



## **Resiliency Workshop, February 20, 2017**

**in Miramichi, NB**



Prepared for AMANB by: Eddie Oldfield, Spatial Quest



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# Summary of Resiliency Workshop, February 20, 2017

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## Presentations

- **Eddie Oldfield** – Overview of Sendai framework; Results of AMANB projects 2014-2016; overview of FCM Green Municipal Fund

At the start of the workshop, Eddie gave an overview of the Sendai Framework for Disaster Risk Reduction (see <http://www.unisdr.org/we/coordinate/sendai-framework>), and noted that AMANB's resiliency efforts align well with addressing Sendai Priorities. Eddie went through the Rural Disaster Resiliency Portal and the UN ISDR 10 Essentials for Disaster Risk Reduction - and gave a brief overview of where NB municipalities are for each Essential. Results of the 10 Essentials exercise conducted in 2014 demonstrated common areas for improvement among municipalities. He also shared what Sendai priorities these results refer to. Eddie shared results of a telephone survey, outlined additional resources, and provided information on FCM Green Municipal Fund for climate risk assessment and adaptation. It was noted that Miramichi used PIEVC Engineering Protocol, one of the resources identified. He noted that by 2020, NB will phase in a requirement for communities to have an adaptation plan, including communities that are not municipalities but in high risk areas. DELG is working on rules that tie infrastructure funding to the existence of climate considerations in their plans. A final suggestion was made that participants look at resiliency outside of just emergency events for tonight's session, as well as to prepare for the next event. Explained why AMANB is doing this work, where members see the issues and want training.

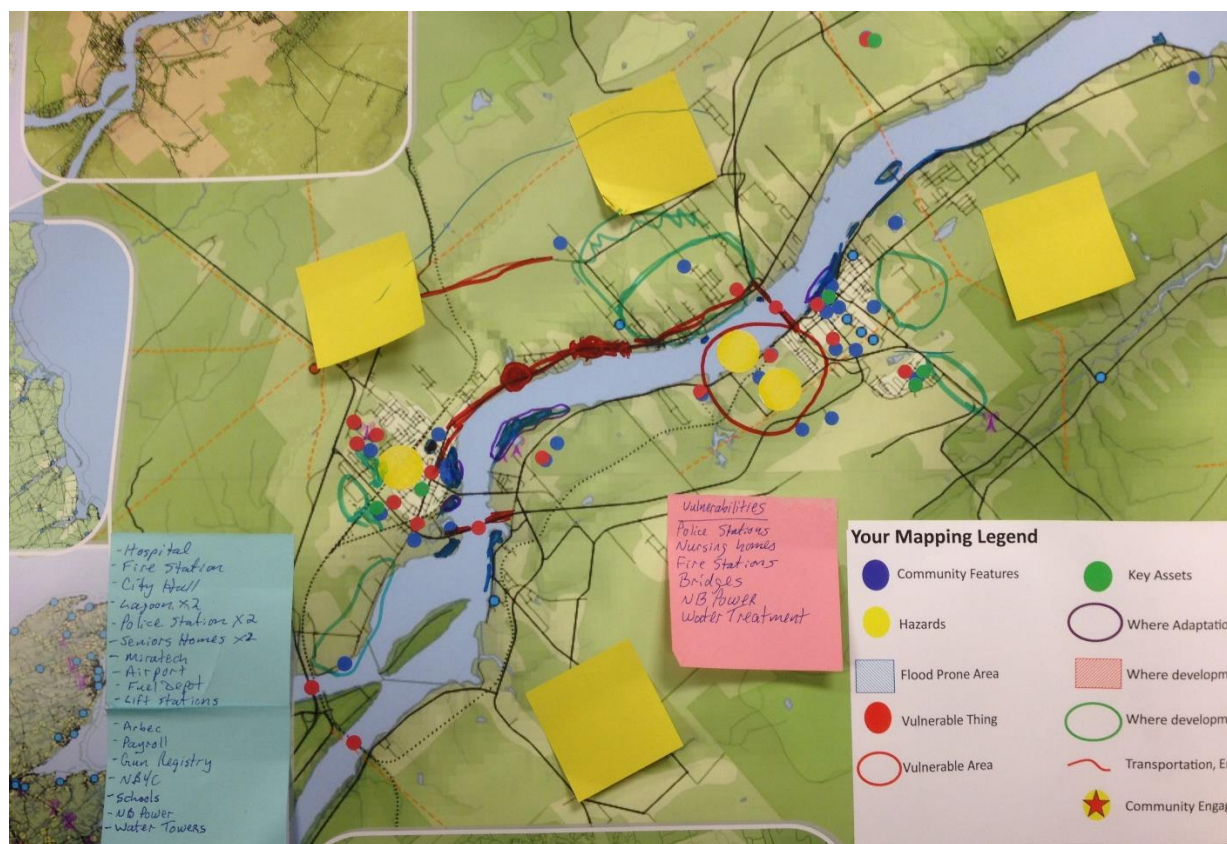
Eddie brought in the role that municipalities play in greenhouse gas emissions, where ~56% of GHG emissions in Atlantic Canada are due to municipalities. Discussed PCP program and status of the program in the province, and how champions can come from outside of municipalities, such as Bathurst Sustainable Development, but you still need municipal involvement for it to work. Municipalities, are increasingly interested to address climate adaptation and resiliency, as well as GHG emissions reduction.

