20 February 2019

Protect, Accommodate, Retreat?

Adapting to a changing climate in New Brunswick

Annual conference of the New Brunswick Climate Change Adaptation Collaborative

New Brunswick Environmental Network
Réseau environnemental du Nouveau Brunswick

Table of Contents

Summary 3

Agenda 4

Federal & Provincial Context: What's been happening in climate change? Where are the opportunities? What about funding? 7

Federal & Provincial Context: Robert Capozi, New Brunswick Department of Environment & Local Government – Climate Change Secretariat 7

Partners for Climate Protection: Eddie Oldfield, Federation of Canadian Municipalities & QUEST 8

Building Regional Adaptation Capacity & Expertise (BRACE) Projects: 9

Natural and Nature-Based Infrastructure Capacity Building for Engineers, Land Use Planners and Environmental Organisations in New Brunswick Sabine Dietz, Aster Group Environmental Services Co-Operative 9

Building Capacity of NB Woodlot Owners to Adapt to Climate Change Susannah Banks, NB Federation of Woodlot Owners 9

Climate Change Adaptation Capacity Building for New Brunswick Engineers Serge Dupuis, Université de Moncton 10

Keynote Speaker: 10

Rights, Resilience and Community-led Relocation: Robin Bronen, Alaska Institute for Justice 10

Project Sharing, I 11

Action & Adaptation Plans & Strategies 11

Chaleur Regional Service Commission: Flooding and Coastal Erosion Robert Capozi, New Brunswick Department of Environment & Local Government – Climate Change Secretariat 11

Tantramar - Addressing Mitigation & Adaptation & Resiliency: Amanda Marlin, EOS Eco Energy 11

University of New Brunswick - Fredericton & Saint John Campuses: Jill Pelkey, Department of Environment & Local Government - Climate Secretariat 12

Agriculture & Forestry 12

Linking Mitigation & Adaptation in Agriculture: Brittany McGuire, Atlantic Canadian Organic Regional Network 12

Climate-Adaptive Silviculture: Megan de Graaf, Community Forest International 12

Project Sharing, II 12

Education 12

Climate Change Adaptation using Natural Conservation Approaches: Roberta Clowater, Canadian Parks and Wilderness Society, NB Chapter 12

Erosion, Flooding & Flood Risk 13

Ice Flood Risk Mapping & Mitigation-Kennebecasis River Watershed: Marc-Andre Long, Université de Moncton 13

Health 13

Climate Stress: Amanda Marlin, EOS Eco Energy 13

Infrastructure 13

Facilitation of Climate Change Considerations in Asset Management Planning - Stormwater & Road Network Systems: Leo Liu & Kimberley Reeder, University of New Brunswick 13

Green Infrastructure Solutions for Storm Water Management: Graeme Stewart-Robertson, ACAP Saint John 13

Concurrent Workshops – Training & Capacity Building 14

Workshop I 14

Protected Natural Areas & Natural Asset Management: Roberta Clowater, Canadian Parks and Wilderness Society, NB Chapter Adam Cheeseman, Nature NB 14

Workshop II 14

Retreat as a Solution: Managing Risk, Managing Expectations, Taking Responsibility: Sabine Dietz, Aster Group Environmental Services Co-operative Amanda Marlin, EOS Eco Energy 14

Workshop III 15

Adapting and Mitigating with Carbon Offsets: Megan de Graaf, Community Forest International ... 15

Opportunities to Overcome Barriers: Raissa Marks, New Brunswick Environmental Network Sabine Dietz, Aster Group Environmental Services Co-operative 16

Evaluations 17

Participants 18

Summary

The annual conference on climate change adaptation entitled “Protect, Accommodate, Retreat? Adapting to a changing climate in New Brunswick” was held at the New Maryland Centre in New Maryland, NB, on Wednesday, February 20, 2019. The seventy (70) participants included both new and seasoned practitioners of climate change adaptation, including participants from provincial and municipal government, environmental groups, industry, and universities. The intent of the conference was to achieve the following outcomes:

- Engage new participants in the New Brunswick Climate Change Adaptation Collaborative, and climate change adaptation in general,
- Identify and address barriers to implementing adaptation around the province,
- Provide training and capacity-building for both newcomers and seasoned practitioners, and
- Share federal and provincial context, requirements, funding, and collaboration opportunities.

