MacEachen
INDEPENDENT. INFORMED.

DALHOUSIE UNIVERSITY

Purpose of this note:
On March 4, 2021, the MacEachen Institute in partnership with the Marine Environmental Observation, Prediction and Response Network (MEOPAR) hosted a panel of speakers to discuss public policy related to climate change and coastal adaptation. This event was the third in a four-part speaker series aimed at supporting public policy discussion leading up to the Nova Scotia provincial election.

Speakers
Robin Cox (Professor of Disaster and Emergency Management, Royal Roads University), **Patricia Manuel** (Professor of Planning, Dalhousie University), **Steve Plante** (Professor of Regional Development and Society, Université du Québec à Rimouski) and **Scott Vaughan** (Senior Fellow, International Institute for Sustainable Development). The panel was moderated by **Rodrigo Menafra** (Managing Director, MEOPAR).

About the MacEachen Institute:
The MacEachen Institute for Public Policy and Governance at Dalhousie University is a nationally focused, non-partisan, interdisciplinary institute designed to support the development of progressive public policy and to encourage greater citizen engagement.

Author
Sasha Mosky
Master of Planning Candidate
Dalhousie University

Contact
For more information on this research, contact **mipp@dal.ca**

Climate Adaptation in Nova Scotia:

Overblown or Underwater?

March 4, 2021

Key Observations
Over the past decade, significant effort has been put towards building the capacity of municipalities to respond to climate change. While many communities are developing the skills and local expertise to adapt to the effects of climate change, and political will is emerging, lack of funding is often a major barrier to implementation of climate adaptation initiatives. Consequently, many communities remain vulnerable to sea-level rise, flooding, saltwater intrusion, storm surge and coastal erosion.

Climate adaptation initiatives most often occur at the municipal level. However, because municipalities have limited resources, higher orders of government must take on a more proactive role in supporting the implementation of municipal-led climate adaptation projects. Land-use planning, supporting the development and implementation of nature-based solutions, and developing emergency preparedness procedures are just some of the climate adaptation tools available to all levels of government.

Climate change is a complex, multi-faceted issue. To address the challenge of climate change, a multidisciplinary response is needed. Specifically, different governmental departments, such as infrastructure, environment, planning and community development, must work collaboratively to address climate-related issues. Further, there is a need to make data on climate change and risk more accessible to both local governments and community members.

Event Abstract

With over 13,000 km of coastline and more than 70% of the population living within 20 km of the coast, Nova Scotia's population, infrastructure, cultural heritage and economy are highly vulnerable to sea-level rise, flooding, hurricanes and storm surges. This extreme weather is becoming more frequent and intense due to climate change.

How should the province adapt to this new reality and how should communities increase their resiliency to withstand these disasters? What are some ecological, financial, governance and disaster resilience perspectives?

Speaker Observations

Patricia Manuel

- Nova Scotia is highly vulnerable to a rising sea level. Land subsidence coupled with climate change–driven sea-level rise means much of the province's coastline could experience a rise of 75–110 cm (depending on GHG emission scenarios) relative to the historic average (1986–2005) by the year 2100. Because 70 percent of the province's population lives at or near the coast, and because development continues in exposed coastal areas, there is an urgent need to revaluate our relationship to the ocean and develop strategies to adapt to this new reality.
- Coastal erosion and flooding are natural processes. Rising sea level exposes previously unimpacted land uses and infrastructure to these processes through encroaching high water, storm surges and wave run-up. Nature-based solutions offer an opportunity to safeguard communities from this reality by leveraging natural ecological processes.
- Significant strides have been made in building capacity to respond to sea-level rise in Nova Scotia. For example, each municipality has developed a Municipal Climate Change Action Plan (MCCAP), which assesses risk and provides a foundation for climate adaptation. Other tools, such as the Coastal Protection Act (2021), will provide a legal foundation for stronger development controls along the coastline while the Minimum Planning Requirements Regulations, Section 214(4) (2019) of the Municipal Planning Act will improve land-use planning in rural areas. Despite these efforts, there is still a need for more resources to connect governments, local communities and individuals with the tools they need for implementing adaptation strategies.

Steve Plante

- Nova Scotia is highly vulnerable to a rising sea level. Land subsidence coupled with climate change–driven sea-level rise means much of the province's coastline could experience a rise of 75–110 cm (depending on GHG emission scenarios) relative to the historic average (1986–2005) by the year 2100. Because 70 percent of the province's population lives at or near the coast, and because development continues in exposed coastal areas, there is an urgent need to revaluate our relationship to the ocean and develop strategies to adapt to this new reality.
- Coastal erosion and flooding are natural processes. Rising sea level exposes previously unimpacted land uses and infrastructure to these processes through encroaching high water, storm surges and wave run-up. Nature-based solutions offer an opportunity to safeguard communities from this reality by leveraging natural ecological processes.
- Significant strides have been made in building capacity to respond to sea-level rise in Nova Scotia. For example, each municipality has developed a Municipal Climate Change Action Plan (MCCAP), which assesses risk and provides a foundation for climate adaptation. Other tools, such as the Coastal Protection Act (2021), will provide a legal foundation for stronger development controls along the coastline while the Minimum Planning Requirements Regulations, Section 214(4) (2019) of the Municipal Planning Act will improve land-use planning in rural areas. Despite these efforts, there is still a need for more resources to connect governments,

local communities and individuals with the tools they need for implementing adaptation strategies.

Robin Cox

- Even if emission reduction targets are met, the effects of climate change will still be felt. More specifically, consequences of climate change such as sea-level rise, drought, climate-driven migration and conflict are foreseeable risks. Consequently, all levels of society (governments, NGS, communities, individuals) must accept this reality and proactively plan for the effects of climate change.
- It is imperative that resilience thinking is integrated into all aspects of society. Federal and provincial governments must invest in initiatives that enhance the capacity of municipalities, rural communities, educational institutions, businesses and individuals to work together to adapt to the risks associated with climate change. Moreover, climate change is ultimately about people. Steps need to be taken to proactively prepare people physically and emotionally for the effects of climate change.
- Climate adaptation should be at the forefront of COVID-19 recovery efforts. There is an opportunity to invest in education and skills training so that individuals and communities have the required tools to address climate risks.

Scott Vaughan

- Over the past 10 years, climate change has garnered a lot of attention. To date, most efforts have been focused on climate mitigation. However, as communities come to terms with the reality of climate change, climate adaptation is being taken more seriously.
- While municipalities in Nova Scotia have developed climate change mitigation and adaptation plans, more emphasis must be put on implementation. Local communities must be supported in identifying appropriate adaptation interventions through partnership with the federal and provincial government as well as NGOs.
- Land-use planning and emergency preparedness are two of the most common adaptation strategies. Nature-based solutions, such as restoring natural ecosystem dynamics, should also be leveraged into climate adaptation strategies.

Conclusion

Nova Scotia's population, economy, cultural heritage and natural environment are highly vulnerable to the effects of climate change. Even under a best-case climate change scenario, sea-level rise, flooding, storm surge and coastal erosion are anticipated to significantly alter Nova Scotia's coastline. Given this reality, climate adaptation is not a choice, it is a necessity. All levels of society must proactively prepare for and adapt to the effects of climate change.