



What We Heard

Feedback on the development of a Provincial Climate Adaptation Plan

VOLUME 18

**For:
PEI Department of Environment,
Energy, and Climate Action**

Date: September 2022

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VOLUME18 is a strategic communications firm based in Stratford that focuses on facilitation, policy development and public campaigns. VOLUME18 was contracted to manage a collaborative approach to gathering feedback from Departments, interest groups, municipalities, and the public.

Introduction

The Department of Environment, Energy and Climate Action (EECA) released the Climate Change Risk Assessment (CCRA), along with updated coastal hazard maps, in the fall of 2021. This work provided all people on Prince Edward Island with a clearer picture of the impacts that PEI is expected to experience from climate change in the future.

Based on the results of the CCRA, the Minister of Environment, Energy and Climate Action determined that the department should develop a standalone climate adaptation plan to build resilience but align with the mitigation measures under the Net Zero initiative.

The impacts investigated in the CCRA focused on the following seven hazards and risks:

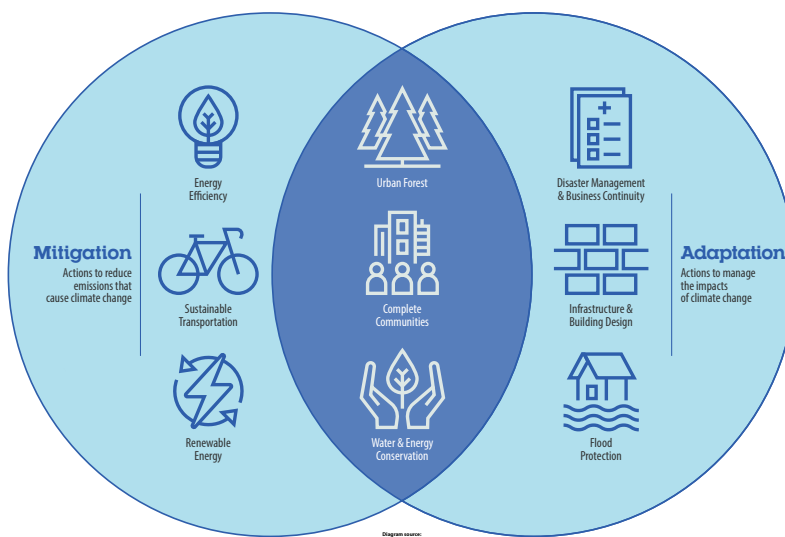
 Coastal Hazards	 Post-Tropical Storms
 Negative impacts on mental health  Real estate market, insurance industry and private homeowners  Damage to infrastructure  Endangered and at-risk species, changes to sand dunes and other ecosystems	 Coastline stability and hydrology may be altered  Potential power outages  Bridge access disrupted, blocking critical access to the province and communities
 Extreme Heat Events	 Heavy Precipitation & Flooding
 Public health – morbidity in vulnerable population  Agriculture, fisheries and tourism industries impacted  Potential power outages  29° Temperatures above 29°C for 3 consecutive days occur more	 Crop damage and contamination of adjacent waterways  Blocked access to some communities and disruptions to traffic routes  Hamper access to health care and EMS
 Earlier & Warmer Springs	 Severe Ice Storms & Freezing Rain
 Sensitivity of lobster to water temperatures and may decrease beyond 2050  Increase in pests, diseases and invasive species  Infrastructure damage from changes in freeze and thaw cycles	 Potential power outages  Limitations on travel (ground and air)  Downed trees and damage to property and infrastructure  High potential for loss of life and injury
 Seasonal Droughts	Climate change risks are interconnected and climate hazards can result in cumulative impacts.
 Crop loss  Negative impacts on mental health  Increased use of power and water	<p>The impacts of climate change will not affect all people in PEI equally. Indigenous peoples and marginalized populations will be uniquely impacted.</p>

PEI aims to be Canada's first province to achieve Net Zero energy by 2030 and Net Zero greenhouse gas emissions by 2040.

There are generally two types of action that are taken to address climate impacts:

1 Mitigation
Mitigation refers to actions that stop climate change from getting worse. This includes reducing our greenhouse gas emissions, changing to cleaner sources of fuel and power, and planting trees.

2 Adaptation
Adaptation refers to the adjustments we make to prepare for the inevitable impacts of climate change. This includes avoiding building in high-risk places, designing bridges to accommodate rising sea levels, preserving natural spaces that can absorb heavy rainfall, and preparing for extreme weather events by having an emergency kit and plan.



Building a resilient province must be a shared goal. We wanted to hear from all sectors, communities, and residents to develop a collective path forward to withstand the impact of climate change and become a more robust, resilient province.

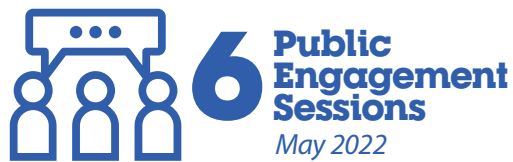
We undertook a collaborative engagement approach to hear from people on Prince Edward Island, Indigenous communities, municipalities, industry and experts about the impacts of climate change that they were most concerned with and actions proposed to address those impacts.

The engagement process was initiated in the winter of 2021-2022, with workshops involving provincial departments and interviews with identified stakeholders and municipalities. The workshops and interviews were predominantly

conducted mostly virtually due to COVID-19 public health measures. Each stakeholder was provided with an overview of the findings of the CCRA along with an infographic of the risks and hazards.

The interview highlighted specific impacts related to the stakeholder's area of expertise to provide feedback on the identified risks and potential mitigation measures. Municipalities were asked to provide their feedback in a presentation and survey at the PEI Federation of Municipalities AGM, in-person/virtual meeting and online survey. At the time of writing, 74 organizations and municipalities have provided their thoughts on the most urgent risks and hazards of climate change and suggested adaptation actions.

