

Environment and Sustainability Committee
May 5, 2011

TO: Chair and Members of the Environment and Sustainability Committee

SUBMITTED BY: 
Phillip Townsend, Director, Infrastructure and Asset Management

DATE: April 6, 2010

SUBJECT: Climate Change Workshop – Eastern Passage/Cow Bay

INFORMATION REPORT

ORIGIN

The report originates from:

- The Climate SMART (Sustainable Mitigation and Adaptation Risk Toolkit) project. In particular, the *Climate SMART Community Action Guide to Climate Change and Emergency Preparedness (2010)*; and
- Funding received from Nova Scotia Environment's (NSE), Climate Change Directorate's *Climate Change Adaptation Fund*.

BACKGROUND

In 2003, the Climate SMART (the Sustainable Mitigation and Adaptation Risk Toolkit) program was initiated in response to community concerns regarding global climate change and the impacts being felt in the Region. The goal of the Climate SMART initiative was to develop management and planning tools to prepare for climate change impacts, and to develop strategies to reduce practices that contribute to climate change in the first place. A number of tools were created and completed by 2007, including the *Climate SMART Community Action Guide to Climate Change and Emergency Preparedness* (Community Action Guide). Climate SMART is an ongoing initiative that requires regular updating and review to reflect the current state of global climate change and emerging technologies. It also requires regular communication and education opportunities within the Region to get the message out to the community.

As part of communicating the contents of the updated Community Action Guide and working with the community to prepare them for climate change emergencies, the Sustainable Environment Management Office (SEMO) and Halifax Regional Municipality's (HRM) Emergency Management Organization (EMO), submitted a joint funding application to the Province of Nova Scotia Climate Change Directorate's, *Climate Change Adaptation Fund*. HRM was awarded funding to further the goals of the Community Action Guide through a project titled: **Public Participation Vulnerability Mapping Project, Halifax Regional Municipality – Pilot Project Eastern Passage/Cow Bay**. A community engagement session was held as part of this project on February 17, 2011, at Fisherman's Cove Interpretive Centre. A report with the results of this project has been prepared for the Province and has been attached for information.

DISCUSSION

The **Public Participation Vulnerability Mapping Project, Halifax Regional Municipality – Pilot Project Eastern Passage/Cow Bay**, was intended to build on the Climate SMART Initiative. The project focused on engaging an HRM community to take initiative in the creation of a Climate SMART Community Action Plan, the process for which is outlined in the *Community Action Guide*. The guide encourages communities to come together and develop Climate SMART Action Plans to help prepare for, respond to and recover from climate change related emergency events.

Since the development of the guide in 2007, HRM is not aware of any communities that have taken on the initiative to create such a plan. Therefore, SEMO identified a need to bring an up-to-date version of the *Community Action Guide* to the community to promote this resource and to start them in the process of creating such a plan, through the active engagement of residents in mapping risks, vulnerabilities and resources for their communities. This project also provided an opportunity for HRM to gain helpful community knowledge relating to climate change impacts (i.e. from extreme events, erosion of property) from individuals who live in the area, for use in Emergency Preparedness Planning.

SEMO and EMO teamed up to update the *Community Action Guide* (2010), present the guide to Joint Emergency Management (JEM) Teams in rural HRM, created a methodology for engaging communities in creating risk, vulnerability and resource maps for their areas, and held a pilot session to test this methodology in Eastern Passage/Cow Bay on February 17, 2011. In the *Community Action Guide*, identifying risks, vulnerabilities and resources is the first step after establishing a community team, in developing a community-specific Climate SMART Community Action Plan.

This initiative helped bring attention to the Community Action Guide, created relationships between SEMO, EMO, Councillor Barkhouse and community members, and has allowed HRM to develop a creative process that allows us to help communities help themselves prepare for and respond to climate change emergencies in their areas.

