.2.2 Presence and Transformation

Despite the sector's decline and challenges, fishing is still very much alive: "*The fishing industry is our main, our main industry right now*" (Bonne-Espérance 3C). However, it is

also undergoing a transformation, driven by the arrival of new species and fluctuating weather patterns:

> When I was younger, it was abundance of red fish, and it went completely. Now they're dragging more red fish, and the government issued more license and more […] you know. Things is building up for the red fish. But the red fish maybe it's… it's due to warmer water too, we never had red fish on this coast, you gotta go towards Newfoundland to get 'em. So maybe it's the temperature, you know. Warmer water over there. I know it was, warmer weather out there. So that's… that's a plus on the red fish side. That's coming up! (Mutton Bay 53).

The presence and growth of agricultural and agri-food businesses are also highlighted, particularly in relation to small fruits, some of which depend on processing, as is the case with the *Coopérative de solidarité les Bioproduits de la Basse-Côte-Nord* in St. Paul's River. These initiatives offer new opportunities for local and regional development by creating jobs in new niches, particularly in the context of fisheries restructuring.

Local shops remain present in communities, despite several closures. They mostly play a "*public service*" role, as described in the following excerpt:

> So, I mean, even, even as a business owner for profit business, I mean, most of the things that we do is public service, you know. We wouldn't have even bought this five years ago if we didn't feel that the community needed to have two stores right. So it was more of a, I would say, it was more of a public service than it was for a, a business you know, make money type sense because there's no money in the community of this size and I don't see that changing (Chevery 31).

5.2.2.3 Role of Route 138 in Relation to Shops and Businesses

Route 138 is central when people discuss shops and businesses: it is at once a wish, the cause of many problems, and the proposed solution to those problems (Video 9).

Video 9: Transport and Supply (Chevery)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A4

The example of the village of Kegaska, which is now connected to the rest of Québec by Route 138, allows us to make certain points with greater conviction, notably that the road facilitates the export of products, as in this excerpt, which discusses seafood products:

> And that's like for fishing again […], like, the buyers. There's two… or three different buyers there now. It's easy for them to come in now with a tractor trailer and take the product out of here, because of the road. [...] That's easier access, there. […] Because they used to bring it by boat from here to Natashquan. [...] Now they got easier in and out for that. Which, I mean, it delivers better quality product into the buyer. [...] You know, for the processing plants and that (Kegaska 26A).

The road could also facilitate better integration into markets outside the region, but it could potentially also lead to greater competitive pressure, particularly within industries such as fishing:

> Fishing and… and working on the land has become big business. And having a road will give you more access, uh… to selling your products and promoting your products, and getting them out and in… more naturally the way other people do it in the outside. It'll put you on the same playing field as what they do outside. My question is, did you want to be on the same playing field? You may find that the playing field you're on is better. You have more options. That's what I'm saying to people like, be careful for what you wish for, you may actually get it. Right? For that if you thought where that might take you in the future (Harrington Harbour 37).

This competition could affect grocery stores and local services. In the latter case, if it is cheaper elsewhere, there is a risk that people will buy less locally, which has an impact on local vitality, as it was the case in Kegaska, according to one interviewee:

> So when the road did come in, like, more people went out, so we just had to, like… [sighs] rearrange, basically, like what you brought in and what you bought, because that's sort of changed. Like what people was actually buying there. [...] It acted more as a depanneur, like, a convenience [...] Quick stop, I suppose you would say [...] easier access to go out, [...] the prices were cheaper [...] outside. [...] So things like that there did affect, a bit… (Kegaska 26A).

Based on the participants' testimonies, if there were more businesses, people would stay on the Lower North Shore to work, which would mean that parents would no longer have to leave the region for months on end to work and thus leave their families. Others would choose to return:

> I think if we had a road, we'd have a lot more young people coming back here. We'd have more, uh, industries like tourism, things like that, you know, and… I think it would be a better chance of the communities surviving (Chevery 30).

They believe that Route 138 is essential for businesses to establish themselves or expand. But at the same time, the road would make it easier to commute outside the region for work and could encourage more young people to leave than to stay.

5.2.3 Postal Services, Communications and Technology

This section addresses the availability and quality of communications and technology services on the Lower North Shore, and the extent to which they are affected by climate change. It covers postal services, the Internet and cellular networks, as well as television and radio.

5.2.3.1 Postal Services

The postal service differs from other communication services because mail delivery requires physical transport. According to participants, this service is where the impacts of climate change are most noticeable. Mail delivery depends on air transport, which makes it particularly sensitive to the climatic phenomena described in Chapter 3. More intense storms and strong winds can cause delivery delays:

> Our mail service is also interrupted due to the terrible weather. The airline is the only way of getting the mail for the middle communities for the Lower North Shore and when the weather is bad, it may take weeks for the airline to catch up with their mail delivery (Harrington Harbour 81).
>
> And now, with the weather the way the weather is, sometimes you might be a week, you've got no plane… You… The mail! I know here, mail, you might get it once a week (Saint-Augustin 14).
>
> Take the mail, for instance — sometimes the mail takes... even Priority Post, [...] for us here, it takes eight to ten days before we get it. And Priority Post is supposed to be the fastest mail there is (La Romaine 22).

Beyond weather conditions, the airline responsible for distributing mail is also causing concern. People criticize its unreliability and inability to provide good service:

> It's Air Liaison that got the mail contract, and they can't even provide us with their other services. So, can you imagine how the mail is going? It's... it's ridiculous (Tête-à-la-Baleine 46).
>
> [The company doesn't] offer a reliable service, especially for an aging population that depends on it for essential needs, like medical care and postal services (TÉMMRC).

Not all villages have a physical post office. The decision to centralise services in villages for logistical reasons can lead to the closure of post offices, which can increase the isolation of certain communities:

> Brador was… We had a school, we had a post office, we had two grocery stores. Now if Lourdes [-de-Blanc-Sablon] wasn't beside us we'd be gone [...]. We jump in our vehicule, we drive down to Lourdes, we get, we go to the post office, we go to the store, we do everything [...]. So what used to be all individual villages are being centralized (Blanc-Sablon 7A).

5.2.3.2 High-Speed Internet and Mobile Network

The Internet is the most frequently mentioned communication service, with participants expressing their views on this topic at least twice. Since its implementation in all villages on the Lower North Shore in 2020, widespread access to high-speed Internet and greater cellular network coverage have transformed the way of life of Lower North Shore residents. With the Internet, residents of the region can more easily obtain amenities that were not as readily available in the past. This change is sometimes seen as a sign of progress:

> We're trying to get into the 21st or 22nd century […] it's like we want all the things you have in Montréal. We want to have our Tim Hortons, we want it, so we… we will order it on Amazon (Saint-Augustin 16).
>
> We have more resources, for one thing, right? […] We got the Internet; we got everything else. You almost… you name it, we basically got it, what we didn't have 20, 25 years ago (Blanc-Sablon 65).

According to participants, local knowledge and practices are gradually becoming less useful, less relevant or less appreciated compared to what can be found on the Internet (Chapter 6). This change in mindset can be perceived negatively:

> Thank God, now we do have radio and Internet to get our forecast. And even [name of an inaudible weather network], lots of times […] they don't strike it right (Kegaska 27A).
>
> [The] generation that my daughter's at, and her children, they grew up having television, having the Internet, having everything at their fingertips. So, the having to go in the woods to cut wood, going in to set snares to get rabbits, or partridges, is no longer important, is no longer a way of our life, and of going fishing is not considered a necessity now… (Saint-Augustin 17).

In addition to simplifying shopping and providing access to better weather forecasts, high-speed Internet facilitates online meetings. When weather conditions prevent travel to the Lower North Shore or outside the region, videoconferencing allows people to stay in touch and participate in previously scheduled meetings. Despite these advantages, however, Coasters still prefer in-person contact:

> There's nothing we can do about the weather, but there must be a way to not keep us so isolated all year around. Yes, we have the Internet and that is better than nothing, but it does not compare to actual face to face visiting with family and friends (Harrington Harbour 82).
>
> I think people need to see their relatives, so if you can't see them, you can talk to them, you can FaceTime them [referring to the FaceTime app], but it's not the same as human contact (Chevery 33).
>
> [We] just had a [meeting] recently where Plan Nord came to the Lower North Shore, and they were supposed to come up for the grand opening up here, but there was a snowstorm, and the roads were closed. So, they couldn't […] travel from Blanc-

> Sablon to here. So it definitely impacts our activities. It's harder to engagement…, I mean, yes, we do it by Internet and by videoconference, but it's more engaging when you can do it in person, but obviously, you know, weather is a big factor in what's happening (Bonne-Espérance 3C).

5.2.3.3 Television and Radio

Mentions of television are mainly related to the arrival of this medium in certain villages on the Lower North Shore in the 1970s. One person insists that most television stations covering news in Québec are in French, which is perceived as an obstacle to staying informed in the region's English-speaking communities: "*That's because of our language barrier, too, because most stations now today, in Québec is… local, and they're mostly French, anyway*" (Bonne-Espérance 6C).

Local community radio[29] stations are of paramount importance in communities on the Lower North Shore. They are used to communicate relevant information to the population quickly and effectively, whether it be weather or transportation updates (delays, arrivals or departures of the Bella Desgagnés, for example), emergency situations, or community activities such as bingo tournaments or other regional gatherings such as hockey tournaments and carnivals:

> We have [the weekend tournament] on the local radio, […] called CFBS radio, and they have animators on, you know, people are tuned to the radio, listening on the score, if you're for such a team, or whatever (Blanc-Sablon 67).

Despite technological advances and greater access to a variety of communication methods, some people comment on the state of communication services in general. For example, a Harrington resident testifies to the need to further develop their potential to use communication services:

> Communication. Every infrastructure. Hospital, schools, MRC, municipalities, we all have all of the technology we need. We have telephones, we have radio, we have television, we've had all of these things, and now we've got self-service, and we have all the different apps that we can use, whether it be, you know, from fax to emails to Snapchats to instant talking to people instantly. You need something, you get access to that instantly. The problem is we don't really use it. When's you're playing tomorrow, when's your helicopter? Oh, my God, I don't know, I can't figure it out. I went to the airport and there's nobody there to answer it. I don't get the communication. There's people coming down to do a survey, for the municipality. Does the community know, how come the community doesn't know? How is it possible that the community couldn't know, we have all this technology, but yet we don't seem to be able to use it (Harrington Harbour 37).

[29] The following communities are served by community radio stations: Blanc-Sablon (CFBS 89.9/93.1/105.3); Saint-Augustin (CJAS 93.5 FM); Pakua Shipi (CIBE 89.9); Tête-à-la-Baleine (CJTB 93.1); Unamen Shipu (CFLR 89.9 FM).

5.2.4 Municipal Services

This section discusses municipal services on the Lower North Shore, highlighting the challenges faced by communities in terms of waste management, drinking water supply, and access to sports and cultural facilities. These issues, often exacerbated by climatic conditions and a lack of resources, demonstrate the need for increased support to ensure basic services suited to local realities.

5.2.4.1 Waste Management

Waste management in the Lower North Shore is mainly discussed in negative terms and affects different communities in different ways. The most problematic situation caused by climate change is found in the island community of Harrington Harbour (Video 10). During the winter season, the transportation of waste from Harrington Island to Garden Island, where the landfill site is located, is greatly complicated by the absence of ice. This requires additional handling of the waste, which must be transported by rowboat rather than snowmobile.

Video 10: Garbage Management and Ice in Harrington Harbour

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A7

Overall, even if it is not a result of climate change, people spontaneously mention the lack of recycling and composting infrastructure in the various villages: "*There's no way to recycle. Tell me where I can go and bring…, there's no composting, there's no recycling*" (Bonne-Espérance 3A). In La Tabatière and Harrington Harbour, residents are trying to take matters into their own hands by organizing voluntary recycling collection efforts. However, due to a lack of sufficient resources, it is complicated to sustain this citizen initiative: "*It* [recycling] *was here a few years ago, but they just couldn't sustain it, so we need help. These small communities need help to be able to do that*" (La Tabatière 54). In Harrington Harbour, however, one person mentions that recycling collection still takes place thanks to the help of volunteers:

> Right now, it's just volunteers… [hesitation] Like, we call it school kid's duties on the weekend just… And people just takes it there for a few hours. So. We're open to

> get more… hours for it, 'cause there's mo… like more recycling. Which is great. More we recycle, the better (Harrington Harbour 40).

In addition, residents of Blanc-Sablon and Bonne-Espérance have expressed concern about wastewater management in their communities. Wastewater is reportedly discharged directly into waterways, which not only causes pollution but also poses a serious threat to ecosystems, including salmon populations that migrate through certain rivers:

> Before the salmon gets to the river, they have to go through the sewer. That's in this bay, before the salmon go up the river. And no one talks about that, the pollutant… […] The bay is polluted! (Bonne-Espérance 6D).

5.2.4.2 Waterworks Service

Even though they do not explicitly link climate change to water services in their communities, the interviewees have nothing but complaints about them. The state of the water supply service is described as an "*urgent problem*" for certain communities in particular. Residents of Chevery, Kegaska and La Tabatière report complications related to the water supply network in their villages:

> [Our] water line is just holding on by a thread. When you turn the tap on, you sort of breathe a sigh of relief. But those problems are not only here, they're everywhere. It's in Chevery, it's in La Tabatière, I don't know about Saint-Augustine, but these three towns at the top of my head, we all have got problems like that and it's time for it to be seen to (Kegaska 25).

They point out that the state of the water supply system has deteriorated considerably in recent years:

> [The water system] is worse now than it was years ago […] The last two years for sure have been very difficult and growing worse every day. To the point where we are now, now we don't have potable water […], our water is salty (La Tabatière 54).

Their concern about this issue runs deep. One person goes so far as to say that the lack of drinking water "*is killing* [their] *community*" (La Tabatière 79).

5.2.4.3 Sports and Leisure Activities

In terms of sport, hockey is the most popular sport among the inhabitants of the Lower North Shore. During the winter, tournaments are organized in the various villages of the Lower North Shore, and people from all the villages travel to attend. These tournaments are also a way of financing community leisure services. When hockey tournaments cannot take place due to bad weather or a lack of snow or ice on the Route Blanche, this has a direct impact on the recreational services offered by communities, as we will see in the next chapter:

> The events they put on [like the hockey tournaments] are meant to keep the recreation department running, so, when it's restricted just to the local community, the financing is much, much smaller (Chevery 33).

People are rather critical of the lack of cultural and sporting recreational activities in the villages in the region. There are very few places to go for cultural activities such as theatres, cinemas or concert halls: "*The lack of cultural activities, as well*… [...] *Like, you can't go to a play. There is none. Can't really go to a concert, there is none*" (Bonne-Espérance 2B). One person points out that the existence of a cinema would not only be a means of entertainment, but also a way of informing the population: "*Opportunities to stay informed are harder to come by, too. For example, there's no cinema to screen documentaries*" *(*O60).

5.2.5 Focus on Education

Concerning the availability and quality of educational services on the Lower North Shore, it is important to note that during the interviews and participatory mapping workshops, no questions specifically addressed educational services and climate change. This is therefore an emerging theme. While no clear link has been established between reduced access to educational services and climate change, several participants highlighted the relationship between access to transportation and education. They described how the development of transportation services has been a driving force in the democratization of education. Elders from La Romaine recount how they had to leave their parents and families at the age of 13 or 14 to become boarders in Havre-Saint-Pierre for four or five months because, in the past, there was no school transportation between La Romaine and the neighbouring communities of the Lower North Shore. This participant from Harrington Harbour, who had to board at Chevery from a young age, explains: "*My kids have no idea what I went through, 'cause they all grew up in an STQ time, or when there was a service*" (Harrington Harbour 37).

While research participants report that education services have improved over time, they note a decline in service availability, which they attribute to the decrease in the number of young people and, consequently, the number of students in schools on the Lower North Shore:

> Yeah, a rapid decline. And I had spoken to one of the teachers and she told me the [whole school from prekindergarten to secondary five] school should be okay around 40 for the next 5 years. After that it will be seriously reduced (Saint-Augustin 8).
>
> And it [road 138] would bring the economy back, and students, because our schools are getting low (Chevery 32).
>
> The school, since I've been here, the number of students, it's always going down. […] There's almost no students left in the schools… That is worrying for the long term, indeed (Chevery 35).
>
> My granddaughter, she's all alone, since she started school, she's always been all alone in her grade. She's always all alone in her group. So, if she could go to school in Chevery in French or vice versa, well, she would have friends, she would have... She has friends here, I mean, but she has nobody there [sighs] (Tête-à-la-Baleine 46).

This fragile situation is causing fears about the closure of schools in the region:

> My dad used to always say: "you look at the schools, and if the school is… if a school closes in a village, the village is going to close" (Harrington Harbour 39).
>
> The population mustn't get too low, or you'll lose the school (Tête-à-la-Baleine 44).

The merger of schools has been proposed by several individuals who see it as a solution to counter declining student numbers, create new jobs and thus promote better management of educational services. Such a merger would be possible by extending Route 138:

> Here we have a small school, is it going to close, will it not close...? I hope with all my heart it doesn't close because there are still children going to school, and I think it's an obligation to provide schooling. But if we had a road, for example, we could link up the schools in Chevery, La Tabatière, you know... yet we're small villages just about 30 to 40 km apart, so it would be easy (Tête-à-la-Baleine 46).
>
> We have to, to regroup our resource in our area because the service of the Lower North… they give to the Lower North Shore are not the same that the one in Québec and Montréal (Blanc-Sablon 7B).

Interesting fact: it is mentioned that although it is not a permanent solution, online learning, particularly since the COVID-19 pandemic, could play a positive role in retaining young people in the region:

> But if you want to pursue your education, obviously you're going to have to leave the Coast. That's a non-negotiable currently unless you can pursue your education [...] online (Bonne-Espérance 3B).

Thus, pursuing post-secondary education is seen as an incentive to leave the Lower North Shore, particularly given the absence of post-secondary institutions in the region and the limited range of programmes available on the North Shore in general:

> A lot of people go out to school. Obviously, we don't have no colleges or anything here, so everybody go to Montréal, Québec and Sherbrooke, those places (Blanc-Sablon 5).
>
> Students have to leave to get an education (Saint-Augustin 8).
>
> I have lived here all my life excepts for the years I had to go to school. I went to high school at 14 and then college and university. So those years I was gone (La Tabatière 52).
>
> They're going out to school and they're not coming back, or, they're… finding jobs and staying out there (Kegaska 26A).
>
> Anybody like my age that there's a few of us that are like still here. Some of us went out to school and came back. Some of us didn't go out to school, but some of us went out to school and just didn't come back (Harrington Harbour 41).

Apart from jobs in education, health care, and the fishing industry, employment prospects are limited on the Lower North Shore. This is identified as one of the primary causes behind the "*non-return*" of Lower North Shore graduates after completing their post-secondary studies elsewhere in Québec:

> Our students, when they are... graduated, they almost never come back to our community (Unamen Shipu 20A).
>
> So they leave and if they're going to school they generally study in something, well, they need to look for a job when they get out in the workforce. And there's not a lot of opportunities here, for a varying degree of occupations basically (Chevery 31).
>
> Well, what makes people leave, it's [hesitation] for example, it's... it's our children. They go away to study. So they find jobs, and they don't come back here. The opportunities are very, very rare here (Tête-à-la-Baleine 43).
>
> Kids have to go out to school, like, they don't have anything to come back for, really (Kegaska 27A).

Sometimes families even relocate to follow their children who are pursuing post-secondary education:

> And when you're in the village with 10 to 15 students at school from grade 1 to grade 7 or 8, hum I think some of the parents leave with their kids when they get older so that they can have a better opportunity for education, a better future (La Tabatière 58).

Some people see pursuing post-secondary education as a way to revitalize the region: "*Leave, educate and return*" (Bonne-Espérance 3A).

Specifically in relation to climate and climate change, it is noted that schools often close due to poor road conditions between Bonne-Espérance and Blanc-Sablon, for example.

Considering the assessment of essential services on the Lower North Shore and the pressing needs, despite certain improvements made over time in relation to new technologies, particularly in the transportation sector, the fact remains that essential services are lacking or even unsuited to the reality of the territory. The situation is alarming. The extension of Route 138 appears to be a structural solution, a recurring theme in discussions, symbolizing the hope for better mobility, increased access to essential services and regional revitalization. However, the needs expressed go far beyond this infrastructure: they call for a concerted approach rooted in local realities to ensure equitable services for all communities on the Lower North Shore. Climate change poses new challenges in this regard, as evidenced in the next chapter, which discusses its many impacts.

Chapter 6

Climate Change and Way of Life

This chapter explores how climate change is transforming the way of life on the Lower North Shore, specifically from the perspectives of both experienced and perceived impacts. Based on testimonials, it highlights the concrete impacts on living milieux, addressing in turn the effects on daily life (6.1), transportation and mobility (6.2), natural environments – wildlife, berries and vegetation (6.3), social and cultural practices (6.4), the regional economy (6.5), safety and risks (6.6), and other more marginal impacts (6.7).

6.1 Overall Effects on Everyday Life

Through references of immobility and cultural practices, including food practices, these quotes eloquently illustrate how climate change affects every aspect of life on the Lower North Shore, particularly in isolated communities, or even doubly isolated communities such as Harrington Harbour and Saint-Augustin:

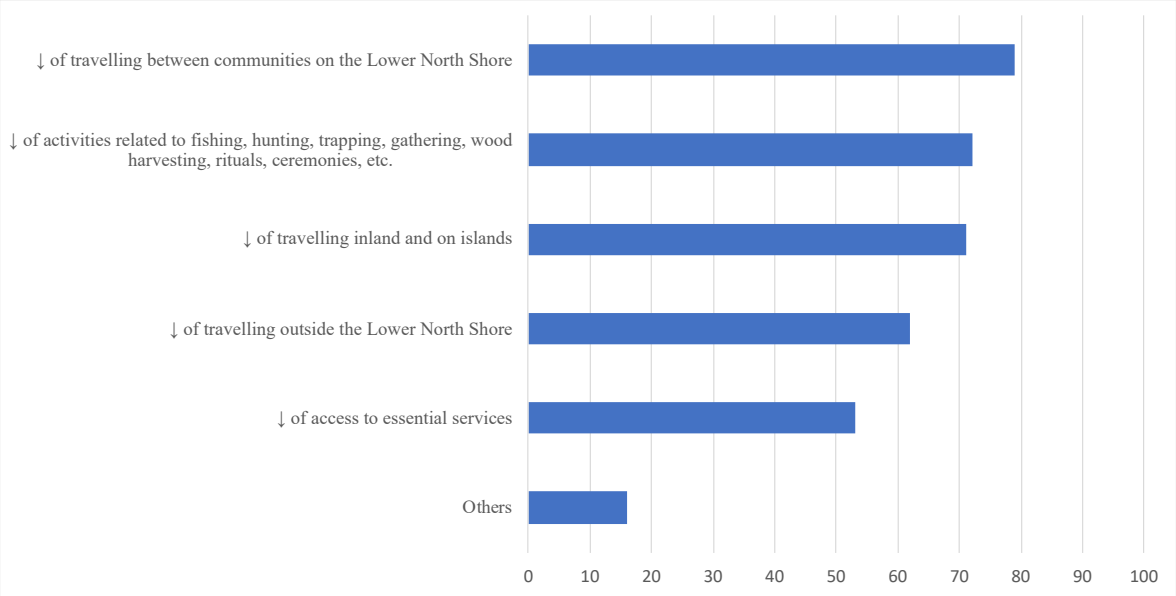
> So, climate change, climate change has changed how we move… where we move to. So where we move, 'cause we don't go as many places, we don't have to anymore. Hum… Change at what we eat, how we eat. You know, there have been lots of things. Every aspect of our life has changed, you know (Harrington Harbour 37).