What We Did



Department Meetings

Over the course of January 2022, we conducted virtual workshops with each provincial department to discuss PEI's current and future climate adaptation methods, and had 150 attendees to provide their feedback and expertise to the development of the plan. These departments included:

Agriculture and Land

Economic Growth Tourism and Culture

Education and Lifelong Learning

Environment Energy and Climate Action

Executive Council Office

Finance

Fisheries and Communities

Health and Wellness

Justice and Public Safety

Social Development and Housing

Transportation and Infrastructure

Stakeholder Meetings

After the department meetings had wrapped up in early February, our focus turned to gather inputs from a wider audience. We reached out to 86 stakeholders and had meetings (via Zoom and in-person*) with 59 of them between February and the time of writing this report. Interviewed stakeholder groups include:

Acadian Museum of Prince Edward Island

Advisory Council on the Status of Women

Agriculture and Agri-Food Canada

*Association of Island Food Banks/Upper Room
Hospitality Ministry Soup Kitchen*

Atlantic Golf Superintendents Association

Atlantic Grains Council

BIPOC USHR

Black Cultural Society of PEI

Canadian Mental Health Association-PEI Division

CLIMAtlantic

Coalition for the Protection of PEI Water

Community Inclusions (O'Leary)

Community Legal Information

Council of Canadians-PEI Chapter

Dairy Farmers of PEI

*Department of Fisheries and Oceans Canada
(PEI Area Office)*

Early Childhood Development Association

Engineers PEI

Environment and Climate Change Canada

Greater Charlottetown Chamber of Commerce

Greater Summerside Chamber of Commerce

Holland College

Inclusions East (Montague/Souris)

Insurance Bureau of Canada

Island EMS

Island Nature Trust

Law Society of PEI

Maritime Electric

Native Council of PEI

Net Zero Advisory Committee

P.E.E.R.S. Alliance

Parks Canada

PEI Aquaculture Alliance

PEI Association of Community Living

PEI Certified Organic Producers Cooperative

PEI Federation of Agriculture

PEI Fishermen's Association

PEI Golf Association

PEI Horticultural Association

PEI Humane Society

PEI Institute of Professional Planners

PEI Potato Board

PEI Real Estate Association

PEI Seafood Processors Association

PEI Seniors' Secretariat

PEI Watershed Alliance

PEI Working Group for a Livable Income

Prince Edward Island Shellfish Association

Recreation PEI

ResourceAbilities

*Rural Communities Council**

Réseau de Développement Économique et d'Employabilité

Tourism Association of PEI

Slemon Park

University of Prince Edward Island

UPEI School of Climate Change and Adaptation

UPEI Student Union

Women's Network PEI

YYG Charlottetown Airport

Indigenous Engagement

Engagement with First Nations and local Indigenous organizations on PEI is being conducted through a parallel process by the Province of Prince Edward Island.

Municipality Meetings

Municipalities are an essential partner in the work of climate adaptation. During the months we conducted the stakeholder meetings, we contacted 60 municipalities across PEI to ask for their input on the current and future climate adaptations in their regions. In addition, we presented at the Federation of PEI Municipalities' Annual General Meeting, where we received feedback. Municipalities were also sent an online survey to which we received 22 responses. Interviews were held with:

City of Charlottetown

City of Summerside

Rural Municipality of Darlington

Rural Municipality of Eastern Kings

Rural Municipality of Hunter River

Rural Municipality of Linkletter

Rural Municipality of Miltonvale Park

Rural Municipality of Miscouche

Rural Municipality of Morrell

Rural Municipality of North Shore

Rural Municipality of Warren Grove

Rural Municipality of West River

Town of Kensington

Town of Stratford

Town of Three Rivers

Public Engagement Sessions

All people on Prince Edward Island will be affected by climate change, so it is essential that the vision for the path forward is developed collectively. We held six Public Engagement Drop-in Sessions across the Island in May 2022. The interactive drop-in sessions allowed the public to learn more about climate impacts and some of the work that has already been done to adapt the Island to climate change. Participants could ask questions, offer their input in-person, through an audio recording, or write their thoughts on Post-it notes to be attached to posters. In North Rustico and Summerside, all information was in French and English, with an interpreter available for questions and feedback. The six Public Engagement Sessions were held in:

Alberton (Holland College West Campus)

Charlottetown (Holland College)

Georgetown (The Kings Playhouse)

North Rustico (FR/EN) (Watermark Theatre)

Souris (Souris High School)

Summerside (FR/EN) (Credit Union Place)



Online Surveys

An online survey was posted on the provincial government's website seeking input on the PEI Climate Adaptation Plan. The survey, available in both English and French, asked the public what it wanted to see in the plan and what actions they wanted the government to prioritize. The Government of PEI advertised the survey on social media and at the Public Engagement Sessions; 401 responses were received. People on Prince Edward Island could also participate in the process by emailing the department; five email responses were received.

What We Heard

Below is an overview of themes collected from stakeholders, municipalities, and the public. Thank you to everyone who gave their time and thoughts on how PEI can navigate the impacts of climate change.

Nature & Nature-Based Solutions

Nature-based Solutions

A proposed solution for climate impacts was to protect current ecosystems like old-growth forests, wetlands, and bogs rather than trying to recreate these ecosystems. Additionally, it was suggested that looking at nature-based solutions first would help the province become more resilient. Some of the suggestions received included:

- Review lawns on public properties for naturalization and tree planting
- Consider moving people out of high-risk areas and let nature become a buffer
- Enhance stormwater naturalization — create naturalization zones, filtration, and retention ponds
- Research the impact of seasonal changes such as pollinators, crops and last and first frosts
- Examine where permeable surfaces and blue roofs could assist with stormwater management
- Use natural materials to address erosion, such as Christmas trees and sandstone

Trees


Trees and other forms of vegetation were a consistent theme as a solution to reduce runoff and erosion, improve soil composition, and provide shade from extreme heat. The responses focused on having diverse, climate-resilient trees planted. There was concern about current programs for planting certain types of trees which would not create shade and would be vulnerable to the impacts of climate change. Some of the suggestions received included:

- Create more shaded streets and green areas to provide relief from extreme heat
- Enhance protections for standing trees in development plans, private land, and woodlots
- Plant tree species for a changing climate
- Use financial incentives to eliminate clear-cuts and develop carbon credits for treed acres
- Increase inventory of native hardwood species at the provincial forestry nursery



Wildlife and Habitat

Many people on Prince Edward Island worry about the impact on ecosystems and wildlife. The destruction of biodiversity and the risk to the survival of endangered species will be further heightened due to climate change. Some of the suggestions received included:

- Stay prepared for increased wildfire risks through equipment and training for first responders
 - Conserve old growth forests and wildlife habitats
 - Enhance protection for endangered species and ecosystems
- 

Water and Wellfields

In the face of climate change, water resources may be more limited, requiring enhanced management and protection of water resources and wellfields. With coastal hazards increasing, there is heightened anxiety about salination and contamination of water sources. Some of the suggestions received included:

- Create regulations on land use around new and existing wellfields
- Regulate deep water wells
- Research desalination and alternative sources of drinking water
- Expand support for grey water systems, rain barrels, and water conservation incentives through higher water rates

Coastal & Land Use Management

Will my house be there for my children in 30-50 years if sea levels rise?