Eddie gave a brief overview of the provincial slides, particularly the latest projections that the province is working with. He raised that full-province LIDAR is in progress. Miramichi already has their LIDAR information and they seem pleased to have that level of detail for their operations.

## Table-Top Exercise

Participants gathered around a map of the region and of their respective communities. Eddie gave an overview of the exercise. Throughout the group discussion, participants used maps to denote community features, potential vulnerabilities, and resiliency measures. In addition to a guide/legend the exercise relies on local knowledge and creativity. The group was receptive to this style of exercise, Good discussion around the tables. Discussed various real events and how response went and whether issues were addressed. Eddie shared that all of the map data shown tonight is available on GeoNB and from the federal government, but additional data would be needed for a proper risk assessment e.g. demography, building age/density, climate.

See a snapshot of the maps from the exercise below:



*Participants denote various hazards, vulnerabilities, resiliency measures, emergency routes, and plan community engagement, using maps during a table top exercise in Miramichi.*





**Hazards:** Participants identified and discussed hazards of concern, and ranked them in terms of probability and consequence. For example:

- Participants identified a high risk (probability and consequence) from: Atmospheric hazards (e.g. blizzards, ice storm, extreme weather); hydrological hazards, power and water outages, and hazardous material spills (e.g. fuel storage tank, oil tanks, old industrial waste lagoons; and moderate risk from old infrastructure (e.g. bridge), forest fires and geological hazards.

**The color code of stickers/stickies is:** Blue = community feature; Red = vulnerability; Green = asset that improves resilience or can be used during a disaster; green circle = area to encourage new development; red crosshairs = areas to discourage development; purple circle – area for resilience improvement; red lines = emergency arteries / evacuation routes; Yellow sticky with red star = location of community event.

***In addition to hazards described above, participants also highlighted the following on the maps:***

**Vulnerabilities:** To the extent possible, participants identified potential vulnerabilities from the hazards of most concern. These were identified on the map, and included: Newcastle library prone to flooding, location of existing and planned government facilities prone to flooding, sustained shutdown on Centennial bridge in near future, transportation of food potentially vulnerable, an area surrounding fuel storage tanks, and other vulnerabilities identified (depending on hazard) with : nursing homes, fire stations, police stations, bridges, NB Power facility, and water treatment/pumping.

**Assets for resilience:** Miramichi uses Sentinel system and aims to encourage people in the community to register to receive notifications. Curling ring and fire hall identified as emergency shelters by one group. The City of Miramichi noted that during the first day of the recent ice storm, there was no heat in emergency shelters and alternate temporary locations were identified. The designated shelters would be assets if they had generators installed.

**Adaptation/Resiliency improvements:** Participants denoted possible infrastructure improvements; designated emergency shelters and back-up power (e.g. potential solar on buildings); areas where development should be discouraged, as well as areas to encourage development and build back better (areas that are not vulnerable to known hazards and are accessible). Participants Got into a discussion regarding land use planning and the role in resiliency, and explored a few examples of the impact of planning, such as communities with only one access road, or developed areas with smaller brooks flooding that hadn't previously flooded as far as people can remember, and increase in overland flooding from increased rain event severity. It was also noted how difficult it can be to discourage development in flood prone areas.

**Emergency arteries:** Participants were able to draw primary emergency arteries, and some secondary / alternative routes for emergency vehicles, evacuations, etc. However, in the City of Miramichi it was noted there is a need for an alternative route on the North side, particularly with one of two bridges connecting the North with the South side (where the hospital is) being shutdown for repairs.

