

Port Elgin Coastal Workshop Report

Summary of discussions from event held Tuesday, February 15th 2011

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Introduction

A coastal workshop focusing on the Village of Port Elgin was organized by the Tantramar Planning District Commission (TPDC) on February 15, 2011. This workshop was the third in a series of sessions on coastal issues that have been held since the January 2/3, 2010 storm surge event which caused significant damage to the Tantramar coastline from Cape Tormentine to Baie Verte. The region experienced two additional storm surge events in 2010 (October and December) which also caused some damage to area properties.

TPDC is leading several planning initiatives in the region:

- Revision of the Port Elgin Municipal plan and by-laws (due 2011);
- Creation of the Tantramar Rural Plan (in process, due for completion in 2011);
- Creation of *Picture Port Elgin (PPE)*, the integrated community sustainability plan funded through the Green Municipal Fund (to be completed March 2011); and
- Development of *Tantramar 2040*, a regional sustainability initiative that includes Port Elgin, and the unincorporated areas of Tantramar.

As such TPDC organized a series of three coastal discussions for area land owners. The first was held in April 2010 at the Port Elgin Regional School with guest speaker Gary Lines, a Senior Climatologist with Environment Canada. Mr. Lines presented the latest in climate science, including predictions for temperature, sea level rise, and occurrence of weather events in the region. Approximately 30 community members attended.

The second event was held in July at the Baie Verte Community Hall with approximately 30 residents in attendance. Amanda Dean from the Insurance Bureau of Canada and Laurie Collette from the NB Department of Environment spoke about associated policies and regulations related to coastline damage.

Participants

Due to (another) winter storm, attendance at the coastal workshop was less than expected. However, approximately 25 people participated including the majority of the Port Elgin Village Council, Port Elgin EMO, Port Elgin Public Works staff, several community members from the Tantramar region, and other interested people.

Purpose of this Workshop

Participants were gathered to conduct a community vulnerability assessment of Port Elgin to coastal challenges. The workshop was based on a process adopted from the National Oceanic and Atmospheric Administration by the Newfoundland Department of Environment (2010-2011) as part of the Atlantic Climate Adaptation and Solutions Association.

Information and Resources

The Workshop began with round table introductions of participants followed by a 15-minute introduction to climate change issues and the latest projections for the region. Several maps (current land use, zoning, municipal boundary and servicing, well-field location, etc.) were provided for the table top exercise. Historical maps as well as current day events were used to illustrate coastline erosion issues in the immediate vicinity. Maps of areas outside of Port Elgin were also made available, as were the Port Elgin Emergency Measures Plan, and sea level rise estimates for the area. Probably the most valuable of all, local knowledge was the key resource used to address the seven steps of the community vulnerability assessment.

Seven Step Vulnerability Assessment

1. Identifying Issues and Impacts

Participants were asked to identify the key coastal issues that they have faced, are currently dealing with, and may be facing in the years to come. As well participants were asked to identify the impacts of these issues.

The general consensus is that Storm surges are considered the most significant coastal issue for the Village; followed by intense rainfall events. Also identified as issues were wind storms, hurricanes, and increased wave action. Coastal Erosion was considered the most significant impact resulting from the issues, with flooding the next most reported impact.

Participants felt that these issues usually happened in the fall or winter of the year, and that the community was most susceptible during a moon tide when winds were from the **east northeast**. Participants also felt that these issues were happening more often than in the past (from 1 storm surge event in 5-10 years, to 3 in 2010 alone). Local residents also felt that there have been abnormally high tides between moon phases in the past year.

The impacts on the community from these storms have been far-ranging from damage to roads and infrastructure, damage to personal property and businesses, and threat to human life (there was an emergency evacuation of one family last January).

2. Locations of Impact

Using the maps provided, participants were then asked to identify where these events had impacted the community. From discussion, there was obvious understanding that the areas on higher ground were less vulnerable than the properties immediately along the coastline or in low-lying areas. Parts of the downtown business district had been impacted by the storm surge and flooding events in 2010.