Coastal Management and Buffer Zones

During the consultations, there were concerns about the lack of a cohesive management system for the protection and development of our coastal areas. Some of the suggestions received included:

- Replicate the Nova Scotia Coastal Protection Act
- Purchase high-risk coastal land for conservation purposes when it comes up for sale
- Assess all new development and redevelopment along the coast through an ecological lens
- Increase buffer zones or shift to a dynamic system to reduce the impact of contamination of watersheds due to runoff from flooding and high precipitation
- Create places to hold the water instead of hardscapes in coastal areas
- Develop land use regulations based on coastal and flood mapping

Erosion

The erosion of our coasts and waterways is a visual representation of climate change for people on Prince Edward Island. While erosion is a natural process, the rate of erosion has accelerated and will continue to do so. Some of the suggestions received included:

- Recognize the concern that the Island is losing significant cultural areas and natural resources
- Provide more information on the likelihood of the Island becoming several Islands with sea-level rise and increased erosion rate
- Create guidelines for coastal property owners to help decrease erosion rates through efforts that can be taken to reduce erosion, as well as what materials can and cannot be used
- Increase fines for non-compliance with regulations and bylaws on coasts and along waterways
- Partner with industries and landowners to support the development of hedgerows, buffer zones, and vegetation

Land Use Planning

With the increased demand for development and greater understanding of areas at risk of climate impacts, groups felt that land use planning would help reduce climate change's impact and cost to the public. There was support for reviewing the size and management of the buffer zones that could assist with runoff, heat stress on freshwater resources, and erosion. Some of the suggestions received included:

- Reduce the confusion around provincial regulations on subdivisions vs local bylaws and increase enforcement during construction
- Restrict urban sprawl
- Implement more hedgerows to increase shade and reduce impacts on roads from snow and ice
- Develop more wetlands/salt marshes and manage the ones we do have
- Create more robust Building Codes for climate adaptation requirements

Vulnerable Populations & Supports

Accessible Programming and Supports

Just make sure to not leave anyone behind. All great actions, but will protect/benefit different demographics. Make sure the investment is fairly split, or even prioritized toward more at risk people who may not have the means to protect themselves.

As climate change will impact our most vulnerable, any new adaptation programs should have expanded eligibility. Some of the suggestions received included:

- View all actions through an intersectional lens
- Address emergency response concerns for vulnerable populations in isolated homes and rural areas
- Reduce the need for movement by seniors and vulnerable people in extreme heat by providing meals on wheels/health supports at home
- Create cooling reception centres for seniors and vulnerable populations with socialization
- Provide air conditioning and other cooling mechanisms to shelters, food kitchens, and public housing

Housing

Housing is a significant concern for many people on Prince Edward Island, and residents are concerned about their capacity to adapt their homes to withstand the impacts of climate change. Numerous stakeholders and public respondents identified that ownership requirements should not be implemented in any programs or incentives for climate adaptation.

Some of the suggestions received included:

- Ensure eligibility for any adaptive grants or programs created include tenants as well as homeowners
- Provide no/low-interest loans as well as rebates
- Develop more housing, education, and social services support to accept and welcome climate change immigrants and refugees

Food Security

“The province should promote more community gardens and home gardens - personal food growth.”

With increased disruptions in global supply chains and transportation, PEI needs to complete an assessment of what is needed on the Island at any given time to feed the population. Additionally, there is a need to develop ways to provide food to residents in an extended emergency and create local food security. Some of the suggestions received included:

- Backup power or alternative storage for smaller food banks during prolonged outages
- Increase food programs for seniors and others that are looked after by caregivers
- Rely less on food banks and programs, provide financial independence, and create local food hubs
- Create more community gardens, greenhouses, vegetable boxes, or small-scale farming in urban areas

Mental Health

“Perhaps climate counselling might be needed one day to support those who do have mental health challenges associated with climate change.”

The impacts of climate change are shifting how we see our surroundings, impacting our connection to places as well as their use. The connection to nature was identified as a means to reduce the pressure on mental health and increase our commitment to climate mitigation and adaptation action while also reinforcing the consequences of inaction. The mental health impact on fishers and farmers – those who rely on nature for its bounty – is particularly heightened due to shifting climate conditions. Some of the suggestions received included:

- Use recreation to reduce the mental health impacts of climate change
- Ensure private green spaces for all apartments, so tenants have a little patch of nature for mental health
- Have an open and honest conversation now on what infrastructure and land could be lost and what could be saved
- Address the human disconnect from nature as nature can restore well-being
- To reduce the stress upon residents and create an understanding of collective action, increase compliance of environmental regulations

Agriculture & Fisheries

Irrigation and Crop Varieties

The agriculture sector is acutely aware of the impacts of climate change on PEI. As a result, they are looking for solutions to irrigation issues and access to cultivar research that provides them with more precise guidance on yields, inputs, and markets. Some of the suggestions received included:

- Provide data on weather and land to farmers in an accurate and accessible manner
- Ensure crop insurance is sufficient and expand crop insurance to vegetable growers and all apple growers
- Align access to labour with new weather and growing patterns
- Permit irrigation for specific times and investigate cooperative irrigation systems
- Develop clear guidance on soil, research, and crop yield potential

Harbours and Wharves

Fishers are feeling the impacts of climate change. The cost and work to adapt all harbours and wharves to the impacts of climate change will be a substantial challenge. A call for an inclusive assessment of all harbours and wharves is driving all users in their commitment to develop a sustainable path forward. Some of the suggestions received included:

- Partner with harbour authorities to assess wharves, processing facilities, and levels of sediment for risks
- Determine the timing and use of the harbours and wharves if fishing seasons shift
- Review infrastructure and marketing requirements if new commercial species are identified
- Increase monitoring and enforcement of contamination and invasive species
- Work with fishers to identify gear and practices to withstand stronger storms and warming waters
- Research viability of eelgrass and seaweed to reduce erosion

Capacity, Data & Liability

“We should be building community resilience and work backwards from that. How important is infrastructure resilience over social supports and community-building initiatives? Are we doing the easy things or the right things?”

Expand Capacity

Municipalities, industry groups, and non-profits all identified the need for climate adaptation experts as essential to implementing the necessary actions and policies.

Some of the suggestions received included:

- Recruit and train climate adaptation experts to support industries willing to take action.
- Recognize need for gender diversity in green jobs and in leadership in climate action
- Increase full-time staff to support municipalities to work on community development and climate change mitigation and adaptation
- Develop policy statements for municipalities to follow on climate change and adaptation
- Set deadlines for action on climate change that is linked to funding

Data and Education

“Ensure good communication and inclusivity. It will be difficult to get buy-in from communities if there are segments of the population who feel they are being targeted/blamed for climate change e.g., farmers, fishers, truckers”

While the concept of climate change has been around for decades, the specific impacts on Prince Edward Island are still not well understood by the general public. More education and awareness were suggested to stir action and compliance with the measures necessary to adapt to climate change.

