

Newfoundland and Labrador's

Vital Signs



A collaboration between the Community
Foundation of Newfoundland and Labrador
and Memorial University's Harris Centre



A province-wide check-up of the quality of life
in Newfoundland and Labrador communities

About Vital Signs

Background

In Newfoundland and Labrador, the Vital Signs report is produced through a partnership between Memorial University's Harris Centre and the Community Foundation of Newfoundland and Labrador. The publication aims to identify key areas of interest in the province—issues we might be struggling with, things that are changing, as well as inspiring examples of innovation and perseverance.

Each year we spend months listening and paying attention to what is going on in our province, talking to experts at the university and in our communities, identifying the issues that are top of mind for people—or issues that should be top of mind. Utilizing the resources at Memorial University and our many community partners, we pull together statistics and infographics, expert explanations and insights, as well as stories that help us see the full picture

of what is going on in our province. Of course, we could never see the full picture in one 16-page report, so each year we shift the focus slightly so more and more areas can be examined. Our goal is to put independent, relevant and readable information in the hands of Newfoundlanders and Labradorians to create informed discussion, fuel civic engagement and spark innovative ideas.

Through a unique partnership with SaltWire, we are able to put all of this information directly into the hands of people around the province through SaltWire's community newspaper distribution system.

If you're interested, and want to know more about NL's Vital Signs report, or if you are interested in contributing to the project, please feel free to reach out to us using the contact information below.

Partners



The Leslie Harris Centre of Regional Policy & Development is Memorial University's hub for public policy and regional development issues. The Centre links Memorial faculty, students, and staff with groups across Newfoundland & Labrador, supporting active community engagement. Working with all units at Memorial, the Harris Centre builds connections, encourages informed debate, and supports collaboration to enhance the province through mutually beneficial partnerships.

► mun.ca/harriscentre ► harriscentre@mun.ca



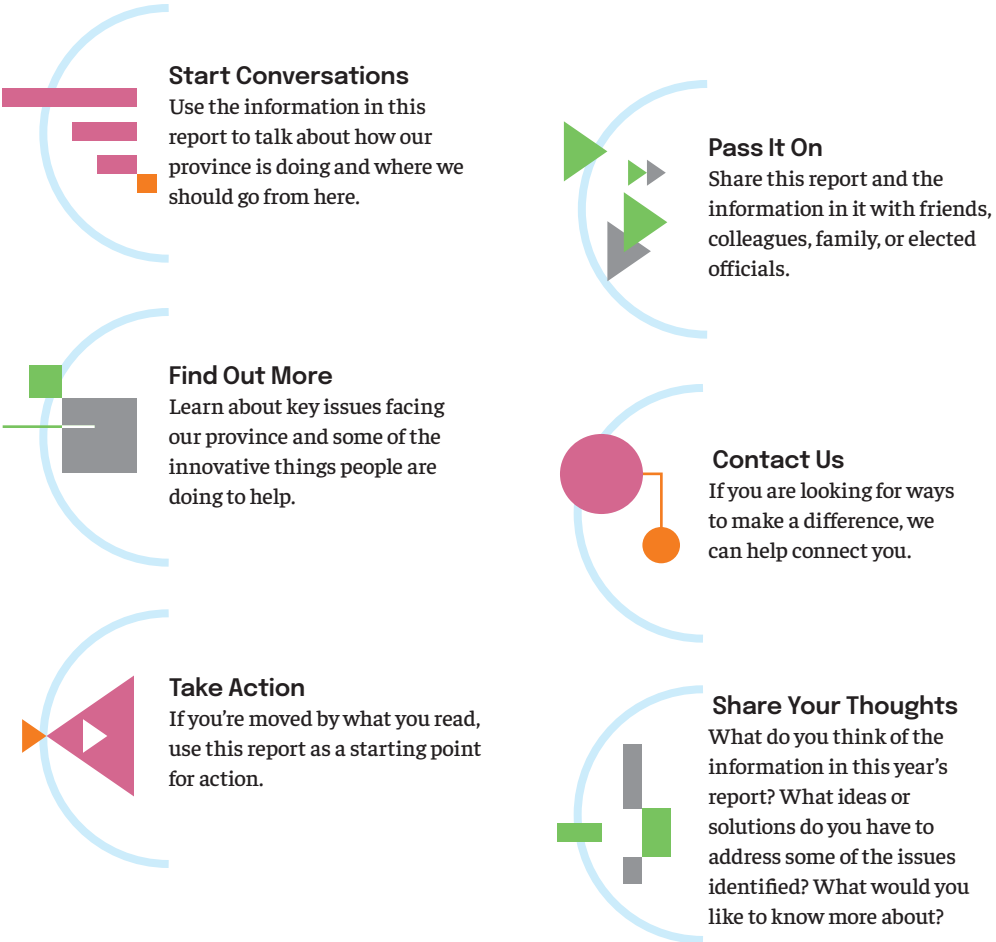
The Community Foundation of Newfoundland & Labrador promotes and sustains healthy communities across our province by providing grants to a wide range of community organizations. CFNL combines a broad, province-wide reach with a grassroots focus on small organizations that can have a major impact in their local communities. The foundation's goal is to address community problems and to enrich the lives of community members.

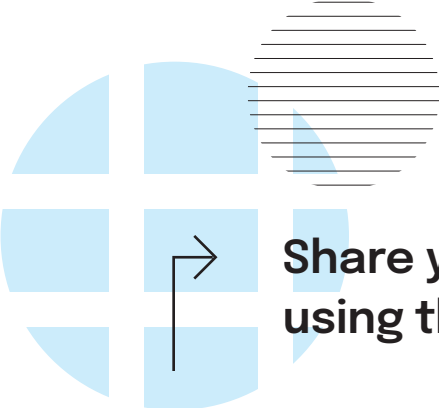
► cfnl.ca ► info@cfnl.ca



Vital Signs is a community check-up conducted by community foundations across Canada that measures the vitality of our communities and identifies significant trends in a range of areas critical to quality of life. Vital Signs is coordinated nationally by Community Foundations of Canada.

How to Use This Report





Share your ideas with us online using the hashtag **#VitalSignsNL**

Village of 100

What if Newfoundland and Labrador was made up of 100 people?

Source: Statistics Canada

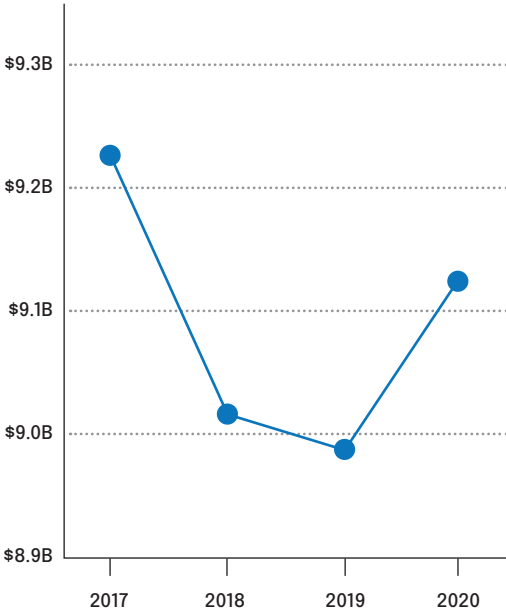


Economy



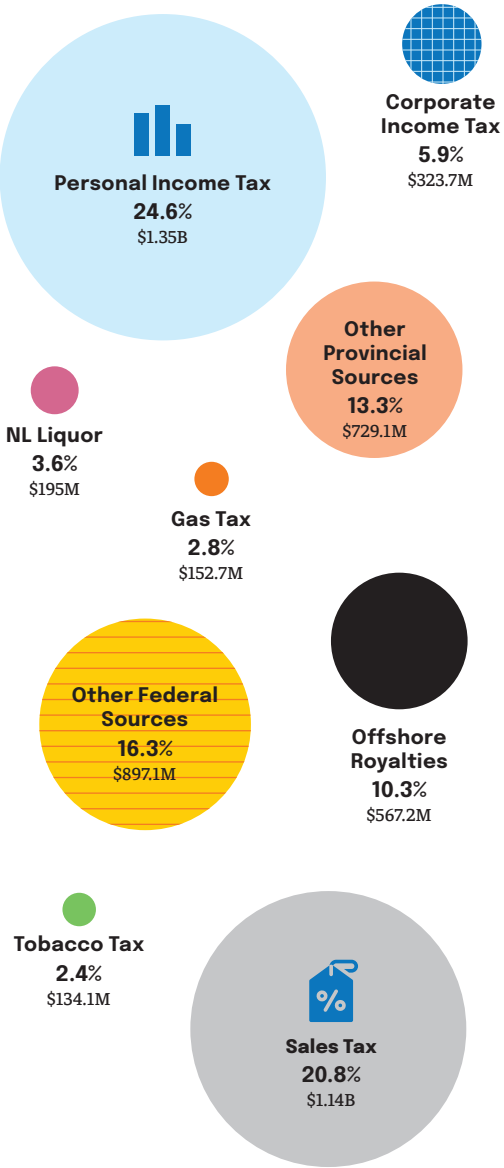
Retail Sales

Total annual retail sales declined slightly over the 2017-2019 period, while total sales increased slightly in 2020. Monthly calculations for January to June 2021 also show an increase over the same months in 2020. *Source: Statistics Canada*



