RESILIENCY PLANNING CHARRETTE

CHARRETTE DE PLANIFICATION DE LA RESILIENCE

October 1st, 2014

FINAL REPORT

Photos by: Alex Oldfield

INSIDE:

Visit: www.amanb-aamnb.ca

Municipal leaders and staff from rural and urban municipalities in New Brunswick participated in a Resiliency Planning Charrette. Results of the Charrette are summarized in this final report.

Thanks to the NB Environmental Trust Fund:
Merci au Fonds en Fiducie pour l'Environnement:

New Nouveau Brunswick
"Your Environmental Trust Fund at Work"
"Votre Fonds en fiducie pour l'Environnement au travail"

Executive Summary

AMANB has been looking at different ways to meet professional development needs of its members. The Environmental Trust Fund (ETF) presented an opportunity to provide training and tools for members to improve community resiliency. As a non-profit organization, the ETF grant allowed the Association to hire a consultant with the knowledge and expertise required to plan, organize, and deliver a Resiliency Planning Charrette and compile this report. Special thank you to AMANB Executive Director, Danielle Charron, for managing the project and Eddie Oldfield, consultant and project coordinator, for presenting an excellent product.

We thank the participants and sponsors of the Resiliency Planning Charrette, and look forward to documenting further climate adaptation and resiliency planning and education efforts in the Province of New Brunswick. This will lead to a more informed base of municipal leaders and practitioners equipped with tools for working toward community resiliency.

***Peter Michaud,* President, AMANB**

October 1st, 2014, municipal leaders and professionals from rural and urban municipalities in New Brunswick participated in a Resiliency Planning Charrette, The goal of the Charrette was to inform, engage, and foster action by participating New Brunswick municipalities toward climate adaptation and resiliency planning, including through the use of assessment tools.

Charrette

Eddie Oldfield introduces the goals of the Resiliency Planning Charrette, welcomes participants and speakers, and provides a brief context for improving resiliency planning in New Brunswick communities using available assessment tools.

Charrettes are often used in urban planning as a way to engage and compile broad stakeholder feedback. Similarly this Charrette provided an opportunity for various municipal professionals to learn about approaches to climate adaptation and resiliency planning, review available resources and self-assessment tools, and to discuss, share, and critique resiliency planning efforts at the local level. Table top discussion and exercises enabled participants to identify what is needed or working well and walk through self-assessment tools for their own communities.

The results of the Charrette and participant feedback are summarized in this report. Intended for municipal decision-makers and planners, the summary and analysis of participant input contained in this report aim to foster increased understanding and help inform further resiliency planning efforts at the local level and provincial scale. The results of this Charrette can be used to inform further resiliency planning charrettes in New Brunswick and the approach is transferable to other Provinces and Territories.

Eddie Oldfield, Project Coordinator

Morning Presentations—Introduction

See Appendix 4 for Speaker Bios,
See next page for more presentation details.

Eddie Oldfield explained the Resiliency Planning Charrette was organized to engage and consult with diverse (urban and rural, Anglophone and Francophone) NB municipalities on what is working well and what is needed for improving resiliency at a local level. The self-assessment tools presented today will be used by participants to identify strengths and areas for improvement. Tabletop results may offer a partial picture of resiliency in NB.

Amanda Dean, VP, IBC-Atlantic: "*The total economic costs of disaster far exceed what insurance can cover* "

Amanda Dean, Vice-President, Atlantic, **Insurance Bureau of Canada (IBC),** shared property and casualty insurance industry research on the effects of increasing severe weather on Atlantic communities. Dean also described the industry's leadership role in helping municipal governments adapt to our changing climate and build resiliency in their sewer and stormwater infrastructure.

Kathy Edwards, City of Fredericton: *"We continue to plan for 1.2 x 1:100 year storm system. Resiliency is part of project planning and infrastructure replacement."*

Kathy Edwards, with **City of Fredericton,** shared how Fredericton has adopted an adaptive approach to mitigate the effects on both municipal infrastructure and residential properties. Recently, Fredericton partnered with the Insurance Bureau of Canada (IBC) on a pilot project to develop a Municipal Risk Assessment Tool (MRAT). It combines information about infrastructure, climate, and claims data to develop maps that provide municipal Engineers insight into potentially vulnerable infrastructure today and in the future. This presentation shared Fredericton's approach to building resilience into its infrastructure.

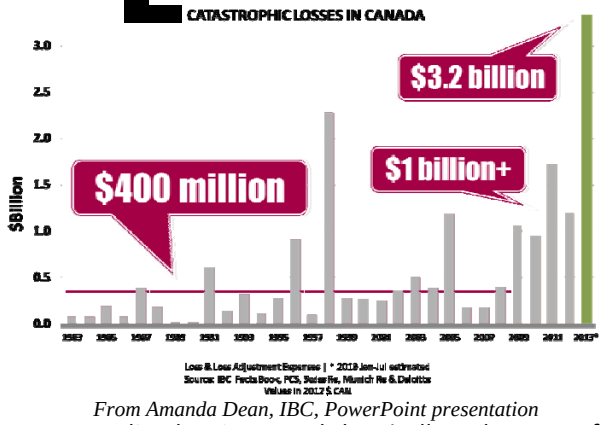
Isabelle Pitre, FCM: "*It is an ideal time to start adaptation and resiliency efforts. There are lots of resources available*"

Isabelle Pitre, FCM, introduced participants to FCM's work on climate change adaptation and reviewed some of the different approaches that are currently being undertaken by Canadian municipalities. Relevant projects and initiatives were profiled throughout the presentation, using Canadian examples from the Partners for Climate Protection (PCP) and FCM's Green Municipal Fund. Though it is still a relatively new and emerging field, the state of adaptation planning in Canada has evolved considerably in recent years, and there is now a growing body of tools, resources and case studies that can support local governments in their efforts to plan and prepare for a changing climate.

Jeff Hoyt, Climate Change Secretariat, NB Department of Environment and Local Government: *"A changing climate presents both risks and opportunities for New Brunswick's communities and resource sectors. "*

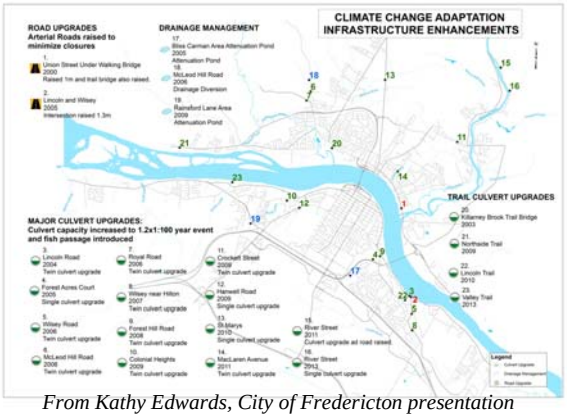
Jeff Hoyt, Climate Change Secretariat, provided an overview of climate change adaptation work in NB including recent Government of New Brunswick initiatives, such as the NB Climate Action Plan 2014-2020 and NB's Flood Risk Reduction strategy. Examples of adaptation projects from across the province were highlighted including work conducted under the Regional Adaptation Collaborative and projects that have been funded through the Environmental Trust Fund. An overview of the challenges and current and future priorities for climate change adaptation work in NB were identified. Adapting to climate change is an essential component of any community planning effort that aims to increase community resiliency. New Brunswick has made significant progress in the area of climate change adaptation.

Morning Presentations—*Detailed Summary*



From Amanda Dean, IBC, PowerPoint presentation

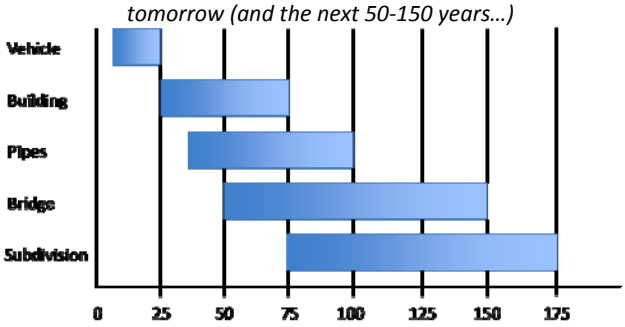
IBC—Being in the business of risk management and helping Canadians recover from disaster, insurers are all too familiar with the economic and human costs of severe weather. From 1983 to 2008 – a span of 25 years – yearly catastrophic losses in Canada averaged $400 million. Then for the next four years, they hovered at around $1 billion a year. Last year, catastrophic losses related to severe weather hit $3.2 billion. In New Brunswick and across Atlantic Canada, the industry has seen $396 million in claims due to severe weather over the last 10 years. And last year, Atlantic Canadians experienced no fewer than nine severe weather events, including a tornado hitting the Grand Lake area last year. The total economic costs of disasters, in many cases, exceed what you can purchase insurance coverage for. There are many uninsured losses in a disaster where governments and tax payers must pay themselves. As such, this is something we all need to be talking about. Over the last 40 years, federal DFAA spending has increased drastically. It has gone from an average of $36 million a year in the 1970s… to $166 million in the 2000s… to well over $1 billion a year in the first four years of this decade. This trend is simply not sustainable. Our aging infrastructure simply can't cope with our new weather reality. The insurance industry is committed to leading the conversation and taking evidence-based action, and advancing research. Here in Atlantic Canada, the McBean study tells us we can expect warmer temperatures, more intense rain over shorter periods, more freezing rain. And that means more flooding. IBC's pièce-de-resistance is MRAT - the Municipal Risk Assessment Tool, which helps municipalities pinpoint, with unprecedented accuracy, where catastrophic sewer backups are most likely to occur next year, in 10, 20, even 40 years from now. MRAT combines climate data with municipal infrastructure age and materials information, as well as insurance claims data, to reveal vulnerable systems, to inform engineers, planners, and council. Fredericton has been a major partner as one of the three pilot municipalities. We're working with all levels of government and organizations like FCM to make sure that MRAT is available to every sizeable municipality in Canada. Communities right across this province are taking steps to assess the risks they face from severe weather and natural disasters, and taking action to address them. IBC hopes that municipalities are encouraged by the work that insurers are undertaking to help make Canada more resilient.