Some of the suggestions received included:

- Groups and industries identified several data sets they would like more information and access to improve their operations in the changing climate
- Provide education, communication campaigns, and training for climate adaptation that is accessible and consistent
- Education and communication campaigns on ways to become more self-sufficient
- Establish a Chief Climate Adaptation Officer as a new role in government to give confidence to Islanders in the science and the decisions made
- Share information on high-risk areas and what can and cannot be done to protect that land

Risk Assessment and Disclosure

With increased development along our coasts and in potentially high-risk areas, participants highlighted the need for education on the liability of such developments and the lack of insurance coverage for saltwater flooding or erosion. Additionally, there was a request for clarification on who should disclose the status of the property risk and whether that should limit the type of development. Some of the suggestions received included:

- Analyze and resolve the confusion on insurability. Educate people on Prince Edward Island to understand that saltwater/coastal erosion impacts are not and have never been covered by insurance
- Determine who discloses climate risks in a sale of a property
- Reduce flooding caused by heavy precipitation by requiring new water flow design equations based on climate change predictions
- Assess all hospitals, long-term care homes, schools, and early childhood centres for climate risks
- Remove infrastructure identified in high-risk areas
- Factor climate change into capital budgets

Emergency Response

“Prepare for extreme events - have emergency rations and response plans in place. Implement microgrids to improve energy security.”

Supply Chain and Transportation

Industry and non-profit stakeholders expressed concern about the stability of supply chains in the face of climate impacts. Stakeholders felt that what was needed was a thorough assessment of supplies on hand, backup routes for getting critical inputs on the Island during disruption and how to get time-sensitive exports off-Island. Some of the suggestions received included:

- Determine what is a necessity and have it on hand in PEI for an extended disruption
- Assess what routes supplies could take if there were a transportation disruption
- Analyze ways to adapt and stabilize supply chains
- Stabilize the public transportation system and ensure it is accessible in all areas of PEI
- Invest in safe walking and cycling infrastructure as a stable means to travel if there are major disruptions.

Emergency Preparedness

Communities are active in the development of their emergency operations plan. Support organizations expressed the need to add cooling to their reception centres to relieve vulnerable residents during extreme heat events. Others identified the need for communities to know the vulnerability of their residents and to check in on them during an emergency. Some of the suggestions received included:

- Complete community mapping for resources and skills for emergency plans for communities and vulnerable individuals, notably those with disabilities
- Model of communication briefings similar to COVID-19 in a climate emergency
- Secure landlines for essential services and individuals
- Identify at-risk residents and have neighbours identified to check in during an emergency
- Develop an awareness campaign that clearly defines what you would need in an emergency
- Install more outdoor water fountains to increase access to water in extreme heat
- Develop emergency accommodation and evacuation routes for companion animals and livestock
Update legislation
- Update legislation to aid first responders to get to calls during storms and identify which emergency calls could be triaged to reduce resource strain

Economic Impacts and Disruptions

People on Prince Edward Island expressed their concerns about the rising costs of climate change on top of the existing economic pressures impacting their lives. For example, concern was expressed about continuous disruptions in employment or business days due to extreme weather. In addition, the compounding strain on resources and the movement of people due to climate change has numerous respondents concerned about violence and climate-related conflict. Some of the suggestions received included:

- Recognize that continuous employment disruption will impact personal financial security
- Address the growing concern over the rising costs of living due to climate change
- Ensure access to food, medicines, and essential services during emergencies
- Address the inequity of paying the cost of climate change
- Balance the cost of climate change. Do not have the government pay to protect or move private property

Energy

Energy is an essential part of life, and with the increase in connectivity and the electrification of our transportation systems, our reliance on energy has grown significantly. As climate-induced emergencies and climate impacts increase over time, reducing the length of time that areas of the province will be without electricity will be more and more important. Some of the suggestions received included:

- Strengthen the grid because, with increased electrification, there is more dependence on the stable power supply and transmission
- Secure the Atlantic Loop not to be reliant on renewable energy generation and to be more resilient
- Look at running power lines underground where necessary. Power lines underground are 6-10x the cost vs overhead wires. Determine if the investment is worth the reduction in risk
- Provide more support for reducing the impact of climate policies on low-income people on Prince Edward Island
- Develop local energy grids and sources to be less vulnerable to widespread outages during weather emergencies

Indigenous Feedback

While the Department of Environment, Energy and Climate Action is conducting a parallel process for engagement with First Nations, the Native Council of PEI provided a submission on the development of the Climate Adaptation Plan.

The impacts of climate change will not be felt equally in our province. The disproportionate impact on Indigenous peoples and communities was identified in the CCRA. The some of the feedback provided by the Native Council of PEI includes:

- Acknowledge the cultural importance of certain land areas and species, especially from Indigenous perspectives
- Identifying the impact of climate change compounded with rapid development along the coast
- The coastal buffer zone should be increased to allow for a natural retreat of the coastline
- Increased use of nature-based solutions instead of conventional hard infrastructure, where applicable
- Industry design standards should be updated regularly to include climate adaptations
- Examine the use of grey water recycling systems, rainwater harvesting, low-flow fixtures and appliances in all new builds

Municipal Feedback

Municipalities will play a key role in adapting to the impacts of climate change. As an essential partner, municipalities were generous in providing feedback on what they need to take action in their communities. Some of the feedback provided by the municipalities includes:

- Climate change capacity – having skilled and knowledgeable climate experts, engineers and staff to enforce regulations and guidelines
- Clear guidance from the Province of PEI on climate change best practices and regulations
- Understanding of the increase in capital and maintenance costs due to climate change
- Strong land use planning regulations and enforcement
- Clarity in roles and responsibilities of approving development
- Increasing tree planting, hedgerows and buffer zones
- Continued support for improving reception centres and emergency services



Next Steps in the Development of the Provincial Climate Adaptation Plan

- 1. Review all suggestions for viability and supporting evidence.**
- 2. Identify proposed actions and themes from departments, stakeholders, and the public.**
- 3. Determine resources and partners needed for implementation.**

The Provincial Climate Adaptation Plan will be released in fall 2022.

If you would like to amend or add to any of the feedback in the report please email
adaptation@gov.pe.ca

To follow along on the progress of the development of the Climate Adaptation Plan, please visit
princeedwardisland.ca/adaptation

Thank You

The Department of Environment, Energy and Climate Action appreciates all feedback received. The department will assess all suggestions for jurisdiction, timelines, and the investment needed to create a more resilient province.

All quotes were provided by respondents of the Department of Environment, Energy and Climate Action's Public Survey.