> Getting firewood, hunting, trapping, fishing, cultural events, berry picking are all events that are getting harder and harder to do because the winters are so mild. At least for those of us who are not connected by a road. And the summers have so much high winds. There's nothing we can do about the weather but there must be a way to not keep us so isolated all year around. Yes, we have the Internet and that is better than nothing but it does not compare to actual face to face visiting with family and friends (Harrington Harbour 81).

The survey results reinforce this view, revealing that climate change has a significant impact on the daily lives of Coasters and Innuat. No one indicated that climate change had *no* effect on their lives. A very large majority of those surveyed (83.1%) believe that it affects their daily lives *a lot* or *extremely*. Only 16.9% of them consider the impacts to be *somewhat* noticeable.

Figure 28 shows how climate change has altered the way of life on the Lower North Shore. A marked decrease in travel between communities, inland, to the islands and outside the region reflects a change in mobility conditions, often linked to weather instability and infrastructure degradation. In addition, practices such as fishing, hunting, trapping, gathering, wood collection, rituals and ceremonies have been significantly affected, compromising the preservation of cultural knowledge and ties to the land. Access to essential services has also deteriorated, exacerbating social and territorial vulnerabilities. These transformations illustrate a forced adaptation due to climatic conditions that are redefining daily life.

Figure 28: Ways in Which Climate Change Has Altered the Way of Life on the Lower North Shore



6.2 Transportation, Transportation Infrastructure, and Mobility

This theme cuts across almost all other impacts and has a domino effect, meaning that it is almost always present in every theme. That is why Chapter 4 is entirely devoted to issues related to transport, transportation infrastructure and mobility. However, we would like to highlight a cross-cutting collateral impact that affects the entire population: **forced immobility caused by climate change and other more structural issues related to air, maritime and land transportation services**. This immobility is strongly felt, as revealed by the expressions used to describe it: "*We're stuck*"; "[we] *feel so isolated*", "*we were landlock* […] *we could not get out*"; "*there's not so much freedom*"; "*we're cut off completely*". This chapter provides an insight into the deeper meanings of this unsettling state of immobility.

6.3 Natural Environments: Wildlife, Berries, and Vegetation

When discussing the impacts of climate change, one cannot overlook the effects on the natural environment. Everyone has a lot to say on this topic, particularly when it comes to wildlife, berries, and vegetation, demonstrating their deep understanding of the natural environment in which they live and on which they depend so heavily.

6.3.1 Wildlife

To introduce this section, we refer to this comprehensive excerpt:

> Some species are more abundant while others are extinct or in drastic decline. Until the mid-sixties there were caribou, abundance of salmon, cod, herring and a few other species. There were few lobsters, crab and other marine life that's abundant now. Moose had never been seen on the Coast (Kegaska 87).

6.3.1.1 Aquatic Species

Given that the history of settlement and development on the Lower North Shore has been centred around the fishing industry — on which it still depends today — it is not surprising that discussions focus on changes observed in fish species. In addition, many of these fish species are part of the daily diet on the Lower North Shore. Participants in this research identified up to 15 aquatic species affected by climate change. The increase in water temperature is the main climatic phenomenon **causing species to migrate to colder waters**: this leads to an increase or the appearance of new species from the south and the decline or even disappearance of species native to the Lower North Shore as they move northwards.

The **dramatic increase in lobster stocks** in recent years is by far the most frequently mentioned transformation and is cited as being highly beneficial to the fishing industry (Figure 29):

> [...] the lobster… it's numerous, it's unbelievable! (Blanc-Sablon 1).
>
> We know that the water has warmed up a bit, you know, the sea water, so… the increase in the amount of, of [...] lobsters has been… like oh my gosh! It's like houuu out of control. So the fishermen are doing very, very well, so… (La Tabatière 54).
>
> How long ago, how long ago? Four, five years now: we've got record lobster catches! (La Romaine 21D).

The appearance of striped bass in the waters of the Lower North Shore is also noteworthy. The species is unanimously considered invasive and harmful to fishing activities, as it preys on several historically fished species, such as salmon, trout, capelin and smelt (non-exhaustive list), and is not considered desirable for consumption. This trend has been observed in all villages in the region:

> That was never here before, as far as we know. May have been a few here and there, but not like it is today (Bonne-Espérance 6B).
>
> [...] they [the sea bass] were millions, they were everywhere (Blanc-Sablon 7A).
>
> When the striped bass arrived, it moved in, and the sea trout disappeared. We were catching striped bass. We consume less of it; we Innus, we don't eat striped bass. Even further east, at the Étamamiou outfitter, they've seen them there too (Unamen Shipu, 20A).
>
> Sea bass, we never ever ever saw that here. [...] We never saw that before, but the last years, we see them… Thousands. [...] they eat the smelts [...] and capelin, [laughs] for whatever reason (Kegaska 27A).
>
> Last summer, the salmon didn't come in. They didn't catch many. But plenty of striped bass — it's doing damage. It eats the salmon smolts. The salmon aren't making it to their spawning grounds, so the fishing is dropping off (Pakua Shipi 11).

Some people have observed an **increase in halibut** in recent years, although it is named much less frequently than the previous species: "*There's lobsters, there's halibut, that has*

never, in that abundance like it is now, that has never happened before" (Bonne-Espérance 6B).

A minority of people mention **the appearance of new species**, namely sharks, tuna and unspecified fish species.

When it comes to the decline or disappearance of certain fish species, people are less talkative about each species but name a greater variety of them. They mention the **decline of cod, salmon, sea bass, capelin, trout, herring, mackerel and northern shrimp** throughout the Lower North Shore:

> We've lost the cods almost completely (Harrington Harbour 42).
>
> Last year, I never caught one salmon on St. Paul's River. [...] That's the first summer I never got a salmon (Bonne-Espérance 6A).
>
> We used to see a lot of seals and things in the spring and there hasn't been as many (Chevery 31).
>
> The fish is all gone, the capelin's all gone (Bonne-Espérance 6D).

As **for crab, there is no consensus**. A majority mention a decline or stability, while a minority say they have noticed an increase in crab abundance:

> Even the crab is starting to disappear. As for the crab, it's because there's no more ice (Unamen Shipu 20A).
>
> So far, it don't seem like it's changing the crab, but according to biologists, as the water warms up, it will (Kegaska 27A).

On a more marginal note, one person observed trout returning to the Coacoachou River over the past two years following the appearance of striped bass five years ago, and another person noticed a decline in scallops in the Wolf Bay and Étamamiou area caused by the presence of sea lions.

Figure 29: Summary of Observed Shifts in Marine Species and Pinniped Populations

N.B. Impacts highlighted in green are considered positive for the fishing industry, while those in red are considered negative.

6.3.1.2 Bird Species

Bird species feature prominently in the discussions. A wide variety of birds have been identified as changing in recent years: the northern gannet, the seagull, the bustard, the puffin, the common eider, the Canada goose and the black duck.

The arrival of large numbers of northern gannets on the Lower North Shore is generally associated with climate change. One person explains in more detail the causal link between rising water temperatures, the northward migration of fish and the arrival of northern gannets:

> Now there's no herring and mackerel in the Gaspé area, and capelin. So the gannets is going farther, farther to get their food. So hum, we have a lot of gannets now (Blanc-Sablon 7B).

When it comes to seagulls, some people point to a decline, while others note a change in migration patterns, with seagulls arriving earlier in the spring or abandoning this habit altogether. In both cases, climate change is to blame. Seagulls are not the only birds to adopt this new migratory behaviour. According to our interviewees, **geese also seem to be arriving earlier in the season:**

> The goose, she's comin' in too fast (Unamen Shipu 20B).
>
> The bird season and the seagulls, and… they're all coming earlier, some don't even leave in the wintertime no more now. [...] One time, you never seen them 'till like April. [...] And now, we've been seeing them in February (Harrington Harbour 40).
>
> [...] the [sea]gull population is... when the fish goes down the gull goes down. They have to feed the hen (Harrington Harbour 42).

The decline in puffin population is sometimes attributed to climate change, sometimes to overfishing. This account describes this decline in puffin numbers:

> The puffins, those little birds, eh? Further east, there was an island. There used to be plenty. Nowadays, there's almost none left. In my time, when I was young, it was full around the island. And now... I think three-quarters of 'em are gone. There's some left, but not like before (Unamen Shipu 20A).

For the common eider, the perceived effect of climate change is mixed. One person refers to a decline in the species (Unamen Shipu), while another says they have recently seen these ducks flying overhead in Gros-Mécatina. **The Canada goose** is also mentioned once as now flying over La Tabatière (Gros-Mécatina). It is therefore possible that the impact varies among the villages of the Lower North Shore.

There is a single mention of **a change in the behaviour of black ducks**, which now stay around the village to look for food instead of flying offshore. However, the person does not specify whether they associate this with climate change, but we could hypothesize that it is linked to the migration of fish species caused by changes in water temperature or to a potential increase in nesting sites elsewhere, not offshore.

Finally, in addition to the detailed portrait of major trends by species, there are more general observations on the impact of climate change on birdlife. These mainly concern **the arrival of new species**, birds usually observed further south, along with the **decline of bird species on the Lower North Shore:**

> And you see bugs and birds that we haven't seen before because of the warmer climate and that's gonna impact ecologically the region [...] (Bonne-Espérance 3C).
>
> The birds are different (Harrington Harbour 37).
>
> There's less and less birds (Pakua Shipi 13).

6.3.1.3 Game and Large Fauna

When asked about the impacts of climate change on hunted and trapped species, certain trends emerge from the findings. The **decline of the caribou population** is the most frequently mentioned, mainly among the Innuat:

> Specially the caribou. They're headin' north. [...] Yeah. I used to listen to my grandfather talk back in the day; they saw caribou in Washicoutai Lake. Now, that's just not the case no more (Unamen Shipu 20B).
>
> The caribou, he's all mixed up because he's connected to the land (Unamen Shipu 17AB).

They explain this decline by the increase in temperatures affecting their main food source, caribou moss (lichen), and their migration northward. More marginally, however, one person attributes the decline in caribou to the presence of snowmobiles inland rather than to climate change.

At the same time, some people mention an **increase in moose** on the Lower North Shore, or at least near the villages: "*There are moose everywhere*" (Pakua Shipi 12). One explanation put forward is the arrival of milder winters, which make it more difficult to travel inland for hunting. This would therefore be an indirect consequence of climate change on this species. One person does not agree with this view and says that they have observed a decline in moose numbers.

The **decline in the quality of the furs of trapped species** is also mentioned, without necessarily specifying which ones. One participant explains this by the rise in temperatures:

> Oh, there's a difference now, a big… And… Some of the guys don't think, but I think, the fur is not as good as what it used to be. Because if you're getting warmer, they're not growing… You know? (Saint-Augustin 14).

According to one interviewee, beavers are an exception to the rule, as they are less frequently caught than before: "*The beavers are thicker. But I think it's because nobody catches the beavers anywhere anymore*" (Blanc-Sablon 7A). This statement should be qualified, as our

empirical observations reveal that beavers are still trapped in Innuat and non-Indigenous communities in the region, but probably less so than in the past.

Still about beavers, **the trapping season is expected to start later** due to warmer temperatures. Beavers will no longer need to stock up on food so early in the season, confusing trappers who rely on this clue to determine whether a lodge is inhabited:

> Normally the beavers will have all their food and everything in front of their house early. Now, late, getting later, and you don't even… Because that's how you, most times, you find out if there's beavers in that house, or something, you see how much feed they put out in front. Now, most times, there's… Up in the trapping season, before they even starts to put the food to their house. Because they don't… There's not gonna be no cold. They know better than any forecast what's the weather gonna come, like. Yep. Oh, yeah, there's a big… It's a change (Saint-Augustin 14).

More isolated references include one mention of deer arriving on the Lower North Shore from the western part of the province, without specifying the reasons, and one mention of an increase in animal diseases due to climate change. In addition, although they are not hunted species, a few people point out the more frequent presence of polar bears near villages, and a minority note a decrease in whale sightings and an increase in black bears at the Saint-Augustin landfill.

6.3.1.4 Insects

Several people interviewed insist that there is a direct causal link between variations in humidity and temperature and the presence of insects. They all agree that **increased humidity in summer leads to an increase in black flies** and that, conversely, a **dry summer or winter tends to reduce their numbers**. **Opinions are divided on the effect of temperature on insect proliferation.** Some people say that a warmer (and more humid) summer increases the presence of black flies, while others mention a decrease in the number of flies and insects in general when the climate is too hot in summer. According to one person, rising temperatures prolong the insect season inland. These excerpts express these nuanced views on the insect theme:

> B - Flies, I think there's more than before because it's getting' hotter. [...] You go outside, and even just to go [anywhere], you gotta put a net on your head because without that, you get eaten alive.
> F - But they say that depends on the temperature too, the hatching of the flies and all that… [...] If we have a dry winter, like, that can destroy all the fly larvae and all that (La Romaine 21BF).

> And I find that there seems to be more black flies, you know, but it's just humid (Chevery 32).

> I think that the, the, the heat we get in the summertime has an impact on the fly, on the blackfly which is, which is an issue. There's less of those I think with extreme heat (La Tabatière 58).

It is interesting to note that despite agreement on the cause-and-effect relationship between climatic phenomena and insect proliferation, the general trend is less consensual. In fact, **there is almost equal mention of an increase in the presence of black flies and a decrease in their numbers**, sometimes even within the same village. A similar trend can be observed for other insects mentioned, such as mosquitoes or unspecified species referred to as "*bugs*". Finally, a few people point to the appearance of new insects on the Lower North Shore. One thing is certain: a change in the quantity, absence and presence of insects is currently being noted by Lower North Shore residents in the region.

6.3.2 Wild Berries

Small fruits, especially cloudberries (chicoutai), red berries (*Vaccinium vitis-idaea*) and blueberries, are another important topic in the Lower North Shore, as picking them is a traditional activity. According to interviews and mapping workshops, **there is no major trend emerging for berries, with variations depending on the variety and the year**, as illustrated by these excerpts:

> Different berries, different kinds of weather. But… it's funny because even though… the cloudberry might not do well this year, the weather might have been perfect for the next type of local berry, so each berry has its own little uh… type of weather that it grows well in (Mutton Bay 51).
>
> Well, some years there's plenty, others there's less (La Romaine 21).
>
> Sometimes it's a good year and sometimes they say it's not a good year but… [...] Year to year it's changes so (Harrington Harbour 41).

However, there is near unanimity on certain impacts, such as the decrease in the amount of snow on the ground and the rise in temperatures. Most people have observed a **decrease in the abundance of cloudberries and a later picking season**. According to them, the bushes are less abundant than before. Some people have noticed a **decline in fruit quality**, particularly the appearance of brown spots on the berries. However, one person expressed the opposite view, namely that excessive humidity due to heavy snow and rain was detrimental to cloudberry production last year. A few participants mention the negative impact of strong winds, which cause "*seeds blow off*" on the bay:

> A- My parents always told me that you had to have lots of snow to have lots of bakeapples. And I think there's something into it… […] because we don't get the bakeapples like we used to. Not here, anyway.
> B- And they burn up faster, too, in the sun. It's hotter (Kegaska 27AB).
>
> But the bakeapples [...] There just, it's just going down. Because our cold weather... A cold temperature berry and they can't take the heat and then you see this is April and hum, by middle of May we'll probably get no snow and they don't bloom until June. So it... They're just gonna dry up. Some of the real swampy areas, some might survive. Oh no it's... it's unreal, unreal. The change. It's got serious (Harrington Harbour 42).

> A- The season last summer for the cloudberries was…, I think we were weeks behind because we went to pick some berries, harvest some berries and it was… […] I think August and they were still not ripe. We're still waiting for that.
> B- And you usually toward the end of July… Or beginning of August is when the berry picking season starts (Bonne-Espérance 3AB).
>
> I guess I would say that that's climate change. Because… we never had so many bakeapples with brown spots, you know, you gotta pick 'em early. And I guess it's due to the temperature. They dry… they turn brown, you know, and they're… the people don't eat 'em when they start to get those spots on 'em or whatever (Mutton Bay 53).

Concerning **red berries and blueberries, the consensus is less clear.** The people interviewed described both a decline and stability in the abundance and quality of red berries and blueberries, or even an increase in blueberries:

> Nowadays, they've turned small, the red berries (Unamen Shipu 63).
>
> C-Euh… the red berries probably…
> D- Pretty good.
> C- Yeah…they are still there but uh… it's the same thing.
> D- They were pretty good last year.
> C- Yeah they are still around [...].
> B- But red berries is more on dry I mean there's that too.
> E- Yeah they can grow on sand… very dry (Bonne-Espérance 4BCDE).
>
> B - The blueberries, they're smaller than before
> A - Yes, that's true, you're right. Last summer, they were smaller, but there was a lot of rain too, hey? (Tête-à-la-Baleine 45AB).
>
> Blueberries we hardly had any, blueberries is not good (Bonne-Espérance 4).
>
> B - Only blueberries I've seen more of.
> A- Blueberries! For whatever reason, seems… more. I don't know why… but maybe… I don't know (Kegaska 27AB).

According to them, **the crowberries are on the decline** " '*cause it's too hot and too dry*". In addition to observations about the abundance and quality of berries, participants noted a change in the usual picking locations and, more sporadically, a shorter season starting earlier, particularly for blueberries, a longer season for red berries, and a general decline in berries.

6.3.3 Vegetation

Some people point to changes in vegetation in recent years (Video 11). Almost unanimously, they mention **increased tree growth** due to **rising temperatures** caused by climate change:

> I suppose if I look at, you know the growth in trees and things, my husband speaks about it, how much faster trees seems to grow now (La Tabatière 54).
>
> Well... yeah, the, the, the... on the forest side, you notice the trees are growing much more than back in the day... 'cause we got more heat, so the summers are longer (Tête-à-la-Baleine 48).

In the eastern villages, there are reports of more "*lush*", "*greener, softer grass*" than before. One person from Chevery mentions the negative impact of strong winds, which have caused trees to fall.

Video 11: Fisheries and Agriculture (Blanc-Sablon)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A1

A second shared trend is **the lengthening of the growing season for market gardening and the possibility of growing a greater variety of foods outdoors**, which is seen as a positive impact of climate change:

> You're growing carrots outdoors, tomatoes. He's had tomatoes grown. I mean, that's global warming, we've changed in big time what we can grow outdoors, before was greenhouses (Bonne-Espérance 4A).
>
> We couldn't grow vegetables around here, could hardly grow anything. Now we can grow everything (Bonne-Espérance 6C).

Conversely, one person mentions that rising temperatures make it too hot to grow plants in their greenhouse, which they consider to be a negative impact.

6.4 Social and Cultural Practices

The Coasters[30] and the Innuat inhabit the land through a wide range of social and cultural practices. These practices are undergoing significant changes due to climate change. This part describes the transformations in social and cultural practices most frequently mentioned

[30] See Abbott (1998) for a pictorial portrait of the Lower North Shore way of life.

by the people interviewed. These are summarised in the following word cloud (Figure 30) and explained in detail below.

Figure 30: Changing social and cultural practices

6.4.1 Snowmobile Use

There is no doubt that climate change is having a huge impact on winter mobility practices that require the use of snowmobiles. Everyone agrees that local and regional snowmobile travel is difficult due to the reduced practicability of the Route Blanche. They emphasize that the shortening of the winter season prevents them from going about their business, which is fundamentally mobile.

This desire, or even need, for access is driven by winter and the use of snowmobiles. Indeed, the winter season is synonymous with activities that require this mode of transport, such as gathering firewood, ice fishing, and a host of other social activities inland, on the islands, and in other Lower North Shore communities (Figure 31). Without snowmobile mobility, Coasters remain "*stuck at home*" (Bonne-Espérance 2B). This lack of winter mobility creates a feeling of inability to engage in a myriad of activities that define their identity. Dependence on other means of transportation is unwelcome. The window of independence in terms of travel is narrowing with climate change and the closure or restricted use of the Route Blanche, which is central to the way of life of the Lower North Shore residents:

> There's probably, yeah, anxiety for not being able to go where you wanna go. I mean like, you're kind of stuck home and you're not really able to go anywhere if we don't have the ice. And like even in the wintertime is like…, for women like that's your only…, like none of us drive a boat so, that's our only time that we can get off of the island ourselves is on skidoo. Like I don't mind going to the camp by myself, but in the summertime I gotta wait to somebody to bring in boat not because I can't…, but drive a boat but… (Harrington Harbour 41).

> Every weekend we plan things, and then at some point the weather gets so nasty that, you know, it all falls through because, I mean, if you want to go out ice fishing or something to get some sun… often it's not fit out, so... (Tête-à-la-Baleine 48).
>
> Used to be people traveled from one village to the next, but now you just can't. From Decem..., January right up to April, there's no boats either, and the plane — forget about it, it's not affordable. Not affordable at all; from here to Sept-Îles, it's about 2,000 bucks. So people don't travel near as much as they used to (La Romaine 22).
>
> If we want to go somewhere, that's when there's a lot of events happening in the winter because… people can get around by snowmobile and it's way less expensive. So… I think it's the wintertime that's the most affected (Tête-à-la-Baleine 46).
>
> We still travel it just takes longer and… like uh… takes the fun out of it, I guess. The travel now seems like a chore more than anything (Blanc-Sablon 1).

The lack of snow limits access to the land and to culturally important places. The people we met discuss this with nostalgia. This transformation of their way of life affects them deeply:

> The kids don't know what winter's like because the trail's never good (Chevery 32).
>
> We just can't go! [little laugh] It's a total cutoff. Hey, for me it's… since last year, I've done two skidoo rides in two years. Usually, I spent my whole life on the trails, every single week (Unamen Shipu 19A).
>
> Normally we'd be out fishin' right about now [early March]. But I don't go no more, 'cause the trail's no good at all. [...] I don't want to break my machine neither, just to go fishing. So, when there's less snow, I stop using my skidoo and I go less and less far. I'm moving less and less (Chevery 35).
>
> And my earliest memories of playing outside in the wintertime was of cold and snow. And always […] being able to go around anywhere, 'cause there was always snow. So you got around as easy as… it was easy. Had ice everywhere. Like, the Saint Lawrence was… was full of ice. And in La Tabatière you were on the shoreline, so we would always be on the hills, because for me, the hills are important. You wanna get up on top and see as much as you can, especially living in a small town with very limited television you want to see. And, you… as far as the eye could see, there would be white, there would be no water (Saint-Augustin 16).