From Kathy Edwards, City of Fredericton presentation

The City of Fredericton has identified several weather related risks. This includes flooding, extreme rain events, heat events, tropical storms / hurricanes, ice storms, and the more recently experienced risk of freeze-thaw cycles. The City has undertaken steps to improve it's resiliency. The City completed 5 milestones of FCM Partners for Climate Protection, and has now completed 2 milestones in ICLEI – BARC (adaptation) program. Resilience has become part of all project planning and infrastructure replacement. The City implemented backup water systems: two wellfields, two sewer plants; relocated emergency response center; identified emergency centers for residents. The City introduced new guidelines for stormwater infrastructure 2008; bigger culverts & higher elevations for roads, and trails. They continue to plan for 1.2 x 1:100 year system, and GIS has been a great tool in support of efforts. Next steps include developing a plan to identify vulnerabilities, aggressive infrastructure replacement program funded by (all) gas tax money, identifying partnerships (e.g. technical experts, insurance industry, business). The City views the cost of prevention as less than the cost of dealing with impacts of disaster which could have been reduced or avoided.

Today's infrastructure decisions become the infrastructure of tomorrow (and the next 50-150 years…)



From Isabelle Pitre, FCM, PowerPoint presentation

FCM—Municipalities are already experiencing effects of climate change. Today's new infrastructure is tomorrow's infrastructure too: it has a long lifetime so must be planned carefully (e.g. a bridge: 50-150 years; new subdivision infrastructure: 75-175 years). Few local governments have adaptation plans at present. Although many local governments are increasingly aware of the issue, most have not begun to develop a plan.

Morning Presentations—*Detailed Summary*

It is an ideal time to start adaptation and resiliency efforts. There are lots of resources available: e.g. ICLEI Guide & workbook, ICLEI's BARC, Engineers Canada, Ouranos (QC), MRAT. (***See all resource links in Appendix 3.)*** Access to research on climate change impacts and projections is also increasing. There is also now a group of "early-adopters" and leading municipalities whose plans we can look to for guidance, examples, etc. These include the District of Saanich, City of North Vancouver, City of Surrey, and Vancouver, BC; City of Windsor, City of Toronto, ON; Ville de Sherbrooke, Ville de Québec, QC; and municipalities in Nova Scotia.

Currently, FCM's Green Municipal Fund does not explicitly fund municipal initiatives in adaptation, **but** the parameters of the fund are evolving and there is more flexibility for innovative projects that promote integrated approaches with co-benefits.

- **GMF grants for local climate action plans** (PCP Milestones 1-3): focus has traditionally been on mitigation (reducing GHGs) but adaptation elements can be incorporated into proposal provided their costs are not disproportionate
- **GMF grants for sustainable neighbourhood action plans**: flexibility to include adaptation components as well (e.g. storm-water management, etc.)
- **GMF loans and grants for capital projects** in five categories: brownfields, energy, transportation, waste, or water.

Ex. Project by the City of Granby, QC (GMF 13023) to solve problem of sewer backup in a particular neighbourhood of the city. Project included many adaptation elements, such as decreasing the amount of impervious pavement, installing a below ground retention basin and building a vegetated swale along the roadway.

Climate Change will mean warmer temperatures in New Brunswick, earlier snow-melt and breakup of river ice, increased probability of ice jams and flooding. Warmer temperatures will also lead to higher risks of forest fires and appearance of new pests and invasive species. Other impacts include changing precipitation and sea-level rise in NB, increased intensity and frequency of precipitation, flooding, coastal erosion, groundwater contamination, salt water intrusion. The greatest impact in NB is the risk of flooding, both inland and coastal, which has the potential to cause damage and increase risk to infrastructure, homes, and businesses and communities.

Climate change adaptation is an essential component to improving community resilience. **The Climate Change Secretariat** provides Provincial leadership on climate change. It is not a regulator; It works with other Departments in Government, extends in communities and other sectors, to advance work on climate change. This includes to reduce or prevent GHG emissions, improve understanding of vulnerabilities, and developing adaptation strategies to address economic, social & environmental impacts. This also includes collaboration at provincial, regional, national, and international levels. As part of the **Climate Change Action Plan 2014-20, Goal #1 is: Enhanced Resilience to the Impacts of Climate Change**. This includes through:

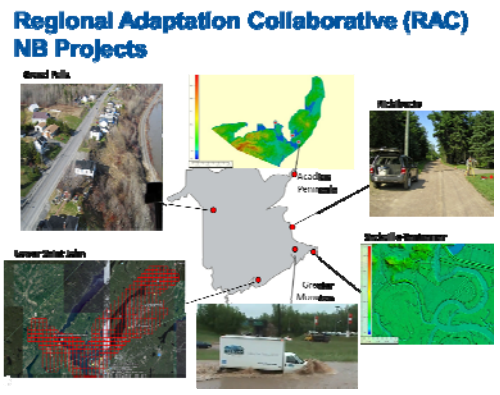
- Data collection, monitoring and research into Climate Change, to build *knowledge about climate change and its impacts*
- Risk and Opportunity Assessment *to identify and quantify the risks and opportunities presented by a changing climate.*
- Mainstreaming Adaptation, *to ensure that adaptation to climate change is incorporated into every-day decisions.*

New Brunswick has made significant progress increasing the climate resiliency of communities. This includes foundation studies completed for priority issues, including erosion, flood risk (especially coastal), and groundwater impacts. Supported by the Province and other partners, the **RAC - Regional Adaptation Collaborative** was very successful in engaging a number of communities, including Grand Falls, Lower Saint-John, Greater Moncton, Acadian Peninsula, Richibucto, Sackville-Tantramar, to develop flood risk and vulnerability assessments and adaptation strategies. In addition, **Environmental Trust Fund** adaptation projects focused on:

- Data acquisition – LiDAR mapping, vulnerability assessments – *communities, coastal and inland areas & sensitive features.*
- Information sharing – school & university curriculums, outreach, sharing community assessment tools, and streaming web videos.
- Mainstreaming and building resiliency into community planning, coastal restoration.

Also, it is worthy noting **NB's Flood Risk Reduction Strategy has three objectives:**

Objective 1: Accurate Flood Hazard Identification.
Objective 2: Planning for Communities and Infrastructure to Avoid Flood Risk.
Objective 3: Informed Mitigation of Existing Flood Risk.



From Jeff Hoyt, Climate Change Secretariat, NB Department of Environment and Local Government, PowerPoint presentation

Morning Presentations—*Detailed Summary*

From our work on flood risk reduction we learned it is important to engage people within 6 months of an event, and that big issues like climate change are long term and difficult to keep people engaged. However, many communities are now aware and ready to start planning –this is a major shift in priorities and culture. There are numerous communities engaged in climate change vulnerability assessment, moving towards adaptation - however implementation of actions (e.g. infrastructure upgrades) are still hard to find funding for. We need to find innovative ways to fund early adaptation work vs waiting until after disaster occurs. There is now widespread recognition of the issues and a willingness to act. The types of actions being taken include: Engineering studies, flood risk mapping / LiDAR, infrastructure at risk mapping, groundwater management, development of guidance documents, educational documents, videos, and case studies. Adapting to climate change is an essential component of any community planning effort that aims to increase community resiliency in the short term and over the long term.

Identifying and assessing both potential risks and opportunities of climate change is critical, as it helps prioritize which, and to what extent, different impacts are managed. This is an important step in ensuring resources are invested in the areas of highest priority.

A changing climate presents both risks and opportunities for New Brunswick's communities and resource sectors. To reduce these risks and take advantage of opportunities, we must understand the problems and challenges posed by a changing climate and present realistic approaches to dealing with them. Adaptation involves making adjustments in our decisions, activities, and thinking because of observed or expected changes in climate. Adaptation will help to maintain and enhance your community's economic competitiveness and the well-being of individuals in your community.

Early investment in preventative or mitigation measures may be difficult, but are more effective than bearing costs after disaster. The Climate Change Secretariat emphasizes flexibility, not a one-size fits all approach - a flexible approach based on community interests and driven by community champions. There has been a lot of work on Peninsula: planning, approaches, etc driven by a local champion; even relocation is a consideration in some communities at risk. More work has been done in the City of Moncton, Town of Sackville, Charlotte County. Some of the Case examples are listed on next page, and **resources are listed in Appendix 3.**

The Climate Change Secretariat is working on a Climate change Adaptation Planning Guide for local governments, which references existing resources and tools, to help municipalities move through the adaptation planning process. This will save municipalities time and money in searching for relevant information, developing adaptation plans and implementing projects. The Secretariat is also undertaking a cost benefit analysis of adaptation options, to make decision-making easier, and looking at tools to assist in relocation efforts. Government will continue to support climate change adaptation projects through the Regional Adaptation Collaborative and the NB Environmental Trust Fund.

Challenges include:

- Data availability and expert analysis.
- Taking global climate data and applying to N.B.; the predictive element of climate science.
- Understanding and responding effectively to the growing fiscal liability related to climate impacts.
- Moving from vulnerability assessment and adaptation plans, to implementation.
- Finding innovative ways to fund adaptation measures, *e.g. retreat, relocation, on the ground mitigation*. (prevention VS repair)
- Addressing the gap in financing early "adaptation" vs. disaster response.
- Keeping citizens and councils engaged in the discussion.
- Continuing to "mainstream" adaptation work.

Current and Future priorities include:

- Building the knowledge base through continued research and key studies.
- Fostering resilience in priority sectors
- Building education and awareness.
- Making adaptation part of the day-to-day decision making process – "Mainstreaming".
- Support for communities:
    - Community Adaptation Planning Guidance.
    - Supporting projects – e.g. through NB *Environmental Trust Fund, Regional Adaptation Collaborative.*
    - Cost-benefit analysis of adaptation options to inform decision making.
    - Tools to help communities deal with change (e.g. relocation/retreat).

Examples Shared by Presenters

CITY OF FREDERICTON, NB

Adaptation and Resilience are part of all project planning and infrastructure replacement at City of Fredericton. For example, the City implemented backup water systems: two wellfields, two sewer plants. In addition, they relocated emergency response center EOC out of flood area, and identified emergency centers for residents. The City introduced new guidelines for stormwater infrastructure 2008; bigger culverts & higher elevations for roads, and trails. The City continues to plan for 1.2 x 1:100 year storm systems, identify vulnerabilities and engage residents, experts, and partners to improve resiliency. They have completed Milestones 1 and 2 of ICLEI's BARC (adaptation program).