Through a series of presentations, small group discussions, and mini workshops held concurrently to direct participants towards areas of personal interest, these outcomes were accomplished. Keynote speaker, Robin Bronen (Alaska Institute of Justice) drew attention with her topic on *Rights, Resilience and Community-led Relocation*. Her presentation set the tone for good discussion during the workshop on *Retreat as a Solution: Managing risk, managing expectations, taking responsibility.*

The day closed with a brief comment on this annual conference being a welcome opportunity to check-in with friends in the climate change adaptation world. Participants were appreciative of the many connections made, both old and new, as captured in the Evaluations section of this report.

Agenda

Time	*Sessions*	
9:00	**Registration & Meet & Greet**	
9:30	**Welcome & Introductions**	Raissa Marks & Zaheera Denath, *New Brunswick Environmental Network*
9:45	**Federal & Provincial Context:** *What's been happening in climate change? Where are the opportunities? What about funding?*	Federal & Provincial Context: Robert Capozi, *New Brunswick Department of Environment & Local Government – Climate Change Secretariat*
		Partners for Climate Protection: Eddie Oldfield*, Federation of Canadian Municipalities & QUEST*
		Building Regional Adaptation Capacity and Expertise (BRACE) Projects: Sabine Dietz*, Aster Group Environmental Services Co-Operative;* Susannah Banks, *NB Federation of Woodlot Owners;* Serge Dupuis*, Université de Moncton*
10:45	**BREAK**	
11:00	**Keynote Speaker:** *Rights, Resilience and Community-led Relocation*	Robin Bronen, *Alaska Institute of Justice*
11:40	**Project Sharing, I:**	
	Action & Adaptation Plans & Strategies	Chaleur RSC – Flooding & Coastal Erosion: Robert Capozi*, New Brunswick Department of Environment & Local Government – Climate Change Secretariat*
		Tantramar – Addressing Mitigation, Adaptation & Resiliency: Amanda Marlin*, EOS Eco-Energy*
		University of New Brunswick - Fredericton & Saint John Campuses: Jill Pelkey*, New Brunswick Department of Environment & Local Government – Climate Change Secretariat*

Time	*Sessions*	
	Agriculture & Forestry	Linking Mitigation & Adaptation within Agriculture: Brittany McGuire, *Atlantic Canadian Organic Regional Network*
		Climate-Adaptive Silviculture: Megan de Graaf*, Community Forest International*
12:30	**LUNCH**	
1:30	**Project Sharing, II:**	
	Education	Climate Change Adaptation Using Natural Conservation Approaches: Roberta Clowater*, Canadian Parks and Wilderness Society, NB Chapter*
	Erosion, Flooding & Flood Risk	Ice Flood Risk Mapping and Mitigation: Kennebecasis River Watershed: Marc-André Long*, Université de Moncton*
	Health	Climate Stress: Amanda Marlin*, EOS Eco-Energy*
	Infrastructure	Facilitation of Climate Considerations in Asset Management Planning – Stormwater & Road Network Systems: Leo Liu & Kimberley Reed*, University of New Brunswick*
		Green Infrastructure Solutions for Stormwater Management: Graeme Stewart-Robertson*, ACAP Saint John*
2:15	**BREAK**	
2:30	**Concurrent Workshops – Training & Capacity Building**	
	Workshop I	Protected Natural Areas & Natural Asset Management: Roberta Clowater, *Canadian Parks and Wilderness Society, NB Chapter* Adam Cheeseman*, Nature NB*

Time	*Sessions*	
	Workshop II	Retreat as a Solution: Managing risk, managing expectations, taking responsibility: Sabine Dietz*, Aster Group Environmental Services Co-operative* Amanda Marlin*, EOS Eco-Energy*
	Workshop III	Adapting and Mitigating with Carbon Credits: Megan de Graaf, *Community Forest International*
3:15	**Opportunities to Overcome Barriers**	Raissa Marks*, New Brunswick Environmental Network* Sabine Dietz*, Aster Group Environmental Services Co-operative*
3:50	**Wrap-Up**	Roberta Clowater*, Canadian Parks and Wilderness Society, New Brunswick Chapter*