The community members in attendance at the session on February 17th, worked together to help identify the following on maps:

- specific areas (buildings, activities) where damage/impacts from past emergencies with natural weather events have occurred (i.e. Hurricane Juan, Hurricane Earl, heavy rains, storm surge events, forest fires);
- specific residents that are vulnerable to emergencies (i.e. seniors, those without transportation, single parent families, families with small children);
- specific residents/buildings/facilities that are particularly exposed to hazards (i.e. located on the coast, in a flood plain, in low lying areas, on a hill); and
- any sensitive natural environments in the community that are vulnerable to climate change emergencies (i.e. wetlands, beaches, forested areas).

Other:

- Potential safe places in or near the community (i.e. community centres, churches, fire halls);
- Evacuation routes; and
- Location of equipment for sharing.

Through the exercise, Eastern Passage/Cow Bay residents were able to gain a better understanding of how climate change relates to them, and how to adapt to and prepare for climate change impacts and emergencies in their communities.

The community knowledge that was gained through this exercise will also be used as a valuable tool for HRM's EMO in preparing for climate change related emergencies in this specific area. The methodology developed and *HRM's Community Action Guide to Climate Change and Emergency Preparedness (2010)*, could be applied in other communities around HRM and across Nova Scotia.

In the future, SEMO plans to revisit the area of Eastern Passage/Cow Bay (anticipating a fall 2011 timeline) and to take this methodology to other communities in HRM. The goal would be to visit four communities a year to undertake such an exercise.

The following table outlines how the goals of the **Public Participation Vulnerability Mapping Project, Halifax Regional Municipality – Pilot Project Eastern Passage/Cow Bay** project were achieved (full report can be found on the SEMO webpage referenced under Attachments):

Goals and Outcomes

Goal: To update the 2007 version of the Climate SMART Community Action Guide to Climate Change and Emergency Preparedness to 2010.

Outcome:

- Update was completed in December 2010. Report is now available on HRM Website at: http://www.halifax.ca/climate/documents/ClimateSmartGuide_Final_PressRes.pdf
- The guide was updated to the current situation.
- The format of the guide was also changed to make it more of a “pocket guide”, as opposed to the original which was printed on 8.5 X 11 sheets of paper.
- The guide utilized a coil binding, so that as residents or communities went through the guide they could easily keep it open to certain sections, allowing them to go through the processes identified on specific pages.

Goal: The provision of *Community Action Guide* presentations to four Joint Emergency Management (JEM) Teams in HRM to create relationships and encourage the development of Community Action Plans in their communities.

Outcome:

Presentation was prepared and provided at the following four locations:

- **Eastern Shore – October 6, 2010 at 7:00 p.m.**
- **Musquodoboit Valley – October 25, 2010 at 7:00 p.m.**
- **Sheet Harbour - October 18, 2010 at 12 noon**
- **Tantallon – October 13, 2010 at 6:30 p.m.**

These meetings allowed for an informative presentation on the contents of the *Community Action Guide*. Through this, HRM was able to work with the JEMs to draw on parallels between their mandates, and what a Climate SMART Community Action Team is meant to do.

Valuable discussions on climate change impacts in these communities occurred. The discussions often centered on experiences in these communities, particularly those related to extreme events and loss of property due to erosion.

The difference in the understanding of climate change impacts varied, especially between the coastal JEMs and the inland JEM of Musquodoboit Valley. It was apparent through these sessions that coastal communities have a good understanding of climate change as they have seen its impacts over many years of living in these areas. Both types of communities had a lot of valuable information to share.

While the presentation given was about 30 minutes in length, the sessions generally lasted upwards of two hours, including the valuable discussions.

After the presentation in Tantallon, HRM was requested to provide the same presentation for the *Prospect Citizens on Patrol Group*. This group has expressed interested in moving forward with creating a Climate SMART Community Action Plan. A presentation was given on **February 10th, 7:00 p.m.**

Goal: The creation of a clear and concise methodology that can be used in HRM communities and other communities in NS, to work with neighbours to map risks, vulnerabilities and resources in their areas. SEMO or EMO will be a resource in helping other communities undertake such exercises.