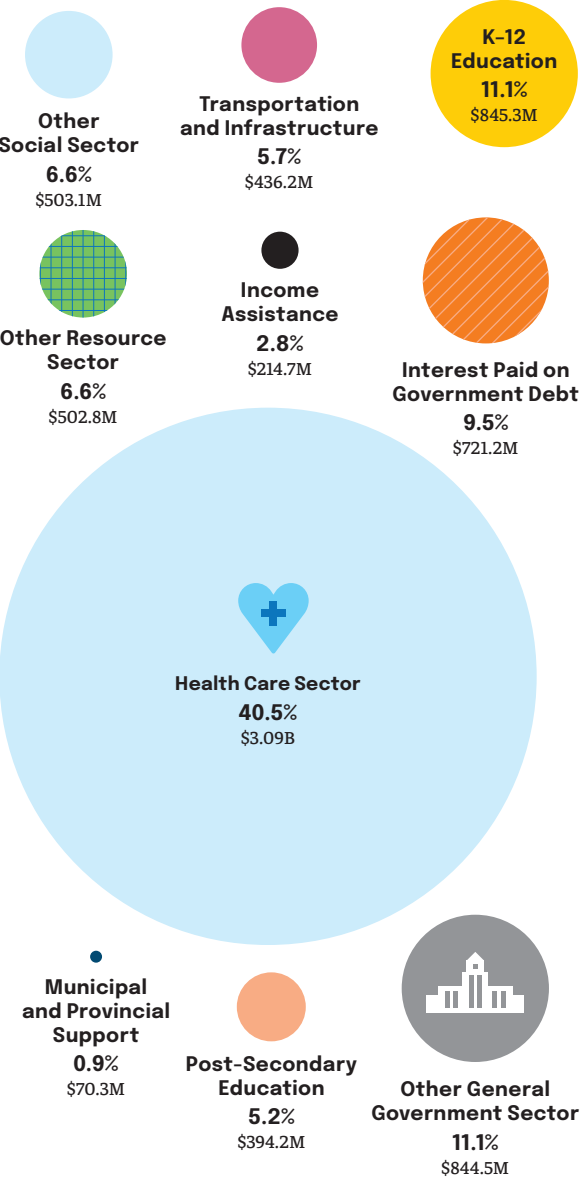
Provincial Government Revenue

Source: NL Budgets, 2021



Provincial Government Expenditures

Source: NL Budgets



Reframing Diversification

Dr. David Freshwater
Professor Emeritus, University of Kentucky
Former Adjunct Professor, Memorial University

Diversification has long been the golden ticket of resource dependent regions around the world. But for small regions like NL, it's just not that easy—the population is very small compared to the geography, and NL is also remote and removed from big external markets.

But thankfully there are other places that face similar challenges, and have come up with economic strategies that offer lessons NL can learn from.

One strategy endorsed by the members of

the European Union is the idea of Smart Specialization Strategies (S3). The essential focus of S3 is to introduce innovations that foster regional economic growth, and stimulate entrepreneurs. Neither of these ideas sound that novel, but the way they've been used in small regions is worth a second look.

First of all, the strategy broadens how we usually look at innovation. Innovation doesn't have to mean cutting-edge technologies. The key for increased productivity in smaller regions is to focus on incremental innovation—something as simple as putting existing technologies to new use, or making improvements to how a business is organized and marketed. Even small changes can strengthen local firms, make them more competitive and increase opportunities for expansion; in time, this can

lead to the addition of other businesses that complement the core sectors, expanding employment and income in the region, and creating a cluster of activity.

In addition to reframing innovations, the S3 strategy focuses on fostering entrepreneurship. This is also not a new idea, but in this case, the support is not blanket support for every business that currently exists. Instead, regions must identify their hidden gems—the small innovative firms that have built on the strengths of the region and provide them with a lot of support to begin and grow their business. The strategy even suggests finding the smart, energetic, would-be-entrepreneurs and working with them to develop and grow a business that will work in that region.

In many ways, this approach contradicts the idea of diversification. Diversification

focuses on introducing new activities that are independent of the existing economic base. In larger regions, this reduces economic risk, since the fate of each sector is less connected to the others. But rural regions have small and shrinking labor forces and must compete for external markets. Realistically they can only do a few things well and these things are largely dictated by their geography and the people and resources they have available to them. By building on their existing competitive advantages—through innovation and strategic investment in entrepreneurship, and rather than spreading already thin labour resources even thinner—the risk of these current sectors failing is reduced, and the possibility of growth is increased.

The Future of Oil

Challenges and Opportunities Arising from Climate Change

Max Ruelokke, FEC, P. Eng., ICD.D

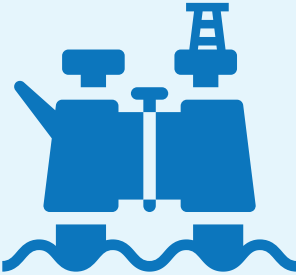
According to the World Energy Council, fossil-based fuels will continue to play a role in the production of energy up to 2050 (59%–77% of the world's energy supply). Even through efforts to transition to renewable energy, the Canada Energy Regulator estimates fossil fuels provide as much as 69% of Canada's energy supply. The challenge for the NL offshore oil

production continues to be how to reduce emissions while maintaining a profitable industry as this global energy transition is taking place.

Thankfully, we are not the only place wrestling with this issue. Other countries, like Norway, are leading the way with the use of renewable energy. Just by switching to hydroelectric power for production, some operations are able to reduce carbon emissions by an estimated 460,000 tonnes/year. Companies like Equinor (who also lead the Bay du Nord project) are currently constructing the Hywind Tampen project that will include an 88-megawatt floating wind farm that will supply 35% of the power demand for two of the nearby platforms, reducing carbon

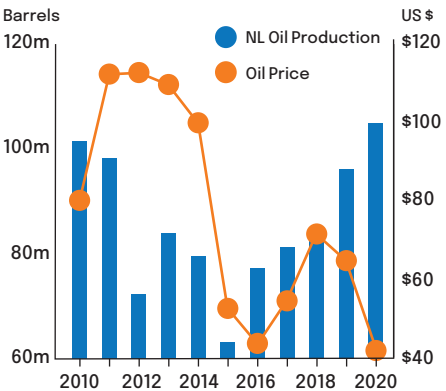
emissions by over 200,000 tonnes/year.

These are the lessons and innovations that NL's offshore oil industry needs to take advantage of—reducing emissions and improving our competitive position while growing our economy to enable us to transition to the next stage of the global energy sector.



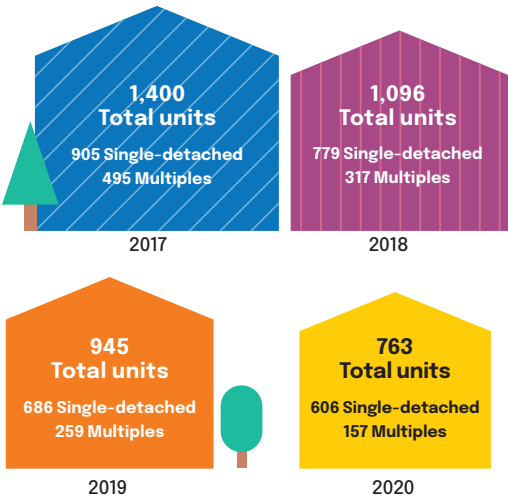
Offshore Oil Production vs Crude Oil Price

Oil production timeline: Hibernia: November 1997; Terra Nova: January 2002; White Rose: November 2005; North Amethyst: May 2010; Hebron: November 2017. *Source: NL Stats Agency*



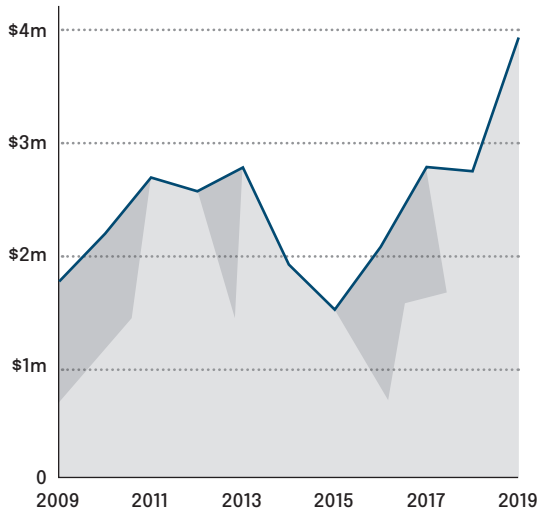
Housing Starts

Housing starts decreased between 2017 and 2020, however the significant change in 2020 may have been influenced by the global pandemic. *Source: Statistics Canada*



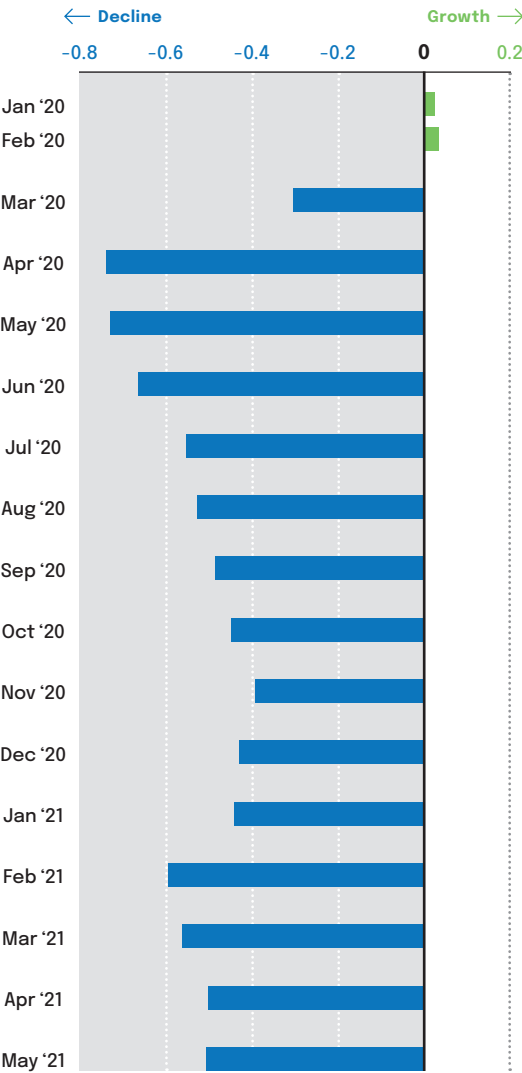
Mining and Quarrying (Except Oil and Gas)