DELTA, BC

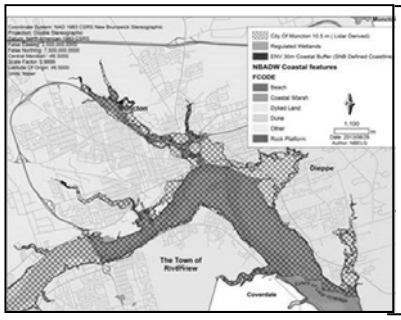
Delta, BC, Joined ICLEI Canada's BARC program in 2010 and has been working through the program's milestone framework. Low-lying communities and farmland located in South Delta vulnerable to future sea-level rise, storm surges, flooding, etc. Municipal staff worked with residents and a team from UBC to examine what Delta's future would look like in terms of potential flooding and flood management solutions. Visualizations were developed, which helped residents and decision makers understand the different flood adaptation efforts that could be taken within the community. For more info, visit the webpage: http://www.fraserbasin.bc.ca/_Library/CCAQ_BCRAC/bcrac_delta_visioning-policy_4d.pdf

NORTH VANCOUVER, BC

Also a member of ICLEI's BARC program, the City completed its first adaptation plan in 2013. Had experienced several extreme-weather events, including a 2005 landslide caused by heavy precipitation that led to loss of life and property damage. As a first step, the City decided to conduct a city-wide risk assessment of properties on steep slopes. Worked with homeowners to undertake geotechnical work, part of which involved homeowners developing a safety plan.

ACADIAN PENINSULA: SHIPPAGAN, LE GOULET, BAS-CARAQUET, NB

Current work is facilitated by Coastal Zone Research Institute - it includes continuing dialogue with Municipal Councils, toward a regional approach to adaptation planning, evaluation of regional needs and community prioritization. It also includes relocation feasibility studies. Next steps include adoption of zoning regulations by municipalities, public presentation of recommendations arising from the second strategic planning exercise, relocation feasibility study in Sainte-Marie-Saint-Raphaël, Cap-Bateau, Pigeon Hill, and feasibility study for restoration of the dunes in Le Goulet (replacement of sand). It is a foundation of the project to prepare a 'management and action plan' for preventing the risks of erosion and flooding associated with climate change for the Acadian Peninsula.



CITY OF MONCTON, NB

Developed out of work completed under the Regional Adaptation Collaborative (RAC), The City of Moncton has released a Climate Change Adaptation Plan and Flood Management Strategy prepared by the City's Climate Change Action Committee (CCAC). The plan is developed to understand the potential risks from frequent and extreme weather events, consider impacts to essential City services, infrastructure, facilities and assets, communities, and identify actions and ways that will help to reduce risks with climate change. Outreach materials for the public include guidance on flood proofing and emergency planning.

Examples Shared by Presenters

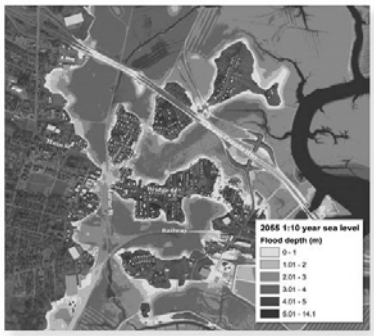


Figure 2: 1 in 10 year storm flood scenario in 2055.
J. Bornemann, TPDC

SACKVILLE—TANTRAMAR, NB

This initiative focused on mapping, dike assessment, and infrastructure at risk. Sackville Council was briefed, while satellite projects in Memramcook, Port Elgin, Cocagne took shape, leading to numerous studies in the region. EOS Eco-Energy continues to coordinate community engagement and adaptation. Stemming from Sackville – Tantramar RAC, a Climate Change Adaptation Toolkit was created. The focus of the toolkit is to allow users to understand what is being done or what can be done to adapt to the changes and the impacts predicted for the future, and what an individual can do. Another publication: Local Government, Sustainability and Climate Change Guidebook - shows the role, responsibilities and opportunities as a municipal official; informs about climate change and sustainability, and provides framework on steps for taking action.

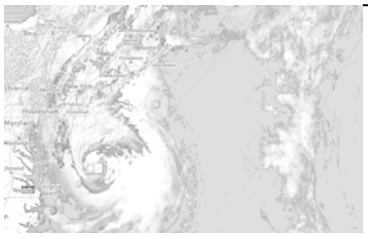
CHARLOTTE COUNTY COMMUNITY VULNERABILITY ASSESSMENT

Involved five communities: St. Andrews, St. Stephen, Blacks Harbour, Grand Manan, St. George, in community level advisory and engagement process. Supported by local organizations (St. Croix Estuary Project & Eastern Charlotte Waterways). Initial focus on identifying vulnerabilities. Next steps around engaging communities to prioritize adaptation options.

Below are additional examples, the 1st example is a community using the 10 Essentials for Disaster Risk Reduction, part of the UN ISDR Cities Getting Ready campaign, and the 2nd example is a community using the Rural Disaster Resilience Project resources. These resources were further discussed in the afternoon.

DISTRICT OF OAK BAY, BC

The District of Oak Bay with the support of Royal Roads University has committed to becoming a more disaster resilient community. Students of the Master of Arts in Disaster and Emergency Management (MADEM) program utilized **the United Nations International Strategy for Disaster Reduction (UN ISDR) "Making Cities Resilient" campaign** to create a framework for assessing the emergency management practices and strategies of the District of Oak Bay. The community assessment, based on the **ten essentials** identified in the UN ISDR "Making Cities Resilient" campaign, examined a variety of community disaster and emergency management elements. The assessment determined that the District of Oak Bay has a well-functioning disaster and emergency management capability. There is significant political support for community emergency management, which enables the functioning of emergency organizations and volunteer groups. The District of Oak Bay Emergency Program is actively involved in public education and training within the schools and the community at large. Important civic infrastructure has been identified and seismic upgrades have begun on several structures in order to address vulnerabilities. While the assessment identifies the District of Oak Bay as well functioning, there are always opportunities for further development examples of which are formalized agreements with community partners; an enhanced volunteer management system and a greater emphasis on climate change mitigation. Get more info on UN ISDR Making Cities Resilient campaign : http://www.unisdr.org/campaign/resilientcities/


Hurricane Arthur, 2014

WEST BRANCH, NS

West Branch, with a population of about 250 people, was one of three pilot communities to use the **Rural Disaster Resilience Project (RDRP)** Planning Framework, guide book and suite of resilience planning tools. The RDRP tools helped West Branch, to identify pre-existing strengths and vulnerabilities to hazards, and to enhance their own disaster resilience through community planning process. This initiative demonstrated that community engagement is the key to developing resilience plans that have broad support and are reflective of various community perspectives and knowledge. It helped to identify assets (strengths) and vulnerabilities, and to clarify a community-based vision of disaster resilience for West Branch. This included planning ahead to minimize risk to infrastructure, improving access to emergency services and shelter, educating on local hazards, and more. Visit the RDRP website for more information and to use the assessment and reporting tools : http://wp-rdrp-dev.jibc.ca/

Morning Discussion—quotes

Not verbatim / non-exhaustive

"Participants can refer to the 'take-home' binder for guidance during table top discussion, and to review the resources presented."

"There is a large gap between urban and rural capacity and resources."

"Understanding vulnerabilities, Access / Use of Tools can lead to more effective plans."

"Using the blue tags on each table, participants can submit highlights from their table-top discussion. These will be used to summarize perceived local hazards, impacts, strengths, and needs, as part of a final report."

"Sometimes infrastructure adaptation options are too costly."

"How do we deal with the built environment? Regulations? Adaptation? Education? Best Management Practices? A combination of these?"

"There is increased flooding of low-lying and coastal areas, more freeze-thaw cycles, more severe weather events. While infrastructure can't handle it. This leads to more insurance claims, increased costs, damages to local infrastructure, economic losses."

"Happy to know Government is working on tools to help municipalities deal with flood risk reduction and relocation. Important to prevent new build in risk-prone areas, and know how to engage community in relocation dialogue / solutions."

"There are areas that have flood risk, pressure in the short / long term. If we think 10 years out, we can think how to fund ways to deal with it. Need dialogue at local level."

"There is a need to augment flood risk reduction and relocation dialogue, between governments (municipal and provincial); Take a longer term view (i.e. governments, developers)."

"Resilience planning is important to reduce risk to infrastructure, homes, and businesses and communities."

Morning Discussion Highlights

Participants were asked to discuss the resources presented by the morning speaker panel; discuss current and future situation (issues, needs), identify hazards / impacts of concern, as well as strengths with respect to community resiliency planning. This page summarizes in point form the highlights from table-top discussion in morning plenary of the Resiliency Planning Charrette. The points itemized below are not assigned a ranking / priority. These points reflect the perspectives, knowledge, and input of diverse practitioners and municipal participants from NB—they include common and differentiated views—one of the goals of the charrette method.

Hazards of Concern in NB:

- *Warmer temperatures: Earlier snow-melt & breakup of river ice, increased probability of ice jams and flooding. Higher risks of forest fires and appearance of new pests and invasive species. Extreme Heat Events / heat wave days. Longer periods of hot weather.*
- *Changing precipitation & sea-level rise: Increased intensity and frequency of precipitation (e.g. extreme rain events, snow storms). Increased flooding of low-lying and coastal areas. Greater rates of coastal erosion and groundwater contamination.*
- *Severe weather has become the norm: e.g. there were nine severe weather events, including a tornado in Grand Lake, New Brunswick, last year.*
- *Tropical storms/hurricanes: e.g. It was only a few short months ago that 200,000 people in New Brunswick and across Atlantic Canada were without power for days thanks to Post Tropical Storm Arthur.*
- *Earthquakes e.g. In September, a 2.6 magnitude earthquake was felt in St. Andrews.*
- *Damaging Winds*
- *Ice storms*
- *Freeze-Thaw Cycling*

Impacts of Concern:

- *Public Health and Safety*
- *St. John River flooding*
- *Overland flooding*
- *Sewer backup*
- *Power outages*
- *Damage to infrastructure*
- *Increased demand on public safety staff*
- *Impacts on vulnerable populations*
- *Damage to "living" assets*
- *Damage and increasing risk to infrastructure, homes, and businesses and communities.*
- *Costs / Damages , growing liability*

Strengths Identified:

- *Increased design standards – e.g. for 1 in 100 year storm + 20%*
- *Storm water management strategies (e.g. attenuation ponds)*
- *Understanding vulnerabilities, Access / Use of Tools can lead to more effective plans*
- *Learning from past relocation programs e.g. Perth Andover, St. George*
- *Having local champions with regional community support*
- *EMOs working on community-based emergency response and collaboration*
- *Resiliency, Self-Reliance, Dedication of the people in our communities*
- *Exchange of existing local climate adaptation plans, projects, policies, etc*

Local Issues, Current and Future Needs identified for strengthening resiliency and climate change adaptation in NB:

- *Aging infrastructure is already straining budgets. Maintaining existing infrastructure, which is deteriorating / degrading, is already a challenge. There is no additional funding to maintain and rebuild infrastructure post-disaster.*
- *Besoin de Réglementation adèquate (revisée) – environnement-urbanisme – Strengthen Provincial regulation*
- *Need for tools for rural / small communities to be in place / accessible*

Continues next page...