Factors that were identified to have made (or had they been in place would have made) a difference to the community include: shape and slope of the coastline, coastline protection devices (dykes?), type of shoreline (gravel, rock, or sand), amount of vegetation, and land use planning regulations. The severity of the storm, wind direction, and tide height are also critical factors in how the community is impacted.

3. Facilities and Infrastructure Assessment

Participants were asked to identify the facilities on the maps provided and offer more detailed information on each facility in the table provided below.

Key Facilities	Potential Impact from Coastal Issues?	Key characteristics of facility (age, ownership)	Is the facility in need of repair, replacement or upgrade?	Identified Emergency Shelter
Lagoon	Flooding	> 35 years municipally owned	Yes – rock, cement blocking	
Lift Stations (3)	Flooding	> 35 years	2 used upgrading, one being upgraded	
Nursing Home	none		no	Yes – has rooms, kitchen, generator
School	none		No – has rooms, cafeteria, communications, etc.	PRIMARY EMERG SHELTER
Fire Department	Possible flooding	Village	Yes – funding required	
Village office	Possible Flooding	Village owned - >100 years old	Yes – communications system	
Main Street business district	Possible flooding	Rebuild 30 years ago		
Wharf		Recently repaired, not damaged in storm surges in 2010		
Hiking Trail	erosion		Slowly being lost	
Walking bridge	Surges/ice damage		Damaged in surges	

Participants also noted that the cribwork along the river is mostly gone at this point and that several buildings, homes and cottages have sustained damage in recent events.

4. Social Assessment

Those most affected by coastal issues are those people in isolated areas of the town and potentially seasonal residents in cottages along the coastline which are accessed by private roads that may be prone to flooding or washout. There are also several homes that are situated in low-lying areas in Port Elgin which will be more susceptible to the impacts of flooding.

The main barriers to receiving help during storm or flooding events are access to transportation, being cut off from transportation routes, or maintaining an adequate food supply if businesses or transportation corridors are impacted. Seeking and receiving financial aid for damaged property is also a barrier to the community members.

The Village of Port Elgin does have an Emergency Measures Operations Plan in place however there are no financial supports within it. An evacuation plan identifies the Port Elgin Regional School as the best place in the community to accommodate displaced members as it is large, on higher ground away from the coast, and has adequate kitchen and bathroom facilities. There is one significant heritage area in the Village at Fort Gaspereau which is maintained by Parks Canada.

From a social perspective, increased storm activity, storm surge events, flooding, etc. will impact the community members in a number of ways: flooding of the lagoon could lead to possible contamination of water supply, human health and safety issues with any events, as well as the stress and fear that is experienced during the event and in the aftermath of it.

When asked “who in the community can help?” participants suggested that the entire community (young and old) would be expected to play their parts. Local police services are sporadic and based out of Sackville. There is a volunteer fire brigade that will respond as needed to emergency situations. As well, there are additional volunteer fire services in Cape Tormentine, and Pointe de Bute. Service clubs such as Rotary and church groups would also play vital roles in aiding community members in emergency situations.

5. Economic Assessment

Participants then discussed the key industries in Port Elgin at the current time and mapped out locations of the major business players. There was wide agreement that the manufacturing industry (primarily Atlantic Windows) was a key component to the local economy. Similarly retail (e.g., Coles) and service (bank, restaurant) industries were also deemed essential. In reality, all businesses in Port Elgin represent important economic drivers in the small community. Further, the surrounding region’s natural resource industry (agriculture, forestry and fisheries) also makes a significant contribution to Port Elgin. It is hoped that all these businesses, plus new

ones, will continue to be significant in Port Elgin's future and have a positive impact on the Village's tax base.

Threats from climate change, such as sea level rise, increased storm surges and flooding risk may result in the loss of some businesses. If tools, products or supplies received significant flood damage, with or without insurance assistance, some businesses may be forced to close. As such, climate issues have the potential to have a very negative impact on the municipal tax base.

The most significant weaknesses in the economic sector related to water and climate issues is the fact that there are so few businesses and depending on location may be vulnerable to water-related impacts (flooding, erosion, wind damage).