After a dip in 2014-2015, the value of mining exports has steadily increased to a high of approximately \$3.9 million in 2019. *Source: Statistics Canada*



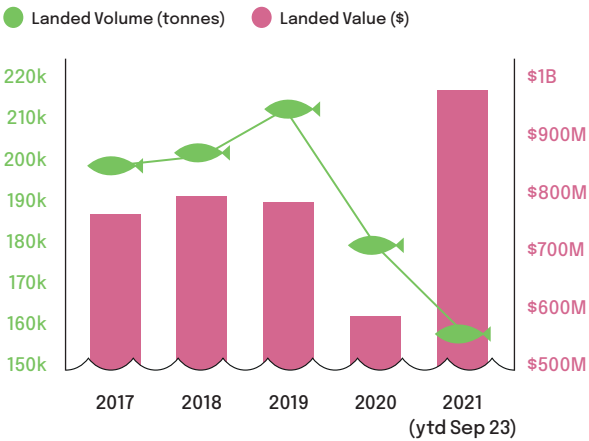
Tourism

This tourism activity index provides an overall representation of the relative performance of tourism related activity in the province using 2019 as the base period. The point above or below zero shows the relative increase or decrease in domestic and inbound activity compared to the amount of activity in 2019. The sharp decline in early 2020 demonstrates the impact of COVID-19 on the industry. *Source: Statistics Canada*



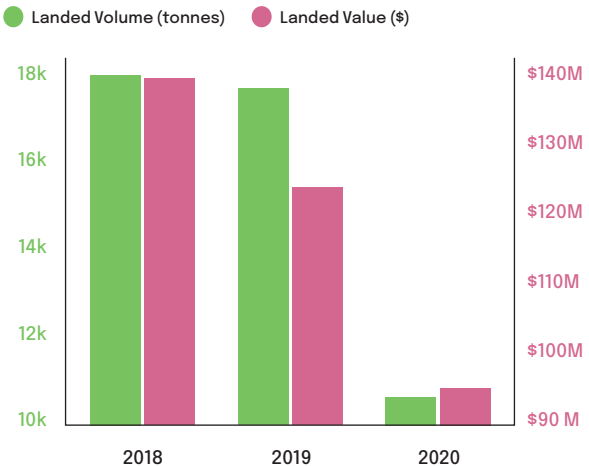
Fishery

While total landed volume and value was relatively stable from 2017-2019, 2020 showed a significant decrease in light of the global pandemic and demand changes. The year to date estimates for 2021 are showing a significant increase in the landed value due to increases in the price of some species. *Source: DFO*



Aquaculture

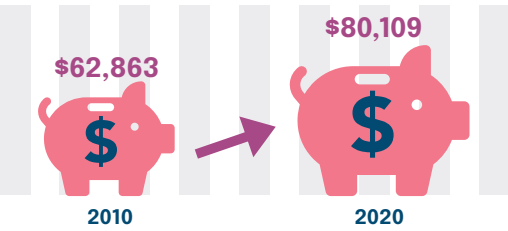
Aquaculture production and value dropped slightly between 2018 and 2019, but there was a significant reduction in both production volume and total value in 2020 likely due to the impacts of the global pandemic. *Source: Statistics Canada and Gov NL*



Community

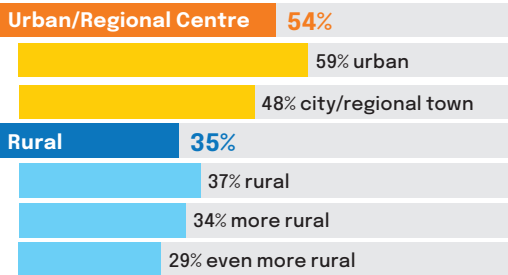
Household Disposable Income

Household disposable income in 2020 was \$80,109, approximately 27% higher than in 2010. Household disposable income is defined as the income remaining after taxes are paid in any given household. *Source: Statistics Canada, 2020*



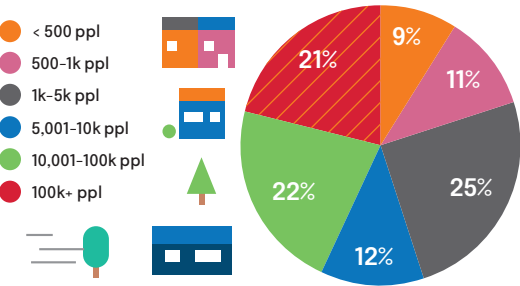
Private Retirement Income

54% of retirement income in urban/regional centres is from private retirement sources, compared to 35% in rural areas. As the geography becomes more rural, the proportion of private retirement income decreases. *Source: Statistics Canada, 2016*



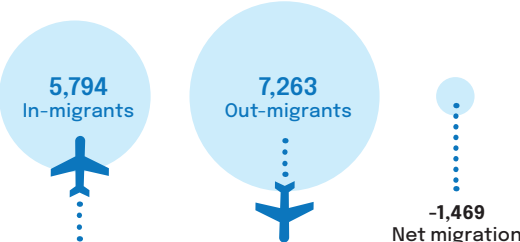
Population by Community Size

Over 200 NL communities have a population of fewer than 500 people and make up 9% of the population. Another 146 communities have fewer than 5,000 people. Approximately 45% of the population live in communities with fewer than 5,000 people. 21% of the population live in St. John's, the one community with a population over 100,000 people. *Source: Statistics Canada, 2016*



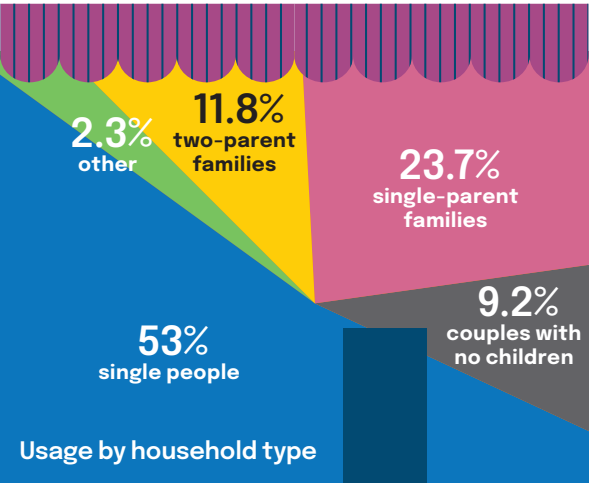
Inter-Provincial Migration

From 2019 to 2020, the number of out-migrants outpaced the number of in-migrants by nearly 1,500 people. *Source: Statistics Canada, 2019-2020*



Food Bank Usage

Food banks in NL reported over 10,000 visits in 2019. 59% of food banks reported an increase over the previous year. *Source: Food Banks Canada, 2019*



Moving Home

Pandemic Inspires Nlers Living Away to Find Their Way Home

"I feel the pandemic has been a more effective campaign to attract ex-pats than anything the provincial government has ever tried," said Tessa DuBeau, originally from Eastport, NL.

She's not alone: after a year when most people were (and still are) spending more time in one place than ever before, many individuals were inspired to make a change and move. For some, that meant moving home to the province, either temporarily or permanently.

In 2019, DuBeau was living with her partner in Ancaster, ON, an historic town in the city of Hamilton, with their two young children. Both she and her partner were employed in the area. "We loved our home and neighbourhood in Ancaster, and mostly planned to renovate our house to raise our family," she said.

However, a shift was on the horizon. First, high-density new builds were being developed throughout their

neighbourhood, and with growth came more change.

"Crime was on the rise and I started to feel less secure there," said DuBeau. "We wanted more freedom and space in our future, not less."

It was 2019, and DuBeau and her partner were feeling like they needed a change.

Then, in 2020, the other shoe dropped. "Covid lockdowns compounded everything," said DuBeau. "The distance and the yearning for a sense of community was too much to bear. I knew I needed my family. We were scared to make a permanent move because work prospects are much lower, but ultimately, for our health and well-being, we had to make a change."

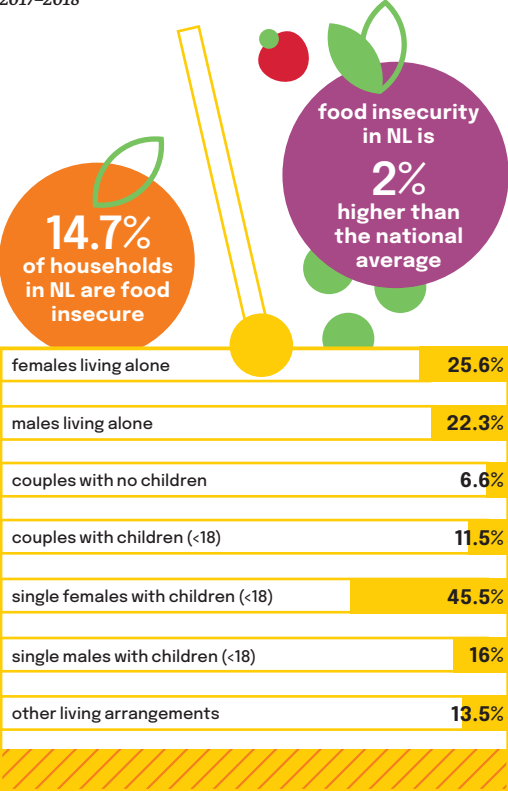
Now, DuBeau and family have happily resettled in Whitbourne.

"We just moved into our dream home," said DuBeau. "The kids are loving their surroundings and time with extended family. I'm relieved. Overall, we are thrilled we moved, but it's not without some big concerns."

At the top of the list of concerns

Food Insecurity by Living Arrangement

Almost 46% of female lone parent with child(ren) families are food insecure, significantly higher than any other family types. Definition: food in/security is based on a set of 18 questions and indicates whether households both with and without children were able to afford the food they needed in the previous 12 months. The percentage of households in NL experiencing food insecurity is 2% higher than the national average. *Source: Statistics Canada, 2017-2018*



is employment, which DuBeau sees as crucial to making the move work, long-term.