Morning Discussion Highlights

Continued: Local Issues, Current and Future Needs identified—for strengthening resiliency and climate change adaptation in NB:

- *Need higher levels of leadership from provincial and federal governments – e.g. incentives, funding and/or legal framework. Need for improved regulation and Planning Guide for municipalities and developers. Need to augment flood risk reduction and relocation dialogue, between governments (provincial, municipal). Need to update Community Planning Act.*
- *Local context – How to deal with the built environment (e.g. existing developments prone to flooding that may require relocation) - Best management practices—Need to put more emphasis on climate adaptation and resiliency in planning processes / official land use plans. Need to have Climate Change Secretariat make presentations to Councils so they have a good grasp of the situation (climate change impacts, vulnerabilities, adaptation options, resiliency planning, cost/benefits).*
- *Besoin de logiciel de simulation pour la planification et pour la gestion de mesures d'urgences – Simulations to help plan for events, including LIDAR / GIS Mapping for planning for storms, extreme weather, flooding; to determine impacts, weaknesses, vulnerability; to use directly in identifying emergency response measures; to add new data and produce more up-to-the-minute / up-to-date reports during events.*
- *Resources of large vs small communities—There is a large gap between urban and rural capacity and resources, access to additional resources, tools and staff. Cities have GIS, EMO, staff. Rural communities are more limited, can not afford HR.*
- *Different municipal structures either hinder or enable resource acquisition (e.g. village, incorporated area, vs non–incorporated). Need to focus on how smaller communities can be more sustainable and resilient, work together on services.*
- *Needs versus availability of funds—Current funding models (where one third needs to come from a municipality) pre-empt most small and rural communities from accessing provincial and federal funding. In addition, municipalities have a difficult time or are not allowed to borrow funds. Small and rural communities have small and sometimes decreasing tax base, thus there is a growing need for funding for smaller communities / rural regions to even maintain essential services, for infrastructure and for resiliency planning. Some participants felt it was important to build awareness of local agriculture and natural resource industries, for job creation, and as key areas of resilience / requiring adaptation in rural areas.*
- *Need to identify community needs/challenges (défis Communautaire), learn from other jurisdictions, place people first (at the center of solutions). Technology is not accessible to some small/rural communities – in real and perceived terms.*
- *Need to align local adaptation and resiliency activities with funding available under Rebuild Canada, FCM GMF, Gas Tax.*
- *Besoin d'une programme d'incentive pour l'adaptation, need incentive for adaptation measures, towns have no $ for rebuild.*
- *Regional plans could address resiliency; Province could allocate funds to develop regional plans with component on resiliency.*
- *RSCs should be allocated funding per zone – to improve climate adaptation and resiliency planning; Some regions are active.*
- *Sensibilisation aux dirigeants et aux resident(es) / More Education at community level, to both decision makers and residents*
- *Réseautage et diffusion de l'information / Networking and info exchange among communities with similar challenges.*
- *Need to exchange best practices, for management and mitigation of floods, and for new build.*
- *Increase level of collaboration between private developers and public sector to improve resiliency of systems/infrastructure.*
- *Unexpected growth, large growth creates new problems quickly – need to plan using tools, including for new subdivisions.*
- *Developers must be more responsible / in compliance—regulations and land use planning policy can guide new development.*
- *Buildings adapted to risks / flood tolerance, best practices for flood risk mitigation and asset management.*
- *Taking a longer term view (i.e. governments, developers), Continue to think where vulnerabilities / weaknesses / gaps may be*
- *Province needs to come to the table (i.e. provincial leadership), update planning framework, introduce more regulation.*
- *LSDs need to come to the table, require a Planning process in rural areas. Need regulation to ensure new risk is not created.*
- *Need information on hazards/risks, to inform plans before disaster happens. Need education on CC adaptation/resiliency.*
- *Need better communication during and immediately following disaster ; EMO planning and communications during disasters*
- *Need more organization at community level, especially in times of need - E.g. neighbors checking on neighbors after disaster.*

Afternoon Presentations

See Appendix 4 for Speaker Bios

Dawn Ursuliak and Ron Bowles, researchers at JIBC, provided an overview of the Rural Disaster Resilience Planning Framework and tools. The **Rural Disaster Resilience Project** (**RDRP**), funded by the Canadian Safety & Security Program, was a four year, cross-Canada project conducted by the Justice Institute of British Columbia with the goal of better understanding the resilience planning needs of rural, remote, and coastal Canadian communities with the goal of developing a community-based planning process and tools. The presentation explored the core concepts that guided the project, then provided a demonstration of the online Planning Framework and tools. **Visit:** **http://wp-rdrp-dev.jibc.ca/**

The JIBC team developed the Rural Disaster Resilience **Planning Guide** along with three tools: Rural Resiliency Index (RRI), Hazard Resilience Index (HRI) Hazard Risk Assessment (HRA). The tools were developed to enhance organizational all-hazards response planning. The bilingual training curricula, tools, and web-assisted networks will provide rural, remote and coastal (RRC) communities in Canada with fully operational protocols and resources to anticipate and mitigate risks.

Resilience = The outcome of a process that transforms knowledge about the risk environment into actionable strategies that reduce vulnerability and increase the capability to adapt to uncertain hazard threats over time. There is increasing recognition that in times of disaster, many Rural Remote and Coastal communities face YOYO situation (You're on your own). Resilience is the lived experience of rural Canada.

The Goal of the **Rural Disaster Resiliency Project (RDRP)** was to learn from communities, add to the literature on community resilience planning, and provide tools and processes to support disaster resilience planning in Rural, Remote and Coastal (RRC) communities. The guide and resources were designed for rural, remote, and/or coastal communities (vs larger communities), but may be applied to larger municipalities to update their hazard assessment and resiliency plans.

The rural disaster resilience planning framework includes **four steps** (getting started, resilience assessment, building a plan, implementing a plan), **16 activities**, and **3 tools.** The RDRP Planning Framework provides a self-directed, flexible, user-friendly guided resilience enhancement planning process that includes participatory, qualitative disaster risk and resilience assessment tools. The reporting output of the RDRP Planning Framework is a resilience enhancement plan that includes concrete short and long term strategies to enhance resilience, focused on reducing risk and increasing resilience along social, contextual, and hazard specific dimensions. It is flexible enough to allow each community to identify and meet their own needs.

The process is available on the website, no fee, one just needs to open an account. Users can work online, or download all assessments and reports (work offline).

The tools were field tested in three communities in Canada.

Afternoon Presentations

Eddie Oldfield, Member of the Resilient Communities Working Group, National Platform for Disaster Risk Reduction, introduced the 10 Essentials for Disaster Risk Reduction (UN ISDR Cities Getting Ready Campaign) and showed related resiliency assessment and planning tools.

The Hyogo Framework for Action has for a Goal:
The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries.

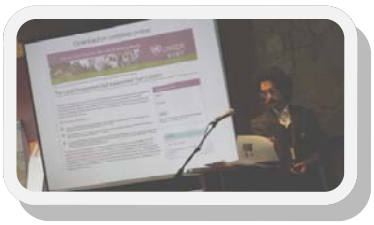
This involves **governments** (federal, provincial/state/territorial, local), as well as regional and international organizations, civil society including volunteers, the private sector and the scientific community. As part of Canada's commitment under UN ISDR, Hyogo Framework for Action, Canada established a National Platform for Disaster Risk Reduction www.drr-rrc.ca, including the Resilient Communities Working Group. Among other valuable initiatives, the working group is helping to promote the **UN Cities Getting Ready Campaign, including 10 Essentials for Disaster Risk Reduction** and the Local Government Self-Assessment Tool (LGSAT). This tool can be completed online or downloaded and completed offline. There are 4 to 5 questions under each of the Ten Essentials. Communities assess the level of achievement for each of the ten essentials areas by marking:

3 (in place, well functioning)
2 (some progress in place)
1 (poor/nothing in place) or N/A (not applicable)

You are a resilient city ***role model*** if you rate a **"3"** in at least five out of the ten essential areas for resilient cities, *and* if you are willing to provide opportunities for other local governments to learn from you. However, any community can apply to be a Resilient City ***participant*** – simply go to the website (http://www.unisdr.org/campaign/resilientcities/), have Mayor and Council motion or agree to join the campaign. Complete the assessment / complete the application form. The afternoon table-top discussion and exercise will allow participants to review the 10 Essentials, and help them get started toward a potential application. There is also a helpful Self-Assessment Guide for Local Governments and a helpful Handbook for Local Elected Officials (see Appendix 3). **Using the 10 Essentials communities have the opportunity to:**

- assess their work toward disaster resilience in relation to United Nations best practices
- identify strengths to be proud of and areas that need further attention
- share the work that has been achieved with other communities and to learn from others
- draw elected officials' attention to disaster resilience, involve partners in their nomination
- build positive social capital, public awareness, and partnerships to augment resiliency
- be recognized for actions / recognize local champions

Disaster risk reduction and resilience planning efforts, like adaptation efforts, should include the participation of relevant local stakeholders. This ensures comprehensive asset identification, risk assessment, good communication, roles understood, and improves community's ability to 'bounce back'. Another tool for municipalities to improve resiliency, is the planning Act or Legislation in each P/T. Land use planning decisions are often at the heart of risk reduction and resilience planning efforts. A national Land Use Planning Guide has been developed (and will be published shortly) to help municipalities assess risk, and implement correct land use recommendations, to mitigate risk. Also, Engineers Canada developed PIEVC – a protocol for P. Engineers to assess climate risk to new and existing infrastructure. NB consulting Engineers / firms participated in a PIEVC training workshop with Engineers Canada. These Engineers can use the PIEVC protocol in assessing potential infrastructure costs associated with climate risk. This can be part of municipal tender criteria for public infrastructure projects, to ensure climate risk and potential costs are factored into projects. Sustainable development measures (land use plans, wetland protection, natural drainage, and erosion control) can contribute to community disaster mitigation and resilience. There are interdependent and mutually supportive functions of risk mitigation, sustainable planning, and energy planning—many other life-supporting necessities and our economy are dependent upon energy (e.g. water systems need energy, heat systems need energy, businesses need energy to function, etc). Climate change may compound impacts to such infrastructure. It will also increase heat-health impacts. Approaches to deal with heat-related impacts include: Heat health vulnerability assessment, spatially explicit approaches to adaptation / risk reduction, heat alert system and planning. Municipalities must take the lead in developing their own Heat alert and response plan, for which Health Canada resources are very useful.