The ritual of hopping on your snowmobile almost spontaneously to travel elsewhere on the Lower North Shore, socializing with people you meet along the way, arriving at your destination, hugging people you haven't seen in months, catching up with loved ones in person... all these meaningful gestures are becoming increasingly rare during the winter months. The people we met described them with a sense of dismay at no longer being able to experience them, at losing this freedom:

> In the wintertime especially, that's our form of freedom, you know, it's the only time for us communities that are not connected, that we can actually travel and, and go… you know between the villages and things like that. And we are seeing… that, of course, being shorten immensely, so I know it's not a need [accent on "need"], but

> it's something that was… you know, for our way of life anyway, it's what we people are really used to (La Tabatière 54).
>
> Yeah, for me, for sure the Route Blanche, it cuts out a lot of the fun. It cuts out a lot of beautiful weekends. You could go to the restaurant in La Tabatière if you wanted and be back in the same day, you know. [...] It changes a lot of things because people used to travel a lot to go to Harrington — there was a restaurant there before, so they moved around a lot and you know, you'd see people on the Route 138, we'd all wave: "*Ah, where are you heading?*" But now, it takes all that away, nowadays (Chevery 28).
>
> We can't get our freedom like we do in the wintertime, what we call freedom, like, if you want to get on our snowmobile, and just go for a ride, like this beautiful day today, a lot of people wouldn't be here today… They would be gone on their snowmobiles, or whatever, but we're kind of trapped on this island (Harrington Harbour 40).

Figure 31: Snowmobiling in Chevery (1983) and on the Saint-Augustin-Pakua Shipu River (2023)

Left Picture: Louise Abbott

6.4.2 Local and Regional Visits: Family, Friends, Tournaments, and Carnivals

Closely linked to the previous point, visits between villages, which used to be frequent, often spontaneous or eagerly awaited, are now hampered by unpredictable and unfavourable weather conditions. The impassability of the Route Blanche, heavy rainfall and strong winds make travel longer, more expensive and, at times, unpleasant due to more frequent breakdowns, and sometimes impossible. The increased isolation weighs heavily on daily life:

> And in the winter, for going out on the skidoo, see, I had plans to go trout fishing with my father-in-law and one of my uncles. We'd planned it way in advance, and then, not able to go, it rained. See, it's all the activities we used to do before, and we can't do them no more. [...] There's plenty of winters now where we got no ice. The ice isn't thick enough, we can't do our activities, that right there, it makes for a huge change (La Romaine 22).

This last excerpt, like the following ones, refers to family gatherings and meetings with friends that have become difficult:

> For me, for sure, goin' to visit my grandkids and my daughter — that's changed a lot. Because we went once in February, and then we couldn't go back after that, it wasn't... There wasn't enough snow on the trails (Chevery 28).
>
> Before that, every weekend, the grandkids could say: "*Well, let's jump on the skidoo*", and in 45 minutes they'd be over at Grandma's for supper. Now, it's much harder, you know (Tête-à-la-Baleine 45A).
>
> Like we can't afford to take our family like on a little vacation there to get the kids to see anything [accent on anything]. My youngest boy [7 years old] has never been…, he went to Tabatière for supper one night a few winters ago and he thought he went to Montréal. That's how like he hasn't been anywhere! (Harrington Harbour 41).
>
> That Route Blanche opens everything up for them [the isolated communities]. And we're all… from Kegaska to Blanc Sablon, it's one big family. Whether people… You know? We're all intertwined so much on the Basse-Côte-Nord, it's like one big unit. When you can't travel, when you can't have sports events, when you can't have… you know? […] You can't do it anymore. So, I mean, you talk about culturally? The frustration of something like the Route Blanche not opening? (Bonne-Espérance 6A).

Everyone agrees, climate change is causing community ties to break down (Video 12):

> Our connection between villages, it's… it's mostly in the winter that we build it [...] There's much less traveling between villages now. It's gonna get lost (Tête-à-la-Baleine 43).
>
> Like I said: lack of visitors, lack of movement from people from the Coast. There's not as many snowmobilers, locally. I say locally like local people from any of the communities passing through (Chevery 31).
>
> There's less interaction between, between villages because of the… mostly in the winter climate (La Tabatière 58).

Video 12: Mobility and Seniors' Social Life (Tête-à-la-Baleine)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A26

This slowdown in interactions affects not only family and friendship ties, but also the vitality of intraregional community events that contribute to social cohesion on the Lower North Shore and are essential to the leisure activities on offer:

> But people didn't travel this winter, the seniors… because for us, at the Seniors' Workshop [in Tête-à-la-Baleine], every year we used to host Harrington, Chevery, La Tabatière. Everyone from the three other English villages would come by snowmobile [...] It's been 4 years since we've done it, no gatherings at all here in Tête-à-la-Baleine for the seniors because [she lets her hands fall on the table] because it's too insecure (Tête-à-la-Baleine 45A).

Sports tournaments and carnivals are frequently mentioned, as these annual events are much more than just sporting or festive gatherings; they forge bonds between the inhabitants of the Lower North Shore (Figures 32 and 33)[31].

Figure 32: 1985 Hockey Tournament in Saint-Augustin

Picture: Louise Abbott

Figure 33: Tournament in Harrington Harbour and the Arena at the Kevin Bateman Centre in Saint-Augustin

Left Picture: Raphaëlle Ainsley-Vincent

Climate change is making it more difficult to plan these events. For example, hockey tournaments are now held in February, as this is the best month for adequate conditions for

[31] On this subject, see the film *The Coasters*, directed and written by Nicolas-Alexandre Tremblay and Stéphane Trottier in 2018 (Tortuga Films)

the use of arenas, many of which are not refrigerated or are located outdoors (Videos 13 and 14).

Video 13: Ice Rink and Social Life (Chevery)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A5

Video 14: Carnivals and the Route Blanche (Kegaska)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A10

Interviewees explained that people generally travel less for winter carnivals because of the poor condition of the Route Blanche. Events are often cancelled because travel between communities is dangerous, or the ice is completely unusable (Video 14):

> And in some places, the tournament gets cancelled, because they have closed rinks and the temperature's not there to keep the ice frozen. They don't have the… art… not artificial ice, but they don't have the machines inside to keep the temperatures inside. They have a closed rink, but… If the temperature's not there, you won't be able to skate. The ice would be no good. (Q - Has there been cancellation in the last years?) Yes. Yes, yes, there was. And some places it started and never finished, because rain, and… everybody… you gotta scrabble to get home, because the… trail, the snow, and the water on the trail, you know? (Saint-Augustin 64).
>
> Two, three, maybe five years back, folks were working in La Romaine. All of a sudden, it rained and rained and rained, but people, they'd gone to the hockey tournament anyway. They ended up stuck there, because the rain froze over, all of a sudden it got real cold, and everything froze solid (Pakua Shipi 13).

For example, in the winter of 2024, the winter carnival in Kegaska was cancelled due to the weather (Figure 34), as this interviewee explains: "*There would be snowmobiles in front of here* [she points out the parking in front of the community hall] *from all down the Coast, they could come from anywhere. But… This year it was not possible*" (Kegaska 27A).

Figure 34: Message from the Kegaska Sports Committee Shared on Social Media

Sadly, this type of cancellation notice is becoming increasingly common on the Lower North Shore. Participants discussed it at length and with disappointment, as the cancellation of these events hinders the cultural and sporting activities that are so dear to the Coasters:

> Those are kind of the big activities. Well, hockey. Hockey is important here for... the communities. The kids love playing hockey, the adults too, the tournaments. For sure, if there's no winter, there's no hockey… Uh, as a custom, like (Chevery 35).
>
> You know the hockey tournaments was always a big thing for, every year that's how you got to meet your friends. Now we do it through Facebook and everything else but, but there was people you only see once a year and that probably would be to the hockey tournament in February or January. And the last few years it was, either it was very bad travelling or not good enough to travel, so. So it, that's, that's changed through climate change through the snow. We don't get the snow anymore (Blanc-Sablon 7A).
>
> Next weekend, there's a carnival in Kegaska; usually, folks from La Romaine would go all the time, but now, you just don't go. You know, the trail guy came by this morning and he says: "*I hope this is the last time I have to come out, 'cause it's in bad shape*." Yeah, so, that's how it affects things (La Romaine 24).

This quote consolidates several impacts of climate change on social life on the Lower North Shore:

> So you know, so the weekend they [Harrington Harbour] had their hockey tournament and what they call races. People were able to go across to the island and uh… skidoo but they had a very short span of time when they could do that this winter… as in last year was the same thing. And the previous year so… all of that has a… big impact on people getting… visiting and yeah.
> Q – Does it affects also the social life?
> It affects also the social life, yes, yes. Sure. I think it affects people moral too. Because you know… you could go somewhere, you could go see other people and uh… like I said before it was freedom, it was our time of freedom where we could go [elsewhere] (La Tabatière 52).

More specifically, rising temperatures have a direct impact on outdoor skating, limiting this winter sport to a very short period. Participants in several communities say that in the past, people used to go skating on ponds because they froze over in October or November. Now, the period during which this popular activity can be enjoyed, particularly as it marked the start of winter activities, begins significantly later, in January or February, and is very short. The late freezing of ponds, rivers and bays, or the complete absence of frost, prevents skating on these bodies of water that are so cherished by villagers (Figure 34):

> I can remember as a child, going skating on one of the local ponds in October… you would never do that now, never. It's usually maybe December, January, if you get to do it at all (Mutton Bay 51).
>
> Like in the fall of the year when I was a young boy, you would be skating on the ponds here, like in October. Before Halloween, you would be skating on the ponds. Now, like, they don't… the ponds don't freeze till December. And then, we don't… it's… it's cold, but then it's cold for a couple of days. Then we… it's suddenly gets mild (Harrington Harbour 39).
>
> I remember being a little girl…, you know, anywhere between anywhere 12 and under. And the beginning of November, all the ponds were all just frozen, we were able to skate […]. It was great. You can't do that now (Bonne-Espérance 3B).
>
> Back in the day, I mean… early November… right out front there, *Baie Plate* would be frozen over and we'd go skating. We didn't have a rink back then, but we'd go skating on the ice — natural ice, black ice. Yeah, and today, you gotta wait almost until January before it's frozen. It freezes, then it breaks and… it's like… it's messing with us, you know? We want winter to get here. Me, it could be winter year-round 'cause I just love it (Tête-à-la-Baleine 48).

Figure 35: Skating on a Pond in Harrington Harbour

Photo: Glen Ransom

6.4.3 Berry Picking

In line with the findings presented in section 6.3.2 on climate change and small fruits, the people interviewed described how their harvesting activities have been affected (Figure 36), partly because strong winds make it difficult to access the islands where they are located:

> The lingonberries, the redberries… redberries are more in the fall, and I actually didn't go this year. In the fall, there were high winds, winds too strong for me to even get out there (Tête-à-la-Baleine 45A).

The harvesting season is sometimes delayed, sometimes early, sometimes shortened due to climatic disturbances, making harvesting more difficult to predict and organise.

> C - I am a berry picker myself…
> D - Me too [laughs].
> C - …since the last 5 years I've seen decline in the berries.
> A - Yeah.
> C - Just the habitat that they grow in have change.
> D - I gotta go search for them now, where I just had to walk out the door almost.
> E – Yeah.
> C - And you don't see so much moisture... and I spoke about that with other people that do pick bakeapple, cloudberry, and there is marshland that normally we would have to go around.
> D - Yeah
> C - Or like last summer, I was just cutting trees across…,
> D - Me too.
> C - It was moisture there, but nothing to worry about, right? So that's another big change…
> D - It's not wet, the marshland is not as wet.
> C - No, not so wet (Bonne-Espérance, 4ACDE).

In response to these changes, some people even go to other villages on the Lower North Shore to pick berries to get "*better yields*" when "*before, there were always plenty*" (Unamen Shipu 63). This is especially true since picking berries can provide extra income, as families "*depend on berries during the summer months*" (Chevery 30). Local businesses are also affected: "*The berry season also is big for a lot of different small businesses, as they rely on it for transformation like the Solidarity Coop you probably saw in… St. Paul's River* [Coopérative de solidarité Les Bioproduits de la Basse-Côte-Nord]" (Harrington Habour 36). Overall, pickers describe picking as becoming increasingly difficult to do, and "*not like usua*l" (Tête-à-la-Baleine 45a). In addition, fewer people are picking because the population is ageing and there are few young people in the villages.

Figure 36: Berry Picking

6.4.4 Wood Harvesting

According to reports from several villages on the Lower North Shore, climate change is significantly affecting the timber harvest. This practice has historically been essential for domestic heating and life on the land (Figure 37). It is now restricted due to milder, less snowy winters, which make snowmobile travel more difficult or even impossible, limiting access to logging sites. Rivers and bodies of water no longer freeze sufficiently, and portages are bumpy and uneven, complicating the transportation of wood to villages and causing snowmobile breakdowns. The roads once used must be bypassed, while new roads must be built, significantly increasing the time, effort and risks involved:

> It's not as easy, because there were established paths, already made… the men, for example, there were places they knew, and they knew it was [safe]… but now, they can't go through there anymore. [...] (What do they do if they can't travel where they want?) They go around, they manage, they're very resourceful, so they'll find another way, but it's gonna be harder. It's like starting all over again (Tête-à-la-Baleine 45A).
>
> There's… like I go in over… in the land in here and I cut my firewood, but it's hard on it… because it's uh… well you're pretty much on the ground. So you're breaking up komatiks or sleights, whatever you using. And uh… just getting to the places is hard, because most times the snow would be so deep, you could just drive over everything. Now you can't (Blanc-Sablon 1).

According to their experiences, the window of opportunity for cutting wood has narrowed considerably, mainly due to the instability of the ice. Fearing that conditions could deteriorate rapidly, it has shifted from March to April to much earlier in the year, even as early as the first snowfall. People are therefore eager to go and cut their wood and return:

> People cuts their wood, and they only knows then that the ice might be here one day and gone the next, so they kind of rush and rush through to it get at home (Harrington Harbour 40).
>
> People that are cutting wood, they have to make sure that they get their wood […] early in the season. If not, they might lose […] the going. And it's just not losing the snow, it's… when you get the water, the brooks… the lakes are rising, the… the brooks are flooding (Saint-Augustin 16).

This causes stress and constant uncertainty. In addition, unpredictable weather conditions, such as stream flooding or lack of snow, make the task more difficult and dangerous. Faced with these challenges, Coasters, particularly those in Harrington Harbour, must resort to alternative means of transport, such as ferries or even helicopters, to access logging sites on the mainland from Chevery when the ice bridge is not available (Video 15):

> Three or four winters ago, when we didn't get the ice bar… there was a big issue with people from Harrington getting their firewood, because they go to the mainland to cut their firewood to heat their homes for the winter, or for like the rest of the year. They do that in the winter… And again, it was almost like this winter was only a few days of safe travel, and when you're carrying a load of wood, it's heavy, so you wanna make sure it's extra frozen (Harrington Harbour 36).
>
> They [Harrington people] always brought their firewood home, and you had lots of time to get it. But now, you only got probably February, and you only got so many… daylight hours, right? And like, say if you can't get by snowmobile, you had to go […] by boat… or helicopter. So… time you get the helicopter [in Chevery to return to Harrington Harbour], sometimes you mightn't get to your woods, or where you're cutting your firewood, 'till noon, and then you have to go back… to take the chopper at three! (Harrington Harbour 40).

Video 15: Way of Life, Wood Harvesting, and Access to the Mainland (Harrington Harbour)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A9

These solutions are costly in terms of fuel and time, and impractical. Given the scale of the task, some choose to abandon wood harvesting in favour of electric heating and the use of a generator when necessary:

> So, you know, that and a lot of people just sort of, well, maybe I won't cut any firewood, I'll just use electric heat, you know, I'll keep a little bit for emergencies. But… 'cause it's too hard work to get it […] So it's changed. It's big changes. Big changes. And especially in the last ten years. So, you know, if it continues as it is, that winter won't be… won't be at all (Harrington Harbour 39).

> And even wood is harder to get. Because of… climate change [laughs]. You can't go, you know. You can't go and get your wood, because of the way it is. I know some… some people that burned wood. This year […] they thought it was better off for the… turn the thermostat up a little bit more and… than go on and break up your ski-doo. […] 'cause the young ones is not doing that anymore either, either you know, so. That's a lot more convenient to go to the store and buy a piece of board [densified eco-friendly log] (Mutton Bay 53).

This transition is also driven by rising temperatures, which reduce the need for wood heating. As this last passage suggests, such convenience contributes to the gradual abandonment of this practice by younger generations. Despite this, villagers continue to harvest wood, often out of cultural attachment, habit, or personal preference:

> C - Well I have to heat my house by electricity. My primary heat is electricity, but I use wood heat as well.
> A - Because it's so nice to have a fireplace for firing [for the ambiance]. That's a lot of it too (Bonne-Espérance 4AC).

> But, myself there, well, I still prefer to do that [wood heat]…, and I like to do it, if I didn't like it I wouldn't do it (Mutton Bay 53).

However, adapting to more demanding conditions is necessary and can be perceived as a waste of time, energy and money, as illustrated by this conversation:

> C - Like people uh… cut logs on the river to build their houses and now it's hard to do, right? It's hard to bring your logs back because if you go, you have to go through the portage. Usually the portage is very hilly and bumpy, and you got to climb up hills and stuff and it's hard to do it. So… yeah, it makes it, it makes it difficult to transport your logs.
> A - It changes how you do it. [...] [My husband is] going to have to make two or three trips down past the portages, on his skidoo, and then come back and get me and we drive down, so… we're talking about hours and hours of extra that we wouldn't have done because I could have took a load in tow and gone through where the rapid is there on the side of the bay. […] it's hours and hours of lost time.
> D - And fuel yeah.
> A -Yeah, that's right. And fuel too, so.

> Q -So do you notice that some people just stop logging… some people decided to quit doing it and they rely on…,
> D – They're still struggling with it [laughs].
> A - Still struggling.
> C - Yeah, people are struggling with it. But yeah, there's not so much as it used to be, no (Bonne-Espérance 4ACD).

In short, wood harvesting on the Lower North Shore illustrates how climate change affects not only physical access to the territory, but also the way of life, traditions and energy choices of the Lower North Shore households. This transformation raises issues of autonomy and the transmission of local knowledge in the face of an increasingly unstable climate.

Figure 37: Firewood in Chevery, Harrington Harbour, and Mutton Bay

6.4.5 Cabin Trips

On the Lower North Shore, cabin and camp ownership is very common. It is typical for families to own two or more cabins that they use depending on the season, either on the islands or the coast in summer, and inland in winter. On beautiful summer or winter weekends, the villages empty out! This interview excerpt discusses the importance of cabins as gathering places for Coasters, who go there to recharge their batteries with family and friends:

> We meet up at a cabin, then we head out somewhere, cut some wood, and build a fire. Then we all gather 'round in a circle. We flip the sleds upside down, and everyone brings a little bit of food [laughs] and…Well, it's a lot of fun. [...] It's happened before between the two villages, between Tête-à-la-Baleine and Chevery, whoop someone's got a cabin right in the middle, we meet there, and… Well, those times, since our winters are getting shorter, well, we're… we're less able to do that (Chevery 35).

Due to climate change, access to the cabins is limited, and in some cases even impossible. The period during which they can be accessed has been drastically reduced:

> I've been [at the cabin] there once, usually we spend… We… we would have spent about six weekends up there by now, but… Once (Bonne-Espérance 2B).
>
> F - Probably in some cases, our mentality is getting hurt by it, we can't do the things that we used to do by climate change, takes us longer. But…
> A – That's true. It takes longer to, for instance, get to the cabin.
> C - Yeah.

> A - Mine anyway. And normally in the winter we would have gone out to our cabin on the outside about a dozen times now or 50 times. I think my husband made one trip, so far… he had to cut the ice every step of the way, you know… so that sort of thing (Bonne-Espérance 4ACF).
>
> For everybody, for getting around, you know, going to the camps and all this stuff. You can't go and come when you want now. You know? Before, you could go, and getting firewood, and everything, you know? (Saint-Augustin 64)

The same reasons that prevent wood collecting apply here: lack of frost, snow, and ice. According to testimonials, for those who can travel, the journey is laborious, long, and sometimes even dangerous, both in winter and summer. Strong winds and increasingly frequent storms also hinder travel by personal boat to cottages on the islands:

> We have a cabin. For us, it's by the water. We'd go there often, but with climate change, when the wind gets too high, we have to plan our way there and our way back too. And since it's blowing hard so, so often, a lot of the time it just falls through. Those are big, big changes. And the fog, too (La Romaine 22).

6.4.6 Hunting, fishing and trapping

Unsurprisingly, climate change is disrupting hunting, fishing and trapping by altering access to the territory and the behaviour of game, large wildlife and fish species, as discussed in section 6.3.1. Late freezing of rivers and unstable ice conditions make snowmobile travel riskier and reduce its duration. All travel on the land is affected, requiring adjustments to the hunting season and itineraries and the use of alternative means of transportation (ATVs, snowmobiles, trucks) to those previously used, such as snowmobiles and boats.

The stories are generally tinged with nostalgia. They evoke both the material constraints of this practice and the cultural losses associated with it. Here we outline the changes discussed by the research participants in relation to hunting, fishing and trapping practices. First, they believe that **hunting migratory and woodland caribou** is no longer what it used to be:

> Sometimes we'd leave in January. When I was young, my father would head out in December. Now, you can't go in December. It doesn't freeze fast enough. Back then, in December, he was already in the bush, hunting caribou. Now we have to wait for a real solid freeze. Like right now... my friend already left, he's been gone two days [March 2023], but he was supposed to leave a long time ago. But you saw the weather out there, there's just no snow (Pakua Shipi 13).

Referring to the caribou and the "*ascent*" in Nutshimit, this Innu participant describes her state of mind and her cultural and ontological relationship with the animal:

> When we head out onto the land, we are in the present; we aren't sick anymore. There is a very strong, happy connection, a total connection. Caribou hunting: you speak to the Creator, and then the caribou appears. The sharing. It's magic. [...] Before, he [the Innu] was deeply connected to the caribou through dreams and the drum. When my

> father was 15, my grandfather said a prayer, and the next day, he brought back eight caribou, and there were hundreds of them out there (Unamen Shipu 17).

One person observes the absence of woodland caribou, which they attribute to snowmobile use and excessive hunting rather than climate change:

> Just years ago, while we had caribou, just inland, 20 kilometres, you would see caribou. [..] You could get one, because people used to kill them in the wintertime. When I was I kid, my father always hunt a caribou […] But now, you wouldn't find one, because they were killed up by the ski-doo. People had easier access to them, you know. And you could get there and… On open land, the caribou can't outrun a ski-doo, so…, you know. That's that, nothing to do with climate change I guess. But we don't have woodland caribou anymore. […] On this coast, it must be… 20 years, I haven't heard anybody say that they seen the tracks of a caribou (Mutton Bay 53).

Secondly, it is said that it is now impossible to travel by snowmobile to hunt ducks on the islands. The geese arrive earlier. The seal hunting sites no longer freeze over: "*Like, this spring, we won't get any seals on ice. 'Cause there's no ice*" (Kegaska 27A). Freshwater animals such as beavers, otters and minks are becoming increasingly rare. In addition, the warm autumn weather is disrupting moose hunting, as the animals take refuge in the woods to escape the high temperatures, making them difficult to spot and compromising meat preservation:

> And when it's too hot, the animals hide in the bush, under the cover of the trees, and they don't move. [...] But now, when it's [hot] like that, there's the risk of losing your meat. You have to fly out right away, you've got no choice. If you don't, you lose your meat (La Romaine 22).