"When I moved to Ontario it was hard to see a future [in Newfoundland]," said DuBeau. "I'm still nervous about the volatile economy, and there's a high chance my husband will have to work away." Still, DuBeau remains optimistic.

"Being here offers a much healthier, balanced, and nature-filled lifestyle, no matter where you are in the province."

A Day for Contemplation and Change

Cathy Newhook and Catharyn Andersen



July 1st has always inspired mixed emotions in the people of Newfoundland and Labrador. Here, it is not only a national holiday, encouraging Canadians to celebrate their country, but also a sombre Memorial Day, commemorating the battle of Beaumont Hamel. This year, these emotions became even more complicated, as Canada Day 2021 immediately followed the uncovering of hundreds of unmarked graves of Indigenous children on the sites of former residential schools across the country. Instead of an opportunity to toast Canada, July 1st became a day of painful reflection as we were all reminded of the country's horrific treatment of Indigenous peoples, in both the past and the present.

Indigenous groups across the country called for Canadians to forego the traditional red and white colours of Canada Day and wear orange instead. In St. John's, out of respect and as an act of solidarity and contemplation, a rally was held on the steps of the Colonial Building. Throughout the day, social media news feeds lit up with people pledging their support and solidarity with Indigenous communities and residential school survivors, and most Canada Day activities were cancelled or at least more subdued.

However, these actions and events were accompanied by a cautionary note to not let simply wearing orange one day a year be

the end of Canadians' solidarity and calls for action. While building awareness and showing public support is important, there was a significant undercurrent to the rally cries, reminding us of the sustained systemic racism faced by Indigenous people across Canada today, and the reality that these biases and inequalities are still broadly unrecognized.

The very fact that so many Canadians were shocked by the recent discoveries on the Residential School sites shows an inherent ignorance, as the dismissal and mistreatment of

"...there was a significant undercurrent to the rally cries, reminding us of the sustained systemic racism faced by Indigenous people across Canada today..."

Indigenous peoples is well documented historically and continues to this day. Knowledge of the Residential Schools atrocities, including the existence of undocumented deaths, has been readily available for anyone willing to look for it. The communities, families, and individuals who survived the schools have been sharing their truths and experiences for decades. The scientific evidence provided by

the sonar scans of the grounds is merely confirmation of a story they have been telling all along. Even as early as 1907, the "Bryce Report" (commissioned and submitted to the Department of Indian Affairs) documented high mortality rates, severe abuse, malnourishment, and inhumane living conditions at the schools—and yet they continued to be run in much the same way for another 90 years. Long after the schools began to close, the entrenched disregard for Indigenous peoples and their cultures continues—manifesting as the over-representation of Indigenous children in state-apprehensions across the country, the disproportionate number of Indigenous people in the criminal justice system, and the lack of clean and safe drinking water in many Indigenous communities in Canada.

And so, while the crimes of the past cannot be undone, and there is hope to be found in both the acknowledgement of that past and the solidarity in grieving these lost children together, the intergenerational trauma from the residential schools, as well as the systemic racism and prejudice towards Indigenous people, remains very much a part of Canada's present. Therefore, our response must go beyond just remembering and acknowledging our history, and include acting in the present day, and committing to change in the future.

What you should know

Residential Schools in NL

There were 5 Residential Schools in NL. Because NL did not join confederation until 1949, these schools are often missing from the official listing of Canadian Residential Schools. A group of researchers and archeologists at Memorial University has offered to assist the Indigenous communities in NL with any investigation they may wish to undertake on the sites of former schools in this province.

- 1 Lockwood School**
Cartwright, Labrador
April 1, 1949
to June 30, 1964
- 2 Makkovik Boarding School**
Makkovik, Labrador
April 1, 1949
to June 30, 1960
- 3 Nain Boarding School**
Nain, Labrador
April 1, 1949
to June 30, 1973
- 4 St. Anthony Orphanage and Boarding School**
St. Anthony, Newfoundland
April 1, 1949
to June 30, 1979
- 5 Yale School**
Northwest River, Labrador
April 1, 1949
to June 30, 1980

Words Matter

In Canada, the term **Indigenous** comprises First Nations, Inuit, and Métis people.

The term **First Nations** is used to describe Indigenous peoples in Canada who are not Métis or Inuit.

The **Inuit** people are a group of culturally similar indigenous peoples traditionally living in the circumpolar regions of Canada, Greenland and Alaska. In Labrador, the Inuit include people of **Nunatsiavut** (located along the north coast of Labrador, including the communities of Rigolet, Postville, Makkovik, Hopedale and Nain) and the people of **NunatuKavut** (including Inuit who live primarily in south and central Labrador).

There are more than 630 First Nation communities in Canada, which represent more than 50 Nations and 50 Indigenous languages.

The island of Newfoundland is home to two **Mi'kmaq** nations—the **Miawpekek First Nation** (Conne River) and the **Qalipu First Nation** (the largest First Nation band in Canada, with members across the province).

Labrador is also home to the **Innu Nation**, which formally represents the Innu of Labrador, including approximately 3,200 people, most of whom live in the two Innu communities of Sheshatshiu and Natuashish. The **Sheshatshiu Innu** live in the community of Sheshatshiu while the **Mushuau Innu** live in the community of Natuashish.

Here are some things you can do:

 Read the Truth and Reconciliation Commission's 94 calls to action.

 Read the award-winning book *A Long Journey: Residential Schools in Labrador and Newfoundland* by Dr. Andrea Proctor.

 Think about your own unconscious biases and prejudices toward Indigenous people.

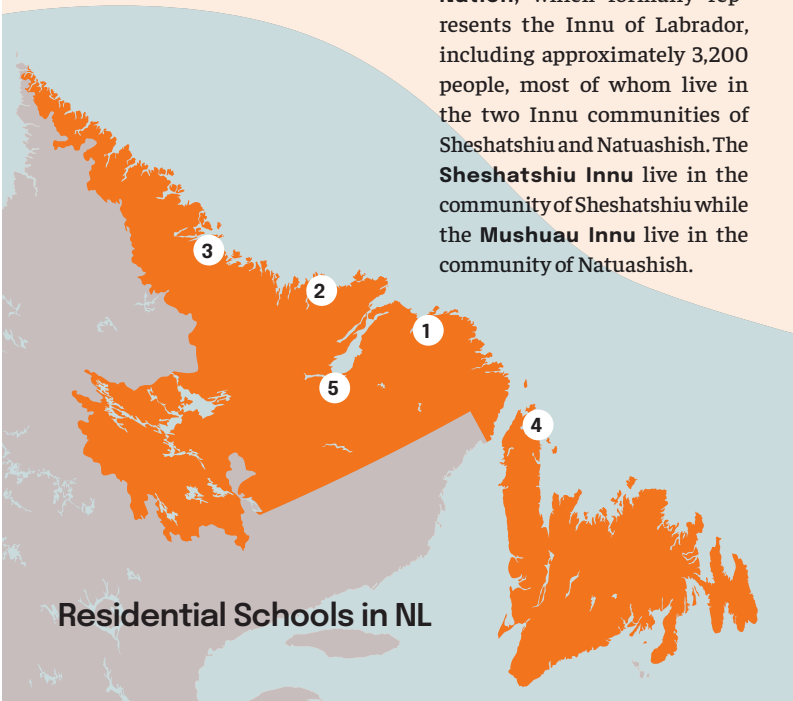
 Learn about Indigenous cultures in your area.

 Listen to what local Indigenous organizations and people are asking for—and support them.

 Amplify the voices of Indigenous people and leaders.

 Be respectful of the land.

September 30th, 2021 marked Canada's first National Day for Truth and Reconciliation



Residential Schools in NL

NL Since Confederation



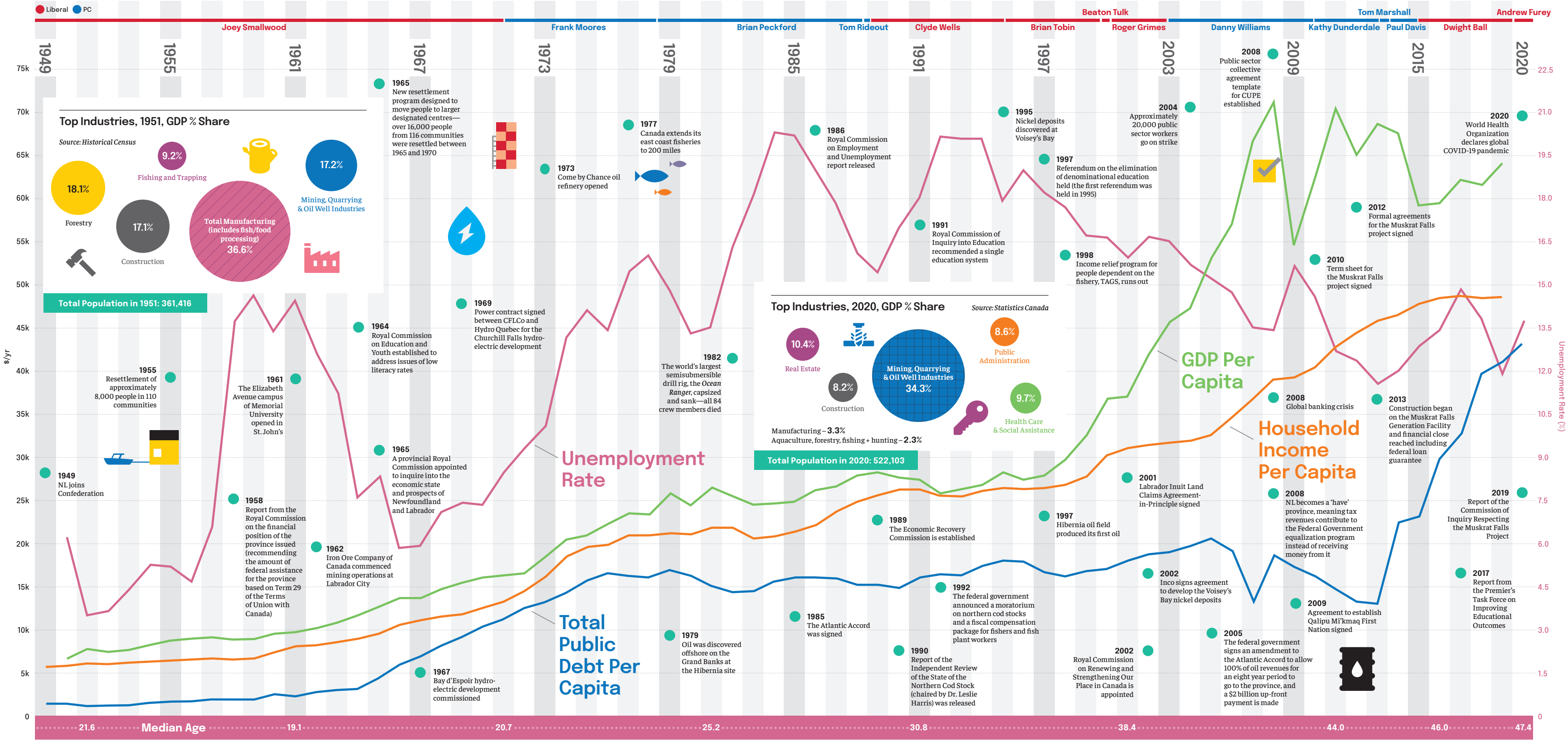
September 11, 2021 marked the 75 years since the first meeting of the Newfoundland National Convention. The task of the National Convention was to consider and discuss the changes that had taken place in the financial and economic situation of Newfoundland since 1934, and to make recommendations to the British Government on the