Afternoon Discussion

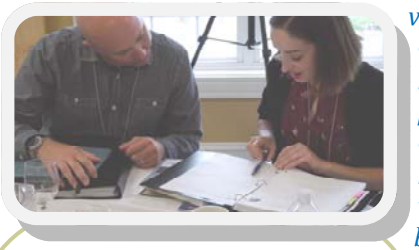
Each table discussed the Rural Disaster Resilience Project (RDRP) tools, and the UN ISDR 10 Essentials for Disaster Risk Reduction. This was followed by high-level self-assessment / scoring of their own community resiliency. Results of this table-top discussion and self-assessment are presented further below.

Visit RDRP: http://wp-rdrp-dev.jibc.ca/

Visit UN ISDR: http://www.unisdr.org/campaign/resilientcities/

Key Highlights / Points Made:

- *Both tools are good tools for EMO. First tool (RDRP) could be useful for EMO, to confirm existing plans / activities. Teams could go through the RDRP assessment process and verify with existing EM plans. Could be useful for EMO teams as an awareness exercise – would work best with engaged participants. Useful for EMO Committee, Regional EMOs / RSC planning should facilitate regional assessments to inform plans. Would be good to assess existing plans in municipalities through these tools. For example, to determine what are the gaps that exist out there? What are the biggest needs? Where do communities need the most help? RDRP applies to large and small communities. It is a valuable assessment tool.*
- *Two sessions (RDRP, 10 Essentials) would be better as individual webinars, in order to maximize participation, lower cost, enable use of tools*
- *Excellent lesson – learned a lot. It would be helpful to see where a municipality stands compared with other municipalities and regarding adaptation best practices, plans, policies, bylaws, etc.. We need to exchange what we are doing / have learned. Need to share existing municipal adaptation plans, identify gaps / things that work or may be modified. Have more discussion on this topic.*
- *The 10 Essentials while perceived to be geared to cities, can also be useful to smaller communities. The 10 Essentials could be part of existing and new sustainable community plans (not stand-alone). Some of the 10 Essentials require follow-up examination in several municipalities. N.B. communities are gathering information to develop adaptation plans and projects.—this information is a good starting point. Need to work more with tools and engage others.*
- *Reviewing municipal assets, liability, insurance policies should be part of a resilience plan*
- *Make sure partner plans are detailed – e.g. hospitals, schools, manors, etc.*
- *Need paid educators, also work with community champions/volunteer EMO.*
- *Interesting that a municipality can use gas tax money for improving resilience.*
- *There are a lot of tools; how to determine which is best for each community / situation?*



"How do these assessments align with provincial/ federal program, policy, incentives/ funding?"

"The RDRP Assessment process is very useful, particularly the resulting report"

"We can go through RDRP assessment for various hazards before each table-top exercise (local EMO)"

"10 Essentials assessment outcomes help us identify where improvements can be made"

"Need to conduct / revise hazard assessments based on risk and resiliency

"Was helpful to have local, provincial and national perspective here"

"Follow up in six to nine months would be helpful. It would support continued engagement and collaboration among communities"

The Ten Essentials

The UN ISDR 10 Essentials are listed below—these were used for the afternoon table top discussion and self-assessment exercise. Results of the self-assessment exercise are presented on the next two pages.
Explore the Resilient Cities website:
http://www.unisdr.org/campaign/resilientcities/

Essential 1: Put in place organization and coordination to understand and reduce disaster risk, based on participation of citizen groups and civil society. Build local alliances. Ensure that all departments understand their role to disaster risk reduction and preparedness.

Essential 2: Assign a budget for disaster risk reduction and provide incentives for homeowners, low-income families, communities, businesses and public sector to invest in reducing the risks they face.

Essential 3: Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions. Ensure that this information and the plans for your city's resilience are readily available to the public and fully discussed with them.

Essential 4: Invest in and maintain critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change.

Essential 5: Assess the safety of all schools and health facilities and upgrade these as necessary.

Essential 6: Apply and enforce realistic, risk compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements, wherever feasible.

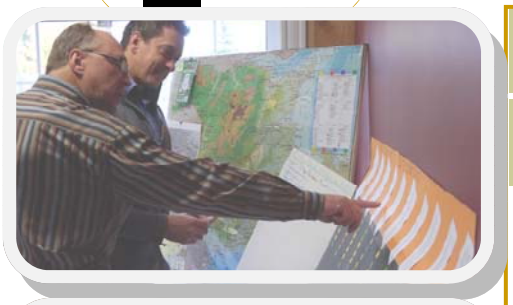
Essential 7: Ensure education programmes and training on disaster risk reduction are in place in schools and local communities.

Essential 8: Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.

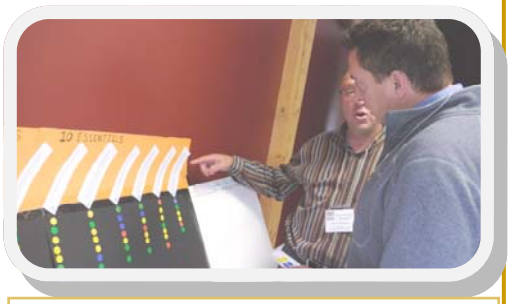
Essential 9: Install early warning systems and emergency management capacities in your city and hold regular public preparedness drills.

Essential 10: After any disaster, ensure that the needs of the survivors are placed at the centre of reconstruction with support for them and their community organizations to design and help implement responses, including rebuilding homes and livelihoods.

Outcomes of 10 Essentials Exercise



Participants use colored stickers to mark their scores for each of the 10 Essentials.



Score / Ratings:

3=In place, functioning well

2=Something in place, needs improvement

1=Nothing in Place

4=unknown (needs further examination)

Participating municipalities undertake self-assessment using UN ISDR's 10 Essentials

http://www.unisdr.org/campaign/resilientcities/

City, Town, or Village:	Essential 1—2—3—4—5—6—7—8—9—10 Score / Rating:	Total	(3)	(2)	(1)	(4)
Fredericton	3 – 2 – 3 – 3 – 3 – 3 – 4 – 4 – 2 – 3		6	2		2
Beresford	2 – 1 – 2 – 2 – 2 – 2 – 4 – 2 – 2 – 2			8	1	1
Perth-Andover	2 – 2 – 2 – 2 – 2 – 2 – 1 – 1 – 3 – 2		1	7	2	
Dalhousie	2 – 1 – 2 – 2 – 2 – 2 – 2 – 2 – 2 – 1			8	2	
Dorchester	2 – 3 – 2 – 4 – 3 – 4 – 3 – 2 – 2 – 3		4	4		2
Tracadie	3 – 3 – 3 – 2 – 4 – 3 – 3 – 3 – 1 – 2		6	2	1	1
New Maryland	3 – 1 – 2 – 2 – 4 – 2 – 1 – 2 – 3 – 1		2	4	3	1
Saint-Quentin	1 – 4 – 2 – 2 – 3 – 2 – 4 – 2 – 3 – 2		2	5	1	2
Bouctouche	2 – 1 – 2 – 2 – 4 – 2 – 2 – 2 – 2 – 2			8	1	1
Plaster Rock	1 – 1 – 1 – 2 – 2 – 2 – 1 – 1 – 1 – 3		1	3	6	
Dieppe	2 – 2 – 2 – 2 – 2 – 2 – 2 – 2 – 2 – 2			10		
Total Green (3)	**3 – 2 – 2 – 1 – 3 – 2 – 2 – 1 – 3 – 3**	**22**				
Total Yellow (2)	**6 – 3 – 8 – 9 – 5 – 8 – 3 – 7 – 6 – 6**			**61**		
Total Red (1)	**2 – 5 – 1 – 0 – 0 – 0 – 3 – 2 – 2 – 2**				**17**	
Total Blue (4)	**0 – 1 – 0 – 1 – 3 – 1 – 3 – 1 – 0 – 0**					**10**

The resulting scores of this exercise are a reflection of walking through the 10 Essentials and discussing their applicability in each community. Charrette Participants may choose to further review the 10 Essentials, undertake the full assessment and apply to the UN ISDR Cities Getting Ready Campaign, or simply use the results to inform their plans.

The results, while informative to participants, are not a final scoring, and are not necessarily representative of other communities in N.B..

The results are further discussed / analysed on the next page.

Analysis of outcomes of Exercise

Participants were asked to discuss and compare JIBC's RDRP and the UN ISDR 10 Essentials - both assessment tools. This was followed by a brief self-assessment exercise using the 10 Essentials—participants scored their municipalities according to the 10 Essentials, to the best of their knowledge. Results were added to a 'dashboard', where the scores could be compared and the process discussed in plenary.

Below is a brief synopsis of the exercise—while the scores are not final and can only provide a partial picture of resiliency among both rural and urban NB Municipalities — the results can be useful to inform further resiliency planning efforts and to determine potential focal areas for improvement at local, regional, and provincial scales. Communities may choose to undertake the full self-assessment to inform their own plans, policies, procedures, practices, and decision making.