Outcome:

- A presentation was developed to present a clear purpose of the community engagement exercise and explain the logistics and approach to be utilized in the session (Appendix B). This was in line with HRM's Community Engagement Principle – the Purpose and Process was clear to all participants.
- In consultation with EMO and a Dalhousie School of Planning Student, SEMO developed the requirements for community maps that would be used to identify risks, vulnerabilities and resources. Maps utilized for this project, at a minimum should include:
 - Roads (including street names);
 - Buildings; and
 - Major Environmental Features (lakes, rivers, wetlands, ocean, beaches).Additional features that could be included are:
 - Aerial photo;
 - Identification of critical facilities; and
 - Civic numbers or Property Identification Numbers (PIDs).

Note: *It is realized that not all information is available for certain areas. Therefore, maps can be adapted to what information is available for a specific area.*

- Maps were split up into different sections to keep them at a scale that the community could use to identify different features and buildings. Maps utilized for our exercise in Eastern Passage/Cow Bay used a scale of 1: 3,530.
- A larger map was visibly available in the room, this map was split up into sections and numbered (i.e. A1, A2) so that participants could find the map for the area in which they reside (maps were on different tables throughout the space). A volunteer was at this map to help participants find their area and guide them to their table.
- Residents were encouraged in an opening presentation and by the facilitators at their tables to move to different areas after completing the exercise for the location closest to their home, because they also may have valuable information about other areas in their community.
- At least two maps were provided for each location to avoid a map getting too 'messy' and therefore, discourage participants to add more information. The two maps were broken up by Built and Natural Vulnerability, and Social Vulnerability.
- In consultation with EMO and a Dalhousie School of Planning Student, SEMO developed a basic checklist of risks, vulnerabilities and resources that HRM hoped the community could identify to help them better understand their community's relationship

to climate change (see **Appendix C**). This also was to ensure that the process was clear to all participants. SEMO representatives, an EMO representative, and volunteers from Dalhousie School of Planning, Bachelor of Community Design Program, helped to facilitate the session. Two volunteers were sitting at each table to help guide participants through the process where required and facilitate discussion around climate change impacts and opportunities.

- Maps were placed on large tables. Tables should preferably be round to allow for interaction and discussion and to ensure that, as per HRM's community engagement principles, everyone potentially affected by the process has an opportunity to become involved. In this case, a round table ensures that all participants are close to the map and have an opportunity to participate. Also on these tables were copies of the checklist sheets (Appendix C) and a list of Key Definitions (Appendix D) to help in participants' understanding of the exercise. Pencils, crayons, pens, markers, sticky notes and other tools to help identify risks, vulnerabilities and resources were also at the tables.
- Volunteers also took notes on comments being made that may not have necessarily been captured on maps.
- Evaluation Forms were filled out and reviewed at the end of the process to help in improving the methodology and to evaluate how participants felt about the sessions (see Attached Form and Results – Appendix E). This was in line with HRM's principle of community engagement: The public had an opportunity to provide feedback on the process so that the session could be evaluated and improved for use in the future.
- A sign-in sheet was provided in order to obtain contact information from those who participated.
- Information drawn on maps from residents was taken back to HRM offices and placed into digital maps (GIS) that would be given back to the residents (appendix G – final maps and follow-up to residents). This tool was utilized to ensure that, as per HRM's principles of community engagement, participants were informed of the outcomes of the session.

Goal: To hold a Community Engagement Session to assist in the creation of community maps for the pilot area, Eastern Passage/Cow Bay, delineating risks and vulnerabilities as identified by the session participants. This information will benefit and can be used by HRM's EMO, the communities involved, and the Province of NS in preparing its own vulnerability mapping.

Outcome:

- The Community Engagement Session in Eastern Passage/Cow Bay was held on February 17th, 2011, at the Fisherman's Cove Interpretive Centre;
- There were seventeen participants;
- Three hour time slot allotted (6:30-9:30 p.m.), the session lasted approximately 2.5 hours and followed the structure identified in the above section;
- Food and beverages were provided; and
- Related Prizes (Emergency Kits).

Goal: To build capacity and knowledge around Climate Change related impacts and emergencies in HRM, and to create a better understanding and allow for better decisions regarding adapting to climate change and climate change related emergencies. It will help communities address

potential threats to personal property, community facilities, and vulnerable people, places and things. It will provide opportunities for community empowerment, through ensuring that the community has a good understanding of potential threats, impacts and how to protect themselves and respond to such impacts.