Federal & Provincial Context: *What's been happening in climate change? Where are the opportunities? What about funding?*

Federal & Provincial Context: Robert Capozi, New Brunswick Department of Environment & Local Government – Climate Change Secretariat

The climate change adaptation work taking place in the province to date was summarised by Robert Capozi who highlighted the adaptation action items from New Brunswick's Climate Change Action Plan, namely:

> Action 8 – ***Develop a central repository for different types of climate information. The information should be easy to access, understand and interpret. An outreach approach will be developed to ensure that partners are aware of the information and its value.***

The province is in the process of negotiating with the other Atlantic Provinces and Federal government on creating an Atlantic Climate Change Data & Services Hub, which will serve the climate data and services needs of stakeholders and the public across the Atlantic.

> Action 12 - ***Strengthen linkages between government, researchers, NGOs, local communities and First Nations, to create partnerships and increase local capacity.***

Government continues to expand its outreach and engagement activities to ensure continued linkages with researchers and academia, and disseminate new findings, adaptation measures, climate change data and projections, so as to increase NB's collective resilience across sectors to the impacts of climate change.

> Action 28 – ***Continue to participate and maintain relationships with national adaptation working groups such as Natural Resources Canada's Adaptation Platform***, and
>
> Action 29 – ***Continue to work collaboratively with industry and professional organizations to share information and best practices and facilitate the dissemination of climate change awareness programs***

Building Regional Adaptation Capacity and Expertise (BRACE) Programs funded through

> Action 76 – ***Ensure NGOs and local community partners are supported so they can continue to guide communities through the adaptation planning process.***

Natural Resources Canada (NRCan) will facilitate dissemination of climate change related information.

The province has identified and classified by risk level municipalities prone to erosion and flooding. By providing newly created Coastal Flood Hazard Mapping that is based on the 2017 Sea-Level Rise and flooding scenario projections, highest-risk municipalities, coastally located

RSCs, and various communities have been able to conduct Climate Change Vulnerability Assessments that are the basis for developing full-scale Adaptation Plans that contain recommended Adaptation Measures targeting the specific vulnerabilities Identified. Other

Action 78 – ***Conduct climate change adaptation planning at a regional scale and empower regional service commissions to coordinate this exercise***

vulnerable municipalities such as those along the St. John River and other major rivers will also be guided through the adaptation planning process once the province's Inland Flood Hazard Mapping is completed at the end of 2020.

In order to provide tools and support to municipalities embarking on developing Adaptation Plans, the Province has developed an Adaptation Planning Guidebook for NB Communities. The Province also continues to work on acquiring its province-wide LiDAR coverage and making this publicly available via GeoNB or some other public facing sight, in order to provide high-resolution topographical data and mapping of the province.

The Province continues to offer funding support through the Environmental Trust Fund to groups conducting climate change adaptation work that compliments the Action Items of the NB Climate Change Action Plan. This financial support helps NGOs, communities, and municipalities develop climate expertise, build capacity and knowledge, and increase their resiliency to the impacts of climate change.

Partners for Climate Protection:
Eddie Oldfield, Federation of Canadian Municipalities & QUEST

Eddie Oldfield provided an overview of the programs supporting climate change mitigation and adaptation by the Federation of Canadian Municipalities (FCM). One program, Partners for Climate Protection (PCP) is a joint program between FCM and ICLEI Canada, a global network for local and regional governments who are committed to sustainable urban development. The aim of the program is to assist communities to identify and address sources of greenhouse gas (GHG) emissions using five milestones:

- Milestone 1: Create a Baseline Emissions Inventory and Forecast
- Milestone 2: Set Emissions Reduction Targets
- Milestone 3: Develop a Local Action Plan
- Milestone 4: Implement the Local Action Plan
- Milestone 5: Monitor Progress and Report Results

Greenhouse gas emissions are related to energy use, so by following these milestones, both GHG emissions and energy costs are reduced, keeping the local economy robust. Members of PCP include fifty-five NB communities and over 400 communities from across Canada. Many communities develop a Community Energy Plan (CEP) to improve efficiency, decrease GHG emissions, and focus economic development. Increasingly, communities are also developing climate risk and vulnerability assessments and adaptation strategies.