What We Heard

Feedback on the development of a Provincial Climate Adaptation Plan

APPENDIX A

The Department of Environment, Energy and
Climate Action Online Survey for the
Climate Adaptation Plan

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Date: September 2022

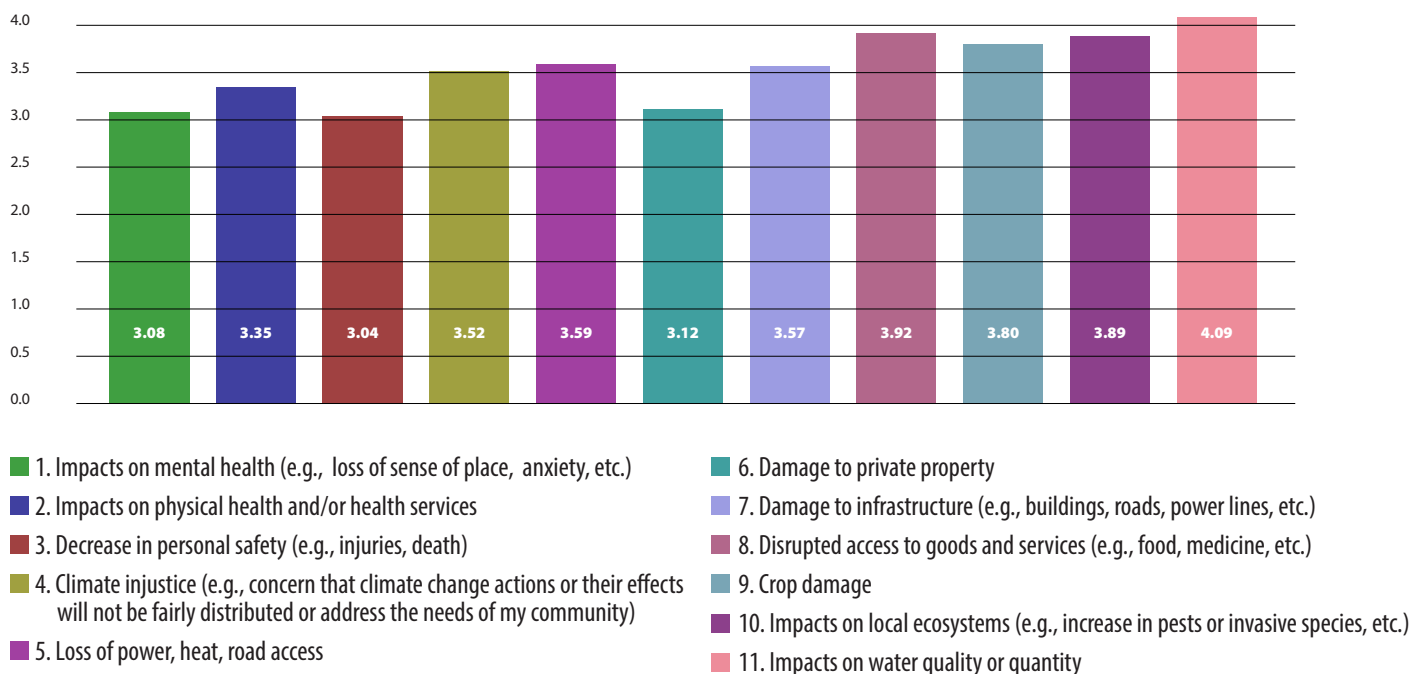
The Department of Environment, Energy and Climate Action Online Survey for the Climate Adaptation Plan (English)

Number of Respondents: 395

1. What climate change impact(s) are of greatest concern to you?

Ranked High-Low

1. Impact on water and water quality
2. Disrupted access to goods and services (e.g. food, medicines, etc.)
3. Impacts on local ecosystems (e.g. increase in pests or invasive species, etc.)
4. Crop Damage
5. Loss of power, heat, road access
6. Damage to infrastructure (e.g., buildings, roads, power lines, etc.)
7. Climate injustice (e.g. concern that climate change actions or their effects will not be fairly distributed or address the needs of my community)
8. Impacts on physical health and/or health services
9. Damage to private property
10. Impacts on mental health (e.g. loss of sense of place, anxiety, etc.)
11. Decrease in personal safety (e.g., injuries, death)



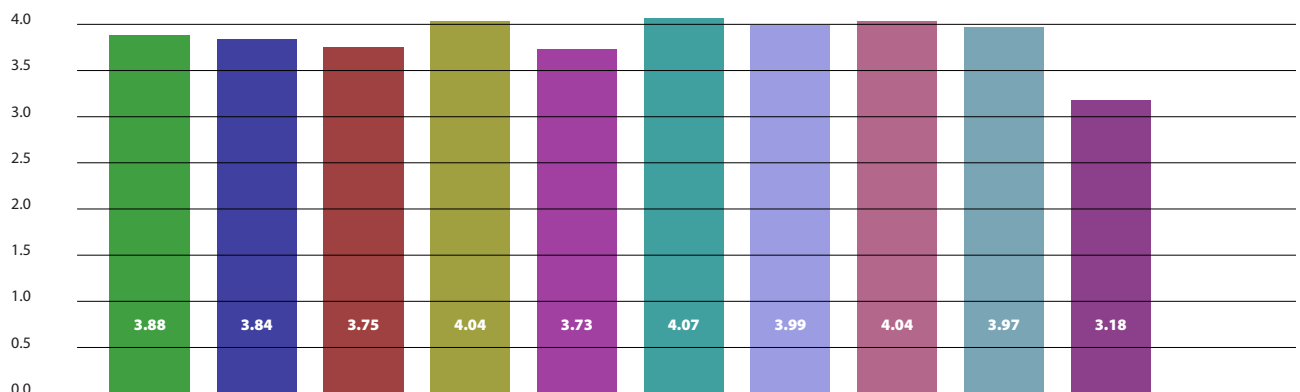
Are there other climate change impacts of concern to you that are not listed above?

Summary of responses: Erosion was the top concern that respondents did not feel was listed above. Climate injustice in terms of costs to younger generations, rich vs poor and other regions of the world was also a top concern, followed by the cost of living. Many respondents were concerned about biodiversity in terms of animals and habitats. Catastrophic impacts on the planet, humans and peace and security were listed as a notable concern. Several respondents mentioned heat, air quality and wildfires as a worry. The other top concerns were: food security, government inaction, education and impacts on our primary industries.

2. There are lots of ways we can prepare and adapt to climate change. How important to you are the following actions the Province could take in the next 5 years?