Strongest Areas / In place and functioning well: Although a majority of scores indicated that improvements could still be made in most areas, municipalities had different strengths, though none were common across all municipalities. At least three of eleven municipalities scored strong on Essentials #1 (Organization), #5 (Assessing Safety of Schools / Health Facilities), #9 (EM Capacity / Early Warning) and #10 (needs of survivors at centre of rebuild). These strengths were identified in both smaller and larger municipalities.

Between six and ten (of 11) participants shared in common areas where something is in place, but still needs work. This includes Essential #1 (Organization), #3 (hazard/risk assessment to inform plans), #4 (invest in and maintain infrastructure to cope with climate change), #6 (apply risk compliant building regulations and land use planning principles), #8 (protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards), #9 (EM Capacity / Early Warning) , #10 (needs of survivors at centre of rebuild). Areas needing improvement were identified in both smaller and larger municipalities.

Scores indicate that the weakest areas in common, where nothing is in place, are Essentials #2 (assign budget); and #7 (ensure education programs and training in place), with some municipalities indicating nothing in place for Essentials #1, 3, 8, 9, & 10. These areas of concern were common to smaller communities, rather than larger ones.

Totals:

- Strengths / In place and functioning well: **22**
- Something in place, Needs improvement: **61**
- Weaknesses / Nothing in Place: **17**
- Unknown: **10**

Based on these totals, participants seemed to be in agreement that while some things are in place and functioning well, there are many opportunities for improvement in several areas. The afternoon discussion and closing plenary (summarized in this report) enabled participants to share perspectives, identify issues/needs, exchange ideas and actionable solutions, and more.

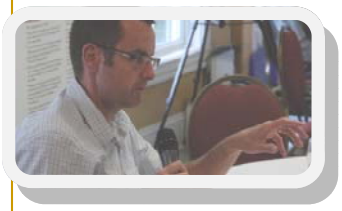
Many participants indicated they would take back the information in the binder to share with colleagues, councillors and EM committees; to stimulate discussion, review and enhance assessments and plans, strengthen and develop plans, and build awareness of the need for climate change adaptation and resilience planning in their communities.

Closing Discussion

At the end of the Charrette, participants were asked to share their reflections and critique of the Resiliency Planning Charrette, including the style of the Charrette, the resources and materials presented, the table top exercises and discussion, and more. These are some of the comments made during the closing discussion and using critique sheets.

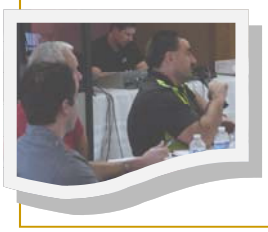
Did the Charrette meet your expectations? Participants indicated: Yes. Charrette style was informative, interactive. Good session!
What Actions may result / will you take? Participants indicated they would work more with each tool (RDRP, the 10 Essentials, MRAT); Follow-up with EMO committee / council; Review and undertake assessment processes to inform and revisit plans and bylaws; Do over the emergency response plan for the community; Bring back information / tools to help inform FCM; Provide education on resiliency planning, risk reduction, and related financial support before and after disaster; Improve EMO planning, communication (during and pre-event); Review municipal insurance policies; Foster community buy-in; Try to get council active; Use the websites / planning tools to help inform policies and local regulations; Follow the structure presented; Advance climate adaptation plan; Develop funding application for adaptation work. ***What key lessons / resources will you take back to your community?*** Participants indicated: The need to plan or review their plans – to improve resilience; Review of other jurisdictions reports; Websites and statistics presented; Useful resources like MRAT, Guideline/Reports on adaptation; New contacts; How well {or not} we are prepared; There is value in adding adaptation lens to NB / municipal plans (for existing asset management and new builds /development), particularly for flood risk.

Would you recommend the Charrette for other locations? Participants indicated: Yes. Certainly for decision-makers. Need to get together more (frequently), to share progress, identify overlaps, exchange best practices, etc. Online tool could be presented at AMANB and/or UMNB conferences. It would help other communities.
What could be added/was missing? Participants indicated: Add more presentations of existing climate change adaptation plans among NB municipalities; Introduce participants at beginning of Charrette to see where people are from; Improve rural community examples; Have Provincial EMO speak; Difficult to understand online speaker (JIBC); Nothing was missing.
The Program, Facilitation / organization, Style of the Charrette? Participants indicated: Good format; interesting and interactive; Well-organized, good set-up with the translation; Great – really enjoyed the session.



The Speakers / Presentation Topics? Participants indicated: Good to see what other communities are doing (plans, actions, policy, regulations); Good information on RAC outcomes / new tools to take climate adaptation further; Good local/municipal, provincial, federal and UN perspectives shared; Good to have dialogue on what are the gaps, what is needed. Need further information and dialogue on this. Lots of information; Great speakers; presentations; speakers well informed; Excellent!

The Table Top Discussions (morning / afternoon): Participants indicated: Valuable to have table-top discussion – it is helpful to see rural vs urban issues and approaches, and to share information on work being done / best practices. Good discussion on how to apply Gas Tax to help improve resiliency as part of infrastructure projects; Table top discussion was useful, and while some highlights were captured, it was difficult to capture all points made, including what weaknesses / what's needed, strengths (what's working well), at the local level – from among various NB municipalities—in one day; I liked the format, good exchanges; Great people to learn with; Enjoyed learning from others; Excellent.
The Exercises (e.g. 10 Essentials): Participants indicated: Good; Very good; Good exercises / assessment processes; The UN ISDR 10 Essentials seem out of touch with small town realities; A little long to answer.
The Tools/Resources Shared: Participants indicated: Liked availability of Tools online; Liked the binder – very useful to take home; Need more information on MRAT; A lot of tools – challenge is how to communicate; what is useful; integrate with CC Plan in NB and with disaster mitigation incentives. Useable, helpful; Great tools for various local governments, mostly in rural context; Tools can be adapted/tailored to meet local needs; Put resources, best practices, links, on AMANB website; MRAT – how useable if municipality doesn't have GIS? Perceived to be geared to larger municipalities.; Will be useful; Excellent!



The Resiliency Wall (pin-up board, map, dashboard): Participants indicated: Great idea; Reflects the status that everyone has work to do; Interesting to see what others are doing; Good to see what the Province looks like; Good data. ***The Networking breaks:*** Participants indicated: Very useful networking component, helpful to make connections for future work; Need more incentive to mingle to get to know where participants are from; Were good for exchanges; Just enough; Great. ***Other:*** Municipalities have a challenge to balance priorities; Volunteers for EMO can be challenging in small communities; Regional planning, issues, funding, can be difficult to discuss; Resiliency isn't built in to EMO; Good eye opener to look over emergency plans.

Evaluation / Feedback

YOUR FEEDBACK

This page summarizes the feedback provided on the Evaluation Forms.

# of respondents using Evaluation Form (18) and Critique Sheet (9)

Satisfaction level:

- **Location** – Majority of respondents were highly satisfied with location
- **Sessions/Speakers** – Majority of respondents were highly satisfied with sessions
- **Table Top Discussions** – Majority of respondents were satisfied with discussions
- **Networking Breaks** – Majority of respondents were satisfied with breaks
- **Resiliency Wall** - Participants added table-top highlights, used dashboard, but not map
- **Materials** – Majority of respondents were satisfied with materials
- **Food** – Respondents were moderately satisfied with food

How informative were the presentations? Majority of respondents thought presentations were very useful, the rest thought the presentations were somewhat useful.

How informative were the table top exercises / discussion? Majority of respondents thought the table top exercises were very useful, the rest thought they were somewhat useful.

How would you describe the pace of the workshop? All respondents indicated just right.

Did you find the workshop structure effective? Majority of respondents thought the workshops structure was effective.

What did you like best: Participants indicated they liked: the ability to interact; the speakers and presentations; best practices; The one-on-one discussions at the table and during breaks / Ability to discuss with others and do networking; Access to "free" Online tools; software for small communities; learning about available resources/materials; table top exercises; duration of the presentations; the RDRP and 10 Essentials tools / exercises.

What did you like least: Participants indicated mixed issues, small vs large communities, difficult to talk about similar challenges. They indicated that the online delivery of a presentation was not the best connection—would be better as a separate webinar. Other participants indicated there was not enough time to actually work the tools, answer the questionnaire. Beaucoup d'info / outils en peu de temps.

Will the material you learned today help in advancing resiliency and/or climate change planning or projects in your community? Majority of respondents indicated yes. Some remained uncertain (though reasons not shared).

What will you take home? / What actions will you take? Participants indicated they would take home 'great info', 'tools and resources', Pass along information, Continue to improve their plans. Some participants indicated further interest in using the RDRP and 10 Essentials. Some participants indicated they would continue to work on their plan and coordinate with the Province. Participants were appreciative of the info, contacts and resources of help to proceed to implementation. There is better awareness, both of subject matter and tools. Some participants will introduce RDRP to EMO team, including online resources, to affect consciousness on climate change effects / preparedness. Participants liked the info on presentations and links to websites, will look at some of the tools and resources that were presented, and evaluate their situation / advance adaptation plans.

Would you be interested in a more advanced workshop on these topics? Half of the respondents indicated they are interested in more advanced topics. ***If yes which ones?*** Participants indicated they would be interested in anything to do with dealing with disasters; Webinars – RDRP, 10 Essentials; MRAT, RDRP, etc; Lessons on how to communicate the importance of the topic; Local examples of best practices; Building the Resiliency Plan; Un guide complet afin de rediger le plan.

Conclusion / Recommendations

The Resiliency Planning Charrette successfully engaged diverse municipal participants including Mayors, CAOs, Fire Chiefs, Urban planners, emergency response and public works staff, from coastal, rural and urban communities in New Brunswick, along with other orders of government, government agencies, private sector and the insurance sector. Participants liked the interactive style of the charrette, the information presented, table top discussion and exercises.

The morning speaker panel shared useful insights on the increased impact of climate change and extreme weather, the increasing costs to insurance sector and tax payers / government. The speakers also shared many useful resources for climate adaptation and to improve local resiliency, shared municipal case studies / projects, and identified programs which may help N.B. municipalities to improve their resiliency. In the afternoon, speakers demonstrated JIBC's Rural Disaster Resiliency Project and the UN ISDR 10 Essentials for Disaster Risk Reduction / Self Assessment Tool.