> And we do activities with the younger ones and seniors. And especially with traditional cooking. Like when we grew up, for example, we ate seal meat at least once a week. Now, I didn't get any last year and nothing so far this year. So usually there's one guy, he's a ranger, he always gets a couple of seals in the fall and he gives a piece to Nutrition North, so we make a treat for the seniors, for them. But last year, this year there's been nothing and it's because of the weather (Saint-Augustin 8).

> We use all four seasons. In the spring, soon, we'll be out running the islands to gather eider duck eggs. We'd probably be out on the lakes, we might not even be here in the office right now, we'd be out fishing! [laughs] But we can't. It hits us right there, directly. Every season, we have our traditional activities. Spring is for geese, Canada geese, eider ducks, and gathering their eggs. Lobster hunting too. Then in the summer, it's our fishing season, lobster and salmon. After that, we ease up for a month, take a break. Then it's time for picking wild berries. We leave the sea by mid-September. Everyone heads inland. In the fall, we're back at it with traditional activities, moose, beaver. And like I told you, winter is for small game, more beaver too, during the winter months. And marten for those who trap. Every single season is used. We have traditional activities for spring, for winter... Look, in winter they head up for the caribou hunt. By February, they start thinking about the caribou. Like I said, it's

> mostly the winter season that's hitting us, and the fall. Yes, I've noticed there aren't many beavers either. [...] Seems like we see fewer of them, they're further north (Unamen Shipu 20A).

Like the other practices discussed above: "*Hunting is not the same that used to be"* (Harrington Harbour 41). Jokingly, one interviewee anticipates that "*before long we will be hunting turkey and deer!*" (Kegaska 87).

Fishing, both recreational and subsistence, is also suffering the effects of global warming. Strong winds and frequent storms hamper fishing trips, while government restrictions on fishing periods exacerbate the difficulties. Fishermen must contend with a decline in traditionally fished species, such as cod and salmon, and the arrival of new invasive species, such as striped bass (see subsection 6.3.1.1). These upheavals directly affect the food security of communities and the local economy (on this last point, see section 6.5):

> Like with us, [...] to go cod fishing on the open sea, we're having a hard time because it's blowing all the time. Just high winds, all the time, forget it, you can't even get out there. And for us, it's frustrating because the Ministry only gives us the weekends to fish. We aren't allowed to fish during the week. If it's blowing every weekend, well forget it, you're just not going (La Romaine 22)
>
> It has changed, because with the high winds you can't fish like you used to, right. Before to catch the good cod... And it's only open I think five weeks of the year. And we locally catch our cod and preserve it for the winter (Saint-Augustin 8).
>
> I remember we use to buy salmon 50 years ago. And there's was no fridge and coolers and everything we have like that. We go to the hill and where the sun didn't shine too much, and pick up snow to put the salmon in, until the boat come in and would take it and bring it outside. But you can't do that now, because there's no snow in July and August to put the salmon in. And plus we're not allow to fish salmon anymore… (Blanc-Sablon 7B).
>
> We don't know what's going on in the ocean, like 6B alluded to? We didn't get… It's two years since I've jug a codfish off Bonne-Espérance. Two years since I've jug a codfish! And I used to be out there jigging quite a bit. Last year, I never caught one salmon on St. Paul's River. I've been fly fishing like 6C for the last 30 years… […] salmon were abundant. Last year, goddamn it, and I'm gonna swear, I never… that's the first summer I never got a salmon (Bonne-Espérance 6A).

Ice fishing, an iconic winter activity (Figure 38), is being compromised by the decrease in ice thickness and stability. Once practiced as early as fall, it now only begins in January or February, and for a very short period. This uncertainty makes planning difficult and limits travel to fishing sites located inland or on islands:

> All the places that we used to have our fun, it doesn't exist anymore, cause you can't get to them. For example, the White Fish Hole, in the spring that was not just a place to go fishing that was a place to take your family. […] It was like a little community

> and everybody here has a cabin for the winter and for the summer, and then in the winter half of the village has their white fish cabin (Saint-Augustin 8).
>
> So it's a huge impact on the way of life and even like, like gathering lots of people, you know, ice fish and things like that. Especially like…, I know in Saint-Augustine, ice fishing is huge. There's like a, an area. Yeah, it's like lots of people gather there, but you can't do it when, when the ice is not good (Bonne-Espérance 3C).
>
> When I was a kid, every Easter, my family and I would go inside, and Easter weekend and we will go ice fishing and camping. There is no way that's happening anymore. So the lifestyle of freedom to be able to do those things are very condensed and I think it's like, I said, is having a mental impact on people (Chevery 31).
>
> Specific to the Lower North Shore? Oh… probably things like ice fishing, things like that. That's a way of life. Like a lot of people do that in the winter months, but it depends too on whether, you know, you're not going on the regular Route Blanche when you're going ice fishing, you're going in over the pounds and everything, so if it's not frozen well, well you got to be careful where you're going (Chevery 30).
>
> Ice fishing, winter fishing... listen, it's an activity that everyone just loves. It's a real negative impact because it messes with our morale, you know, not being able to do those things anymore. Our morale is taking a massive hit (La Romaine 24).

Two people note a decrease in the species of fish usually caught in winter: "*There's no fish either, this year there's no smelts. So they end up catching little suckers from the bottom*" (Saint-Augustin 8).

Figure 38: Ice fishing shacks at the White Fish Hole site

Photos: Ginger Driscoll

Trapping, once essential to the local economy, is in sharp decline. In addition to climate effects, such as lack of snow and frost, which complicate access to the widely cited trapping grounds (Figure 39), international markets have reduced demand for fur, making this activity less profitable:

> And there's not as many people trapping. Like my grandfather used to feed his family on… He fished all summer, but of the money he made was what he made on trapping. And hum but… The animals are not as much here now as what they were then. Don't seem to be (Blanc-Sablon 7A).

> Before, fur… it isn't worth anything anymore [...] Before, it was more worth your while, they could make a living off it, but now they can't make a living from it anymore. The prices [...] they've all dropped (Unamen Shipu 19AB).

Figure 39: Testing the Ice to Reach a Trapping Site and Fur

Participants also mentioned seasonality, with the late arrival of winter delaying the start of trapping activities:

> It's mostly because of the ice, the fact that we don't have a real winter anymore. [...] Big, big, big impact. And people, everyone's waiting on that to go set their rabbit snares, to head into the bush, but now everything's delayed, by a month and a half, for sure, maybe even two months. And it's not just me; it's the whole village. Everyone is penalized by this (La Romaine 22).

During interviews and mapping workshops, people explained, with the help of the map, that trappers now must change their routes, create new trails, or give up certain areas that have become inaccessible (Video 16). One trapper tells:

> Like even now, even with the trapping, it makes a big difference now. Because it's not… You don't get the season like you used to. Because now it's getting more dangerous, lot of brooks. You… Before you'd be able to go by the creeks…[…] Now you can't, because there's not enough ice into it. […] I got a part of my trap line that, for a few years, I couldn't get there, I had to make a new trail. Because, like I said, nothing wouldn't freeze no more. […] So, and normally I used to go there, but I couldn't go back there. I had to change my route (Saint-Augustin 14).

According to those interviewed, the quality of fur has also deteriorated due to milder winters. Faced with these obstacles, trappers are turning to trapping as a hobby rather than an economic activity, since it is part of local traditions:

> F – I know a guy in Old Fort, he goes trapping in the…and he even have been able to access half his grounds cause not enough snow for him this year to get there.
> B - No.
> F - He could clear up new portages this and that, but like he said, it's kind of a cultural thing he's doing, it's not for that money […].

A - Enjoying it.
F – Tradition (Bonne-Espérance 4FBA).

We did it, the trapping. Before [...] it paid a bit, but today it's just a hobby. We head out there for the fun of it (La Romaine 22).

According to participants, trapping is less popular among the younger generation, who have other interests and activities:

It's more the mindset of the youth today. [...] Canada geese, for people, especially the Innus, it's like a *fever* for them: they *have* to go. Trapping, though, that's dropping off terribly. It's not because of climate change; it's because people are doing other things now, they're just less drawn to it (La Romaine 22).

But I think we're losing our way of life, not because of the environment, and changes in the environment, but it's the change of the mentality of the youth that are coming up today [...] I can stay in my house and play with my computer, and I have a lot of fun instead of going out and experiencing the outside. So. And it's sad because the… the trappers, they're still trappers that do trapping and they're finding it a lot harder to get around because of all the changes in the weather, and snow, and rain. But the youth of today don't follow in their steps. And drugs and alcohol are really big thing (Saint-Augustin 16).

To adapt, for sure we can adapt… there's always something to trap. But it's hard to get out there since there's no snow. The new generation... It's all well and good… (long pause) Because all this development, it's propelling us toward other things that… This stuff, it's just not viable anymore. You can't make a living from trapping anymore, you just can't… So, it's only natural, people are heading elsewhere (Unamen Shipu 19A).

Video 16: Trapping, Mobility and Culture (Saint-Augustin)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A22

6.4.7 Transmission of Traditional Knowledge

These last quotes introduce the idea, reiterated in interviews and workshops, that these environmental changes, coupled with other social and economic changes, have repercussions on the **transmission of traditional knowledge**. Younger generations, less inclined to hunt, trap, or harvest wood, are thus deprived of opportunities to learn in the field. The inability to stay in camps or participate in seasonal activities limits opportunities for elders and younger generations to share knowledge. Climate change is thus undermining practices, culture, and identity, threatening the sustainability of traditions in communities on the Lower North Shore (Videos 17 and 18). This knowledge is multifaceted, ranging from reading the ice, winds (direction and speed), and the weather more broadly, to making mittens, moccasins, hats, and other items from animal skins:

> You might get wind in the middle of the day. People used to know, used to read it. Now you can't read the weather like you used to. […] Only thing, the wind before, you could predict it. Now you can't, because… like I said, you go in the middle of the day, you get the wind. Now you get wind, it's… not the same (Saint-Augustin 14).
>
> I remember my father. He used to tell me there was an old guy here in town that, like… When they were fishermen, they would say: Call [name of the person], his name was. And he would tell you if the weather's going to be bad or what it was going to be for the next two or three days, but… That, you'd, like… It's the things that you would use, I imagine, back then, to figure out the weather. But no, that's not the case anymore (Kegaska 27A).
>
> A – Earlier, you asked if it affects us. It affects us in our traditional activities. Because we're still very nomadic, very traditional. There are still many hunters. For instance, in the winter, that's when they'd feed themselves, too. That's when they'd go set their snares, go for beaver or marten. Since it doesn't freeze anymore, we're forced to head into the high hills (*mornes*), and since there's no snow either, we're really...
> B – We are truly isolated and affected.
> A– It's decreasing our traditional activities, too. Sometimes we travel by ATV but traveling by ATV in... [hesitation], it's not easy. [...] When I was young, my brother would take me on the river, and from there, we had access to other lakes. Not anymore. With the river, we could go trout fishing, you'd be there in 45 minutes. Now, we have to go all the way around (Unamen Shipu 20AB).

Video 17: Innu-Aitun, Innu Culture, and Access to Nutshimit (Unamen Shipu)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A13

Video 18 : Innu-aitun, Innu Culture, Access to Nutshimit and Environnemental Action (Pakua Shipi)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A30

Several practices underlying hunting are equally affected by climate change combined with social and economic transformations. The preparation of traditional dishes based on local food sources is less common, as Coasters now often depend on food purchased from stores, compared to before:

> We ate caribou, moose, birds, fish, lobster. No crabs when we grew up though! Crab has only been the last 20 years or more. Salmon, wrinkles, mussels, everything that was in the water we ate. And every berry that we could pick we ate. […] But yeah that's what we ate. When you had a meal from the store it was a treat. And we had macaroni, that was our favourite meal growing up! [laughs] (Saint-Augustin 8).

To make a partial conclusion, climate change is unequivocally altering the social and cultural practices that constitute the Innu and Coaster way of life. These disruptions have direct impacts on mental health (see 7.1.1.1) and ways of inhabiting the land. They are strongly felt:

> But I'm gonna tell you, it is frustrating and it hurts. Personally, for me, I take it personal. This, what's going on to the environment, hurts me personally, because I can't jig anymore! I'm not catching salmon anymore. I don't see capelin anymore! I

see gulls dying on the islands. It pisses me off! And I feel… you know, I think oh my Jesus Christ! (Bonne-Espérance 6A).

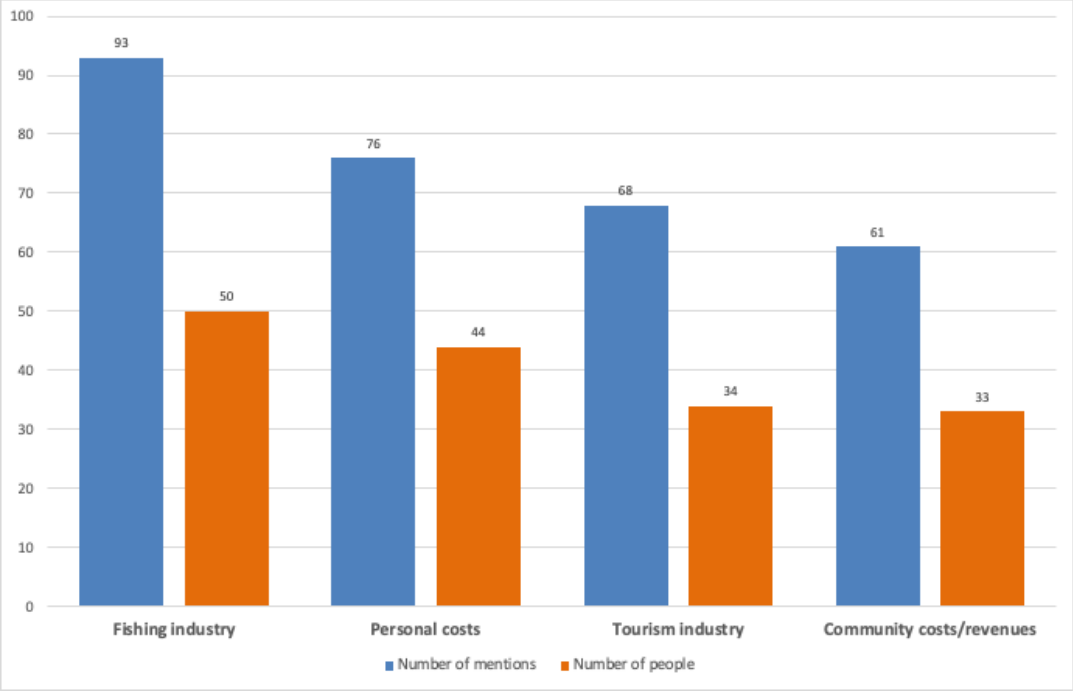
These activities are fundamental to communities and individuals, and for some, these disruptions act as "*wake-up calls*", prompting reflection on climate change:

Q- Do you think people are worried, or that there's anxiety regarding climate change?
A- I think so. I think so, because it's their way of life that is..., it's the Innu way of life that's at stake, since they won't be able to carry out their traditional activities, won't be able to pass them down. To me, the negative impact of this is... simply the fact that we aren't passing knowledge on to our youth, I think that's it. It's truly sad to see this change. Plus, life goes on regardless, but for us, it feels like we have no way to adapt to this situation, because we're in an isolated village. Like I said to someone who came to help. I don't know if this is the case, but maybe we could find another way to break this..., how should I put it? This act. I call it an act, an act committed by humans. These climate changes. I don't know how... there must be someone, someone out there who thinks about this, but... just because it truly hurts (Unamen Shipu 63).

6.5 Economy

This part describes the main impacts of climate change on the economy of the Lower North Shore, which were discussed at length by research participants, often more than once by each person (Figure 40). As such, climate change mainly affects the fishing industry, the personal costs of residents in the region, the tourism industry, and costs and revenues for communities.

Figure 40: Main Economic Impacts of Climate Change



6.5.1 Fishing Industry

The consequences of climate change on the fishing industry are already explained in section 6.3.1 of this report: warming waters; the arrival of invasive species such as striped bass; increased wind strength and frequency, etc. Participants present these consequences in a predominantly negative light:

> Winds are getting higher and more often, so it impacts fishermen, more than it did before, because they don't have the infrastructure on the Coast to save the boats from a big storm (Blanc-Sablon 7A).
>
> Warming water temperatures are also having an extreme impact on the local fishing economy (Bonne-Espérance 77).

Some people believe that climate change could lead to a transformation of skills within communities due to the disappearance of certain jobs in the fishing industry. This reconfiguration of the job market requires adaptation, without which Coasters could be forced to leave their region for professional reasons:

> Because it won't be there to… I mean, we had a lot of… workers, seasonal work here in the summer, because of the fishing, and so that… If that's gone, I mean. You're going to see more people having to go elsewhere, leave home for work. And there's not a lot here anyway… (Kegaska 26B).
>
> I can see that some [fishing] businesses are hurting. Maybe a small number may leave, but it's hum I think it's more or less adapting to it. [...] I think it's making it, that industry very hard so people that's in that industry either are getting out or going into another field because it's very unreliable and insecure right now (La Tabatière 58).

As these excerpts suggest, the interviews and mapping workshops reveal concern and uncertainty about the future of the fishing industry (Video 11). Rising water temperatures would lead to an increase in lobsters, which would certainly benefit the industry, but it also raises questions about how long this abundance will last in the Lower North Shore. Unanimously, the abundance of lobsters is seen as a positive effect of climate change on the fishing industry:

> The lobster… it's numerous, it's unbelievable. Example: 18 000 pounds of lobsters! (Blanc-Sablon 65).
>
> But fishing is still the main industry as far as I'm concerned. Hum but it, like what I'm saying is that it's a lot harder to fish now because we don't have the species that we had 15, 20 years ago. The only thing that's kept us going in the last 15 years is the crab. Now the lobster the last five years, I guess the lobster was really picking up, was going, it went like, tripled. Every year it doubles from the year before so (Blanc-Sablon 7A).

These changes are causing instability in relation to quotas, as it is becoming increasingly difficult to "*predict*" which species can be fished. Furthermore, they are pushing fishermen to take risks:

> Fisherman take more chances because of all the wind: If you want to go and get… make a living and get it, sometimes you've got to push a bit. And that could be dangerous (Kegaska 27A).

6.5.2 Personal Costs

In terms of personal finances, climate change generates additional costs related to modes of transport, particularly snowmobiles. It also creates new needs and new expenses.

6.5.2.1 Transportation

Additional costs are attributed to storms and bad weather conditions when travelling, particularly for medical appointments (extra nights in hotels, taxi journeys, food, etc.). Thus, despite the subsidies for medical transportation cited above as examples, the additional expenses incurred are so frequent and high that some people are concerned about the ability of the most vulnerable to finance these costs. If a flight is delayed or cancelled, they must at least find accommodation, food and taxi transportation while waiting to depart. These additional expenses are widely criticized, as these individuals report:

> We had to stay in the hotel for eight days the first time, and our local Health Care Center, they only reimburse you per trip, up to… if there's a reason due to weather they'll reimburse you up to... Well, it's a certain amount, a daily amount, but a maximum of up to three days, three nights they'll give you a little something dollars to apply to your costs for hotel or meals or whatever [...] normally we were supposed to be back and going two weeks later for another appointment because we were there to meet the next appointment, they gave us an extra allowance for two more days, but it wasn't nothing near to cover cost of the hotel, let alone our meals, you know. So it was very… a very expensive trip (Chevery 30).
>
> To give you an idea my husband and I traveled for Christmas, we, we flew to Montréal. The plane tickets alone for us to fly to Montréal and come back were 950 dollars from here [La Tabatière] to Montréal. So that was a big expense. Then on our, on our trip we were delayed in Chevery for about 6 hours I guess, give or take. Uh, we ended up having to overnight in Sept-Îles so that was a cost of 250 bucks that night for… just the hotel factoring… what like 25 bucks each for a taxi that's another 50, that's 300 before we even got to Montréal and that's one trip (La Tabatière 54).
>
> Definitely I think there are going to be cost associated with it… Maybe if we look at the cost of… cancelling a plane ticket let's say, due to weather. Just to travel from here [Harrington Harbour] to Blanc-Sablon return is about 1,200 dollars. (pause) So if [sigh] …if I have to fly to Blanc-Sablon for a meeting instead of going on skidoo in the winter… let's say twice a year… I would say anywhere upwards of 5 to 10,000

> dollars, depending how much the people travel, so for booking the transportation (Harrington Harbour 36).

When high transportation costs are combined with poor weather conditions and climate change, the expenses are even greater. Participants highlighted the additional cost of living on the Lower North Shore in relation to local, regional and extra-regional travel. This additional cost is reflected in statements such as "*expensive to travel*", "*nobody can afford now* [speaking about plane tickets]", or "*exorbitant transportation costs*". One interviewee even goes so far as to say, "*People are just not going to be able to afford to live on the Coast*" (Kegaska 26A).

When asked to estimate the total amount of their additional expenses related to transportation and climate change over the course of a year, respondents struggled to put an exact figure on it but agreed that it was high. However, in addition to this information, one question in the survey asked respondents to estimate the additional costs incurred in the last year (2023) due to service disruptions resulting from climate change. These costs could be related to cancellations, non-refundable tickets or repairs, for example. Significant personal costs were incurred by most respondents. Of the 71 people who answered this question, more than a quarter (27%) reported personal costs ranging from $500 to $999, and the same proportion reported costs between $1 and $499. For 20% of respondents, the costs exceeded $2,000, while only one person reported no additional costs. The results show that climate change has a direct economic impact on people's personal finances, thereby increasing the financial vulnerability of Lower North Shore households.

As for the costs associated with renovations and construction work, they are affected by transportation and its unpredictability, which is intensified by climate change. In addition, participants point out that labour in the construction sector is more expensive on the Lower North Shore than elsewhere in Québec, as it comes from outside the region due to the lack of local services. It is therefore dependent on transport, whose unpredictability (cancellations, delays) adds an additional cost to the already high labour costs:

> I think to fly an electrician in to do your electrical is close to 3,000… They have to come from Blanc-Sablon, you have to pay their… plane, their lodging, the material, plus their time (Harrington Harbour 36).
>
> Today you need 60, 80, 100 000 dollars to live. To build a house here in Blanc-Sablon is 25-30% more than to build a house in Montréal (Blanc-Sablon 7C).

Thus, the unavailability of certain resources in specialised trades (electricity, plumbing, mechanics, etc.) already forces Coasters to be resourceful and organise themselves to do things by themselves:

> Locally, as of now, there's a garage. But for many years, there wasn't one, so everyone has to be able, at some point, if there's a mechanical breakdown on something, like a snowmobile, to manage on their own, or have a few people around who can do it. And I find that in places like ours, there are far more people who are... who are handier, more skilled with those things. They're much more resourceful, too (Chevery 33).