Ranked High-Low

1. Prepare for extreme weather (e.g., back-up power, warming/cooling capacity, etc.)
2. Adopt land use planning (e.g. limit building in areas with flood risk, etc.)
3. Upgrade infrastructure (e.g. buildings, roads, power lines, etc.)
4. Research and monitor environmental change
5. Help people better understand the impacts of climate change
6. Provide support for households to prepare for climate impacts
7. Help businesses, municipalities, and local organizations prepare for climate impacts
8. Help farmers, fishers, and tourism operators explore new opportunities
9. Enhance and protect biodiversity and habitat
10. Protect sites of historical and cultural importance



- | | |
|---|--|
| ■ 1. Help people better understand the impacts of climate change | ■ 5. Help farmers, fishers, and tourism operators explore new opportunities |
| ■ 2. Provide support for households to prepare for climate impacts | ■ 6. Adopt land use planning (e.g., limit building in areas with flood risk, etc.) |
| ■ 3. Help businesses, municipalities, and local organizations prepare for climate impacts | ■ 7. Upgrade infrastructure (e.g., buildings, roads, power lines, etc.) |
| ■ 4. Prepare for extreme weather (e.g., back-up power, warming/cooling capacity, etc.) | ■ 8. Enhance and protect biodiversity and habitat |
| | ■ 9. Research and monitor environmental change |
| | ■ 10. Protect sites of historical and cultural importance |

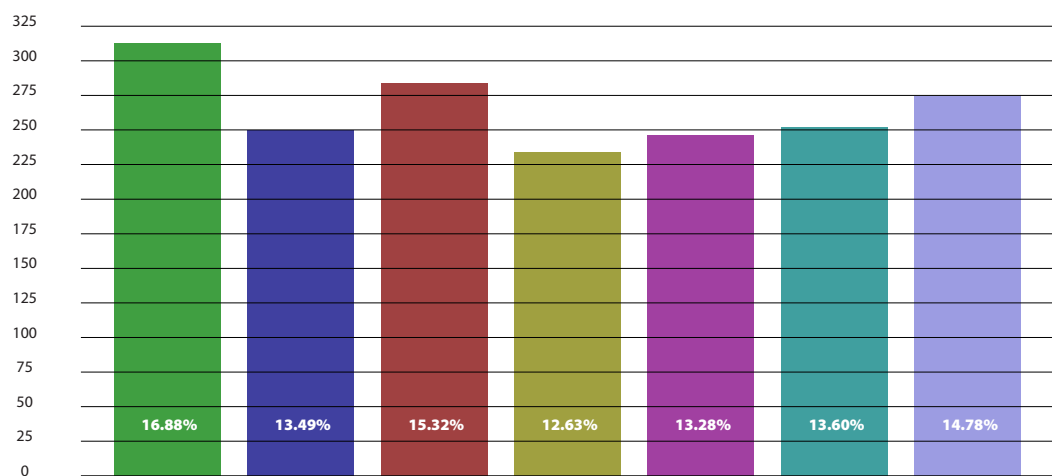
Are there other actions the Province could take in the next 5 years that are not listed above?

Summary of responses: About a third of respondents provided feedback on mitigation measures for climate change. While this report does not include those suggestions, all feedback has been passed to the Net Zero division of the Department of Environment, Energy and Climate Action for consideration. Following those comments, education and science were strong themes. Responders highlighted the importance of support for vulnerable people and creating equity from the action taken on climate adaptation. Additionally, land use planning and coastal protection strategies ranked high for people as actions. Following those, implementing Indigenous knowledge and consideration, conservation, and food and energy security were top priorities. Finally, a number of people suggested banning clearcutting, improving housing and building codes, and focusing on community resiliency.

3. What do you and your community need to prepare for climate change impacts (Please select all that apply)?

Ranked High-Low

1. Rebates and incentives to adapt
2. Increase regulation in high-risk areas
3. Community outreach and education
4. Professional training and resources on how to adapt
5. Support for local adaptation programs
6. More information on climate impacts (e.g., data, research, maps, etc.)
7. Climate-focused job opportunities



- 1. Rebates and incentives to adapt
- 2. Support for local adaptation programs
- 3. Increased regulation in high-risk areas
- 4. Climate-focused job opportunities
- 5. More information on climate impacts (e.g., data, research, maps, etc.)
- 6. Professional training and resources on how to adapt
- 7. Community outreach and education

Respondents had the opportunity to provide other requirements for their community to prepare.

Summary of responses: Education and outreach, identifying champions and funding for projects.

Are there other supports you or your community need that are not listed above?

Summary of responses: The majority of responses focused on education and outreach. Again, several respondents commented on mitigation measures, which have been provided to the Net Zero division. Other answers highlighted providing financial support for vulnerable populations, building municipal capacity, funding reception centres, and emergency preparedness. Other suggestions included land use planning, conservation, and guidance for coastal erosion and flexible insurance or relocation for infrastructure in high-risk areas.

How can the Province's programs be delivered in ways that help everyone in your community, especially those that are most vulnerable?

Summary of responses: Respondents suggested accessible education in the schools and to the general population. They recommended using outreach that used simple concepts through in-person town halls and social media, radio, print and door-to-door advertising to inform and promote any actions and programs for climate adaptation. Many identified that community-level action and engagement would be necessary for success. Support through finances for vulnerable populations was a focus to ensure that they can be empowered to take action and be part of the solution. Alternatively, several respondents recommended that programs focus on universal access or having a clear definition of who is vulnerable. Lastly, it was identified by survey respondents that programs and initiatives might be more successful if there is less red tape and an online portal.

Imagine it is 2040. PEI has taken significant steps to prepare for climate change. How would you describe how your life and your community has changed?

Summary of Responses: The picture of PEI in 2040 that respondents painted was a province with a healthy environment with increased conservation and biodiversity, managing water resources, increased forest coverage, protected coasts, carbon neutral, connected sustainable transportation system and secure food sources. Residents would be educated on climate adaptation and feel fully supported and prepared for the impacts of climate change. There would be sufficient affordable housing built to withstand climate impacts. Health care, including mental health, provides proactive support for a resilient population. Workers will be supported to work from home and commute sustainability. PEI would have a secure energy grid with diverse and sustainable energy sources.

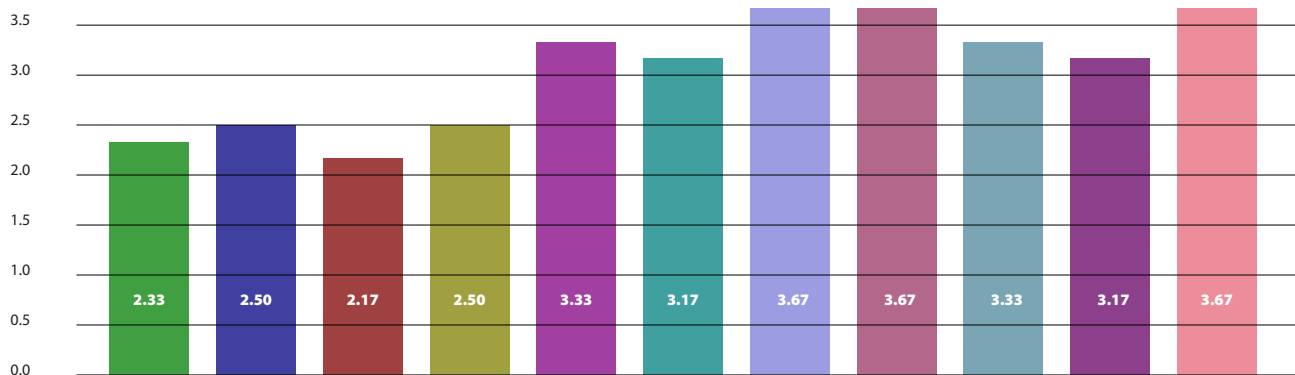
The Department of Environment, Energy and Climate Action Online Survey for the Climate Adaptation Plan (French)