**Community Engagement:** Participants selected a venue to engage their community.

At the end of the exercise participants shared highlights from their table discussions:

- King George Highway from one bridge to the other – discussed upcoming issues when the Centennial Bridge is shut down. Will cause problems for emergency vehicles, gridlock, access to hospitals, and additional vulnerability of one lane bridge going to Fredericton.
- Road upgrades should include bike lanes when they are refurbished to help with the mitigation side of the issue. Wider roads could also be helpful for emergency vehicle movement.
- Many community buildings that were big enough to be used as warming centres had no back-up power.
- There have been a number of smaller events over the past years that have enabled the city to get some upgrades and move awareness forward, and the most recent ice storm was a very good learning opportunity for the city.
- Discussion at one of the tables commented that many of the buildings/industries that could have caused issues or been at high risk have been demolished and are now brownfields.

Some issues that were identified:

- Need buy-in from Council/politicians to support staff with future planning
- Need a solid plan, follow it, and support for it.
- Need financial support to upgrade infrastructure and systems.
- Need an alternate traffic plan

## Action Planning:

These results are captured from a rapid-fire action planning exercise, where participants are asked to mark on a sticky, based on earlier discussion, what they think the key needs are / what are some key goals and possible actions that can be taken. The answers are then read out loud and collected and arranged in categories onto a panel. The result is useful to identify unique and common needs, potential goals, and to synthesize participant's recommendations for actions, throughout the workshop, described here:

### Goals *(These goals are based on the needs identified by participants, and are grouped thematically)*

- a) **Communication and Preparedness:** Improved notification/emergency awareness; community champions engaged to help their communities advance resiliency efforts.
- b) **A reduction in vulnerability:** municipalities have established heating and emergency shelters, have multiple escape/evacuation routes; have a budget/funding in place to support resiliency efforts, and reserve funding for emergencies.
- c) **Plans:** Communities have all hazard plans (and for each hazard) with input of multiple stakeholders and support of council, are reviewed regularly, and are used to inform investments in resiliency.

**Actions** *(These actions were identified by participants, and are grouped thematically)*

- a) **Communication:** Emergency App (e.g. an App that shows power outages, fire locations, other emergencies); a Facebook site. Identify and recruit community champions.
- b) **Reduce Vulnerability:** Need to know and get ready potential emergency shelters, need to look at alternatives for road access to the city in and out, develop an alternate traffic route on North side of river. Need to establish warming centres, industrial generators, evacuation plans/emergency routes due to Bridge closures. Plan and budget for backup power, and to make infrastructure more resilient. Ensure pet-friendly emergency shelter space. Ensure potential centres are available and operational. Organise food distribution/timing of meal preparation during an emergency, consider the volunteers.
- c) **Plans:** Plan for as many type of events as possible and expect the unexpected. Have a general plan and plan for specific events; Strategic planning with multi-stakeholder input, obtain buy in from Council to support plans/decisions of staff for future planning. Update hazard specific plan to include current weather trends. Review plans more frequently. Provide proper funding for emergency planning and related costs associated to emergencies i.e. equipment

## Summary Feedback / Evaluation Forms

**What they liked best:** Participants liked the Good discussion, the opportunity to talk with others, Meeting with professionals involved in emergency management, and the Table Top exercise.

**What they liked least:** Nil. N/A. Time of day. Poor turnout (disappointing).

### **Biggest insights that emerged from this workshop:**

- Good discussion on what hazards to identify and the probability of high, moderate, low
- Number of risks in our community
- Need for action and be prepared
- Disaster Planning
- The city is looking at planning and to get plans more operative
- More money needed
- Need financial support

### **Actions that may be taken as a result of attending:**

- Ensure proper plans are in place
- More discussion with city council re: emergency planning
- Work toward a plan in general / integrate resiliency
- Update emergency plans, plan for resiliency, apply for funding
- Keep involved with MREAC to do what I can to assist
- Take ideas to my smaller community

**Will the material help advance resiliency planning / projects in your community region:** Most indicated Yes. One is uncertain.

### **Further recommendations / feedback:**

- Good session
- Make good planning decisions that may be impacted by climate change.
- Good actions were identified
- Thanks
- Great meeting

### **Participants:**

Darren Row, City of Miramichi  
Jay Shanahan, City of Miramichi  
Randy Hansen, City of Miramichi  
Paul Fiander, City of Miramichi  
Harry Collins, MREAC  
Tim Hamer, MREAC  
Nelson Cloud, Angotum  
Christy Arseneau, Wanigan Consulting