possible forms of a future government that could be put to a national referendum—the eventual results of that referendum led to NL joining Confederation. Now, 75 years later, we are facing a different economic crisis but an equal challenge of determining how to move forward. With this in mind, we thought it was an ideal

time to take stock and look back at Newfoundland and Labrador from an economic perspective. While the information below certainly doesn't tell the whole story, it gives us an outline to consider our history as we forge ahead to face this new challenge, and the next 75 years.

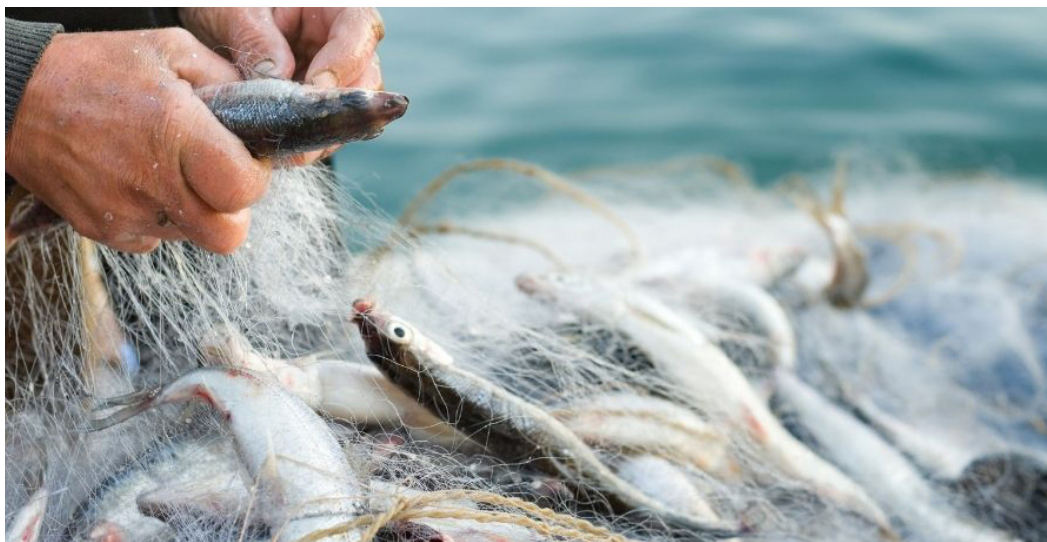
Newfoundland and Labrador Premiers
Source: Elections NL

Unemployment Rate, Per Capita GDP and Income, Public Sector Debt, and Median Age
Source: Statistics Canada



Climate, Economy and Society

How is climate change impacting the environment, economy and society in Newfoundland and Labrador?



Forecast NL

Looking To The Future Of NL's Climate, Economy And Society

Prior to the impact of the COVID-19 pandemic, Newfoundland and Labrador already had its share of challenges. From the highest per-capita provincial debt and the fastest aging population in the country, to declining provincial revenues and an increasing demand on services, the province has significant issues to work on. In addition to all of this, we must consider the growing impact of the global climate crisis.

This is the impetus for the Harris Centre's Forecast NL initiative, a province-wide engagement and discussion series that asks: How can we recover from the impacts of the pandemic and create economic and social prosperity while mitigating and adapting to consequences of climate change?

There is an overwhelming agreement among climate and natural scientists that, if not addressed, current projections for our warming climate will have devastating impacts on our natural, social and economic systems. For Newfoundland and Labrador—a province sustained by natural resources,

with a culture and society that is intricately tied to the land and ocean—the health and well-being of citizens and communities, as well as the strength and survival of major industries, depends on the

“How can we recover from the impacts of the pandemic and create economic and social prosperity while mitigating and adapting to climate change?”

health of our natural environment.

Dr. Rob Greenwood, Director of the Harris Centre and Associate Vice-President of Public Engagement and External Relations, believes we must think strategically, and collaboratively, to come up with long-term solutions.

“There is no shortage of experts in this province, on all of these issues, and we want to bring those experts together with concerned people of the province, to have an honest discussion, help bring some understanding of all the angles, and hopefully come up with some

promising ideas and approaches that can move us forward.”

The initiative incorporates online public speaker forums and panel discussions, as well as various online content, to help unpack issues related to climate, economy and society in Newfoundland and Labrador, all in an effort to move beyond the potential polarization and competition of concerns that can often arise within these topics. In concert with a province-wide Citizens Forum, anyone from NL can take part, simply by registering for an account of the project's website, www.harriscentreforum.ca/forecast-nl, and viewing the sessions and posting some comments.

“We can't just leave this to the experts,” said Dr. Greenwood. “Governments respond to what the electorate demands. Businesses respond to what consumers demand. We need the people of the province to look at all the facts, ask questions, challenge the norms and think up some big ideas that could really work, on the ground, in our province. We want people who are concerned about the future of the province and who are motivated to listen and share ideas to join us now.”

Beyond Oil

ASHLEY FITZPATRICK

Journalist, St. John's, NL

In 1985, Premier Brian Peckford and Prime Minister Brian Mulroney were met with loud cheers as they announced the Atlantic Accord to a packed room at the Hotel Newfoundland in St. John's, giving new, regulatory certainty that would facilitate oil development offshore.

“I'm not afraid to inflict prosperity on Newfoundland and Labrador,” Mulroney said that day, receiving a standing ovation. Even louder applause accompanied the signing of subsequent agreements for new oil developments offshore.

However, in more recent years, there has been a lull, with nervous uncertainty (and in some cases, anger) replacing this enthusiasm. The rate of increase in oil demand has slowed, and “net zero” goals for greenhouse gas emissions (something championed by global agreements such as the Paris Accord) are changing the energy landscape.

An “energy transition” is no longer just a buzz term, something only ever pushed in a fringe battle between environmentalists and oil companies, or amongst climate scientists and small segments of the bureaucracy.

Newfoundland and Labrador has not yet truly weighed—for rig workers, engineers, offshore specialists, a whole host of supply and service companies, or the population at large, who are reliant on the success of all of these industries—what comes next, and how we will approach the inevitable energy transition.

There will be an instinct to squeeze as much as we can from oil, and to remain committed to new oil developments for the next 10 or 20 years (with each development's individual lifespan lasting far longer). This will be, in part, out of necessity, because our public

finances demand the injection of oil revenues to the greatest degree possible.

But if we go the road of remaining an oil-producing jurisdiction, any investment of our finite public funds should not be at the expense of the immediate investment needed to start building other areas of the economy.

As billions are spent to speed the energy transition in Canada, what would even a small portion of those funds do to support a just transition and green growth for Newfoundland and Labrador? As Alberta asks for a \$30 billion investment in carbon capture and storage,

“The world has changed... oil demand has slowed, and ‘net zero’ goals for greenhouse gas emissions...are changing the energy landscape.”

what could \$1 billion do for Newfoundland and Labrador's ecotourism? For local tech, agriculture, manufacturing?

And how do we link growth outside of oil work for more oil industry workers, their families and their communities?

Where do we—in Newfoundland and Labrador—go from here? But more importantly, where do we want to go? And what public spending might genuinely be needed to get there?