Participants were provided information, tools, and guidelines that could be used to further advance their decision-making, plans, policies, and practices. They were actively engaged in the process of learning about resiliency planning at a local level, identifying what is working well and what is still needed to improve resiliency. Table top and plenary discussions resulted in the identification of strengths and weaknesses, differing capacities among rural and urban communities, needs at both the local and provincial levels, links between resiliency planning, climate adaptation, and economic sustainability. The table-top exercise allowed participants to walk through and determine the suitability of two resources (RDRP tools; UN ISDR 10 Essentials), including hazard, risk, and resiliency assessment tools for enhancing their own community resiliency.

Participants shared the view that tools/resources presented were useful, and could be used to advance local assessments, plans, policies, practices, and potentially used to inform provincial policies, regulation, Act/legislation. Rural community participants preferred the RDRP tools, but both RDRP and 10 Essentials were considered useful. Participants shared in common areas where improvements are needed, but capacity and needs were clearly different between smaller and larger municipalities. Participants indicated both municipal and provincial orders of government, along with Federal agencies, must work together and each have a part to play to improve resiliency. There is a shared need for continued dialogue and engagement at the local and provincial levels, to advance understanding of hazards, vulnerabilities, strengths and weaknesses in resiliency; to align resources with needs; to align resilience goals with climate change impacts adaptation, sustainable community plans, and projects; to strengthen communication before, during, and after disaster; and to improve coordination (municipal—district EMOs), for exercising and updating plans.

Some participants indicated a need for a framework for resiliency planning, flood relocation and disaster relief in N.B.. While participants were interested to learn of the (free) availability of RDRP and 10 Essentials and other resources, there is a need to make flood risk assessment / planning tools (like MRAT) available to more municipalities. Some participants saw a need to affect decision-making processes and behaviors to mitigate risk/disaster—both within municipal planning and other decision-making processes, and to engage public and institutions locally / at large. There was agreement about the need to remove barriers and address financial or human resource constraints (capacity), especially among smaller communities. Participants were interested in further webinars, workshops, assistance in the form of presentations to municipal councils and regional service areas, clarification of roles before and after disaster at local level, and assistance with advancing their resiliency planning and climate adaptation efforts.

Using the Charrette style and the tools presented, it is possible to begin an evidence-based determination of where resources are needed, which may best improve resiliency. Participants also identified the need for a home for the knowledge, methods and tools, information, and resources for resiliency planning. Many participants indicated a need for continued dialogue and engagement of more communities was needed, to improve literacy on resiliency, exchange resources, encourage adoption of best practices, and affect change. This report may be shared, used for further resiliency dialogue and planning at local and provincial scales, and the Resiliency Planning Charrette approach can be adapted / replicated to engage other municipalities in New Brunswick and elsewhere in Canada.

Appendix 1: Participant List

Alex Oldfield (photographer for report)	- Photographer
Alexandre Girard, Urbanist/Planner, City of Dieppe	- Registrant
Alexis Fenner, Mayor, Village of Plaster Rock	- Registrant
Amanda Dean, Vice President, IBC Atlantic	- Speaker, Sponsor
Carl Duivenvoorden, Change Your Corner	- Registrant / assistant
Carla Ward, Councillor, Hanwell Rural Community	- Registrant
Charles LeBlanc, Fire Service, City of Dieppe	- Registrant
Christy Arseneau, CAO, Town of Dalhousie	- Registrant
Claude Despres, Director, Strategic Initiatives, City of Moncton	- Registrant
Colette Lemieux, NB Department of Environment and Local Government	- ETF project lead
Dan Dionne, CAO, Village of Perth-Andover	- Registrant
Danielle Charron, Executive Director, AMANB	- Organiser
David Knowles, Manager-Public Works, City of Dieppe	- Registrant
Dawn Ursuliak (remote), Justice Institute of British Columbia	- Speaker
Denny Richard, Director of operations and sustainable development, Town of Bouctouche	- Registrant
Dwight Colbourne, Municipal Planning Officer, Town of Quispamsis	- Registrant
Eddie Oldfield, Owner, Spatial Quest Solutions; Member RCWG, National Platform for DRR	- Facilitator, Speaker
Erin Norwood, IBC Atlantic	- Sponsor
François Léger, Coordinator of land use planning, City of Dieppe	- Registrant
Gay Drescher, Dillon Consulting	- Registrant
Grant MacDonald, Deputy-Mayor, Village of Dorchester	- Registrant
Harry Farrell, Fire Chief, Village of New Maryland	- Registrant
Isabelle Pitre, FCM	- Speaker, Sponsor
Jeff Hoyt, Director of Climate Change Adaptation in the Climate Change Secretariat, NB DELG	- Speaker
Kathy Edwards, Engineering Services, City of Fredericton	- Speaker
Marc-André Godin, Director General, Town of Beresford	- Registrant
Marcel Basque, Director of Engineering and Public Works, Regional Municipality of Grand Tracadie-Sheila	- Registrant
Marcel Brideau, Director of economic development and tourism, Regional Municipality of Grand Tracadie-Sheila	- Registrant
Mathieu Chayer, Mayor, Village of Saint-Léolin	- Registrant
Penny Henneberry, CAO, Town of St. George	- Registrant
Régis Caron, Operator of Filtration Plant, Town of Saint-Quentin	- Registrant
Rob Pero, Building Inspector/Development Officer, Village of New Maryland	- Registrant
Roger Cyr, Director of Finances and Operations, Town of Saint-Quentin	- Registrant
Ron Bowles (remote), Justice Institute of British Columbia	- Speaker
Rory Pickard, Dillon Consulting	- Registrant
Shawn Dalton, Executive Director, Canaan-Washademoak Watershed Association	- Registrant
Stephen Olmstead, IBC Atlantic	- Sponsor
Suzanne Coulombe, Director General/Clerk, Town of Saint-Quentin	- Registrant

Appendix 2: Survey Results

Following the Resiliency Planning Charrette, a voluntary telephone interview was conducted with several participants. The phone interviews aimed to gather feedback on the Charrette and to determine what actions communities may have taken, or are considering, as a result. These are the types of feedback we obtained on the Charrette: Charrette style was very effective—very good. Everyone at our table thought it was great. Discussed key issues. Impressive bringing together of people from small, medium, large municipalities. Good style to bring the knowledge together. Very professional, well prepared speakers and documentation. Best I ever attended. ***Key Messages heard:*** Combination of different perspectives; a better idea of what is being done; there is a lot happening, new resources and projects, which is positive/useful for municipalities to advance climate change adaptation plans. It is not easy to find resources or to implement changes, however, need more proactive preparation; there are some great accessible tools online; the community being on side / engaged makes planning easier; larger municipalities have more resources than smaller ones, but all see climate change as real and are concerned with impacts and how to incorporate resiliency into practice, policy, plans. Difficult to focus limited funds to preventative maintenance; There are both real and perceived challenges facing municipalities—everyone has genuine concern / cares about finding solutions. Made us aware of things we never thought of. Must engage community to brainstorm local impacts/solutions; be proactive. Time to prepare is now.

Most useful thing learned / taken home: information in the binder and on the CD that can be used to advance planning; resources provided by all the speakers (credible sources); tools which are very good—surprised something so comprehensive is available to municipalities; resources to help municipal decision-makers in planning and 'path-finding'; DRR Principles; Guide(s) for local officials; Knowledge of where resources are e.g. for fixing underground infrastructure, to inform Council.

What is strongest – resiliency – in New Brunswick / in your community? We're not doing bad, but there is work to do. Larger communities have in house resources, people, experience, to develop plans and can afford to outsource for studies. Each municipality has it's own strengths, weaknesses. Emergency response was seen to be a strong area. Cities are seen to have a lot done already, and strong EM coordination / plans. People have strong will / determination / are resilient or self-reliant.

What is weakest – resiliency – in New Brunswick / in your community? Flood Hazard Risk (overland / rain events; river and coastal inundation), impacts to sewer system and flooding businesses / homes; Small communities are less prepared, have limited capacity to develop and implement adaptation / resiliency plans, share of tax base is inadequate for maintenance and needed improvements. Need more accurate information adapted to local context for hazard identification and disaster risk reduction. Fund availability and investment in preventing / mitigating risk from potential hazards was seen as weaker than for emergency response measures / post-disaster response. Municipality does not always have the awareness, council support, or knowledge to do more. It is hard for council to visualize what is required in the event of major disaster. Disaster can come from lack of maintenance on infrastructure. New infrastructure presents new potential risks. Power outages may compound local risk/impact.

Was the RDRP Assessment useful? Yes. This is good for rural context. Good detailed assessment tools (RDRP). Useful for EMO. Will use the assessment to inform local planning and table top exercises. Will use to inform local plan, actions, policy options.

Was the 10 Essentials useful? Yes. Useful to assess where we (a town) stand, identify strengths and weaknesses, build awareness.

What areas are you strongest / weakest? What are key needs? Need more awareness. Need to educate councils and CAOs and other municipal professionals, on functions they have in response to disaster and for making decisions that improve resiliency.

Will you advance either assessment, use results to inform plans? Will be useful to inform climate change adaptation plan being developed, including specific areas for improvement / specific tasks. We will continue to use the tools and information provided to inform our policy, plans, to become a more resilient city. Yes, the information will be useful for regional/district EMO; we need to enhance response plans for each type of hazard. We will encourage municipalities in our national network to look at these resources, to start the process toward a plan, to look at the way they make decisions. Will inform development of local action plan and actions, for submission to / consideration of Council. Yes, to inform table-top and operational exercises. Opportunities exist for local adaptation that make sense economically as well as improve resilience of community infrastructure.

These are the actions that were taken as a result: (grouped)

- Accessed Resources, Shared Resources, Discussed Resources with colleagues / partners; Informed Council; Department Heads meeting; Climate Change Committee; EMO Committee; Directors of Finance, Public Works; EMO Coordinator;
- Will use this as a model for a mini-workshop on resilience & sustainability planning (at national conference)
- Will use tools, enhance plans, determine further actions, augment decision-making with resiliency principles (local level)

Would you support another project? Yes. Webinars (to reduce cost of participation); another Charrette; local consultations. Assistance with taking resiliency planning further in individual municipalities and regions. Need another opportunity with more time (2 to 3 days) for more interactive discussion and information exchange; engage more CAOs, Councillors, EMO participants.