Number of Respondents: 6

1. What climate change impact(s) are of greatest concern to you?

Ranked High-Low

1. Impact on water and water quality
2. Disrupted access to goods and services (e.g. food, medicines, etc.)
3. Damage to infrastructure (e.g., buildings, roads, power lines, etc.)
4. Loss of power, heat, road access
5. Crop Damage
6. Damage to private property
7. Impacts on local ecosystems (e.g. increase in pests or invasive species, etc.)
8. Climate injustice (e.g. concern that climate change actions or their effects will not be fairly distributed or address the needs of my community)
9. Impacts on physical health and/or health services
10. Impacts on mental health (e.g. loss of sense of place, anxiety, etc.)
11. Decrease in personal safety (e.g., injuries, death)



- | | |
|--|---|
| ■ 1. Effets sur la santé mentale (ex. : perte de l'esprit des lieux, anxiété) | ■ 6. Dommages à la propriété privée |
| ■ 2. Effets sur la santé et/ou les services de santé | ■ 7. Dommages aux infrastructures (ex. : bâtiments, routes, lignes électriques) |
| ■ 3. Diminution de la sécurité personnelle (ex. : blessures, décès) | ■ 8. Perturbation de l'accès aux biens et aux services (ex. : nourriture, médicaments) |
| ■ 4. Injustice découlant du changement climatique (ex. : les actions en réponse au changement climatique ou leurs effets ne toucheront pas tous les gens de la même façon ou ne répondront pas au besoin de ma communauté) | ■ 9. Dommages aux récoltes |
| ■ 5. Perte d'électricité, de chauffage, d'accès aux routes | ■ 10. Effets sur les écosystèmes locaux (ex. : augmentation des parasites ou des espèces envahissantes) |
| | ■ 11. Effets sur la quantité et la qualité de l'eau |

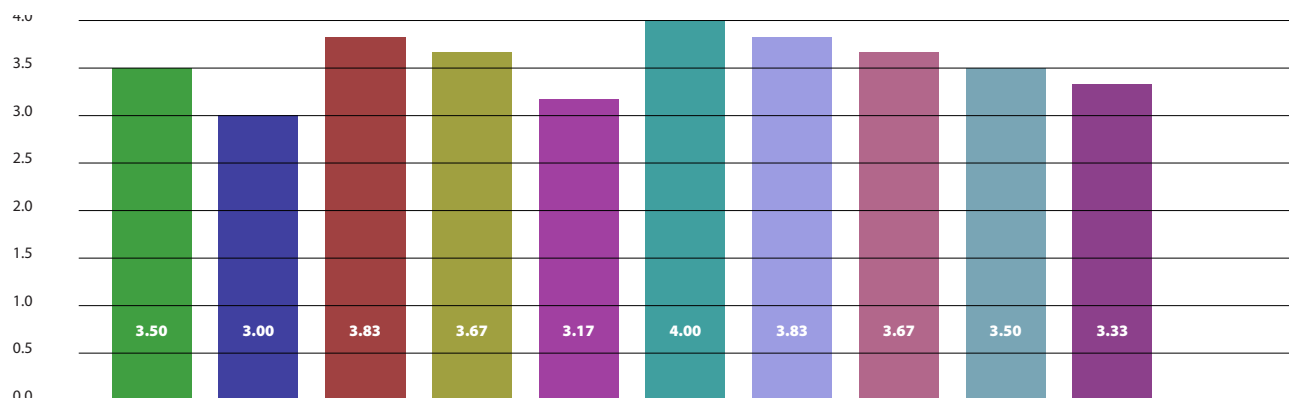
Are there other climate change impacts of concern to you that are not listed above?

Summary of responses: The displacement of populations due to climate change, concern over those who will not have access to water, and governments addressing climate change without impacting the response of other societal problems were highlighted as additional concerns.

2. There are lots of ways we can prepare and adapt to climate change. How important to you are the following actions the Province could take in the next 5 years?

Ranked High-Low

1. Adopt land use planning (e.g. limit building in areas with flood risk, etc.)
2. Upgrade infrastructure (e.g. buildings, roads, power lines, etc.)
3. Help businesses, municipalities, and local organizations prepare for climate impacts
4. Enhance and protect biodiversity and habitat
5. Prepare for extreme weather (e.g., back-up power, warming/cooling capacity, etc.)
6. Help people better understand the impacts of climate change
7. Protect sites of historical and cultural importance
8. Research and monitor environmental change
9. Help farmers, fishers, and tourism operators explore new opportunities
10. Provide support for households to prepare for climate impacts



- | | |
|---|---|
| 1. Aider les gens à mieux comprendre les impacts climatiques | 6. Adapter la planification de l'utilisation des terres (ex. : limiter la construction dans les zones susceptibles d'être inondées) |
| 2. Fournir un soutien aux ménages pour qu'ils se préparent aux impacts climatiques | 7. Améliorer les infrastructures (ex. : les bâtiments, les routes, les lignes électriques) |
| 3. Aider les entreprises, les municipalités et les organisations locales à se préparer aux impacts climatiques | 8. Améliorer et protéger la biodiversité et les habitats |
| 4. Se préparer aux conditions météorologiques extrêmes (ex. : alimentation en électricité de secours, capacité de chauffage/refroidissement de secours) | 9. Faire de la recherche sur les changements environnementaux et en faire la surveillance |
| 5. Help farmers, fishers, and tourism operators explore new opportunities | 10. Protéger les sites d'importance historique et culturelle |

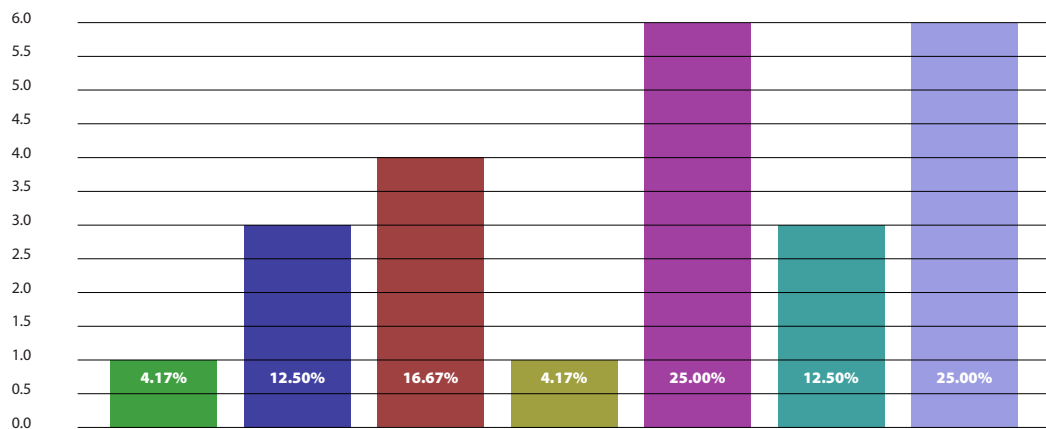
Are there other actions the Province could take in the next 5 years that are not listed above?