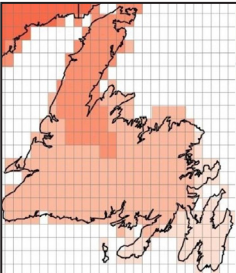
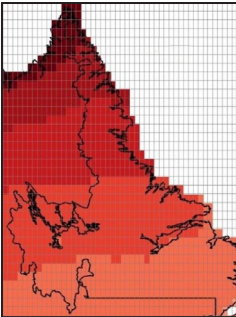


Temperature + Precipitation Projections

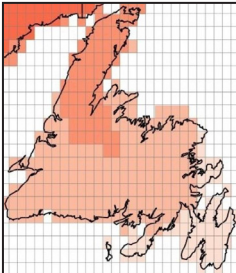
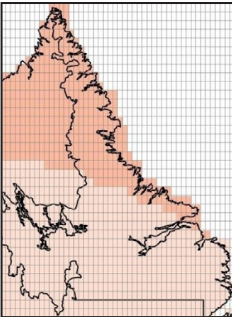
Projected Temperature Change, Late 21st Century (Average Daily)

Sources: Government of Newfoundland and Labrador, Memorial University

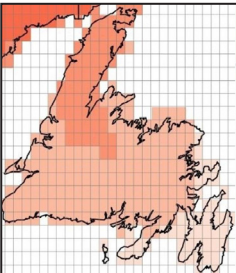
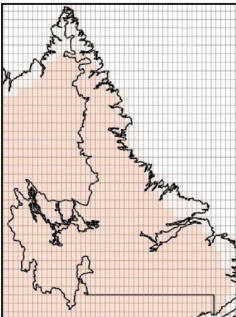
5.6° 7.4° 9.2° 11° 12.8°



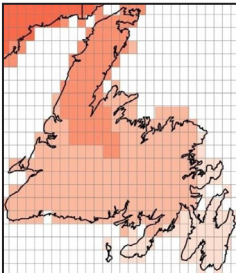
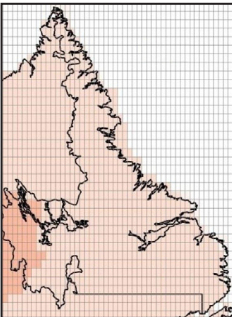
Projected Changes for Winter (Dec-Feb)



Projected Changes for Spring (Mar-May)



Projected Changes for Summer (Jun-Aug)



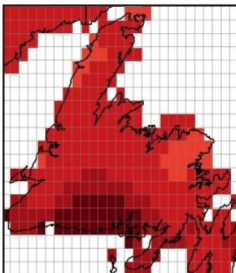
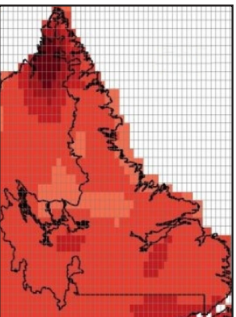
Projected Changes for Fall (Sep-Nov)

The projected temperature change (average daily temperature over 30 year period) between what was experienced in the late 20th and early 21st century (1976–2005) and what is predicted for the late 21st (2070–2100) will vary depending on where you live in the province. The biggest changes will be seen in Labrador, which could make seasonal temperatures in Labrador feel like current seasonal temperatures in St. John's.

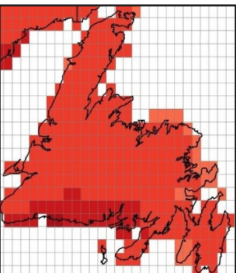
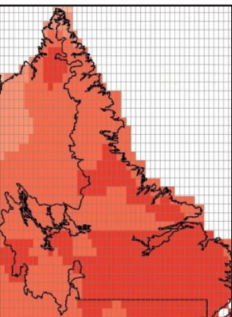
Projected Precipitation Change, Late 21st Century (Average Daily)

Sources: Government of Newfoundland and Labrador, Memorial University

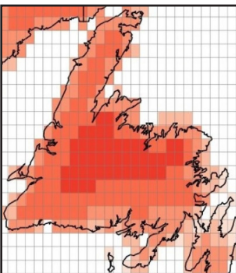
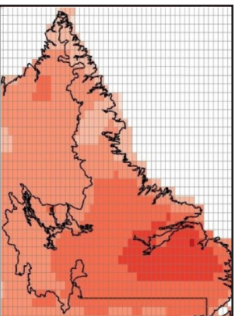
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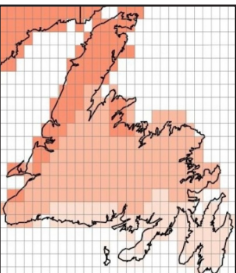
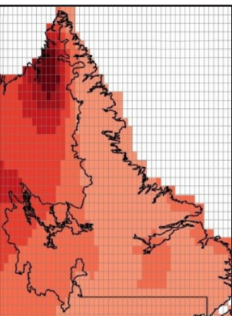
Projected Changes for Winter (Dec-Feb)



Projected Changes for Spring (Mar-May)



Projected Changes for Summer (Jun-Aug)



Projected Changes for Fall (Sep-Nov)

Projected average daily precipitation change comparing 1976–2005 and 2070–2100. There will be more precipitation in all parts of Newfoundland and Labrador in the coming decades, with as much as an extra millimetre per day, on average.

Changing NL

DR. JOEL FINNIS
Department of Geography
Memorial University

How can we properly communicate the urgent need for decisive action on climate change? Scientists, policymakers, and the media have been struggling with this challenge for decades. Admittedly, climate change is a challenging discussion: so complex and all-encompassing that it's difficult to concisely summarize, too slow-moving to

way out of the problem. The result? Faced with a massive environmental, humanitarian, and economic disaster of our own design, we have collectively failed to take substantial action. We now find ourselves with very little time to address an ever-growing problem—even as the impacts of climate change become more apparent in our province, our country, and our planet.

Fortunately, there is still time to do something—and massive (global!) climate protests demonstrate there is wide-spread support for real action. The scale of the climate challenge remains daunting; a 2019 Special Report from the Intergovernmental Panel on Climate Change suggests we have roughly 15 years to make sharp cuts in our oil and gas consumption if we hope to avoid the most serious climate impacts (and subsequent effects on ecosystems, health, and economy). This will require us to make sacrifices, including higher costs for various goods, less reliance on modern conveniences, and a concerted effort to adapt our living and working environments to permit more sustainable lifestyles. But we have the opportunity to make these changes now, in order to avoid greater costs in the decades to come.

“A 2019 Special Report... suggests we have roughly 15 years to make sharp cuts in our oil & gas consumption....”

feel like an immediate threat, and with no easy, ‘win-win’ solutions that might offer a little comfort. The situation has been worsened by active disinformation campaigns aimed at undermining climate science, bad-faith arguments that climate change isn't a top priority, and blind optimism that (somehow, sometime) we'll innovate our



Climate, Economy and Society (continued)

How is climate change impacting the environment, economy and society in Newfoundland and Labrador?

Green Jobs

There's more to 'green' jobs than wind turbines and solar panels. Green jobs are ones that help improve energy efficiency, limit greenhouse gas emissions, minimize waste, and support adaptation to the effects of climate change.

"Apply these criteria to the processes of any particular industry in the province and you can get a sense of what green jobs mostly look like in Newfoundland and Labrador—but they aren't often labeled as such," said Kieran Hanley, Executive Director of Econext, the province's environmental industry association.

"The opportunities for green jobs in Newfoundland and Labrador right now are related to improving the environmental performance of the key cogs of our economy: offshore oil and gas, mining, forestry, agriculture, the fishery, aquaculture, and so on," said Hanley. "Beyond that, as our province increasingly electrifies to make the most of our clean energy

grid, there will be jobs related to the retrofitting of public and private infrastructure."

The greening of the economy—and the labour market—doesn't begin and end with natural resources.

"Jobs within companies that provide the clean technologies, services, and solutions for industry—from accountants to software developers—can be green

"The opportunities for green jobs...are related to improving the environmental performance of the key cogs of our economy"

jobs, too," said Hanley.

"In many cases, these things are achieved by approaching existing jobs through a bit of a greener lens," said Hanley. "These aren't necessarily new jobs, but jobs that

are evolving and growing."

In the province, one such 'green and growing' company is Mysa, a clean tech company that builds technology to help homes and businesses save energy through energy efficiency and conservation.

"We develop technology that is easy to use, making it simple to save energy and money while also being comfortable in our homes and buildings," said Mysa CEO Josh Green. Mysa's current products include smart thermostats for electric baseboard heating, in-floor heating, and mini-split heat pumps.

"The province is in such a critical time right now, where we are just at the beginning of a massive energy transition to fight climate change," said Green. "The world is changing and Newfoundland and Labrador must, too. I really feel proud to work in this industry because I know that we are just at the beginning of a massive explosion for green jobs and I believe many of us in the industry see it as important to be leaders through this transition."



Changing Oceans

DR. BRAD DEYOUNG
Department of Physics
and Physical Oceanography
Memorial University

The ocean around us is changing, around the planet and more locally in Newfoundland and Labrador. The increasing temperatures that we see in the atmosphere are also happening in the ocean. Indeed, in some ways it is easier to see the changes in the ocean as the ocean holds more of the heat. It is estimated that about two-thirds of the increased heat is in the ocean, with the remaining third in the atmosphere.

Interestingly, the only place on the planet where there has been cooling is out in the Labrador Sea (this does not include inshore waters around our province, those areas are still warming; however, the cooling temperatures in this one area is not necessarily a good news story. Scientists believe it is the result of changes in the large scale ocean circulation of deepwater in the ocean. While it is not known if this cooling of offshore waters will continue, it has been suggested that the changes that we are seeing will

lead to changes in the Gulf Stream and significant shifts in weather patterns in the Northern Hemisphere.

What other changes are happening? Is it just the temperature that is changing? No, many other characteristics of the ocean are also changing. Oxygen levels throughout the ocean are declining (for example, oxygen in the Gulf of St. Lawrence is at the lowest levels ever recorded) and it's having an impact on fish and the ocean ecosystem. The acidity of the ocean is increasing as a result of the addition of CO₂. It is expected that the oceans will continue to become more acidic as more CO₂ is added to the atmosphere. This increased acidification of our oceans will cause some organisms to thrive and grow in abundance but will harm other organisms and species—resulting in dramatic changes to the current ocean ecosystems. The changes and damage to our ocean ecosystems can affect our food supply, our economy and our health.