6.5.2.2 Snowmobiles and Other Types of Vehicles

The absence of snow for several months during the winter changes the value of snowmobiles. In this context, the testimonials suggest that investments in transportation should be reviewed:

> Financially, it's like buying a snowmobile for nothing. Nowadays, everyone's looking to buy an ATV [instead] of a snowmobile. Why? Because what we have out there, it melts so fast (Unamen Shipu 19B).
>
> For sure, you wouldn't pay… 20 or 25,000 bucks for a skidoo that you're not even sure that you're going to use it (Kegaska 27A).
>
> Well, if it continues going the way it is, we won't need our snowmobiles. These… 20 and 22 and 25,000-dollar snowmobiles will be obsolete (Harrington Harbour 40).
>
> Should we buy a new snowmobile? 30,000 dollars for three weeks of use is too expensive (Mutton Bay 50C).

Snowmobile breakdown costs are also recorded:

> And there's generally more repairs on skidoos cause of the, the lack of snow and people are still gonna travel regardless is there's a good snow cover or not (La Tabatière 58).

The need to equip oneself with different types of vehicles is a necessity in this region:

> From an economic standpoint, the impact of climate change isn't necessarily about direct financial losses, but rather about additional expenses [such as equipping oneself with various types of vehicles] (Tête-à-la-Baleine 66).
>
> Not being permitted to use your vehicle on the route 138 when there is insufficient snow causes me a lot of stress and anxiety each year. I have concerns for safety, and I also have concerns of damaging my snowmobiles. A new snowmobile can cost up to 25,000 dollars and it is not a luxury; it is a necessity. We have to buy another snowmobile, and we only bought a new one two years ago and that cost 20,000 dollars. It is an expense that really upsets me because if I could use my SUV [sport utility vehicle] all year round, I would not need to buy an expensive machine. I bought a new snowmobile two years ago, an SUV last year and now I need to buy another snowmobile. That adds up to more than 75,000 dollars just to be able to get around locally (La Tabatière 67).

6.5.2.3 New Needs and New Expenses

In this category, people discuss the purchase of air conditioners, which until now have been virtually non-existent on the Lower North Shore due to rising temperatures that are becoming less tolerable:

> The cost of living will be increased as things like air conditioning are becoming more essential for the households in the region (Bonne-Espérance 77).
>
> We're starting to buy air conditioners. At 16 or 17 degrees here, we're hot [laughs]; 20, now that's just too hot! [laughs]. We didn't have that when I was young, I never had that (Unamen Shipu 20A).
>
> I mean, if it gets much hotter and humid in the summer, people are going to have to start getting air conditioners. That's higher cost, here, for the people in the region. So that's something that we've never experienced before, but it probably will happen with our humider summers (Bonne-Espérance 3A).

The costs of damage to houses related to flooding and erosion are also mentioned.

6.5.3 Tourism Industry

The tourism industry is greatly affected by climate change. The closure of the Route Blanche due to the lack of consistently cold temperatures has a negative impact on intraregional tourism and makes extraregional tourism almost non-existent in winter (Video 1). The decline in tourist numbers from outside the region is mentioned, as is the decrease in travel between communities due to climate change in both cases. Business losses are the most frequently cited and are linked to lack of mobility, fewer visitors, and delays in food deliveries, which cause material losses:

> Aside from like us as a store, we're seeing less visitors, we're seeing less people from other communities, we're seeing no outsiders or pretty much no outsider. So we see the lack of business because of that (Chevery 31).
>
> In the winter, whether it's for tourism, the stores, or the village economy, it's... even the Sports Committee, which holds a big winter tournament where people usually come, that's where they raise the money to run the skating rink or keep things going, it's, it's, it's absolutely nothing. You know, there's nobody. At the store, you really notice it... when the Route Blanche isn't there, people don't travel, that's for sure. People from the small villages still travel a bit because they know the area, but even then, there are far, far fewer people. [...] And there are no tourists. In good winters, when the trail is good and the Route Blanche is open, tourism is... it's huge. This year, Voyage Coste, I think they had 160 snowmobile requests to come to the Lower North Shore [...] That's a lot. You know, those people stop in every village. They stay in the hotels, they eat there, they gas up at the stations, they... yeah. [...] Nobody came. Not a soul. The Route Blanche wasn't open. [...] I didn't see a single tourist all winter (Tête-à-la-Baleine 46).

6.5.4 Losses for communities

For communities, climate instability causes the cancellation of carnivals and tournaments, resulting in the loss of the main source of funding for recreational services, a significant drop in business traffic, in addition to the impacts on social and cultural practices mentioned in section 6.4.2 (Video 14). Historically, each community has taken turns organising gatherings

so that the benefits can be distributed regionally. This drastic loss has major collateral impacts by directly affecting the annual service offering:

> So, it's for volunteerism and, and fundraising, which is what the hockey tournaments and carnivals do, that's gonna have a big impact as well, the financial gain of being able to do those fundraisers. So, it's gonna impact communities as well […] And there's no people, I would say no, very, very few people from the outside coming in to give us that little extra boost of, you know, revenue or potential business because the Route Blanche is closed (Chevery 31).

> So now, we're wondering what date to pick to be sure we can hold our activities, our hockey tournament, because it's a major part of our budget. In our case here, for instance, we don't have a covered rink. You've got one weekend to... raise enough money to cover your costs for the whole year. It's not a year-round thing; the Carnival is just one weekend. And of course, since there are several communities, we can't fight over dates, we can't have, say, Harrington and Chevery holding their Carnivals at the same time. If we did, the people from Harrington wouldn't come to Chevery, and the people from Chevery wouldn't go to Harrington. It's an exchange of money, in the end. We go there and spend some cash, and then when it's time for the Chevery Carnival, the folks from Harrington come here and spend theirs. That's how we help each other out. But with climate change, it's getting complicated because we just don't know if we're even going to have a winter (Chevery 35).

> I think there is a snowball effect on everything. It affects the businesses because people not… there is not so many people coming in and [...] it affects the helicopter and the boat, it affects all travels (La Tabatière 52).

Whether it is the fishing industry, personal costs, tourism, or community losses, the economic impacts of climate change are manifold and often interconnected. Faced with these upheavals and a local and regional economy in transition, communities must cope with increased precariousness and constant adaptation.

6.6 Safety, Accidents and Risk

This part presents the main risks related to transportation and mobility caused by climate change. We asked people whether climate change increases risks and accidents, thereby threatening public safety, particularly during local and regional travel on the Lower North Shore. Other types of risks related to climatic phenomena, such as fires, floods and erosion, are also presented.

6.6.1 Accidents and Deaths

The most frequently mentioned impacts of climate change are accidents and fatalities occurring during snowmobile trips[32]. Certain areas are considered to be at greater risk,

[32] At the time of the empirical work for this research in the winter of 2024, the community of the Lower North Shore was affected by a fatal snowmobile accident, which may have influenced the narratives.

particularly Harrington Harbour-Chevery, Saint-Augustin-Pakua Shipi, and the western part of the Lower North Shore. The people interviewed were very vocal on this subject, emphasising its great importance. In their testimonials, **60 people mentioned safety issues, accidents and risks related to snowmobiling and the Route Blanche 410 times**. The main causes are said to be insufficient ice thickness, poor ice quality and low snowfall. Due to warmer winter temperatures, snowmobiling conditions are inadequate and unsafe:

> Places that have been travelled over for years are suddenly not freezing like they always did… people are going through the ice (Blanc-Sablon 1).
>
> And like I said, years ago it used to pretty well all freeze at the same time… Like lots of time, we used to leave to Chevery and we never went across by the… the marks, or in… we could go usually there and go right straight to Chevery all outside, stay almost the same way that the taxi boat goes. But, like, the last… probably eight or ten years, we can't do that. Nothing freezes up like it used to (Harrington Harbour 40).
>
> Ice conditions are always very precarious and at times even treacherous and dangerous to travel on (Harrington Harbour 81).
>
> I would say maybe two, three weeks at most, it was a 100% safe travelling […] People travel more… than safe recommended times because they're used to it, they think they know the [hesitation] not that they're better than nature [laughs] but they're… they're… they're proud of their skills, they're… they're confident… [hesitation] (Harrington Harbour 36).

As we have seen previously, snowmobiles are an integral part of life on the Lower North Shore, as they are the most practical means of transport, with the fewest time, space and financial limitations. Snowmobiles are synonymous with freedom, a need that drives some people to take risks, which, according to participants, leads to more accidents and even deaths: "*But people takes chances and like this is where we are living, we take chances*" (Saint-Augustin 9). This risk-taking may be motivated by travel obligations or social reasons such as the need to break out of isolation, especially in winter.

In addition to poor ice and snow conditions, people also report a loss of spatial awareness, leading to an increased risk of accidents on the Route Blanche, particularly when it is not officially open:

> You're going to see more… tragedies, where people are thinking that we can do what we did before (Saint-Augustin 16).
>
> It's not even really a risk. In a normal condition, it wouldn't be a risk. It's, it's like you know, it's like walking to your bathroom, it becomes habitual right? And that's the way we live, is habitual pass or habitual conditions, but now it's not habitual, it's new and different and scary (Chevery 31).
>
> There's no way they should have made the mistakes, but it just happened, right. So I mean, people that know the difference getting caught off guard, I guess unexpected (Blanc-Sablon 1).

> The Route Blanche is a travel at own risk these past years, due to the many changes in our weather (Kegaska 73).
>
> The only thing is, it's less safe with these seesaw winters we're having… It's less safe than it used to be because… you're always on edge, wondering. Is it safe to go to this spot? We get used to it… we know the land, but even then, sometimes, it's not always the ones who aren't used to it who… Even the old-timers, the ones with all the experience, they have accidents too, because it's like we forget the danger sometimes, just a little bit (Tête-à-la-Baleine 48).

Interestingly, when asked specifically about the perceived trend in the frequency of snowmobile accidents or accidents on the Route Blanche, participants' responses were mixed. They reported an increase and a decrease in accident frequency in almost equal proportions. This can be explained, among other things, by the fact that climate change is greatly reducing the period during which the Route Blanche is passable, leading to a decrease in the number of travellers and therefore fewer accidents in absolute terms. Others attribute the decrease in the frequency of accidents to infrastructure improvements, such as the marking of the Route Blanche and the construction of route 138 in the eastern part of the Lower North Shore. Finally, some people say they have not noticed any change in the frequency of accidents or are uncertain about the trend. However, this mixed trend does not prevent most respondents from sharing a general observation that climate change has led to an increase in safety, accident and risk issues related to snowmobiling and the Route Blanche.

6.6.2 Risk Factors not Related to Climate Change

Other factors relating to safety, accidents and risks are also identified, but they are not directly linked to climate change. For example, drinking and driving, failing to respect the official boundaries of the Route Blanche, travelling to more hazardous areas along the Route Blanche and using old trails that were once safe, having access to high-performance equipment (heavier and faster snowmobiles), travelling at night, making poor decisions and errors in judgement are all reasons cited (see Part 6.7).

6.6.3 Nautical Risks

Still about transportation and mobility, participants highlighted safety issues related to the use of personal boats. These are used to reach places that are inaccessible by other local and regional transportation services, such as hunting, trapping, fishing, gathering, logging or cottage sites. They are also used as alternatives to snowmobiles, the hovercraft, and helicopters in Saint-Augustin and Pakua Shipi; ferries, helicopters, or snowmobiles between Harrington Harbour and Chevery; or for travel between Kegaska and La Romaine-Unamen Shipu without having to wait for the Bella Desgagnés. This risk-taking, exacerbated by climatic pressures, may also be linked to a gap in transportation services on the Lower North Shore.

All seasons are identified as potentially problematic, but autumn stands out as the most dangerous. More frequent strong winds and storms, combined with riskier behaviour such as going out to sea in bad weather and drunk driving, are cited as contributing factors.

6.6.4 Aerial Risks

Weather conditions can seriously compromise the safety of medical evacuations or air travel in general (section 5.2.1). This uncertainty regarding the feasibility of flights by airplane or helicopter is particularly worrying in the context of cases of death or severe deterioration in the health of patients, which have even been reported when fog has prevented landing for several days. Although airplanes are perceived as faster than other means of transport, they are also considered riskier, which fuels residents' concerns about flight safety in adverse weather conditions and a service that, as it stands, does not meet the needs of the population (see Chapter 4).

6.6.5 Other Risk Factors

Forest fires, storms (hurricanes, high tides, excessive rainfall, strong winds), floods, erosion and avalanches are other climate change-related risk factors that emerged from the interviews.

Forced immobility, in the absence of alternative transport, is a major obstacle to safety. For example, the municipality of Saint-Augustin is highly concerned about issues related to emergency evacuation and the arrival of emergency services in the event of forest fires. Since there is no airport directly in Saint-Augustin — the airport is located on the other side of the river in Pakua Shipi — residents must travel there by hovercraft, snowmobile, helicopter or personal watercraft. Due to schedules, mechanical breakdowns, navigation conditions and other factors, crossing the river is a challenge, even under "normal" or optimal conditions. If the population needs to be evacuated urgently, the hovercraft is not operational and the helicopter is not already on site at the time of evacuation, what happens to the residents of Saint-Augustin? The use of personal boats could be an option, but this depends on the tide level. If the tide is low, the sandy shallows of the river prevent boats from crossing. Thus, the population of Saint-Augustin is very vulnerable to forest fires due to the geographical isolation of the village:

> We cannot evacuate anymore. At one time you could leave the village..., we were only stuck in the spring and fall and not now. Now you can't get out of the village in the summer because of the low tides and the bay is filling up with sand (Saint-Augustin 8).

Overall, whether in relation to transportation or climate change, the accounts reveal a certain nervousness, even fear, about risks and personal safety or that of loved ones:

> I find now it's more unpredictable and worrisome (Chevery 30).
>
> It is very sad to see, but the biggest concern I have is safety […]. I stress every year praying that nobody gets injured or dies because of extreme conditions. In my community in the last year there has been very serious accidents (one almost resulting in death) and I fear for my safety and the safety of others (La Tabatière 67).

6.6.6 Other Impacts

Finally, to a lesser extent, other types of impacts, potentially linked to climate change, were raised by participants. These include impacts on inhabited infrastructure and buildings, mainly caused by erosion, wind and storms. In this regard, there has been an increase in the frequency of weather alerts: "*Could be wind warning, storm surge warning, rain warning, snow warning, like… We've had all warnings a lot this year, especially with the wind and the storm surges*" (Kegaska 25). Others point to the increasing complexity of waste management, particularly in Harrington Harbour (Video 10). Still in the municipal sector, the cost of snow removal is said to be increasing due to the increased presence of ice rather than snow. Archaeological sites are also identified as being under threat.

In short, for many people, uncertainty remains regarding the cause-and-effect relationship of climate change in general, and more specifically when describing issues related to safety, accidents and risks. Expressions such as "*could be related to*", "*probably, a possibility*", "*possibly linked to climate change*", "*not sure*", "*I don't know*", "*not caused by climate change*", "*a mix* [of reasons]", "*impossible to associate*", reflect these uncertainties.

Climate change is profoundly transforming the way of life of communities on the Lower North Shore: reduced mobility, disrupted hunting, fishing, trapping and gathering practices, changing flora and fauna, increased insecurity and economic pressures, etc. These upheavals are weakening social ties, disrupting traditional knowledge and territorial autonomy, posing numerous challenges. The next chapter focuses on strategies for addressing these challenges.

Chapter 7

Visions of the Future and Adaptation Strategies

This chapter sets out visions for the future and adaptation strategies to tackle climate change. It shows that route 138 plays a pivotal role in these strategies, alongside other institutional and individual-led responses that have been implemented or are being considered to sustain the local way of life amidst the transformations of the region. This chapter highlights the mixed feelings regarding the future of the Lower North Shore, but also the resilience of its people and their determination to draw on a quality they fervently defend: their remarkable capacity to adapt.

7.1 Sentiments and Visions for the Future: General Findings

Peoples' visions for the future of their region address the challenges they consider most likely to arise, the services that should be prioritized, the extent to which communities are prepared for climate change, and the feelings associated with these various issues. According to the testimonies analyzed, concerns, visions of the future and feelings regarding these issues are closely linked. Being concerned is both an emotion and a state of mind that colours one's vision of the future.

The main concerns regarding the future of the Lower North Shore, and the emotions expressed by the vast majority, **relate to climate change and the declining vitality of the region**. The loss of their way of life, the lack of a road, and the economy are other factors that are a serious cause for concern among those interviewed. These concerns give rise to predominantly negative feelings, expressed through fear, stress and anxiety, anger, frustration and helplessness. Feelings of sadness, depression, even despair, loss, discouragement and resignation are also reported. These are often intertwined with positive feelings, including hope, solidarity and empowerment, or with questions and doubts.

In addition to the interviews and participatory mapping workshops, one question in the survey addressed people's visions for the future of the Lower North Shore, which generally proved to be bleak; of the 71 people who answered the question *Are there any fears or concerns within your communities regarding the future of your living milieu?*, 82% answered *yes*, 3% *no* and 15% *did not know*. According to the survey, the most frequently mentioned fears and concerns relate (in descending order of mentions) to services, transport, the economy, way of life in general and, finally, the environment. Some people share concerns about social and cultural life, demographics, communications and politics. In the comments, a few participants expressed concerns about the risk of villages and schools closing due to a population decline; the lack of affordable, safe and reliable transportation to attend political meetings within and outside the region; and difficulties in accessing healthcare services.

7.1.1 Climate and Climate Change

When it comes to the climate, the people we spoke to mainly mentioned general changes expected over the next ten years, linked to seasonal patterns, such as milder winters, hotter summers, or warmer water, for example. Concerns about winter are a recurring theme, as this season is crucial to the identity and way of life of the Coasters and the Innuat:

> If we don't have winters anymore [...]. What are we going to do then? (Chevery 35).

> I just don't know even if I wanna live here anymore, if I don't have four months of the winter (Bonne-Espérance 6A).
>
> So, climate change is like, the negatives. It's all negative, as far as I'm concerned. It's all negative for us. And it's going to continue to be, I think. Because if it goes a little bit more, well, you know, there'll be no travel or very little in the wintertime, so I think you're going to see more and more people that would just say, well, uh… can't do nothing, it's gonna be, so, you know, I'll go out for Christmas with my children or do something else (Harrington Harbour 39).

Some people also believe that things will get worse, that the changes will accelerate, that they will be more disastrous, or that there will be more disasters, such as storms, hurricanes and forest fires. Others dare not imagine what will happen, or do not want to anticipate the consequences of climate change or believe that it is a natural process that will continue.

Some people highlight the positive aspects of the climate changes expected in the future, such as the fact that warmer summers would be good for tourism, or mention changes they are already observing, such as "*milder*" temperatures making daily life easier for older people, or savings on heating costs:

> It's just some people like the warmer weather, people who are… you know unwell or have health issues… warmer weather is nicer… to arthritis or whatever, you know (Bonne-Espérance 4A).
>
> Well, people like it because it's getting warmer, of course. You know? People saying: Oh, geez, it's warm this year, I don't have to turn up my heat, burn so much wood (Blanc-Sablon 65).
>
> So, what we're seeing in the changes right now, there's nothing positive about it. Well, if there were a positive, it would be if it becomes like Florida and we get tons of tourists, then maybe [laughs] we could say: "*Ah, okay, we'll trade winter for that*" (Chevery 35).

Others mention the enjoyment of swimming in lakes, rivers, and the sea in summer, and of the increased presence of lobsters migrating northwards, both of which are made possible by the warming of fresh and salt water.

7.1.1.1 Between Eco-Anxiety and Vitality

We asked people whether they had any fears or concerns about the future of their communities and their living milieux, and more specifically about eco-anxiety.

In the survey, of the 79 people who answered the question *Do you believe that residents of the Lower North Shore experience eco-anxiety in relation to climate change?*, nearly three-quarters (72%) said *yes*. Nearly a quarter (27%) answered *I don't know*, and only one person (1%) believes that there is no eco-anxiety among the local population. This result highlights the psychological and social stress caused by the anticipation and even the lived experience of the negative consequences of climate change.

In open-ended responses to this question, as asked in interviews or workshops, opinions on whether eco-anxiety is present are more divided. Participants did not answer this question systematically, and the answers vary in nuance, sometimes relating to general concerns, eco-anxiety, or anxiety about specific issues, such as storms:

> The main impact of climate change is a loss of predictability for services that are already limited in the region due to its remoteness [...] It is a psychological fear that takes root and extends to food supplies, the reliability of medical appointments outside the region, and so on. It isn't eco-anxiety per se; I think it is specific to the Lower North Shore and due to a series of factors, including climate change (Tête-à-la-Baleine 66).
>
> There is starting to be some [a feeling of anxiety related to the changing climate] [...] if we get another big storm where the sea comes up and someone loses their house with the erosion or we lose a road or we lose a wharf or something you know. I can see it starting to be on people's minds. [...] in the wintertime, it's more obvious (La Tabatière 58).
>
> We were so used to, over the years, [...] you're doing your things…[...] we're not thinking that it's gonna change. [...] It is changing [...] a lot of people get frustrated [...] And they get down over it, they get anxiety (Blanc-Sablon 65).
>
> The only fear I see, and climate change definitely impacts this, is erosion, where people have built along the seashore [...] there's a certain anxiety for some people when they are close by, and storms hit [...] it's not necessarily something that is widespread (Chevery 33).
>
> Eco-anxiety, without a doubt. I think it's there, whether it's thinking about storms, like. Oh my God, is it going to be a hurricane? What am I going to lose? That kind of thing, and how am I going to be able to afford it? (La Tabatière 54).

Perhaps the definition or understanding of eco-anxiety is not clear to everyone, or varies from person to person, which might explain why the closed-ended responses in the survey are more definitive than the open-ended responses from the interviews and focus groups. For beyond the answers to these questions, which were designed to highlight trends related to eco-anxiety, fears and concerns, a multitude of other emotions are expressed in their responses. These emotions relate, for example, to changes in the living milieux, local practices, needs, adaptations and strategies.

7.1.1.2 Mixed Emotions: Fear, Anger, Sadness, and Adaptability

Among the feelings people associate with climate change are emotions linked to fear, anger (frustration, disappointment, feeling trapped, helplessness, shame) and sadness (depression, pessimism, despair, unhappiness, discouragement, resignation, loss, fatigue, boredom, distress, denial):

> It's sad, really sad. For me, in my 90 years [little laugh], the change is just unreal, unreal (Harrington Harbour 42).

> Well, for my part, I find it depressing a bit. Because I got a chalet, about 15 kilometres from here, that's four or five years I've had it, and the last two years, it's pretty much… I go there, but it's not comfortable going there (Kegaska 27A).
>
> Nobody['s] happy about it. [...] Everybody is talking about it. [...] But there's nothing we can do about it. It's the way it is. And you just gotta live with it. [...] But it is a big, big change in our life, in that way (Mutton Bay 53).
>
> People are worried about climate change. Because of the shifts in the seasons and the changing temperatures, both from one season to the next and from one day to another (Pakua Shipi 12).
>
> And it is, it is changing. So for the anxiety part, a lot of people get frustrated, you hear them talking: Damn, I can't get out today, there's too much wind, there's too much sea. You know I can't go to my cabin because there's not enough snow (Blanc-Sablon, 65).
>
> When you can't get out of a small community in the winter months, it's not good for their mental health because they feel so isolated because a lot of times they count on those months because they know they can they're free, they can travel (Bonne-Espérance 3C).
>
> It [doesn't] affect things overnight, but... in the long run, it's going to affect someone, that's for sure. [...] Climate change... it's going to hit somewhere, definitely. That's certain. Especially when you're dependent on nature (Tête-à-la-Baleine 43).