Summary of responses: Actions include building codes, regulating development on current farmland, mitigation measures and education for people to understand the direct impact of the lifestyle on the climate.

3. What do you and your community need to prepare for climate change impacts (Please select all that apply)?

Ranked High-Low

1. More information on climate impacts (e.g., data, research, maps, etc.)
2. Community outreach and education
3. Increase regulation in high-risk areas
4. Professional training and resources on how to adapt
5. Support for local adaptation programs
6. Rebates and incentives to adapt
7. Climate-focused job opportunities



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|---|---|
| ■ 1. Remises ou incitations pour l'adaptation | ■ 5. Plus d'informations sur les impacts climatiques (par exemple, données, recherches, cartes, etc.) |
| ■ 2. Soutien aux programmes d'adaptation locaux | ■ 6. Formation professionnelle et ressources sur les façons de s'adapter |
| ■ 3. Renforcement de la réglementation dans les zones à haut risque | ■ 7. Sensibilisation de la communauté |
| ■ 4. Possibilités d'emploi axées sur le climat | |

Respondents had the opportunity to provide other requirements for their community to prepare.

Summary of responses: None.

Are there other supports you or your community need that are not listed above?

Summary of responses: None.

How can the Province's programs be delivered in ways that help everyone in your community, especially those that are most vulnerable?

Summary of responses: Outreach and education door to door. Establish obligations for house sellers and property agents to disclose erosion risks during a sale. For example, if someone buys in a high-risk area, there should not be access to compensation. Create programs that account for vulnerable populations.

Imagine it is 2040. PEI has taken significant steps to prepare for climate change. How would you describe how your life and your community has changed?

Summary of Responses: The picture of PEI in 2040 was a province that improved biking trails and transit. There were fruit trees and green spaces in communities. A provincial emergency plan was established where residents know where to go in a climate emergency. All residents have 72-hour emergency kits. The Confederation Bridge was reinforced and strengthened. Infrastructure was secured and fortified.

What We Heard

Feedback on the development of a Provincial Climate Adaptation Plan

APPENDIX B

Provincial Climate Adaptation Plan PEI Municipalities

VOLUME 18

**For:
PEI Department of Environment,
Energy, and Climate Action**

Date: September 2022

Number of Respondents: 22

1. Evaluating the relevance of climate change impacts to municipalities

Please evaluate the relevance of the following **EMERGENCY MANAGEMENT** implications on a scale of 1 (Not at all relevant) to 5 (Extremely relevant):

EMERGENCY MANAGEMENT

Average

Emergency service disruptions due to flooding and post-tropical storms, particularly in rural areas

3.75

Greater year-round demand for reception centres during extreme heat and storm events

3.25

2. Evaluating the relevance of climate change impacts to municipalities

Please evaluate the relevance of the following **INFRASTRUCTURE** implications on a scale of 1 (Not at all relevant) to 5 (Extremely relevant):

INFRASTRUCTURE

Increased risk to industrial, commercial, and residential development in coastal areas

3.25

Municipal infrastructure including buildings, roads, bridges, wastewater and stormwater infrastructure could be damaged or disrupted by extreme weather (e.g., storms, coastal erosion, storm surge, etc.)

3.4

Reduction in the useful life of infrastructure, affecting capital asset planning and capital budgets

3.25

Increased infrastructure cost due to higher design and construction standards

3.6

Increased liability from failure to manage or disclose climate risks

3.5

3. Evaluating the relevance of climate change impacts to municipalities

Please evaluate the relevance of the following **HEALTH** implications on a scale of 1 (Not at all relevant) to 5 (Extremely relevant):

HEALTH

Impacts of extreme heat upon populations, including vulnerable populations	3.1
Impacts of extreme heat upon municipal staff and clients	3
Impacts on residents' routines and sense of place, including disruptions to transportation routes, damage to sites of social and cultural importance, and displacement from their homes following extreme weather events	3.2
Impacts on community food security following extreme weather events, or due to supply chain disruptions regionally and beyond	3.7

4. Evaluating the relevance of climate change impacts to municipalities

Please evaluate the relevance of the following **HABITAT AND BIODIVERSITY** implications on a scale of 1 (Not at all relevant) to 5 (Extremely relevant):

HABITAT AND BIODIVERSITY

Shifts in habitat, including that of rare or at-risk species, and species of cultural significance	3.6
Increased runoff of contaminants into watercourses	3.9
Increased heat stress upon freshwater ecosystems	4.1

5. Evaluating the relevance of climate change impacts to municipalities

Please evaluate the relevance of the following **ECONOMY** implications on a scale of 1 (Not at all relevant) to 5 (Extremely relevant):

ECONOMY

Increased demand from businesses and community groups for financial support to respond to climate change risks and impacts	3.2
Potential opportunities to stimulate business development and enhance employment opportunities	3.45
New and emerging fields of employment may require greater investment in skills training	3.45

6. Identifying additional climate change impacts

In addition to the climate change impacts that have been identified above, please identify any other climate-related issues or impacts that you think are relevant to your municipality.

Summary of responses: Municipalities identified additional consequences such as strain on the agricultural sector and tourism-based employment; Land use planning and coastal development zone regulations; bylaws that if you cut a tree, you plant a tree; and wildfires due to drought.

7. Ranking importance of adaptation action

Adapting to climate change can take different forms.

Please rank the following areas of **ADAPTATION ACTION** in terms of their importance to you on a scale of 1 (Not at all important) to 5 (Extremely important):

ADAPTATION ACTION

Training and capacity building (e.g., for municipal staff, homeowners, professionals, residents etc.)	3.5
Piloting nature-based solutions (e.g., inter-tidal reefs, living shorelines, green roofs, urban tree planting, etc.)	3.65
Upgrading conventional infrastructure (e.g., shoreline armouring, culverts, etc.)	3.5
Supporting disaster resilience (e.g., back-up power, warming/cooling capacity, etc.)	3.75
Diversifying economic activity (e.g., crops, tourism, fishing) to respond to a changing climate	3.55
Identifying climate impacts on local business (e.g., agriculture, tourism, fisheries)	3.6
Adhering to land use planning best practices (e.g., restricting development in areas prone to coastal flooding, directing development to settlement areas with services)	4.05
Increasing design standards for provincial and municipal infrastructure	3.9
Enhancing biodiversity and habitat	3.95