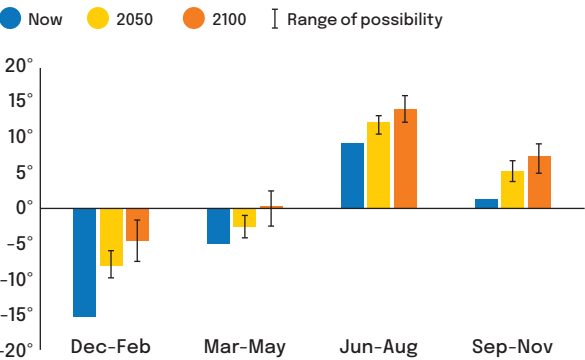


Mysa CEO Josh Green

Focus North

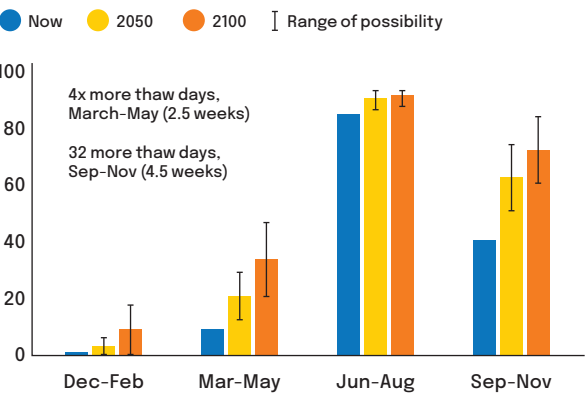
Projected Temperature Change, Nain (°C)

These projections are a synthesis of 12 different 21st century climate predictions. Even predictions that depict a more conservative temperature shift show a significant warming in Nain's colder seasons. *Sources: Gov. of NL, Memorial University*



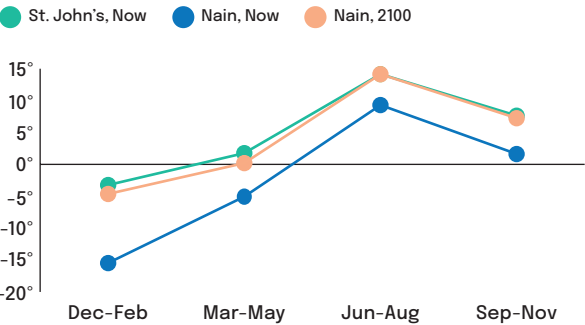
Projected Thaw Days, Nain

Particularly in spring and fall, days when temperatures peak above freezing are expected to increase significantly. *Sources: Gov. of NL, Memorial University*



Projected Temperature in Nain vs Current St. John's Temperatures (°C)

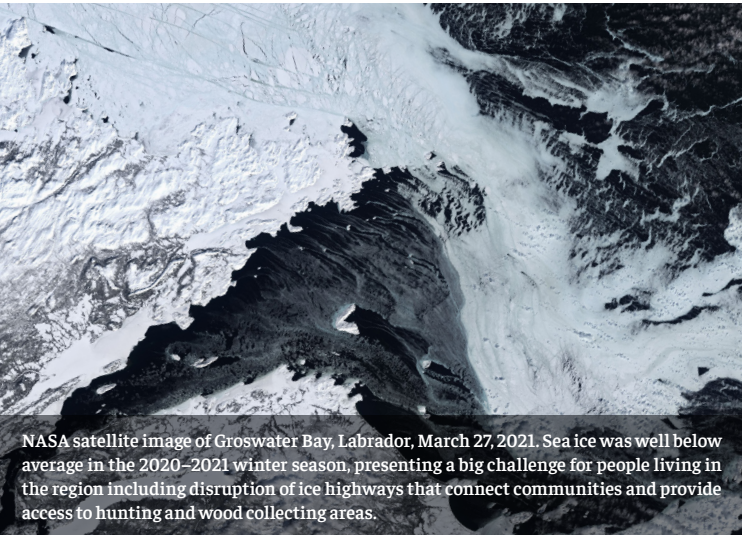
Mean temperatures in Nain approach current St. John's temperatures by 2100—about 1.5 degrees cooler in winter/spring, and nearly identical in summer/fall. *Sources: Gov. of NL, Memorial University*



Winter Temperature Changes for Labrador

The average daily temperature during the winter months (Dec/Jan/Feb) is expected to increase significantly in Labrador over the next several decades. The numbers below reflect the difference between average temperatures in the 20th century and average temperatures projected for the late 21st century (2071-2100). *Sources: Gov. of NL, Memorial University*

Nain +10.83° Churchill Falls +8.48° Goose Bay +9.15°



Lament for the Land

Being “out on the land” is an integral part of Inuit way of life. The land is a source of food, culture, and physical and mental wellbeing. As a result, Inuit in Nunatsiavut, Labrador, are both intimately aware of, and extensively affected by, any environmental changes in the land.

This connection among people, land, and wellbeing is the focus of the film, *Attutauniujuk Nunami (Lament for the Land)*, a collaboration between researcher (and Dean of the School of Arctic and Subarctic Studies at the Labrador Institute), Dr. Ashlee Cunsolo, and the five communities of Nunatsiavut. While the film itself was developed and released over six years ago, the messages could not be more relevant today. With this past winter bringing some of the warmest winter temperatures in history, Inuit in Nunatsiavut continue to raise the alarm on

the impacts of a rapidly changing climate here in our province.

“When I started working in Labrador, people wanted to share their observations, knowledge, and stories about how the climate and land were changing,” said Dr. Cunsolo, who has been working and researching in Labrador for over a decade and moved to Happy Valley-Goose Bay in 2016. “They wanted people to know what this meant for their food security, culture, livelihoods, social connections, and mental health. The idea for the film came from the people in the communities, who wanted to make a widely-shared, educational film where Inuit voices and the land could be front and centre.”

The film weaves together the voices of 24 people from Nunatsiavut, telling the story of their connection to the land, and their fear of losing a part of their cultural and personal identity as the land changes—and what these changes mean for their mental and emotional wellbeing.

“When you talk about the land, that’s what draws you out: the freedom. To get in the boat and go. To get on the skidoo and go. It’s all about the land.”

Kim Dicker (Community Health Worker, Hopedale)

“It’s how we grew up, going out on the land.... It’s our identity, it’s who we are. We learned those things. And now, the older people are worried that the younger generations are not going to have the same thing. We’re losing it.”

Myrtle Groves (IMHACC Local Research Coordinator, Makkovik)

“We feel a part of the land,” said hunter Piercy Boase, from Hopedale. “It’s me, it’s us, it’s our people. I feel that sense of belonging to the land, that attachment.”

For many people living in these isolated communities, the arrival of the sea ice provides the ability to move beyond their communities and hunt for food. If the sea ice is late to arrive and early to leave, because of warming temperatures, it means weeks or months of further isolation each year, with resulting impacts on mental wellbeing.

Dr. Cunsolo hopes that the film, accompanied by long-standing Inuit advocacy and climate change leadership and ongoing media attention on changing climate conditions in Labrador—including the recent CBC *Thin Ice* series—will help build understanding and a willingness to work together to mitigate and adapt to climate change, not just in Labrador, but across the entire province.

“Labrador is one of the fastest warming places in Canada. This means that people in this province are already living at the frontlines of climate change, and are already dealing with climate change related challenges,” explained Dr. Cunsolo. “It can be hard for people not experiencing it firsthand to understand what it all means, or what the ramifications are.”

For Nunatsiavut Inuit, however, these ramifications are already all too clear.

“Inuit are people of the sea ice,” said Tony Anderson, AngajukKâk of Nain, at the conclusion of *Attutauniujuk Nunami*. “If there is no more sea ice, how can we be people of the sea ice?”

“We are a part of the land and the land is a part of us.... It means everything.... The land is a part of our identity. And if it changes, well, we either have to change something or we lose a part of our identity.”

Tony Andersen (AngajukKâk, Nain)

“It’s freedom and good. Everyone loves the traditional food and to go fishing and hunting and to get your firewood. It’s peaceful.”

Kevin Jacque (Teacher, Rigolet)

Health and Wellness

Good Genes

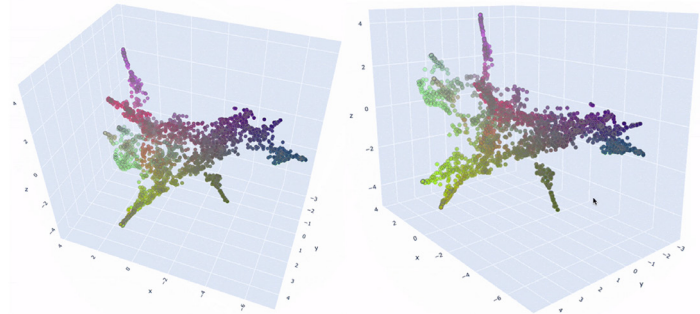
NL Company Uses Genetics Research to Help Fight Disease

Developing new drug treatments is a long and expensive process. Even more frustrating is the fact that 90% of these new prospective drugs never make it to market.

A St. John’s-based company, Sequence Bio, wants to reverse this trend.

“Our company is studying the unique genetic makeup of Newfoundland and Labrador to help speed up the development of more effective drugs through what is called ‘drug target discovery,’” explained Dr. Rick Leach, Chief Strategy Officer of Sequence Bio. “This means identifying the genes responsible for a disease, and developing drugs that target the genes to prevent or treat that disease. It’s a fairly new approach to the development of medications, and one that has proven to significantly improve the success rate of new drug programs.”

Sequence Bio’s research started with the NL Genome Project, a local genetic study that works to understand the genetic makeup of Newfoundlanders and Labradorians in order to accelerate the development of better, safer, and more targeted medicines, and to improve



In this figure, dots of the same colour in tight groups show clusters of genetically similar people. By contrast, differences in colours, and the space between clusters, show genetic differences. *Source: Sequence Bio*

the treatment and prevention of diseases. Part of the project’s research looks at our population’s “founder effect,” the unique genetic makeup created by our relatively small group of common ancestors and low rates of in and out-migration. This unique makeup helps researchers identify the genetic causes of diseases that can be over 20 times harder to find in other world populations.

“For the first time ever, studies from the NL Genome Project have revealed that NL’s population consists of what are called ‘clusters,’ groups of genetically similar people with higher or lower rates of disease, when compared to other world populations,” said Dr. Leach.