Funding programs available through FCM are:

- The Green Municipal Fund, which supports local, sustainable, green innovative projects that improve air, water, and land quality through training, resources, and funding. Examples include making affordable and social housing units more energy efficient. This funding is issued either as a loan or a grant, for up to 50%, for eligible plans, studies, pilot projects, and capital projects.
- The Municipalities for Climate Innovation Program, which is a five-year, $75 million program to support a response to climate change through funding, resources, and training. One example is updating infrastructure to address climate change. This funding has been fully allocated and may be renewed at a future date.

Oldfield also provided a snapshot of the research projects and working groups in the Atlantic provinces, plus recent accomplishments of communities (~28) who have undertaken studies, pilots and projects to address climate change issues. These projects set the bar for the rest of Canada.

Building Regional Adaptation Capacity & Expertise (BRACE) Projects:

In 2018, Natural Resources Canada (NRCan) opened a call for proposals via provincial governments for adaptation work based on provincial needs assessments. Three New Brunswick projects were developed with the guidance the Department of Environment and Local Government's Climate Change Secretariat. The following are summaries of the projects:

Natural and Nature-Based Infrastructure Capacity Building for Engineers, Land Use Planners and Environmental Organisations in New Brunswick
Sabine Dietz, Aster Group Environmental Services Co-Operative

Sabine Dietz provided a brief overview of this project, led by the New Brunswick Environmental Network. The project's focus will be on capacity-building and overcoming barriers in the use of natural and nature-based infrastructure in dealing with climate impacts and will target land-use planners, engineers and environmental non-governmental organizations.

Building Capacity of NB Woodlot Owners to Adapt to Climate Change
Susannah Banks, NB Federation of Woodlot Owners

The NB Federation of Woodlot Owners, and a number of partners, will work towards a four-year plan to develop climate change adaptive silviculture guidelines, host workshops and webinars to increase awareness, develop training videos, and add climate change to a new data management system for tracking plan implementation and completion to ensure New Brunswick private woodlots are more adaptive to climate change. The aim is to target foresters, forest technicians and private woodlot owners (42,000 of them) who manage 30% of New Brunswick forests, the equivalent of 1.9 million hectares.

Climate Change Adaptation Capacity Building for New Brunswick Engineers
Serge Dupuis, Université de Moncton

The Université de Moncton's Faculty of Engineering, under the leadership of professor Serge Dupuis, P. Eng., will, over the next three years, train consultant, municipal, government, academic, and student engineers through technical workshops, webinars, online courses and case studies, on adapting to climate change. The goals are to develop the capacity of New Brunswick engineers to successfully contribute to the implementation of provincial climate change expertise relating to climate change adaptation, reducing vulnerability and increasing resiliency to climate change; and to create a cohort of provincial engineers capable of providing attestations required to meet potential federal infrastructure climate lens requirements.

Keynote Speaker:

Rights, Resilience and Community-led Relocation:
Robin Bronen, Alaska Institute for Justice

In a comprehensive talk about the concept of physically relocating whole communities facing climate impacts (i.e. sea-level rise, flooding, etc.), Robin Bronen, human rights attorney and Executive Director for the Alaska Institute for Justice, spoke to the challenges communities face in deciding whether or not to relocate. Her experience in this realm spans decades with the Indigenous communities of Alaska, of which twelve remote communities considered relocation and three voted to proceed. A note of caution, twenty years after discussions began, none have yet relocated. One community is in a relocation process with construction of infrastructure at the relocation site.