As repeatedly highlighted in this report, the inability to take part in winter activities or to travel freely by snowmobile has a negative impact on people's morale, leading to frustration, sadness and a sense of isolation. The loss of the familiar rhythm of the seasons and the activities associated with them creates a sense of uncertainty and concern about the future of communities. While anxiety and difficult emotions can be felt differently depending on people's age, those who have the physical ability to travel by snowmobile to go about their daily lives, but are prevented from doing so, appear to be more affected.

The concepts of adaptability and endurance "*toughness*" are mentioned in the context of climate change, but also more broadly in relation to socio-economic challenges, way of life, natural resources or environments, seasonality and disasters. The testimonies clearly express these capacities for adaptation and innovation, and the determination to "*survive*" against all odds on the Lower North Shore:

> We're adaptable people, we can adjust to a lot of things, we can survive, we're survivors, we're tough (Bonne-Espérance 2B).
>
> I think we're smarter than we think we are [...] resourceful intelligent people. [...] we always thought we were underneath here, but no, not at all (Bonne-Espérance 3A).
>
> The villages adapt, and it will continue to adapt to the climate change. [...] there's not much you can do (Harrington Harbour 39).
>
> We've been adapting to pretty well everything over the years, so climate change is something else to adapt to, it's a dangerous thing (La Tabatière 58).

> But we're going to adapt, 'cause that's what we've always done. We've always been alone. [...] If we want something done, we have to do it ourselves. [...] Everybody on the Coast has got a way of adapting to any of their situation. [...] whatever changes that are happening, we're gonna find a way to be able to make ourselves more solid, make ourselves more grounded (Saint-Augustin 16).
>
> We aren't prepared, but we're seeing this climate change ourselves. We aren't preparing for it, but we see what the changes are. We're going to see, and we're going to get used to it, we're going to live with it (Unamen Shipu 20B).
>
> We've adapted here for years, we'll continue to [...] I think we'll be all right (Blanc-Sablon 1).
>
> People are […] They're adapting. We, on the Coast, we adapt. That always was (Blanc-Sablon 7A).
>
> The people who live here [...] they're strong people. [...] We adapt to just about anything [...] mentally, we can take it. [...] I think so, yes, we're going to adapt, and we... we're going to keep going (Chevery 35).
>
> They [my parent] were living in a time, yes, they were isolated, but they had a lot happening. They were happy. It was thriving. The fishing industry was thriving. So, [sigh] now, just like anywhere, something got pulled away from them, right? So, they had no choice but to be resourceful (Bonne-Espérance 3A).

However, they do not specify how this adaptation might take place. Nevertheless, the following pages on strategies relating to mobility and access to essential services offer some interesting insights. What emerges, however, is a deep concern regarding the loss or current and anticipated changes to people's way of life:

> If the storms keep happening like they do and if they become more intense, it makes it... hard [...] to maintain [...] an active lifestyle [...] because [...] the storms come more frequent (Mutton Bay 51).
>
> We're just not gonna be able to do what we used to do. We're not doing it now, what we used to do. And if it gets worse, we're just not gonna do…we're gonna do less than we used to do (Mutton Bay 53).

Or the desire to preserve the current way of life, based on integration, mutual understanding, social ties and independence:

> The main thing is just to keep going the way you are, be happy, be good to each other and, you know, if you keep your lifestyle that we have here, now, I think we're OK. French, English, Innus: we all integrate a lot. [...] It's… everybody's more together. [...] I hope it stays like that [...] I think it will, because it's a different lifestyle that we have here. Because everything you gotta do, you gotta basically do on your own (Blanc-Sablon 65).

The desire to understand the specific context of climate change to devise alternative economic models and more resilient ways of living, combined with the need to draw

inspiration from or learn from what is being done elsewhere, is also suggested as a source of inspiration:

> A- So, we go out more, we learn more and we bring that information back here and try to build the community differently instead of relying on what used to be kind of one source of income fishing industry and things like that.
> B - Thinking outside the box [...] not necessarily what's been done for the last 50 to 75 years.
> A - [...] when you take something away, close one door like they say another.
> B - [...] another one (Bonne-Espérance 3AB).

Consequently, a minority of people express positive feelings about the future, such as optimism, hope or solidarity:

> Optimistically, I hope for revitalization (Bonne-Espérance 4D).
>
> We're still optimistic that this freak changes in our winter are gonna get better. We're still hopeful that we're going to have a good one, next year it'll be better (Chevery 31).

Two people also said they felt good and relieved to have the opportunity to talk about climate change as part of this research project. This is something we observed time and again during and after the interviews and workshops. People seemed relieved to have expressed their concerns: "*But it's good to talk about it, I've gotta tell you. To have opportunity like this"* (Bonne-Espérance 6A).

7.1.2 Visions of the Future Haunted by Devitalization

Devitalization is associated with the lack of a continuous and permanent road link, with young people and families leaving the region to study or find work, with a shortage of jobs, and with the absence of businesses or industries. Decline gives rise to a range of rather negative feelings. This leads to serious concerns and fears linked to decline, the breakdown of communities or an ageing population:

> But I'm worried about the communities in the western part of the Coast [...] Very concerned. The population in Tabatière dropped drastically from one census to the last one […] it's very worrisome (Bonne-Espérance 4A).
>
> We are gonna die here slowly. Like it happened to the Gaspé coast in the 70s when they closed some villages, and you see now on TV. Almost every year, they close some village. Now for the good of the people. The people are regrouped together and fight until they die (Blanc-Sablon 7B).

Deeply concerned about the decline of their communities, a majority of people use expressions such as "*our villages are dying*" (Blanc-Sablon 7A) or believe that villages will close if nothing is done; "*you'll end up with dying communities*" (Mutton Bay 51). They speak of depopulation in general terms, mentioning the exodus of young people who leave to find work, for example. The ageing population is rising, along with the underlying issues

linked to the forced departure of older people from their communities, either for healthcare or because they can no longer live alone:

> What's gonna happen with the ageing population and jobs and municipalities and we're going backwards, because nothing new is getting done to prevent and aid the future of the Coast. So ecoanxiety could be tied into… What's gonna happen to us in the future ? Are we gonna be pushed out ? (Chevery 32).
>
> We could go that way, what Sept-Îles done, or stay, stay small. But if we stay small, the problem is our youth is not gonna come back…[...] So if our youth don't come back, we're gonna close down. I, I forecast that in 15 years' time…[...] instead to be 14 villages on the Lower North Shore…[...] we're gonna be 8, because [...], the road as is supposed […] to keep our Lower North Shore going. [...] Nobody knows the future (Blanc-Sablon 7B).
>
> It's the die hards that are still here, the one's committed so… but the younger ones, yep, I can see people leaving. The ones who have small families and these types of things yeah (Chevery 31).
>
> A lot of times our seniors are uprooted from their homes after a certain age because there's nobody here to help, help them with their services. So they have to go to other communities. And like I said, with global warming and stuff, they could be at the Pavilion and Harrington, that's only like seven miles away, but… how can you get there, you know? The wintertime if there's no Route Blanche you have to take the helicopter. You have to go during daylight hours and stuff. You can't just pick and choose like… when your parents are living right next door to you, you know, you can go visit whenever you want, but when they're in a home in another village is not always easy to go visit… (Chevery 30).

Some people point to a link between isolation and a decline in vitality, resulting from the exodus of young people and an ageing population. There is a sense of vulnerability, which is said to be exacerbated by increased isolation: "*We are more isolated, we are more vulnerable now*" (TÉMMRC).

Hopes for the revitalization of the region are expressed as a vision for the future in which communities, even small ones, are vibrant and strong. In this vision, the range of services available enables young people to live in the region:

> People are staying here, the younger people are staying here. They are the strong pillars of the community. [...] very small group [...] very strong, very strong services helping...[...] it's gonna be very small, but it's gonna be still there (La Tabatière 58).

According to them, this vision could become a reality if the communities work together: "*There are possibilities for a future if we just work together and put all of our resources together*" (Harrington Harbour 36). And if they are connected to other communities by a permanent road link, route 138, which would meet the need for access to bypass "*some outrageous challenges with the travel*" (Bonne-Espérance 90). The following section (7.2.1) on route 138 deals extensively with this issue.

The final concern most frequently raised by participants in the research relates to the region's economy, particularly employment, specifically the need to create jobs, or, quite simply, the lack of them. They emphasize the need to establish or bring back businesses or industries to the Lower North Shore, without, however, specifying which ones:

> The biggest thing is the... the people. No jobs, no people. No young people are staying, which you can't blame them (Mutton Bay 51).
>
> I just want to see like more, work. [...] I think we need more work (Blanc-Sablon 1).
>
> I don't expect we'll see much population growth or people returning unless there's an industry of some sort that'll you know maintain jobs and provide, yeah provide lifestyles and things that you know our people would come back to. Without the road that I don't see that ever happening (Chevery 31).

In light of this last quote, some people believe that large-scale extractive projects, such as a mine or a hydroelectric dam, could boost the economy and improve the prospects of route 138 being connected to the rest of Québec.

7.2 Adaptation Strategies

7.2.1 Route 138: A Top Priority

So far, this report has already outlined the residents' key adaptation strategy for tackling the challenges posed by climate change. According to this research, the road project offers great promise. They believe it could help address the socio-demographic and economic challenges facing the region, whether or not these are linked to climate change.

7.2.2 Stances Regarding the Road Extension

Of those who took part in the interviews, participatory mapping workshops and survey, almost all people who expressed an opinion on the road are in favour of it, and this is the unanimous view in every community, from Blanc-Sablon to Kegaska[33]. And they are unequivocal in their consensus:

> The road is the only thing is going to keep this Coast (Blanc-Sablon 7B).
>
> All people's waiting for now is the road (Blanc-Sablon 65).
>
> The majority want the road (Bonne-Espérance 3A).
>
> We want the 138 connected (Bonne-Espérance 2B).
>
> The road is extremely essential for the survival of the Coast (Bonne-Espérance 88).

[33] For example, in response to the question *To what extent do you support the extension of route 138 between Kegaska and Old Fort?*, the survey results are as follows: 71% are strongly in favour; 16% are very much in favour; 9% are somewhat in favour; and only 4% are not at all in favour.

> We would love to be connected to other communities (Saint-Augustin 9).
>
> They need it for the Coast now (Saint-Augustin 14).
>
> For me I support it because I think that it could be a way to be able to save our communities, so… yeah I am in favor, but I, I have hope, I keep hoping (La Tabatière 54).
>
> We need the 138 (Mutton Bay 51).
>
> The only thing we really need is a highway […] I dreamt about it (Mutton Bay 53).
>
> A vital priority (Chevery 68).
>
> It's time to build the road (Harrington Harbour 39).
>
> It's the number one thing (Harrington Harbour 40).
>
> A road would be a big help (Harrington Harbour 42).
>
> The only solution (Harrington Harbour 71).
>
> The only solution is the road [...] The future is... it's the road (Tête-à-la-Baleine).
>
> For sure, we need the road (Tête-à-la-Baleine 46)
>
> That is what's really urgent (Tête-à-à la-Baleine 48).
>
> Route 138 is going to do us a lot of good (Unamen Shipu 18B).
>
> That is what we're missing, absolutely (La Romaine 22).
>
> People are more in favour than they used to be (La Romaine 52).
>
> If something don't change, if we don't get that road… to go… And it's not the saviour, the road. But I can tell you it's a big part of the survival of the Lower North Shore (Kegaska 25).

The road is therefore seen as "*vital*" to the survival of the villages on the Lower North Shore. Some of the people we spoke to even went so far as to say that, without this infrastructure, certain villages are literally at risk of disappearing:

> Without the extension of route 138, some Lower North Shore communities are at high risk of disappearing. It is our last hope for survival as a region (Bonne-Espérance 72).
>
> Route 138 is a vital priority… it should already be here to facilitate access to all services, be the economic, medical, educational, transportation, social, municipal, food-related, etc. (Chevery 68).
>
> I think if we talk more about the climate change aspect, it'll be the road. [...] Whether we like it or not, they are truly cut off from the rest of the world; it's really complicated for healthcare to only have accessibility by plane (O60).
>
> There is nothing to attract people. No social life. [...] If we were at least connected to other communities, people would stay longer (La Tabatière 50A).

The road is therefore seen as a means of improving overall quality of life, and as a way of slowing down the exodus of young people, encouraging them to return and thereby revitalizing communities. It is also viewed as a driver of economic development, particularly through tourism. Above all, the road would reduce dependence on air and maritime transport.

Route 138 is at the heart of discussions about local businesses and industry: it is seen both as a long-held aspiration and as the root of many problems (for example, the lack of a road prevents businesses and tourists from coming to the area and leads to workers leaving), as well as the proposed solution to most of these problems. Naturally, people and goods are transported by some means of transport, be it by sea, air or land. If a road were to be built across the Lower North Shore, it would be the preferred means of transporting foodstuffs (Video 9), consumer goods, and building materials while providing people with easier access to services, leisure activities, or other communities, for example.

To a lesser extent, a small minority are either undecided or indifferent. Only two people are against it.

7.2.3 Relations to the Road

When people are asked for their views on the road, their comments are dominated by frustration and skepticism, and, to a lesser extent, ambivalence.

Frustration is directly linked to time: the issue of the road has been under discussion for decades, yet construction is making virtually no progress, and the decisions made regarding which sections to prioritize are not always understood. The terms and phrases used suggest a lack of understanding. People express themselves in the form of questions, such as "*why?"*, "*I don't know*", "*I don't understand*":

> Why isn't Québec building us transportation by building a road? (Bonne-Espérance, 2B).
>
> I don't understand why we are not a priority to be connected to Chevery (Harrington Harbour 71).
>
> You know, we're just sitting at home, waiting in the end... so, yeah, the road. I don't know if the government will ever hear us (La Romaine 24).
>
> I probably could have more questions than I would have answers (Harrington Harbour 37).

The words they use to express themselves are strong and emotive: "*crazy*", "*I am tired*", "*no sense*", "*making fools of us*", "*it's frustrating*", "*it's very nerve wracking*"... In some cases, humour is also used; people may laugh about it, although they also express their discouragement. For example, some elderly people are convinced that they will never see the road, and perhaps their children won't either:

> The most necessary and long overdue means of travel is the finish of route 138 that's been stalled since the last half of the century! (Blanc-Sablon 74).

> I won't see it. I don't know if my children will see it. [...] It's just wishful thinking (Saint-Augustin, 64)

Frustration is often directed at the authorities, mainly at the central government level, but sometimes at the local level too. "*Politicians*" are suspected of not being genuinely motivated or of having hidden agendas, which may even amount to corruption: "*something fishy going on*", "*crooked*", "*no will*", "*neglected us*":

> I am tired of hearing about these studies that have been done over and over (Bonne-Espérance 90).
>
> The link between St.Augustine and Pakua Shipi, Harrington and Chevery were a priority but it seems that someone decided to connect La Tabatière to Tête-à-la-Baleine instead […] Politics have neglected us, we [Harrington Harbour] don't even show up on the projected route of the 138! (Harrington Harbour 85).
>
> They give us little sections just to say, here, shut up with that and that's it, that's all [...] they don't want to; there's a will somewhere that just doesn't want (Tête-à-la-Baleine 43).

Frustration is sometimes linked to scepticism, but more often to hope. For the most part, however, it remains independent of both.

Skepticism reflects the pessimism felt by several people regarding whether the road will ever be built, or at least not for several decades, or, more rarely, regarding what it will actually achieve. It is expressed in terms of uncertainty, such as "*I don't know*" or "*maybe it will be done*". It is rare for skeptics to express hope:

> I don't know if we'll see that day ourselves (Tête-à-la-Baleine 48).
>
> I don't know if I'll ever see it, anyway [laughs] (Tête-à-la-Baleine 46).
>
> Will we get it? We'll have to wait and see (Kegaska 25).
>
> I won't see it. I don't know if my kids are gonna see it. […] That's only wishful thinking (Saint-Augustin, 64)
>
> I will never see it. Nobody will see that (Saint-Augustin 8).
>
> We're not seeing that here for a long time (Saint-Augustin 15).
>
> For myself, I knows I'm not gonna see it (Mutton Bay, 53).
>
> I know, pretty well certain that it's not going to happen in my lifetime (Chevery 30).

Very few skeptics express any hope regarding the construction and what it will bring, and what hope there is tends to be rather tentative: "*It's our last hope*" (Bonne-Espérance 72), "*eventually I think so*" (Chevery 30).

Finally, the **ambivalence** expressed by some is interesting, even if less widely represented. It is not necessarily held by people who have mixed feelings about the road: they may well want it. It often reflects perceived negative impacts of the road's completion. Thus, those

concerned emphasize that the road will not bring only benefits, that it will come at a cost, for example, through the deterioration of the environment or locally available services, and that it will bring about significant changes:

> Yes, we'll be connected, but there are repercussions (Unamen Shipu 20A).
>
> It'll be good, it'll be bad; I'm stuck in the middle. [...] But it also depends on how we develop [the land] around it (Unamen Shipu 19A).
>
> It wouldn't solve the climate-related challenges (Tête-à-la-Baleine 45A).
>
> We get one service, we lose another. […] It's a give and a take (Mutton Bay 51).
>
> There's plus and minuses with the route 138 (Kegaska 25).
>
> It wouldn't all be good, but the good would far outweigh the bad (Harrington Harbour 39).
>
> Not that it's a saving grace, but it could bring more people, which bring more money, which boost the economy and… and when you do that, the other side of the coin is you lose… some of the specialness, I guess that we have here (La Tabatière 54).

Ultimately, the vast majority of people are in favour of the road's construction but are deeply frustrated by the way things have turned out, and even skeptical about whether it will ever be completed. This does not prevent some of them from harbouring hope, a hope that is not necessarily based on concrete evidence. In this regard, see the Master's thesis by Marianne-Couture Cossette, which examines the symbolic and material values attributed to the route 138 project, as well as the structural dynamics at play surrounding the absence of this infrastructure, which is nevertheless central to life on the Lower North Shore, particularly in Tête-à-la-Baleine (Couture-Cossette, 2024).

7.2.4 Perceived and Anticipated Impacts of Route 138

7.2.4.1 Positives

We asked participants to share their views on the positive and negative impacts of completing (or not completing) route 138. Two-thirds said they observe, experience or anticipate positive impacts from the completion of the road (or negative impacts from its non-completion), which is far more than the negative impacts. They perceive or are experiencing these impacts, but the majority anticipate them. The perceived or experienced impacts, which dominate in terms of both the number of mentions and the number of people, can be broken down, in order of importance, into four interrelated themes, which have already been discussed repeatedly in this report. They correspond to the main anticipated impacts. Overall, the arguments and wording used to describe these anticipated positive impacts directly echo the negative impacts discussed below.

Firstly, participants believe that the **road would contribute to demographic and economic vitality** by countering the exodus of young people, but also by helping to keep people in communities that are ageing (Video 19). This is a matter of "*survival*", as "*the population is*

trickling down, trickling down" (Harrington Harbour 39). The economic aspect is less prominent, although the lack of jobs (due to the absence of a road) is cited as one of the reasons for the demographic decline. It is argued that the road would stimulate job creation: "*If 138 was there, a lot of them products could get process here in our region…* […] *It would cost less in shipping for fishermen*" (Bonne Espérance 4B).

Video 19: Demographics, Exodus and Route 138 (Harrington Harbour)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A6

The anticipated impacts also relate to access to goods and services, particularly medical services, though not exclusively. On the one hand, this involves being able to deliver more goods to the Lower North Shore more easily and at lower cost, whether to shops or directly to people's homes; on the other hand, it involves being able to access specific hospitals, grocery stores and schools more easily.

Furthermore, route 138 would help lift communities out of their isolation, particularly in winter, when this is exacerbated by the impassability of the Route Blanche due to climate change:

> That winter road, it's… a fundamental part of who we are as a culture on the Lower North Shore, historically. And probably, on a certain scale, economically, too. It was always that commute back and forth, the interaction between the communities, to break up the solitude and the isolation, and remoteness. And that was kind of a critical link, you might say. And that's in jeopardy (Bonne-Espérance 6A).
>
> Our Route Blanche, how should I put it... our... freedom (Chevery 28).

The question of freedom is fundamental here, as expressed by this person, who now speaks of it in the past tense: "*the life on the Coast was the freedom to travel into wintertime*" (Harrington Harbour 39). Finally, in relation to the previous quotes, the road would contribute to **freedom of movement**, which is currently restricted by its absence, leaving the Coasters dependent on air and maritime transport: "*Road is less vulnerable to weather events compared to the Bella Desgagnés*" (Kegaska 25).

The survey results point in the same direction. When asked, "*In your opinion, would extending route 138 between Kegaska and Old Fort help to reduce the impact of climate change on your travel and access to essential services?*", 76% of respondents said yes, 13% said perhaps, and 11% said no. Overall, **the road appears to be a matter of survival** for many of those who spoke about it: without it, the communities of the Lower North Shore are doomed to a slow decline, but the possibility of the road's construction represents an opportunity, a hope, a "*future*". Indeed, the lexical fields to which the comments refer are those of (sur)vival, decline, and doom/salvation:

> It can save some of our little communities (Bonne-Espérance 2B).
>
> That [the road] would enhance everyday life and bring prosperity and hope back into the future! (Blanc-Sablon 74).

In the testimonies, roads and revitalization are closely linked: without roads, there can be no revitalization. But to revitalize, we need roads!

> They're gonna say: "*Well, why are we going to put a road if nobody there?*" That's the way to weed out the villages, maybe (Saint-Augustin 14).
>
> And if eventually we can have a link to the outside world, I'm not saying every community will survive, but at that point, there might be a regrouping of communities among themselves, possibly. That is my hope (Chevery 33).

For the majority of those who have spoken out on the subject, the road therefore represents a source of hope for retaining and attracting residents, creating jobs, generating economic activity (primarily linked to tourism and the exploitation of natural resources), facilitating access to goods and services, and combating isolation by promoting freedom of movement.

7.2.4.2 Negatives

When it comes to the negative impacts of completing route 138 (and the positive impacts of not completing it), participants are generally somewhat less vocal. Nearly a third expressed concerns about the arrival of the road (whether actual or potential), the vast majority of which relate to anticipated impacts, rather than those actually perceived or experienced. The primary concern relates to the **way of life and identity** of those affected, who fear these may be threatened:

> They fear like if the road comes through their lifestyle and their communities' change…[…] Some people feel like we're a well-kept secret, a pristine area (Bonne-Espérance 3A).

This last point is closely linked to the second concern: people fear for their **peace of mind**, mainly for **safety** reasons. They cite examples such as having to lock their doors or cars due to the increased disturbance caused by passers-by. Another concern relates to young people driving whilst intoxicated or under the influence of drugs, causing serious accidents, a worry that is particularly prevalent in Unamen Shipu and Pakua Shipi.