Because they are able to identify and study these clusters, Sequence

Bio is able to design disease-specific research that is optimized for the discovery of new drugs.

“We are at a point in time where it’s possible to harness the full power of genetically distinct populations to significantly advance the development of new therapeutics,” said Chris Gardner, CEO of Sequence Bio.

“Discoveries from populations like Iceland, Sardinia, and Québec have already made significant contributions to the development of drugs that could impact millions of lives. Newfoundland and Labrador has the rare opportunity to do the same, and we work every day to help make that happen.”

The Next Wave?

Covid fatigue for over-stretched mental health services

From “Covid anxiety” to “Covid fatigue,” the global pandemic has affected mental health on a global scale. Similar to the viral epidemics of the past, COVID-19 has given rise to widespread anxiety, depression, and post-traumatic stress disorder symptoms in different populations, including healthcare workers, patients, people in quarantine, and the public at large.

Mental health practitioners

across the province have taken notice.

“There has been an exponential increase in the demand for Psychology services in the past year, both within the public and private system,” said Dr. Janine Hubbard, a Registered Psychologist working primarily with children and adolescents, and member of the Association of Psychologists in Newfoundland Labrador, which provides advocacy for Psychologists both provincially and nationally. “Psychologists are having to juggle enormous case-loads or turn away clients in need, all while trying to manage their own stress levels from a year spent in a pandemic.”

Hubbard fears that the worst is

yet to come. “Furthermore, we’re expecting what has been titled a ‘tsunami’ or ‘mental health next wave’ of upcoming needs,” said Hubbard. “Both the research and anecdotal conversations suggest that many people are in active coping mode during a crisis, and it’s only after the threat has passed, and they’re trying to return to ‘normal,’ that many of the mental health issues emerge. The pandemic experience has been described as a collective global trauma, and we know that trauma effects are long-lasting, and often slow to emerge.”

It’s a question many people have been asking this year: “The next wave is coming: what can we do about it?”

Non-medical and Social Determinants

Newfoundland and Labrador has the lowest provincial ranking for many of the key non-medical and social determinants of health in Canada. Table reflects 2017-18 data. *Source: “A Call to Action to Transform Health”, Health Accord of NL interim report*

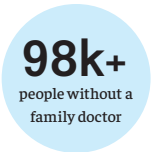
Determinant	Can %	NL %	NL Rank*
Healthy Eating			
Eats fruit once a day	66.5	56.3	10
Eats vegetables once a day	55.9	34.1	10
Physical Activity			
Age 18+: 150 mins/week	56.0	49.4	10
Age 12–17: 60 mins/day	57.8	51	9
Alcohol Use			
Heavy Drinker	19.3	26.7	10
Smoking			
Daily Smoker	11.3	16.7	10
Breastfeeding			
Initiation	91.0	70.6	10
Exclusive, at least 6 months	34.5	20.6	10
Employment			
Unemployment rate	6.0	14.8	10
Education			
Tertiary education	58.0	49.0	9
Bachelor’s level or above	32.0	20.0	10
Family			
Children living in lone-parent family	19.2	23.2	8
Stress + Belonging			
Most days quite a bit or extremely stressful	21.4	14.9	1
Somewhat or very strong sense of belonging	68.9	77.8	1
Life Satisfaction			
Satisfied or very satisfied	93.2	92.6	7

*Rank refers to how NL compares to the other nine provinces, where #1 is the healthiest and #10 is the least healthy.

Health of our Health Care

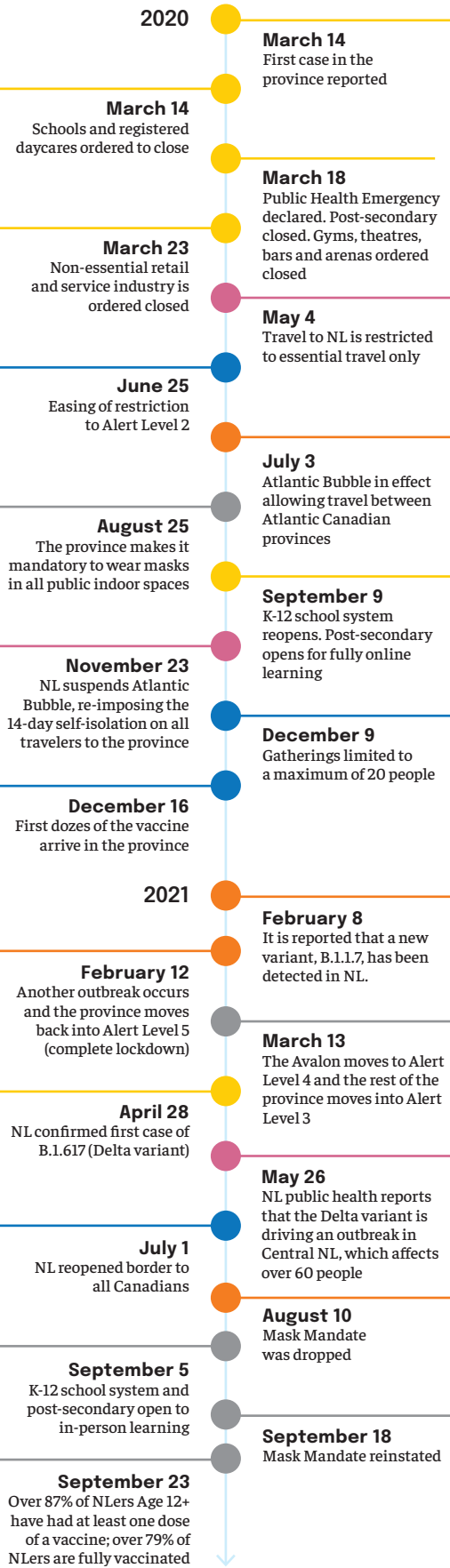
Health spending per capita in NL is the highest amongst Canadian provinces, while the proportion of public spending on health care is the 3rd highest in the country. Approximately 19% of NLers are without a family doctor (according to a poll commissioned by the NL Medical Association in 2019). While there are 629 licenced family physicians in the province, there are only 431 family physicans in full-time patient care at the community level. *Source: NL Medical Association, Statistics Canada*

	CAN	NL	NL Rank*
Health Spending			
Health spending per capita	\$4,499	\$5,995	10
% of total public expenditures on health care	34.3	35.4	7



COVID-19

COVID-19 Timeline in NL



Struggling Economy: NL

Source: Statistics Canada

 **81** percent drop in international travelers

 **95** percent drop in domestic travelers between Nov 2019 and Nov 2020

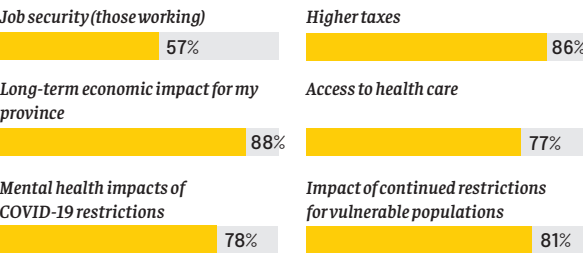
 **44** percent of businesses in the province have laid off at least one person during the pandemic

 as many as **32** percent of small businesses employing one to four people laid off at least one person

 **55** percent of medium sized and large businesses laid off at least one person during the pandemic

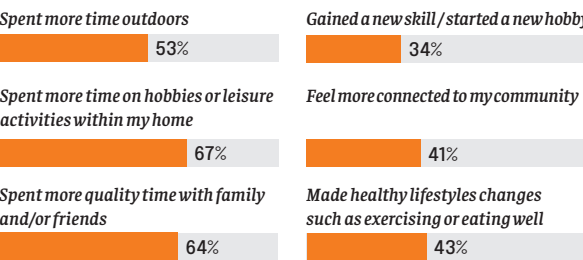
What Had People Worried?

According to a survey conducted by MQO Research in October 2020, when asked to think ahead to the next 12 months and consider how concerned they were, the following reflects the percentage of people who responded “concerned or very concerned.” Source: MQO



The Silver Lining

While the pandemic presented many challenges, there were many people who were able to carve out more time for things they enjoy, and build and strengthen social connections. Results collected October 2020. Source: MQO



Pivot!

Business Innovations: New Growth in Tough Times

COVID-19 brought the world to a halt, and with it, the dreams of many entrepreneurs. Local chef Alexandra Blagdon is one such businessperson who was hoping to open her own restaurant, The Alder Cottage, in Tors Cove, in early 2020, before stay-at-home measures were put in place.

“We were steps away from building and the world shut down,” said Blagdon. Suddenly, no one was going out, dining out, or leaving their homes. It spelled doom for many small businesses, especially in the hospitality industry.

However, while the first iteration of Alder Cottage was envisioned as a brick-and-mortar dining destination on the southern shore, Blagdon knew she needed to change.

“After 24 hours of grieving the loss of our building plans, we realized that people all around were now forced to cook at home 24/7 or rely on takeout food,” she said. “Once a few guests asked for online cooking classes, we decided to buckle down, write an e-book and start The Alder Cottage Cookery School. We went from being strictly in-person to strictly online.”

The concept is simple: an online cookery school, conducted via Zoom,



designed to improve one’s culinary skills in the comfort of one’s own home. Clearly, there was an appetite.

“What started with an average of 20-30 guests a class has grown to an average of 300-400 guests a week when we’re offering our 8-week courses,” said Blagdon.

The good will generated towards small business during the pandemic helped make it possible.

“Guests are now going out of their way to support smaller businesses, even if it means longer wait times, and even if it’s a little more expensive, for what will almost always be a better product,” said Blagdon.

Alder Cottage patron Bethany Roberts agrees. “Even with all of the Covid restrictions, when we were able to return to stores and restaurants, the concept of supporting local took on a new importance,” said Roberts. “Myself and others I know tried to focus on spending money to support our friends and neighbours instead of ordering online from companies in other provinces or countries.”

This is one new trend that Blagdon, and many other local business owners, hopes will continue as part of the “new normal.”

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