In determining whether a planned relocation is a viable solution, Bronen puts emphasis on assessing a community's right to self-determination. She stated that the term *climate refugee* was inappropriate to use because refugee status is conferred to people whose government is persecuting or torturing them. In the situation of the climate crisis, most people should be able to rely on their governments to respond and emphasised that relocation should be a voluntary decision made by the members of the community. Historic government-forced relocation strategies have harmed populations. For this reason, the *Right to Self-Determination* is extremely important and relocation is a *Human Rights* issue. She advises that governments need to address four key issues:

- Who has the mandate or the funding to relocate?
- Who has the power or can make the decision to relocate?
- When does the process of relocation begin?
- How does one relocate prior to a large weather event?
- How can human rights be protected?

Within a framework that governments can put forth as an adaptive relocation strategy, Bronen proposed four components:

- Federal legislation
- Good governance with the caveat that decolonisation needs to be part of the process so human rights can be protected
- Social and environmental monitoring (i.e., community-based environmental monitoring with communities deciding the environmental changes they want to monitor along with atmospheric and physical scientists who can create rates of predicted change)
- Funding allocated for capital projects can be shifted to relocation planning

To summarise, the decision to relocate should be guided by the community with technical assistance and funding support from government agencies. It is essential to foster community empowerment and shift priorities from a top-down system to a multi-sector approach.

Project Sharing, I

Action & Adaptation Plans & Strategies

Chaleur Regional Service Commission: Flooding and Coastal Erosion
Robert Capozi, New Brunswick Department of Environment & Local Government – Climate Change Secretariat

In an overview of the Climate Change Adaptation planning with Environmental Trust Fund and in-kind funding Robert Capozi explained that the Chaleur Regional Service Commission (RSC) conducted a Vulnerability Assessment and completed an adaptation plan for the complete RSC territory including the municipalities of Belledune, Pointe-Verte, Petit-Rocher, and Beresford. The RSC brought to the table all infrastructure owners, utility owners, emergency responders, EMO officials, municipalities, and the residents, conducting numerous sessions with these stakeholders to discuss the identified vulnerabilities and other items impacted by climate change such as living in a forested landscape, as well as flooding and erosion caused by storm surges and extreme precipitation events.

Tantramar - Addressing Mitigation & Adaptation & Resiliency:
Amanda Marlin, EOS Eco Energy

Amanda Marlin introduced a range of different climate change adaptation projects EOS Eco Energy is working on. They have been working on helping municipalities in the Tantramar region develop adaptation plans (e.g., Town of Sackville); leading the Chignecto Climate Change Collaborative, and planning a Tantramar Climate Change week every year. They are also working on creating rain gardens and they plan to have 10 new rain gardens in the downtown, flood-prone area of Sackville on private property. In the past, they have made bulk purchases for water pumps and valves; and in the coming years they are planning to work on de-pavement projects in Sackville.

University of New Brunswick - Fredericton & Saint John Campuses:
Jill Pelkey, Department of Environment & Local Government - Climate Secretariat

Jill Pelkey talked about the three-year sustainability project which was started at the Fredericton and Saint John campuses of the University of New Brunswick. She gave a brief overview of different consultations and engagement activities that took place at the campuses addressing questions akin to: How do you think climate change will influence UNB? and What actions can be taken for short- and long-term outcomes? The results were then used to identify key focus areas for action which included energy, transport, food, waste, and education. Based on these focus areas, key actions were identified to reduce GHG emissions. In addition, risk and vulnerability assessments will also be carried out at these campuses in the year 2020.

Agriculture & Forestry

Linking Mitigation & Adaptation in Agriculture:
Brittany McGuire, Atlantic Canadian Organic Regional Network

The Atlantic Canadian Organic Regional Network's (ACORN) work on agriculture and climate change was presented by Brittany McGuire. The organization, over the years, has observed a range of impacts of climate change on agriculture, some of which include pest pressure, strong storms, flood risks, and changes in growing seasons. ACORN staff held community sessions to understand the problems the agricultural community is facing due to climate change, as well as to understand which tools they believe will be needed to overcome those challenges. In these consultation sessions it was observed that the community wants practical advice and an opportunity to talk about their own experiences.

Climate-Adaptive Silviculture:
Megan de Graaf, Community Forest International

Megan de Graaf provided a brief on Community Forests International's climate change resilience and adaptive tree species project. This project involves a range of aspects, some of which include study on forest species which might or might not perform well in the face of climate change, a decision-key approach or silviculture prescriptions, and diversification of forests in terms of species, age, and structure. Currently, they are working more with small private woodland owners.