The option suggested to reduce potential harm was to rebuild the existing dyke and cribwork to protect against some of the threats.

6. Environmental Assessment

Participants then identified possible hazards, toxic sites, environmentally sensitive areas, natural risk areas, wetlands, sites of endangered species, and protected well field areas.

The main environmental issues experienced in recent years include the damage to the coastline from storm surge events, flooding of the lagoon, and boil water orders (not frequent, but do happen). All participants felt, given their understanding of the issues and their own experiences, these issues would occur more frequently in coming years. Participants did not feel there were sites of hazardous waste in the community that were vulnerable, however, the location of the lagoon on the edge of the river is the primary source of concern from an environmental perspective.

7. Solutions and Adaptation Options

In the final stage, a full-group discussion took place so that participants could discuss between groups their priorities and options for adaptation. Five questions were posed and the responses are as follows:

- 1) **Considering all of the coastal and water discussed in the steps 1-6, what are the most important?**
 - storm surges
 - heavy rain
 - location of lagoon
 - erosion

- 2) **Has the community done things in the past that have helped to reduce the impacts of this issue?**
 - EMO, Rocks, putting cribbing back, dykes
 - cribbing as an option maybe sought as a village, but not as effective if done on a parcel by parcel basis.
 - EMO Plan, EMO information to residents, rebuild dykes, low lying cribwork.

- EMO plan, riprap, dykes, cribwork – as a village in vulnerable areas (but this is really just temporary solution?)
- 3) Did certain things work better than others? If yes, what were the most effective measures?**
- cribbing worked to a degree
 - Educate Educate Educate community members on coastal issues and climate projections. They need to know the risks and understand them before making decisions about their properties.
 - Communications – Very important – Port Elgin area takes into account Cape Tormentine to Baie Verte.
- 4) Are there things have you tried or wanted to do but couldn't because of various barriers or challenges?**
- Lagoon – building restrictions in and around it.
 - High tides are above cribwork – so it won't work for flood prevention.
 - Financial barriers – need radios, computers, smart boards and a generator for EMO tools.
 - Regulations do not allow landowners/village to do some things – DFO and crown land issues
 - Rip rap along coastline and cribbing along bank of river work to prevent some degree of erosion, but are not effective in dealing with storm surge.
 - Suggested to fill in ditch beside Murphy property (used to drain uplands) to reduce river water inundation during storm surge. Possibly put in a pipe to allow fresh water outflow into river, but valved so water can't come back up the pipe.
 - Dredging the river
- 5) Given what we know today, what are the best options for addressing the issue?**
- More government financial assistance to help make the best decisions for the community.
 - Rezone, restrict building in certain areas identified as highly vulnerable.
 - Create regulations around building in sensitive areas – construction would need to meet certain standards such as minimum elevation for new construction.
 - We need good baseline data and better monitoring of tide levels – we don't even know where the high tide level is, or where it has been historically. How can we plan without the data? Tidal gauge is \$1500-\$2000, weather station at Port Elgin (provincial jurisdiction), coastline erosion rates, etc.
 - We need accurate and up-to-date mapping through digital elevation models.
 - We need to have sea level rise scenarios run on digital maps so we can see vulnerable areas beyond single storm surge events.
 - For EMO, we need radio communications system in the region (between Port Elgin, Cape Tormentine, Baie Verte and Murray Corner)
 - expand municipal boundaries
 - address issue of lagoon and its location on the edge of the river.

Summary

The questions and activities were addressed by three small groups in the workshop. Due to weather issues, various participants could not make the event and as such, facilitators were not available at every table. The workshop results outlined above are based on the participants understanding of the questions and time factors in getting through the workshop. While the responses presented in this report do not necessarily represent a unified perspective from the Port Elgin community, it is the first step in having conversations about what the community can do to be proactive in the face of imminent climate change impacts.

The TPDC will use the direction provided from this workshop as well as discussions in other coastal sessions to draft recommendations that will help Port Elgin and the broader Tantramar region work toward adapting to climate change impacts.