Outcome:

- Copies of the *HRM Climate SMART Community Action Guide to Climate Change and Emergency Preparedness* were printed and distributed to each participant;
- Red Cross Emergency Kit prizes were awarded to three participants. These kits included those things listed in the *Community Action Guide to Climate Change and Emergency Preparedness*, as required for an Individual Emergency Pack and Equipment (p.33);
- A participant evaluation form was handed out at the workshop and was completed by fourteen participants. One of the questions asked was: *Did you feel you gained a greater understanding of climate change impacts as a result of this meeting?* Only one 'No' was received in response to this. Eleven participants indicated 'Yes' and two individuals did not select 'Yes' or 'No'.
- Participants made several calls to the municipality after the meeting to discuss taking the Community Action Guide suggestions further. In particular, a few community members wanted to start getting a list of 'vulnerable' residents names and phone numbers together and work on a plan to help them in emergency situations (this is part of a Climate SMART Community Action Plan). One participant also sent a letter with images and news articles about climate change over the past several years.
- Thank-you emails and letters were sent to participants (Appendix F); and
- Final Maps were the results of the session, and were provided back to the residents through email and mail (Appendix G).

Note: The staff resource dedicated to this project unexpectedly resigned her position with HRM effective April 29, 2011. This, unfortunately, will result in a disruption to the project. It is anticipated that replacement staff will be able to continue this work within calendar year 2011 and complete the work with the community within the fiscal year.

BUDGET IMPLICATIONS

This work is delivered within the operating budget D935 - Sustainable Environment Management Office.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Project and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Project and Operating reserves, as well as any relevant legislation.

COMMUNITY ENGAGEMENT

This work is all about engaging communities on Climate Change Adaptation. The community engagement session held in Eastern Passage/Cow Bay on February 17th, 2011, was in line with HRM's *Community Engagement Strategy* and the principles within. Community members who attended the session were requested to complete a feedback form to comment on the session. The feedback was generally excellent with residents commenting on feeling heard regarding their concerns about impacts of climate change on their communities through the methodology and format of the session.

ATTACHMENTS

Attachment One: **Conclusion 5.0: Public Participation Vulnerability Mapping Project, Halifax Regional Municipality – Pilot Project Eastern Passage/Cow Bay** (full report on [WWW.halifax.ca/environment/semohome.html](http://www.halifax.ca/environment/semohome.html) under heading Clean Energy/Climate Change - one of the last two documents on the list)

Attachment Two: Due to the size of this attachment, it has been saved to <http://www.halifax.ca/environment/semohome.html>, under Clean Energy/Climate Change section - one of the last two documents on the list.

A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/cc.html> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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5.0 CONCLUSIONS

Overall, HRM believes that this project allowed us to get the word out on our Community Action Guide to Climate Change and Emergency Preparedness (2010) and actively engage the residents of Eastern Passage/Cow Bay in working together to adapt to climate change through a creative exercise to map their risks, vulnerabilities and resources.

The updated guide provides valuable information to be used by the community and is a great resource for communities not just in HRM but throughout Nova Scotia. Presentations of this guide to four HRM JEM teams, have started a discussion of how JEM mandates and the emergency preparedness work they are already doing fits in with the goals of the *Community Action Guide*. It has also created a discussion on how climate change is related to the impacts that have been experienced in rural HRM in the past.

HRM believes that through our pilot project in Eastern Passage/Cow Bay, we have developed a valuable methodology for use in other communities within HRM and in other areas of the Province. Without citizen participation, however, the pilot session would not have been successful. The information gained from the residents of Eastern Passage/Cow Bay is valuable to how our organization could work with residents in the future to educate about Climate Change adaption and how we can help them consider emergency response in their communities. Communication is key to getting residents to these meetings and engaging them in the issues. HRM's plan is to take this project further in the future, not only by reaching out to other communities but also by going back to Eastern Passage/ Cow Bay to involve even more residents. The feedback received at the meeting from the volunteers, Councillor Jackie Barkhouse, HRM staff and residents was excellent. The evaluation form results can be seen in Appendix E, which describe how community members in Eastern Passage/Cow Bay received the exercise.