Project Sharing, II

Education

Climate Change Adaptation using Natural Conservation Approaches:
Roberta Clowater, Canadian Parks and Wilderness Society, NB Chapter

Roberta Clowater began her talk with the benefits of natural areas, some of which include water filters and habitats for bees and pollinators. She then presented the ways in which to talk about nature-based adaptation to engineers and planners and bring in a different lens to the conversation. Furthermore, a quick discussion on how to better manage land politically and

whether or not to put a dollar value on nature. Lastly, she touched on creating blue-green linkages for adaptation.

Erosion, Flooding & Flood Risk

Ice Flood Risk Mapping & Mitigation-Kennebecasis River Watershed: Marc-Andre Long, Université de Moncton

The Université de Moncton, over the last four years, has done flood hazard mapping to include snow melt which was not considered in previous mapping. They observed that around the Kennebecasis Watershed, over 63% of the flooding events occurred between January and April, and notably in March, where snow-related flows were much higher than precipitation-related flows. As a result, they are conducting new research which focuses on: 1) the distribution of snow across watersheds, 2) ice jams, and 3) hydrological models.

Health

Climate Stress: Amanda Marlin, EOS Eco Energy

The findings of a study by EOS Eco-Energy on climate stress in Sackville were described by Amanda Marlin. It was discovered, via a survey of 97 participants, that feelings of hopelessness, anxiety, depression, and guilt were common to those who thought about climate change. Furthermore, people get more worried and stressed when they hear about climate change. Marlin noted that EOS has received communications over the years from people describing the guilt they feel in contributing to climate change and the help they would welcome in this issue to reduce personal mental stress.

Infrastructure

Facilitation of Climate Change Considerations in Asset Management Planning - Stormwater & Road Network Systems: Leo Liu & Kimberley Reeder, University of New Brunswick

Leo Liu and Kim Reeder provided an introduction to a pilot project on integrating climate change into asset management. They discussed the evolution of the project from inventory assets in Saint Andrews, to the development of an exposure index used to understand climatic versus non-climatic variables on roads (e.g., study of freeze-thaw, heat, traffic). The overall objective of the project was to develop an asset management tool for small communities, aiming for an online application

Green Infrastructure Solutions for Storm Water Management: Graeme Stewart-Robertson, ACAP Saint John

The city of Saint John has been undergoing urban development in certain areas of the city and is facing flooding issues in their planning process. ACAP Saint John has been working with the city to ensure climate change adaptation is involved in this planning process. As a part of this two-year climate change adaptation planning process, a lot of community engagement took

place, particularly in identifying risks in lower income and higher priority areas. There have been projects implemented on greening stormwater retention ponds to create a more natural-looking landscape that provides habitat and ecosystem services for the city.

Concurrent Workshops – Training & Capacity Building

Workshop I

Protected Natural Areas & Natural Asset Management:
Roberta Clowater, Canadian Parks and Wilderness Society, NB Chapter
Adam Cheeseman, Nature NB

Roberta Clowater from the Canadian Parks and Wilderness Society, NB Chapter began with a presentation on *Adapting to Climate Change using the Green to Beat the Blues* which provided a brief introduction to the benefits of nature. She then described some of the work being done by CPAWS in this field.

Adam Cheeseman from Nature NB followed with a brief commentary on their work on climate change adaptation which involves the Maritime Natural Infrastructure Collaborative. Currently, they are working on climate change adaptation plans and community mapping. Nature NB in partnership with the New Brunswick Environmental Network also hosted a Natural Infrastructure Learning Day for stakeholders and decision-makers.

During the discussion that followed the presentations, interest built around how NGOs could afford to buy land for conservation and whether there were any tools available to that end. There was also a bit of debate and interest on whether a dollar value should be put to natural areas. There was increasing interest in carbon credits as well. Lastly, participants mentioned that they would like more information on financial incentives for nature conservation and climate change adaptation.