The perceived or experienced impacts affect a minority of people, which is to be expected, as few respondents have access to the road, but they mention them repeatedly, demonstrating the importance they attach to them. Among these impacts are issues of safety and peace of mind (locking one's door, etc.), but also the **loss of services following the arrival of the road**, such as the closure of the post office and the airport, or the end of air travel subsidies:

> There used to be five grocery stores just in St. Paul's and they were all surviving. But now we have one (Bonne-Espérance 4A).
>
> If we have the road to Chevery, are we gonna have like the service, like the helicopter and the taxi boat? Well, probably not (Harrington Harbour 41).

They highlight **economic challenges**, including the commercial costs associated with transporting goods by road, which is more expensive than by sea, as well as economic competition with businesses in other communities linked by road. This last point may come as a surprise, as one of the anticipated positive impacts is that of economic opportunity, with the idea that the connection will help create jobs and open markets... However, whilst this may hold from a regional perspective, from a local perspective, certain businesses and activities are suffering because of this connection, according to the results of the interviews and mapping workshops, particularly in Kegaska.

A final point that may come as a surprise is that some people believe, or claim to observe, that the road is detrimental to demographic vitality, as it allows people, mainly young people, to leave their communities easily, never to return. Yet we have seen that the road is perceived as an opportunity for the demographic vitality of communities. There is therefore no consensus on this point:

> What happened is that they [Kegaska] couldn't retain their youth because the minute the road opened, the young people said: "*Oh! I have a road to get out.*" And they leave (Blanc-Sablon 7C).

It may therefore be, above all, a fear of change that most drives these negative attitudes towards the road, a fear of seeing one's way of life, peace and quiet, and safety disrupted, either as an individual or as a community… and, ultimately, of jeopardizing the unique character of the Lower North Shore.

7.3 Other Current, To-Be-Improved, and Anticipated Adaptation Strategies and Measures

The following sections summarise the analysis of the strategies that communities have implemented and plan to implement to adapt to the changes in the local area described throughout this report, and to preserve their practices and way of life.

7.3.1 At the Institutional Level

This type of strategy and measure is carried out or implemented at a macro level. It involves one or more institutions, including governments, local elected representatives and

organizations. One question in this research sought to determine whether people are aware of the measures in place to adapt to climate change. The vast majority of responses indicated that **no such measures are in place**:

> There aren't really any alternative measures. If it's a foggy day, well, you just suck it up. You take it, you wait for the weather to clear... I don't think we're gonna fall apart or nothin well, "fall apart" ain't the right word, but you can't exactly rig up a different way to run a service when the fog's rolled in, you know? At the end of the day, there's just nothing you can do (Unamen Shipu 59).

However, the data gathered during the analysis show that there are indeed certain measures or strategies in place at the institutional level, but these may not be seen as directly linked to climate change adaptation, or they may simply be unknown. Indeed, responses such as: "*not aware of any measures in place to help people and communities adapt to consequences of climate change*" and "*not to my knowledge*" were received. The strategies in place are mainly related to security, mobility and policy.

7.3.1.1 Safety Strategies: Coastal Erosion and Wildfires

Strategies to combat erosion are mentioned by participants, who are particularly vocal about these strategies in Kegaska, Chevery and Blanc-Sablon. Specifically, they mention the relocation of houses and electricity poles, the collection of data on the progression of erosion, and the installation of breakwaters or rocks armour: "*There are things that, I know, are being looked at a lot in relation to erosion*" (Chevery 35); "*the MTQ is possibly planning to move route 138 further inland because of the erosion problem there*" (Blanc-Sablon 55). Despite the existence of erosion assessments, a resident of Kegaska expresses dissatisfaction at the lack of concrete action in the face of rapidly advancing erosion:

> [In] the meantime while this study is being done, what's stopping the waterfront from going out into the sea? It's ridiculous, some of the things that the… these people come up with, whoever they are, like. Instead of waiting for us to lose what we have… "*Oh, we're going to do the study first."* So a year or two, we might not have anything left there! [pointing out the thin land leading to the wharf] (Kegaska 25).

Regarding forest fires in Saint-Augustin, a certain contradiction has been identified, with some people highlighting the absence of strategies and others pointing to their presence. Those who mention the absence of strategies refer to the inadequate evacuation plan. The population of Saint-Augustin can be gathered inside a building, but there is no real strategy for leaving the village if the situation deteriorates seriously:

> If ever there is a fire I don't know what [accent on the word "what"] we would do… for to get the people out. If the tides is not right, if the tides is not high, high, well you can't access through there (Saint-Augustin 9).
>
> If a massive wildfire broke out [on the Lower North Shore], you know, there's just no infrastructure for...I mean, we could lose a whole village (Harrington Harbour 39).

Another person highlights the lack of regional and provincial recognition of the forest fire issues in Saint-Augustin:

> And the problem is too the MRC don't recognize that, they don't recognize our problems. How could they help? They don't... They probably don't even take it seriously. Because if they did, they would be doing those things. I shouldn't be lobbying for it. It should be them, right? […] I mentioned it to the MAMH when they came to the village [...] at the fall of 2022 and they said: "*Well yes it's possible we could get somebody to a sectoral agreement or something*." But in the end they did nothing, they didn't even call me back on it. They said to contact the MRC. I called back the MRC, they didn't respond to me until I think March or April and they said: Oh well we can't do it, it's too late (Saint-Augustin 8).

Among the measures in place to tackle forest fires in Saint-Augustin in particular, a fire alert system has been set up. Alerts are broadcast via the local radio station, and a person capable of operating a fire engine is designated:

> [We've] tried a new strategy with having at least one key employee in the village [during the summer] and another one on call so that someone is at the municipal office seven days a week, and that person is capable of using the fire truck and the pumps and the other person is on call that week that he is not working and if he needs his assistance he could be here in like 30 minutes (Saint-Augustin 8).

Recently, most communities on the Lower North Shore region, in collaboration with the Ministère de la Sécurité publique (MSP), have begun work to mitigate the risks associated with wildfires, with a view to implementing the recommendations of the Société de protection des forêts contre le feu (SOPFEU). For example, a preventive management measure has been implemented to reduce forest density near communities. As a result, preventive felling has led to the removal of numerous trees directly within and around communities. This is because the boreal forest of the Lower North Shore is an ecosystem naturally subject to fire regimes that play an important role in ecological succession and forest regeneration. Concerns regarding fires are therefore closely linked to this situation, as well as to the 2023 fires in the boreal forest elsewhere in Québec, and more recently (2024), not far from Chevery on the Lower North Shore.

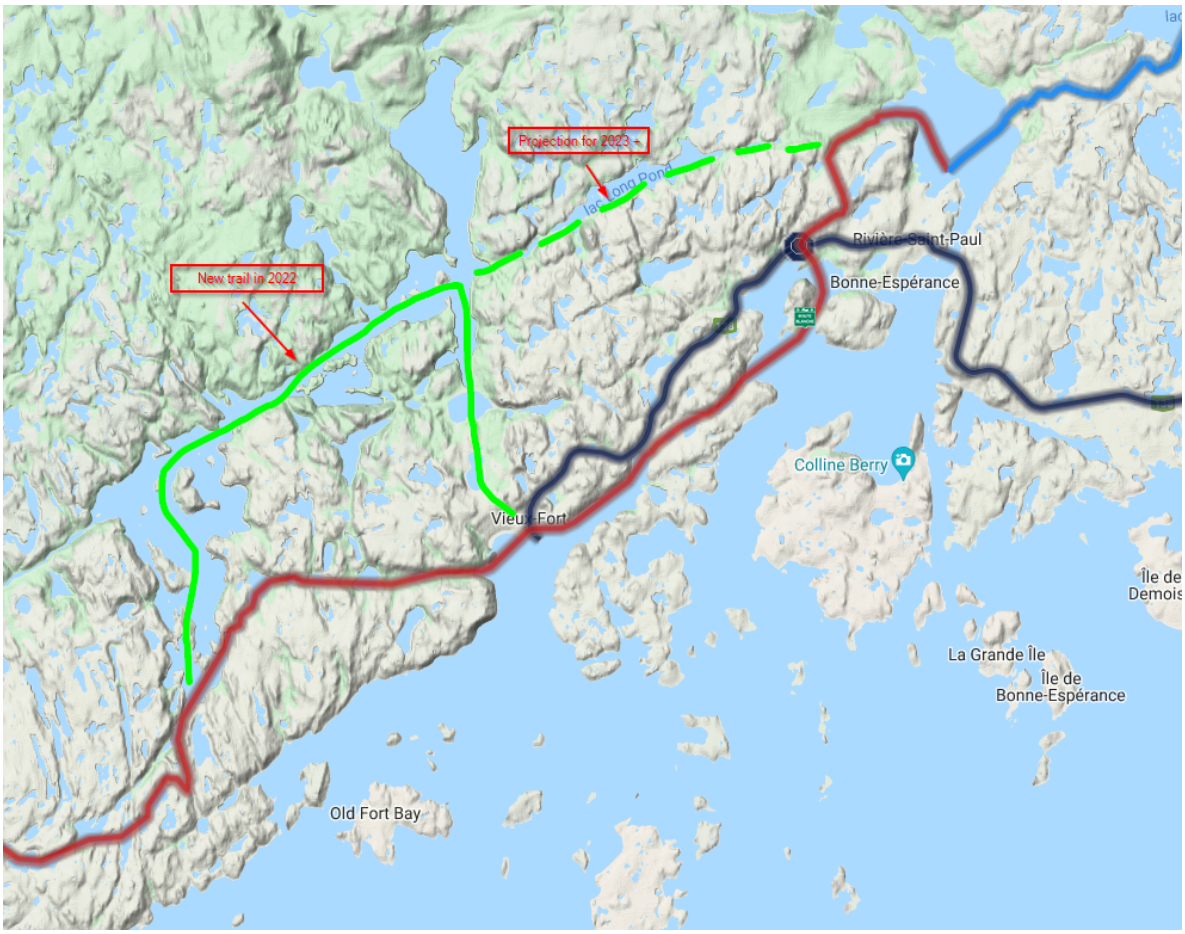
7.3.1.2 Mobility-Related Strategies

According to the research participants, companies and governments are slow to implement measures and strategies to adapt to climate change in the transportation sector. Perhaps the public is simply not sufficiently informed about these strategies, or perhaps there is genuinely a lack of foresight on the part of decision-makers? However, a few strategies or changes implemented in transportation services directly linked to climate change were mentioned or proposed during interviews or workshops, particularly regarding the Route Blanche. We do not address mobility strategies related to route 138 here, as these have already been covered in the previous section.

Regarding the Route Blanche, it is noted that the MTMD is gradually rerouting the route inland, where the ice on freshwater lakes and rivers freezes more readily than in deep saltwater bays (Figure 41). This is to avoid areas that become more dangerous when the ice is unreliable or absent:

> I made a note right here, this is the old skidoo trail, right [he draws the new trail on the map]. But this is where the new one goes, which is all inland with couple lakes. And the old one you gotta cross sea ice, and I mean last five years there is been winter where it hasn't been safe to cross because of the thickness of the ice so… that's why they had to move the trail inland (Bonne-Espérance 4C).

Figure 41: Rerouting of the Route Blanche between Old Fort and St. Paul's River



Source: MTQ, 2024b.

Research participants expect that efforts to **divert the route** further inland will continue in the coming years to improve safety: "*Services priorities should be to detour the Route Blanche further inland*" (La Tabatière 52).

This does not preclude the closure of the new route when the Route Blanche is impassable due to failure to meet its opening criteria, such as ice and snow thickness. Occasionally, experienced and reckless snowmobilers use the Route Blanche despite its closure. For safety

reasons, participants suggest that the MTMD leave the markers in place at all times, in line with actual use by residents, to improve safety, even when the route is officially closed. This would mitigate the risks of snowmobile use under adverse weather conditions. In practical terms, this means installing the markers earlier in the winter season and not removing them too early in the spring:

> [The] contractor who's responsible for the part of the eastern sector of the Route Blanche told their employees to begin to take up the marks on the Route Blanche. Why? If you take out the marks before people are finished travelling and I understand today is very, very warm, but there's still people that are travelling, still local people that are going go. And if you take the marks out, you're inviting more risk because it's easy to get lost (Chevery 31).

In the maritime transportation sector, stakeholders say that certain decisions have been taken in response to climate change, but that these are not being implemented systematically or sustainably. For example, due to warmer waters and milder winters, the shipping lane is now ice-free or partially ice-free. The Belle Isle Strait ferry between Blanc-Sablon and St Barbe (Newfoundland and Labrador) now operates year-round, whereas previously the service was suspended during the winter due to ice.

However, it is noted that, since the Bella Desgagnés extended its operating season by a few trips, the barge service transporting goods from the federal wharf across to Saint-Augustin has not been synchronized with the new extended timetable, even though ice is no longer an obstacle. A lack of willingness to improve transportation services is highlighted. It is hoped that the service provision will be reviewed considering the current and anticipated situation:

> I think that if this climate change thing is here to stay, then I think that our transportation providers here, maritime transportation provider specifically needs to reevaluate their operational season (Chevery 31).

In fact, of the 220 comments specifically concerning transportation management on the Lower North Shore, only 16 were positive regarding the current adaptation of transportation to climate change. Participants are sympathetic, recognizing that companies are doing the best they can given the difficult circumstances on the Lower North Shore. Regarding air transportation, inaction, as well as the lack of solutions when weather conditions are unstable, such as strong winds or storms, are criticized:

> This morning, the helicopter should have been here [in Pakua Shipi - Saint-Augustin], that Route Blanche is closed. It's solid ice. It's safe but it's closed. They're supposed to have a helicopter. It's not here. They expect us, they expect the population to find solutions when they can't find them. The hovercraft is in the building, took apart. It's in pieces. If it was ready to go, it should have went yesterday (Saint-Augustin 8)

Some people are calling for a reduction in airfares due to the increased costs associated with climate change, particularly when the Route Blanche is closed.

7.3.1.3 Political Strategies

The main political strategy that emerges from the interviews is **collaboration between elected representatives**, which is seen as a means of advancing the region's demands. Here again, just as many people highlight the presence of this strategy as its absence. On the one hand, a few people stress the importance of such a strategy of collaboration between political actors. According to them, this strategy is becoming increasingly established; it has improved and become more robust over the years, particularly given the scale and growing number of challenges faced by communities in dealing with climate change:

> But I'm telling you, we're on the same page right now. It's the truth. We were finally on the same page for the area. […] I feel a little more optimistic than in the past when all the mayors, for instance, were fighting against each other. And that's what happened (Bonne-Espérance 2B).
>
> We all work as one big family, for the most part. And we always see the villages helping one another, get things done, having feedback and… Yeah, we just usually always work together to try and find something. We all have the same kind of issues at a base level. So having others understand from different villages and see their opinions and ideas, we definitely work together in that sense(Harrington Harbour 36).

On the other hand, a minority of people believe that there is a lack of political cooperation on various issues, including climate change and security: "*I don't think [the villages are working together]. That's like I said earlier, if they'd work together, maybe we'd get more*" (Saint-Augustin 64).

Programs and Policies Barriers

The programmes and policies identified in this analysis are closely linked to air transport, a source of considerable dissatisfaction. This is consistent with the findings in Chapters 4 and 5 on transportation and essential services. Given that air travel is a mode of transportation affected by climate change, and in addition to the fact that transportation support policies and programmes are ill-suited to the realities of the Lower North Shore, they may also be ill-suited to the complications likely to arise due to weather and climate change (flight cancellations, delays, etc.). Thus, four programmes and policies stand out more specifically in the analysis, and it is mainly complaints that are expressed regarding them.

Firstly, some people have raised concerns about the **PAAR** (see subsection 4.3.1.3). Secondly, as seen in Chapter 5 (5.2.1.1), **the transportation and user reimbursement policy of the CISSS Côte-Nord**, managed by the provincial government, is far from universally accepted. They also criticize Air Liaison's monopoly, which results in a lack of competition among airlines. There are also suspicions of collusion or corruption in the awarding of contracts. This is even more worrying because the strategies relating to the most criticized essential services are in the health sector. The suggested strategies are to facilitate access to a psychologist, to develop a partnership with the Newfoundland and Labrador Health Centre, and to facilitate access to dental care.

Thirdly, although this does not relate to any specific programme or policy, some people have expressed grievances regarding the **provincial government** in general. They express dissatisfaction with the choice of funding priorities, particularly regarding the completion of route 138: "*It is amazing how much time we spend on the problems we are having with* [these government handouts, with the helicopter]*, that a 138 could pretty much almost solve*" (Bonne-Espérance 4D).

And fourthly, a sense of dissatisfaction at **not being listened to or consulted** emerges from the interviews and workshops, fuelling the feeling of being forgotten as a region: "[The people making decisions are] *sitting on their desk in Québec somewhere or wherever they are working from. Not even thinking about our people*" (Saint-Augustin 9).

These last two points represent the main obstacles cited in relation to the measures in place. No direct questions were asked about the population's feeling of not being listened to or heard by governments in the interviews, focus groups and survey, but participants spoke about it spontaneously and at length:

> Small don't mean obsolete. Just that we're small, that don't mean that we're not important. We're just as important as anyone… ten times… a hundred times the size of us! (Kegaska 25).
>
> We're here and we might not be very big, but we're still here and we matter (La Tabatière 54).
>
> We're very small communities, very small voice in a stretch of land that nobody really knows exists, you know, when you look at a map, there's nothing there, but we're here. So I don't…, like I said, I think there's, there's a lot that could be done but it's hard to get, it's hard to get government agencies and these type of things to agree to that right now (Chevery 31).
>
> Can somebody listen? Is somebody going to listen? [...] I don't think we're big enough now, we're losing population every year […] We have to get management in a proper context, where they come in and they sit down and listen, on the scale, what we're trying to say about what we're seeing, what we're observing. [...] The adjustment and adaptation that's required for us to live in the environment, manage the environment, be able to operate [...] An uphill battle. [...] an existential problem. Because our… futures are at stake here, as human beings! [...] It has to come from us and… if we got governments representing us, that are saying they're representing us, and we sit here and we see the capelin gone, the herring gone, the salmon gone, the cod gone… And… the snow no more. We're not gonna blame the snow on the government. But we're gonna blame what we're seeing, some of the species' mismanagement, on mismanagement (Bonne-Espérance 6A).

7.3.1.5 Desired Regional Development Strategies

Tourism is a sector that seems to offer great promise in terms of economic and social vitality. Indeed, among those who identify one or more development strategies, nearly half cite tourism and ecotourism as their primary anticipated strategy for economic development.

Tourism is also closely linked to road infrastructure, which would make it easier for visitors to reach the region:

> With the access to 138 up the Coast, tourism would just like skyrocket (Bonne-Espérance 4C).
>
> And I think… it could be… I mean that's a whole other issue when we're speaking about a road being created, but there could be a beautiful tourism industry, that would be created out of that. Uh… should that be able to happen, but I think that the, the big draw here is… you know it's certainly not an industry here or anything because we don't have big industries anymore as we did in the past, it is that love of nature and beauty and peace and freedom (La Tabatière 54).
>
> But I'm sure the road would bring new initiatives, like for tourism. Above all, tourism. Because this Coast is very scenic, you know? […] A tourist coming from Montréal or Québec I'm sure they would find lots of things to be interested in (Kegaska 27A).

The report highlights both significant potential and a lack of tourist facilities and services. It also suggests drawing inspiration from existing models in the fields of tourism and ecotourism:

> We see here, since the road—and it's getting more and more every year, […] But we don't have [...] enough to accommodate the tourists (Kegaska 27A).
>
> Like the Lofoten Islands and all that, in Norway, how they developed that. Hey! It's stunning, people go crazy for it over there! [...] Especially those who love nature. That's exactly what we have here, it's the same, we have almost the same climate and everything. It would be really interesting to develop while respecting nature and... well, selling it, the nature, but visually and all that, and taking advantage of it to go camping... [...] you can camp just about anywhere. That's what's pretty cool too. You don't always need hotels (Unamen Shipu 19B).
>
> The Lower North Shore has so much to offer in tourism. The viability that could sustain the Lower North Shore, it unbelievable that it's not being used as a critical source of revenue (Bonne-Espérance 90).

Those interviewed also mentioned the intention of *Voyages Coste*, the regional travel company, to introduce an incentive scheme to encourage tourists to take out travel insurance. This insurance, which would cover cancellation costs, would prevent local businesses from losing money on bookings in the event of cancellations due to adverse weather conditions:

> What we want is for people taking excursions to get insurance, [...] we encourage people to get insurance, because if [...] it's us and we can't make it to the dock, that's one thing, we're the ones not providing the service, but if it's... on board the boat because they're late for whatever reason, we want people to have insurance... then they'll be compensated too (Tête-à-la-Baleine 46).

On a different note, here are some unique suggestions that emerged from the data collection: it is proposed that efforts be made to encourage immigration to regional areas as a solution

to depopulation: "*Could immigration be a possible solution? Possibly*" (Chevery 33); one participant, meanwhile, suggests a strategy of adaptation involving the relocation of the population: "*The 138 is 25 years too late. Seniors will never live to see it.* [It's] *time to think about moving communities if transportation is not going to improve since the road is way out of reach*" (Harrington Harbour 70); hiring a community liaison officer or spraying insecticide to reduce mosquitoes are also mentioned as other strategies.

Without explicitly considering it a proactive strategy, when discussing the region's vision for the future, people emphasise the importance of raising awareness of the Lower North Shore and talking about it, particularly through research. Still on the subject of visions for the future, people also highlight the importance of the link with research and researchers:

> I don't think it's declining because, like people like you now are… they are more professionals that are gonna be more worried, more investigations about the water, the ice, I don't know, also the diversity. So for the fisherman, what is happening with that, the temperature of the water there is gonna be something good, on that. But to fight against the climate change, it's there already it's happening now, [...] you have to, to take the shape of what's happening (Tête-à-la-Baleine 45B).

7.3.2 At the Citizen Level

Citizen-level strategies refer to actions implemented or planned by one or more individuals, or by a family. These strategies may be implemented in specific communities only or across the entire region. Unlike institutional-level strategies, they are not implemented by institutions or governments. They relate to intra-regional mobility (within the region), food and energy.

7.3.2.1 Mobility-Related Strategies

When it comes to getting about, Coasters and Innuat say they have to change or adjust their journeys or the routes they take. This includes allowing more time for travel, changing their timetable, cancelling plans or, sometimes, simply giving up on activities altogether. The way people talk about these adjustments, which are part of everyday life, is mixed. People will *"postpone their departure*" due to poor conditions or "*brave the conditions"*, make "*Plan A and Plan B*" arrangements, or "*avoid certain places"*. However, the resourcefulness and organizational skills of people from this region in finding solutions are spoken of with pride.

Climate change complicates the planning of sports tournaments, carnivals and other key regional community gatherings, as seen in section 6.5.4. Adjusting the schedule of these events, postponing them to a later date during the winter in the hope of avoiding weather-related cancellations, is therefore commonplace. Sometimes, the situations involved are complicated or dangerous:

> At the start of winter, we get around by four-wheeler (ATV). We don't go as far, but we use the four-wheeler. In the spring, well, spring is a whole other story—it's

> complicated because everything's melting. So your four-wheeler... it just can't go because it's... it's dangerous (Chevery 35).