Are there specific actions that you recommend? Every municipality should be doing this—address adaptation / resiliency in planning documents, plan long range. Dialogue needs to take place at different levels of governance. Need more exchanges. Need more communication between municipalities, district EMO on regular basis, and more guidance on action plans, and in the event of disaster how to get resources needed. Should make a presentation on this topic to UMNB AGM, to RSCs, to various municipal councils/committees and EMO committees. Need to align resiliency in local, regional, and provincial EMO plan/process. DELG should be encouraged to mandate municipalities to develop asset management plans with a resiliency lens as part of Gas Tax requirements. Should share information with other networks in New Brunswick and Canada that share interest in resiliency.

Appendix 3: Links to Resources

Canada's National Platform for Disaster Risk Reduction: http://www.drr-rrc.ca

JIBC's Rural Disaster Resilience Project: hazard and resilience assessment/reporting tools (free): **http://wp-rdrp-dev.jibc.ca/**

UN ISDR: Resilient Cities website: http://www.unisdr.org/campaign/resilientcities/

- A Self-Assessment Guide for Local Governments and Handbook for Local Elected Officials, and other toolkit resources are available here: http://www.unisdr.org/campaign/resilientcities/toolkit
- Application Form: http://www.unisdr.org/applications/hfa/assets/lgsat/documents/LGSAT-Offline-Reporting-form.doc

IBC—Insurance Bureau of Canada: (www.ibc.ca)

- See Publications : ***"Telling the Weather Story"*** and ***"Study of Impact and the Insurance and Economic Cost of a Major Earthquake in British Columbia and Ontario/Quebec."***

FCM-Federation of Canadian Municipalities: (www.fcm.ca)

- See Adaptation resources: http://www.fcm.ca/home/issues/environment/climate-change-adaptation.htm and various reports: http://www.fcm.ca/home/programs/partners-for-climate-protection/program-resources/municipal-reports.htm
- **FCM and CSA's e-learning course:** ***"Adapting to Severe Weather and a Changing Climate***" Visit: http://www.fcm.ca/home/issues/environment/climate-change-adaptation/adaptation-resources/adapting-to-severe-weather-and-a-changing-climate.htm
- **FCM's Green Municipal Fund:** Visit http://www.fcm.ca/home/programs/green-municipal-fund/what-we-fund.htm
- ***2014 National Municipal Adaptation Survey (NMAP) :*** Visit: http://www.localadaptation.ca/results-of-the-nmap-survey-of-local-governments.php

ICLEI Canada's "*Changing Climate, Changing Communities Guide and Workbook for Municipal Climate Adaptation"* - Visit: http://www.icleicanada.org/resources/item/3-changing-climate-changing-communities ***or*** http://tinyurl.com/resilienceworkbook and ***Building Adaptive and Resilient Communities—(BARC) Program:*** Visit: http://www.icleicanada.org/programs/adaptation/barc

Engineers Canada's *PIEVC Protocol* for infrastructure climate risk assessment***:*** Visit: http://www.pievc.ca/

Savoir s'adapter aux changements climatiques, published in 2010 by the Québec government in collaboration with Ouranos can be ordered online: http://www.publicationsduquebec.gouv.qc.ca/fre/products Type the title or reference # 978-2-923292-03-8.

Visit NB Department of Environment and Local Government: http://www2.gnb.ca/content/gnb/en/departments/elg.html to find local Adaptation Case Studies, Provincial Climate Change Action Plan, and New Brunswick's Flood Risk Reduction Strategy.

To find additional climate change adaptation resources, Visit: www.adaptationlibrary.ca ***; ACASA Maps –*** www.acasamaps.com ; **and *Climate Change Adaptation Community of Practice* (Canada):** https://www.ccadaptation.ca

To download: *Local Government, Sustainability and Climate Change: A Resource for Elected Municipal Officials in New Brunswick,* Visit: http://tinyurl.com/resilienceworkbookNB

***NBEMO*:** http://www2.gnb.ca/content/gnb/en/departments/public_safety/emo.html
***NB Flood Watch*:** http://www2.gnb.ca/content/gnb/en/news/public_alerts/river_watch.html
***GeoNB Flood Maps*:** http://www.snb.ca/geonb1/e/apps/apps-E.asp

Natural Resources Canada's "*Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation*" - update to 2008 science assessment report - Visit: http://www.nrcan.gc.ca/environment/resources/publications/impacts-adaptation/reports/assessments/2014/16309

Health Canada Resources for Heat-Event planning: http://www.hc-sc.gc.ca/ewh-semt/climat/adapt/heat-chaleur-eng.php and http://www.hc-sc.gc.ca/ewh-semt/pubs/climat/response-intervention/index-eng.php

CRHNet—Canadian Risk and Hazards (Knowledge and Practice) **Network** http://www.crhnet.ca/

Also visit AMANB's Resilience Webpage (*http://energysmartnb.ca/?page_id=401)*

Appendix 4: Speaker Bios

Amanda Dean

has a background in communications and public relations in the private and public sectors, along with experience in both provincial and federal levels of government. She joined IBC in 2006 and was promoted to her current role in 2013. As Vice-President, Atlantic, Amanda oversees all government relations in Atlantic Canada, representing the positions of the property and casualty (P&C) insurance industry to government officials. She is also responsible for developing and implementing an effective advocacy strategy for the P&C insurance industry, including key industry policy priorities such as co-ordinating consumer outreach programs and working on adaptation to severe weather initiatives.

Kathy Edwards

A biology graduate of Mount Allison University (BSc) and the University of New Brunswick(MSc), Kathy has worked for the City of Fredericton for ten years. Originally hired as the City's Wellfield Protection Officer in the Water & Sewer Division, Kathy recently went over to Engineering Services to help coordinate Capital Project Plan Review as well as perform engineering review of building permits. Kathy has lived in a variety of places from large urban environment of the City of Montreal to Fredericton's smaller City spaces to rural southern Quebec. Issues of Climate Change and municipal planning continue to fascinate her as she strives to make a difference in both her personal & professional lives.

Isabelle Pitre

a biologist, has 7 years of experience in the field of municipal sustainable development. She holds a master's degree in environmental sciences from the UQTR, and has worked for 5 years as a sustainable development officer for the Municipality of Chelsea. She has been working as an applications project officer for the FCM's Green Municipal Fund since 2013.

Jeff Hoyt

is the Director of Climate Change Adaptation in the Climate Change Secretariat, NB Department of Environment and Local Government. Jeff joined the Climate Change Secretariat in August of 2013. Prior to this, Jeff spent 11 years working for the Ministry of Environment in British Columbia. Jeff has a B.Sc. in Biology from UNB and a Masters in Environmental Biology and Ecology from the University of Alberta.

Dawn Ursuliak

Resilient Communities project consultant in Vancouver, works on a number resiliency projects including developing an Emergency Support Services Strategy for the North Shore Emergency Management Office, Project Managing the SFU DRDC funded project 'Improving End to End Tsunami Warning for Risk Reduction on Canada's West Coast' as well as developing a program of research and grant funding model for ePACT, an emergency network software company. Recently, she was Project Manager for the Justice Institute of BC, Centre for Resilient Communities, managing several large community resiliency and disaster management projects. This included building / piloting a Rural Disaster Resilience Planning Guide, a Disaster Risk and Resilience Engagement website, organizing a National Policy Forum and Building Resilient Communities workshop.

Dr. Ron Bowles

is Co-Principal Investigator of the Rural Disaster Resilience Project. Ron is Associate Dean for the Centre of Applied Research at the Justice Institute of British Columbia (JIBC). Ron has over 30 years experience as a practitioner, educator, and researcher in prehospital care and emergency services. Ron came to JIBC as an instructor in 1992. Graduate work focused on educational technology and his doctoral work explored the development of expertise in high fidelity simulations. He joined the RDRP project in 2011 and led the development of the online tools and sites. Ron continues to work on disaster planning projects, including co-facilitating a national workshop on Building Resilient Communities and a current initiative in partnership with the Canadian Safety Security Program and Emergency Management BC to develop and implement a Critical Infrastructure Assessment Tool.

Eddie Oldfield

owns Spatial Quest Solutions, a consulting company in New Brunswick. He is a member of the Resilient Communities Working Group, of Canada's National Platform for Disaster Risk Reduction (www.drr-rrc.ca) working to advance resiliency planning initiatives in alignment with the UN International Strategy for Disaster Risk Reduction and Hyogo Framework for Action. He is member of OGC, invited technical expert for SGIP, and Chairs QUEST NB Caucus. Previously, he worked for 12 years as Director of the NB Climate Change Public Education and Outreach Hub.

Appendix 5: Presentations, Materials

Presentation Title	Speaker
1. **Welcome Address**	Eddie Oldfield
2. **Rising to the Weather Challenge**	Amanda Dean, VP, IBC-Atlantic
3. **City of Fredericton's Climate Adaptation and Resiliency Efforts**	Kathy Edwards, City of Fredericton
4. **Municipal initiatives in climate change adaptation and resiliency**	Isabelle Pitre, FCM
5. **An Overview of Climate Change Adaptation in New Brunswick**	Jeff Hoyt, Climate Change Secretariat
6. **Rural Disaster Resiliency Portal**	Dawn Ursuliak / Ron Bowles, JIBC
7. **Walking through the 10 Essentials (UN ISDR)**	Eddie Oldfield, Member, Resilient Communities Working Group

See all presentation PDFs on AMANB website :
http://www.amanb-aamnb.ca/AMANB-Workshops

Materials included in Binder:

Available upon request:

- Agenda
- Table Top 1 Form—Discussion / Questions (morning)
- Table Top 2 Form—Discussion / Questions (afternoon)
- Resiliency Wall Instructions
- RDRP Exercise—see website/ downloadable forms
- 10 Essentials Discussion Form and Exercise Template
- Closing Discussion / Critique Form
- Evaluation Form

Appendix 6: Sponsors

We would like to thank the sponsors / contributors to the Resiliency Planning Charrette and Final Report:

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Fredericton

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Translation of material provided by: Lucie Charest, Certified Translator
Catering provided by: Edwina's Catering
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