Workshop II

Retreat as a Solution: Managing Risk, Managing Expectations, Taking Responsibility:
Sabine Dietz, Aster Group Environmental Services Co-operative
Amanda Marlin, EOS Eco Energy

This workshop explored the idea of relocation as an approach to manage the risks posed by climate change. The discussion was far-reaching with participants sharing many different perspectives. Relocation is a deeply-felt and complex issue because of people's strong sense of place and connection to the land. Inequality also plays a role, as those with political clout or financial resources seem to be able to get a building permit in risk zones, or if they are unable to get a permit, they can simply pay the fine and continue building. As a pre-condition of the relocation process, all new developments in risk zones must be stopped.

It was generally agreed that communities need to get ahead of the relocation discussion by raising awareness in the community and exploring other available lands to which people might

be able to move. Environmental groups have a strong role to play as they are integrated into their communities and are a trusted voice for sharing information. People need to know where they can go and how they can support themselves and make a life in the new location.

Jurisdictional questions were raised about the role of municipalities, Regional Service Commissions, and the province, and these questions are complicated further in Local Service Districts. Regardless of which level of government has jurisdiction, as was emphasized by keynote speaker Dr. Robin Bronen earlier in the day, relocation must be voluntary and it must be borne out of people's understanding of the risk to their land or their community.

Workshop III

Adapting and Mitigating with Carbon Offsets:
Megan de Graaf, Community Forest International

Community Forest International's (CFI) Canada Forest Program Director, Megan de Graaf, provided a workshop on mitigating climate change by adapting Atlantic Canada's forests. In an overview of the programs offered by CFI, she shared how the organisation is working to both establish new forests with their Adopt-a-Clearcut program, and protect old (80+ years) forests in order to draw down carbon and maintain existing carbon sinks.

Additionally, CFI is prototyping what they refer to as Climate Forests whereby private wood land is assessed for its carbon storage capacity, purchased if certain criteria are met, placed under conservation easement, certified with FSC, then monitored and managed for carbon storage. Key factors to consider from this model are that:

1. Current selling of carbon offsets is into a voluntary and not a compliance market (i.e., into a Cap-and-Trade emissions market)
2. It follows the Verra's Improved Forest Management protocol, whereby:
    a. Additionality (or carbon storage capacity above the baseline) is key
        i. A baseline is established as the amount of carbon that is sequestered under business-as-usual or status quo forestry operations in a given region (e.g., the Maritimes).
    b. The program has a 100-year project period.
    c. Severe penalties are integrated into the model for intentional reversals.
3. The current challenge is the aggregation of small woodlots.
    a. Woodlots are typically 30-300 acres whereas 2000 acres is an ideal size.

The current goal is to develop good governance for aggregating enough woodlots into a single carbon offsets project with offsets that can be sold into a compliance market when it becomes available.

Lastly, CFI is working with twelve partner organizations on eight collaborative projects to develop skills and tools and to conduct research and develop methodology to increase forest resiliency in the province. They view forests as natural infrastructure that will reduce the effects of climate change if managed properly.

Opportunities to Overcome Barriers:
Raissa Marks, New Brunswick Environmental Network
Sabine Dietz, Aster Group Environmental Services Co-operative

In the final session of the day, Raissa Marks presented a range of barriers brought forth from the previous year's discussion on barriers to climate change adaptation in New Brunswick. (See 2018 Report here.) Participants were asked to choose one of the barriers to discuss further in small groups. Discussions proved fruitful in identifying ways to overcome training gaps, public push-back, lack of data and resources, climate stress, lack political leadership, lack of planning frameworks, and financial barriers.

Evaluations

Of the 45 completed evaluation forms from 70 participants, an average rating of 4.62 out of 5 was indicated for overall satisfaction of the day's experience. The majority of the participants stated that the highlight of the day was the keynote speaker and talk about retreat and relocation.

"Retreat presentation: planned relocation"

« La Conférencière invitée. Excéllente »

"Relocation/retreat discussions"

"Alaska Native Community"

From the question on what aspect of the workshop will be useful to you in your work, many participants made comments about networking and making connections and contacts.