Other common adaptation measures include modifying and diversifying the modes of transportation used. This is sometimes done for safety reasons or for economic reasons (sub-section 6.5.2.2):

> After a while, people'll stop buying snowmobiles, or they'll have just an old one or something (Harrington Harbour 39).

Diversifying modes of transportation is proving to be an effective adaptation strategy at the household level. This means that each household owns several modes of transportation (snowmobiles, ATVs, Argo, quads, boats of various sizes, trucks, etc.), enabling them to adapt to the seasons or changing weather conditions:

> Most people have different methods of transportation. The majority of people in Mutton Bay have a vehicle, they have a boat, they have a 4-wheeler, an ATV, a snowmobile. […] you know every method that you can think of to move, whether it be on the land, on the water, over the ice, most people have something of everything so you can get where you have to go (Mutton Bay 51).
>
> Since people are extremely resilient, it's only natural to gear up for these new climate realities. Whether it's getting a 6-wheeler instead of a 4-wheeler, an Argo, a better snowmobile, a truck, and so on. These items are absolute necessities on the land, they aren't just for fun (Tête-à-la-Baleine 66).
>
> So people are good at accommodating. I have a boat… I have two boats. I have, you know, four or five snowmobiles. I've got a couple of ATVs (Harrington Harbour 37).

The answers to the online survey are consistent with the data gathered from interviews and participatory mapping workshops. In response to the question *What strategy or strategies do you plan to put in place to adapt to these changes* [climate change-related] *in your way of life?*, nearly half of respondents cited reducing the frequency of travel (44%), whilst just over a third (39%) mentioned, in equal measure, changing the means of transportation used, changing the activities undertaken, and moving away from the Lower North Shore. This last strategy did not feature as prominently in the qualitative data from the research, whilst only one person mentioned moving to another community on the Lower North Shore, which is connected by road, to have easier access to medical services. Also in the survey, changing the destinations visited was cited by 27% of respondents, whilst nearly a fifth stated they had no strategy (18%). To a lesser extent, a few other strategies emerged, such as acquiring personal equipment to cope with climate change (more suitable snowmobiles and boats, food self-sufficiency) and agricultural and medicinal production.

7.3.2.2 Food Security Strategies

People living on the Lower North Shore employ a variety of strategies and adaptations when it comes to food and food supply. Growing vegetables in greenhouses or gardens, both for enjoyment and to reduce grocery bills, is one such strategy:

> C - Growing a few vegetables. The cost of food is so outrageous around here, and, hell, green vegetables and stuff. [...]
> B - That again is all money.
> C - I grow, uh… to subsidize my income, I guess, you would say. I grow a lot of the root vegetables, strawberries, and onions, and garlic and all this sort of stuff (Bonne-Espérance 6CB).

Some mention going out to buy meat or stocking up in town in the autumn. And for households that can afford to, they place large orders before winter:

> We buy our meat from the outside where the prices are better. When we go to the city, we're practically hunting through stores like wolf-dogs [...] And sometimes we have our daughters who live in the city buy things for us. They're our best lifelines (Tête-à-la-Baleine 48).

> A lot of people take it upon themselves, they'll head out in the fall by boat, go to the city, stay with family, and do a massive grocery run. But some people just don't have the means to do that. To drop 4,000 dollars or 5,000 dollars on groceries all at once. For us, the kids are grown now. We don't do it anymore, but back when we had the kids, that's exactly what we did (La Romaine 24).

Still about food, some people have noticed a certain loss of food autonomy with the arrival of shops and supplies brought in by boat. They see this as a loss of self-sufficiency, which is a consequence rather than a strategy, but which also reflects a certain historical adaptation. One person recounts that, in the past, eating chicken or turkey was a treat at Christmas. Now, it is fish and seal meat that are the exception, given the difficulties in accessing them, both practical and financial. She believes that the abundance of food in shops means "*we are moving away from our self-sufficiency. In the past, local food was a staple and food from elsewhere was a treat. Today, it's the other way round*" (La Tabatière 50A).

7.3.2.3 Energy

Although to a lesser extent, energy is mentioned on a few occasions in the adaptation strategies, particularly in relation to heating using hydroelectricity (see section 6.4.4). For example, to describe the combination of different types of heating (wood-fired, electric) with the use of a generator for times when there is no electricity. Comments regarding hydroelectricity mainly concern the access of households on the Lower North Shore to Hydro-Québec's services for their electricity supply. In this region, homes have traditionally been heated using wood. The increase in the use of hydroelectricity for heating could be partly explained by the milder winters of recent years caused by climate change, which prevent or seriously complicate the harvesting of wood by snowmobile. The adaptation is therefore to heat using hydroelectricity. However, despite the availability of Hydro-Québec's service, power cuts are frequent. To cope with this situation, many households have gas generators as a backup solution:

> If the power goes out, most people have a wood stove for the backup for to heat your home in case such an event occurs (Mutton Bay 51).

> A lot of them got electric heat, but a lot of them still have backup (Blanc-Sablon 65).
>
> When my son was born, he was two weeks old, the power went out for two weeks. I bought a generator the same year. Because we didn't… We don't even have a water line where we're at, on that end of town. So I had to deal with my own water and everything (Chevery 32).

However, the time taken to restore power remains a challenge:

> Our power was going multiple times a year. Gone maybe two days at a time, a day at a time, take forever for [a Hydro-Québec] crew to get it to see what the problem is (Kegaska 25).

In conclusion, this chapter demonstrates that the people of the Lower North Shore are seeking solutions or strategies to continue living in the region despite climate change, the challenges of depopulation and changing way of life. While these strategies are not always clear, the willingness or the importance of trying something different, of no longer relying on what we already know or do, seems to be emerging. Mirroring the unprecedented changes taking place in the region, whose longer-term consequences remain unknown, the population is questioning the status quo and exploring different paths. These efforts reflect their attachment to the region and its people, as well as to the way of life associated with it:

> We can't continue living the way we do with the climate change. We have to change to be able to live in the environment of changes right. So I hope at some point we'll be able to say: You know what, I'm going to the airport, I don't have to wait 6 hours or anything like that, and I don't have to worry if I'm going to fall through the ice if I go on my skidoo, you know. That's the stress. We need the change to be able to adapt, otherwise we're not adapting to the changes, we're just living with it, there's no improvements (Saint-Augustin 8).
>
> Don't rely on… what was. You have to take whatever comes. Don't rely on what you knew, or what you may think. Whatever comes, you're just going to have to adjust. [...] You have to do something else, take a different path, or… change the way of thinking or come up with new ideas, or new modes of transportation, new modes of flying… You know? You just got to adjust and change your thinking (Kegaska 25).

Conclusion

This research documents the major transformations experienced by the Lower North Shore's communities and people in relation to climate change. It reveals that these transformations are coupled with other structural sociodemographic and economic issues that are significantly impacting this region. Through a methodological approach that combines several methods and mobilizes local knowledge and experience, it highlights the extent to which climate change hinders mobility, undermines the stability of infrastructure, jeopardizes access to essential services — particularly health services — disrupts cultural and social practices, and affects the economy and demographics through the exodus of young people, compounded by the pre-existing aging of the population.

Despite one of the limitations of this research, which was access to data from transportation companies, ministries, or other institutions serving the Lower North Shore, which is difficult or impossible to obtain systematically and is sometimes incomplete, the results reveal the extent to which the unpredictability caused by climate change exacerbates geographic isolation and inequalities of access to essential services. Yet, beyond these findings, this research also demonstrates a strong will to adapt, as the people and communities of this region have always done. While geographic isolation and winter access have historically fostered autonomy, resourcefulness, and adaptation to a wide range of transformations, those related to climate change are unprecedented and disconcerting. The individual and community adaptation strategies that have been adopted or proposed illustrate the desire to preserve the way of life and strengthen local and regional solidarity. However, institutional and governmental strategies are long overdue, particularly regarding improving transportation services and connecting to the extra-regional road network. Route 138, the driving force behind shared regional aspirations to open the area, is more necessary than ever, according to Coasters. It crystallizes the challenges of territorial development and community revitalization and is also seen as the best way to address the negative impacts of climate change on the way of life.

In summary, this work contributes to a better understanding of the realities of the Lower North Shore, the Innuat, and the North, and calls for concerted action that fully includes local experiences and knowledge. Clearly, local populations are best positioned to bear witness to the intense territorial transformations they observe and experience daily, and to contribute to adaptation measures. These land narratives call for an urgent need to act. They invite decision-makers to support communities by working together with them, with the local and regional authorities that represent them, and with scientists. History shows that actions and decisions taken without listening to these northern voices and without genuine collaboration efforts are doomed to failure. The case of the Tête-à-la-Baleine jetty is a prime example (Video 20).

Video 20: Supply, Mobility, and Access to Wharf and Marina (Tête-à-la-Baleine)

Access to video:
https://experience.arcgis.com/experience/c731d6591cf04c8b8a6ea3ce53306114/page/Stories#data_s=id%3AdataSource_22-19b2209fac3-layer-10%3A27

Given the extent of the territorial transformations observed on the Lower North Shore, it has become imperative to envision the future through adaptation that is both proactive and flexible, as these changes are not immutable. These adaptations will prove more effective if developed using a bottom-up approach while remaining anchored in the living milieu. Waiting for a plane to get to a medical appointment, picking berries and cloudberries on the islands in the afternoon, ice fishing with family and friends, watching local hockey teams during a tournament at an outdoor rink, sitting in an Innu tent breathing in the scent of tree boughs, or simply watching a snowmobile sit idle near the house demonstrate the ability of Coasters to stay anchored in their living milieu during times of change and unpredictability. Within these practices lies sensitivity, identity, and a sense of belonging woven together by the experience of a deeply lived milieu. It is in this spirit that the following recommendations have been developed, focusing on strengthening local capacities so that communities are at the heart of all the decisions that affect them.

Recommendations

These recommendations are addressed to anyone - individuals, organizations, businesses - working directly or indirectly on the Lower North Shore. The target audience is therefore broad, ranging from citizens of the Lower North Shore who want to learn about and understand climate change in their region, to social movements that need scientific and community data to support their advocacy activities, and policymakers who wish to seek tools to make informed adaptation choices.

Mobility and Transportation Infrastructures

- **Accelerate and finalize the extension of route 138** to end the isolation of communities and improve access to essential services.
    - **Consult and include local and regional community guidance** regarding the priority of road sections to be constructed and their actual needs.
    - **Prioritize the connection of sectors particularly vulnerable to climate change**, notably the Harrington Harbour - Chevery and Saint-Augustin - Pakua Shipi sections.
- **Strengthen the reliability of current air and maritime transportation** through better coordination of transportation modes, as well as frequencies and schedules adapted to seasonality and accessible subsidies. Climate change should not be used as a pretext to reduce or deteriorate service offerings.
    - **Improve the air services and customer service provided by the company Air Liaison.**
    - **Ensure compliance with health and safety standards for Air Liaison's aircraft.**
    - **Extend the operating season of the cargo-passenger ship Bella Desgagnés.**
    - **Promote a higher frequency of the Bella Desgagnés departures** from Minganie or Sept-Îles rather than Rimouski.
- **Document and make accessible the data on service interruptions** across all modes of transport, including the causes and implications of these disruptions, as well as the alternative solutions deployed or considered to mitigate them.
    - **Count and track** the number of flights, stopovers, and crossings that have been cancelled or interrupted, as well as the costs incurred by users, companies, and the government, to respond adequately to the situation.
- **Adapt winter infrastructure** (the Route Blanche and other snowmobile trails) to new climatic conditions to maintain local and regional mobility.

    - **Install trail markers earlier and leave them in place longer at the end of the season.**
    - **Continue relocating the Route Blanche inland**, in consultation with users.
    - **Raise awareness about hazards, changing conditions, and the active and sometimes sudden transformation of territorial landmarks**, to prevent accidents.

- **Acknowledge that the current transportation model** is no longer sufficient and must be redesigned. Build on what already works well, promote best practices, and learn from past mistakes rather than repeating them. An example illustrating this, from the users' perspective, was the decision of using a helicopter to replace the Twin Otter aircraft, which had been providing air service to Tête-à-la-Baleine and La Tabatière for decades. This decision appears to have been a less-than-optimal choice.
    - **Improve and make permanent** the Air Access Program for Regions (PAAR).

Health and Social Services

- **Provide psychological and social support** related to the impacts of climate change and the resulting transformation of living milieux, which can cause eco-anxiety, stress, and distress.
- **Reduce the average waiting time for medical evacuations** and prioritize patients who were unable to attend their medical appointments for reasons beyond their control.
- **Increase the air fleet dedicated to emergency medical evacuations** to ensure that every community has rapid access when needed.
- **Promote partnerships between programs** offered in municipalities and Innu communities to optimize resources.
- **Simplify bureaucratic and administrative procedures** related to medical travel.
- **Cover unpredictable additional expenses** related to cancellations caused by weather conditions.
- **Adapt the healthcare network to the territorial realities of the Lower North Shore** by avoiding uniform centralization. If services are grouped, ensure that this does not reduce the service offer, but rather improves or enhances it.
- **Strengthen services for vulnerable populations** (seniors, the chronically ill, and people living with disabilities) by ensuring equitable access to care.
    - **Review and enhance reimbursement policies**, while adapting them for low-income individuals.
- **Improve access to safe drinking water and sanitation** for all communities.

Local and Regional Economy

- **Take climate change into account when addressing issues of economic and demographic vitality,** and vice versa.
- **Consider all development options** and avoid limiting the economy to a single driver, while drawing inspiration from lessons learned elsewhere.
    - **Rethink economic vitality** in the context of climate change by balancing local subsistence and large-scale projects.
- **Promote the emergence of agri-food and sustainable tourism cooperatives,** while considering climatic and logistical realities.
    - **Strengthen tourism coordination** across the Lower North Shore to better structure the sector.
    - **Provide financial and administrative support to these sectors.**
    - **Require tourism clients to obtain cancellation insurance for extreme weather events,** to prevent the costs from falling on local organizations.

Education

- Collaborate with all local and regional institutions to design an educational model adapted to the region's geographical and climatic realities, within a context of community devitalization, for example, by merging certain schools or implementing a distance learning model, such as Australia's *School of the Air*.

Culture, Local Knowledge, and Social Cohesion

- **Preserve, promote, and transmit local knowledge** through intergenerational and intraregional projects.
- **Support cultural and community activities** despite climatic constraints (e.g., carnivals, sports tournaments, social gatherings) through funding programs that facilitate year-round travel between communities.
    - **Install refrigeration systems for ice rinks.**
- **Support traditional activities** such as fishing, trapping, hunting, berry picking, gathering and wood collecting through climate change adaptation programs, either by facilitating access to activity sites or by supporting community cultural activities to ensure knowledge transmission when these sites are inaccessible.
- **Create spaces for dialogue and memory** that allow communities to discuss the transformations of their living milieux, thereby encouraging regional cohesion and countering winter isolation.
    - **Establish an annual Lower North Shore Day** (public holiday) to promote Innu, Francophone, and Anglophone regional identities and foster social cohesion.

- **Capitalize on new climate normals to encourage the emergence of adapted local and regional practices** (e.g., greenhouse farming or outdoor gardening).

Environment and Biodiversity

- **Incorporate the Intergovernmental Panel on Climate Change (IPCC) reports on exceeding planetary limits into Lower North Shore adaptation strategies and mechanisms.**
- **Implement ecological and biological monitoring programs** to document changes in wildlife, flora, and seasonal cycles, thereby enabling better adaptation.
- **Encourage gathering and market gardening practices adapted** to new climatic conditions by protecting sensitive areas (e.g., wetlands, wildlife habitats).

Governance and Land-Use Planning

- **Implement climate change community adaptability strategies** at both local and regional scales.
    - **Develop a flexible climate change adaptation plan** that considers every impact within a long-term projection, despite rapid changes.
- **Support existing or emerging local adaptation initiatives** (e.g., food self-sufficiency) through various means, including funding, professional guidance, facilities, and other infrastructure.
- **Involve communities in land-use planning related to climate change** through participatory processes.
    - **Foster consultation and coordination** among all stakeholders, municipalities, Innu communities, RCMs, and other public authorities to ensure governance adapted to Northern realities and to avoid duplication of efforts.
    - **Use collective intelligence and local data to guide public policy** and prioritize investments based on real needs, to initiate a comprehensive management of the various dimensions related to climate change.
- **Promote a transversal and forward-looking approach** that encourages collective imagination, creativity, and solidarity to envision new ways of adapting to climate change.
- **Adopt a comprehensive and holistic approach** that integrates climate issues into economic and demographic decision-making.

Research, Documentation, Promotion, and Awareness

- **Continue documenting territorial transformations**, policies, and the biogeographical impacts of climate change to provide relevant and coherent guidance for adaptation plans and climate policies.

- **Organize community training sessions and events** open to everyone on the Lower North Shore to disseminate knowledge about climate change and the transformations of living milieux.
    - **Adapt awareness-raising activities** to different audiences (age, language, culture).
    - **Invite both experiential experts and scientific experts** to share their knowledge.
    - **Communicate current initiatives** being undertaken by communities, the RCM, citizen groups, government ministries...
    - **Provide mental health support during these events.**
- **Value citizen science, experiential knowledge, and local and regional initiatives.**
- **Promote knowledge mobilization and widely communicate** the challenges faced on the Lower North Shore to raise awareness across Québec, Canada, and the world regarding these Northern issues.
- **Foster interregional, national, and international exchanges** to learn from others, particularly other Northern coastal regions, regarding climate issues as well as economic and sociodemographic vitality, to gain a comprehensive vision and find inspiration.

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Appendixes

APPENDIX 1 Vulnerable places

List of places vulnerable to climate change, as identified by the research participants. The communities are listed from west to east. The order in which specific places are listed is random.

Kegaska	Sea ice
	Bay
	Beach
	Coastline
	Route
	Marina
	Old Airport
	Markers
	Fish Point
	Route Blanche
	Inside*
	Golfe-du-Saint-Laurent
La Romaine	Hydro Lake (informal name)
	Bay
	Mountain behind Unamen Shipu
	Romaine River
	Musquaro Lake
Unamen Shipu	Runway of the airport
	Inside
	Coastline
	River
	General

*Regional expression meaning inland.

Chevery	Route Blanche
	Wetlands
	Coastline
	Ferry Route between Chevery and Harrington Harbour
	Inside
	Beach
	Storm Surge Warning Area
	In the Village
	Sea Ice
	Ice Bridge
Harrington Harbour	Ice Bridge
	Coastline
	Sea Ice
	Islands
	Marina
Tête-à-la-Baleine	Route Blanche
	Baie Plate
	Route
	Rivers
	Inside
	Channel
	Islands
	Jetty

Mutton Bay	Baie-des-Bateaux
	Sea Ice
	Routes
	Marina
	Route Blanche
	Wharf
La Tabatière	Gulf of St.Lawrence
	Sea Ices
	Bay (the cove)
	Routes
	Inside
Pakua Shipi	Saint-Augustin River/Pakua Shipu
	Runway of the airport
Saint-Augustin	Saint-Augustin River/Pakua Shipu
	Inside
	Beach
	Bay
	Green Cove
	Islands
	Coastline
	Seal hunting zone (on the high seas)
	General
Bonne-Espérance (municipality)	Route
	Sea
	Bays
Old Fort	Inside
	Islands
	General

St. Paul's River	St. Paul's River
	Islands
	Ferry Route from Blanc-Sablon to St. Barbe, Newfoundland
	Coastline
	Strait of Belle-Isle
	Inside
	Louis Bay
	Bay (the cove)
	Beach
	General
Middle Bay	Bay
Brador	Islands
	Bay
	Coastline
Lourdes-de-Blanc-Sablon	Beach
	Erosion zones
	Islands
	Rivers
	General
Blanc-Sablon (village)	Ferry Route from Blanc-Sablon to St. Barbe, Newfoundland
	Blanc-Sablon River
	Marina
Blanc-Sablon (municipality)	Route
	Sea ice
	Bay
	Summit of hills

Lower North Shore (Regional scale or not specified)	Coastline
	Route Blanche
	Islands
	Sea ice
	Beaches

APPENDIX 1 Cargo Shipping Terms and Conditions for the 2025 Season – Saint-Augustin River - Pakua Shipu

English version not found

AVIS À LA POPULATION
POUR DIFFUSION IMMÉDIATE

Société des Traversiers du Québec

Traverse de la rivière Saint-Augustin

Modalités du transport cargo pour la saison 2025

Québec, le 3 avril 2025 – La Société des traversiers du Québec (STQ) désire aviser la population de la municipalité de Saint-Augustin des modalités du transport cargo pour la prochaine saison. Le NM *Bella Desgagnés* débutera le désenclavement de la Basse-Côte-Nord à partir du lundi 7 avril. D'ici la fonte des glaces sur la rivière, le transport des marchandises se fera en motoneige lorsque la route blanche est ouverte ou par hélicoptère. Le NM *Rivière Saint-Augustin* débutera sa saison aussitôt que les conditions de navigation le permettront.

La STQ, dans un souci d'offrir un service de qualité, informe la population de Saint-Augustin des modalités à suivre pour le service de transport de marchandises pour la prochaine saison.

- La marchandise devra être correctement **identifiée par l'expéditeur** afin d'éviter toute erreur de livraison. En cas de mauvaise identification, la STQ n'assumera pas les erreurs d'acheminement des items;

- Toutes les marchandises devront être emballées correctement dans un sac fermé ou un emballage fermé afin d'éviter toute perte et éviter les bris. Le personnel de la STQ informera le client dans l'éventualité que l'emballage de la marchandise ne soit pas conforme. À noter que la STQ refusera le transport de marchandises ayant un emballage non conforme;

- Pour le transport de marchandises par motoneige, la STQ sera en mesure de transporter les marchandises entrant entièrement dans le traîneau de transport afin d'éviter les bris;

- Pour le transport par hélicoptère, le transporteur aérien sera en mesure de transporter les marchandises entrant entièrement dans le filet de transport afin d'éviter les bris;

Traverse de la rivière Saint-Augustin
Case postale 311
Saint-Augustin (Québec) G0G 2R0
Téléphone : 1 877 787-7483
traversiers.com

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Société des Traversiers du Québec

- La clientèle devra faire parvenir une liste des items et leur poids à l'adresse cargo_bcn@traversiers.gouv.qc.ca au moins 48h avant la prise en charge par le personnel de la STQ pour livraison au quai de Pointe-à-la-Truite;

- Toute réclamation relative à une perte ou un bris de marchandise devra être envoyée à l'adresse cargo_bcn@traversiers.gouv.qc.ca 3 jours suivant la livraison. En dehors de ce délai, la réclamation ne sera pas considérée;

- En cas de réclamation relative à un dommage ou une perte de marchandise lors d'un transport par hélicoptère, les réclamations seront transférées au fournisseur de service héliporté; Héli-Express.

La STQ remercie la population de Saint-Augustin pour sa collaboration afin de suivre les modalités demandées. Ce qui permettra à la STQ d'assurer un service fiable et de qualité à la population.

La Direction

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