"Reaching out to some of the groups for potential collaboration"

"Contacts, new leads for educational material"

"Networking, solution to barrier brainstorming"

"Got me thinking about the bigger picture & who I can connect with to move forward"

Some participants suggested that more time be allocated for questions during the sharing projects portion of the day. Others commented that they enjoyed the diverse topics related to climate change and number of projects presented.

"Project sharing seemed a little rushed, not enough discussion time, less projects to discuss"

"Diverse topics & opportunity to listen to different groups"

"Multiple projects being presented"

"Networking, concurrent workshops, entire format, on time"

"Wow! A lot of people working on climate change! Awesome!"

Participants

Organisation	*First Name*	*Last Name*
ACAP Saint John	Graeme	Stewart-Robertson
	Bailey	Brogan
Agricultural Alliance of NB	Josee	Albert
	John	Russell
Alaska Institute for Justice	Robin	Bronen
Aster Group Environmental Services Co-Operative	Sabine	Dietz
Atlantic Canadian Organic Regional Network	Brittany	Maguire
Canadian Parks and Wilderness Society NB	Roberta	Clowater
	Brittany	Dixon
	Courtney	Piercy
	Kelsey	Wiersdma
City of Bathurst	Donald	McLaughlin
City of Fredericton	Brittany	MacLean
City of Shediac	Gilles	Belleau
City of Shippagan	Rémi	Hébert
Community Forests International	Megan	de Graaf
Conservation Council of New Brunswick	Kaleigh	Holder
Chaleur Regional Service Commission	Mariette	Hachey-Boudreau
Eastern Charlotte Waterways, Inc	Briana	Cowie
	Donald	Killorn
EOS Eco-Energy	Kelli-Nicole	Croucher
	Amanda	Marlin
Federation of Canadian Municipalities	Eddie	Oldfield
Feu Vert	Frank	Johnston
Fundy Guild Inc.	William	MacCallum

Organisation	*First Name*	*Last Name*
Pays de Cocagne Sustainable Development Group	Serge	LaRochelle
Kennebecasis Watershed Restoration Committee	Sarah	Glinz
	Ben	Whalen
Meduxnekeag River Association	Jennifer	MacDougald
	Simon	Mitchell
Nashwaak Watershed Association Inc.	Marieka	Chaplin
Natural Capitol	Corinne	Hersey
Nature NB	Adam	Cheeseman
NB Department of Agriculture, Aquaculture & Fisheries	Bruce	Kinnie
NB Department of Environment & Local Government - Climate Change Secretariat	Robert	Capozi
	Brandon	Love
	Prativa	Pradhan
	Sasha	Wood
NB Department of Environment & Local Government – Source and Surface Water Management	Courtney	Johnson
	Christina	LaFlamme
NB Department of Health	Mariane	Paquet
	Olivia	Sanford
NB Department of Tourism, Heritage and Culture	Josh	Tompkins
New Brunswick Environmental Network	Zaheera	Denath
	Raissa	Marks
	Dorice	Pinet
	Surabhi	Seth
	Charles	Thibodeau
NB Federation of Woodlot Owners	Susannah	Banks
Northwest Regional Service Commission	Adje	Prado
R. J. Daigle Enviro	Réal	Daigle

Organisation	*First Name*	*Last Name*
Greater Miramichi Regional Service Commission	Julien	Robichaud
Southeast Regional Service Commission	Sebastien	Doiron
Sustainable Energy Group – Carlton County	Sam	Arnold
The Gaia Project	Lizzy	Gresh
	Geoff	MacDonald
Université de Moncton	Serge	Dupuis
	Catherine	LeBlanc
Université de Moncton - Chaire K.-C.-Irving en sciences de l'environnement et développement durable	Émilie	Godbout-Beaulieu
University of New Brunswick	Marc-André	Long
	Leo	Liu
UNB RAVEN	Susan	O'Donnell
	Kimberly	Reeder
UNB Sustainability	Danielle	Smith
Village of New Maryland	Rob	Pero
Village of Sussex Corner	Sharon	Loder
Vision H2O	Julie	Cormier
Voices for Sustainable Environments and Communities	Marilyn	Merritt-Gray
	John	Yauss
Wolastoqey Nation in New Brunswick	Chkwabun	Sappier