

“Building a Better Boardwalk”

What to do about Le Quai Mathieu



**Report of a workshop held February 13-14th, 2012
Cheticamp, Nova Scotia**

Part One introduction

The Community

Chéticamp is a coastal community on the northwestern shore of Cape Breton Island. Its intimacy with the sea is apparent when one notices that most of the community's infrastructure, businesses, and residents are within a few hundred metres from its shallow sheltered harbour. Chéticamp has been a fishing port since the 1770s, primarily for French Acadians.

Local fishermen have adapted to changes in their industry for centuries. However, as the fishermen and fisheries change, so does the community. Since the collapse of the cod fisheries in 1992, tourism has become Chéticamp's main industry. Most residents say that the community is so closely tied to these two industries that one cannot survive without the other.

About the Project

The Ecology Action Centre (EAC) launched the "*Coastal Communities Adapting to Climate Change*" project in April 2011 with funding from Canada's Rural Secretariat. The goal of the project is to assist the fisheries and tourism sectors identify risks and opportunities associated with climate change and develop sector specific adaptation tools. The project seeks to identify and remove barriers to competitiveness that climate change may bring to rural coastal communities, and share the knowledge and tools developed in Chéticamp with other communities in the region.

For this project, the EAC works closely with local partners such as the Conseil économique de Chéticamp, the Chéticamp Tourism committee, and the Chéticamp Harbour Authority, Cape Breton Highland's National Park, the local radio station CKJM and the Conseil de développement économique de la Nouvelle-Écosse. The project team also collaborate with a wide range of partners, including municipalities, provincial government departments, and other agencies from around Cape Breton and throughout Nova Scotia. We want to acknowledge and thank our partners as their involvement makes our work possible. A full list of project partners is included in Appendix C of this report.

The project duration is between April 2011 and March 2013. The project community engagement and research activities take place in the area between the Park boundary (CBHNP) and Cape LeMoine.

The climate change adaptation in Cheticamp project supports a variety of community learning events, such as workshops and forums, as well as the production of fact sheets, reports, and other learning material. Please visit www.cccheticamp.ca to learn more about our work, or obtain electronic copies of our materials.

About the EAC

The Ecology Action Centre (EAC), founded in 1971, is Nova Scotia's most active environmental organization. Our vision is a society in Nova Scotia that respects and protects nature and provides environmentally and economically sustainable solutions for its citizens. The EAC approaches its work through research, community engagement and outreach, policy analysis, advocacy, partnership and collaboration, and demonstration projects. We provide sound, well researched, alternatives for environmental challenges facing Nova Scotia communities.

The "Coastal Communities Adapting to Climate Change" project falls within the Coastal and Water Issues Committee (CWIC). Please visit ; www.ecologyaction.ca/content/coastal to learn more about our ongoing work.

The workshop

Throughout the first months of the project, the Chéticamp boardwalk and attached Quai Mathieu surfaced as a priority issue for the tourism sector and the community at large. The Chéticamp boardwalk is located in the heart of downtown Chéticamp, adjacent to the Harbour. The boardwalk has suffered significant damage due to storm events within the past decade. The community wants to make sure it has the right knowledge, skills and resources to adapt the boardwalk to future climate change and storm events, and ensure the sustainability of this important piece of coastal infrastructure.

On February 14th 2012, the Ecology Action Centre, le Conseil économique de Chéticamp, and Le Comité de coordination touristique de la Région de Chéticamp, held a one day workshop called "Building a Better Boardwalk: What to do about the Boardwalk/Quai Mathieu?". The workshop was preceded, on the evening of February 13th, by public presentations about climate change and coastal erosion.

The one-day workshop was attended by 17 people. The participants included local residents and leaders from the community's tourism, financial, economic development, fishing, and cultural sectors, as well as a municipal councillor. A full list of participants is included in Appendix B of this report.

The workshop goals were to:

1. Present future climate trends (including sea level rise and extreme weather events) and their potential impact on the boardwalk;
2. Provide information on different present-day options or practices for dealing with these issues;
3. Identify information, technology and/or research needs to reduce the boardwalk's vulnerability; and
4. Identify community priorities and capacities for further research and action.

Part 2 - the Workshop

Workshop Overview

Public Presentations, February 13th 7 -9 pm

As a preface to this workshop, public presentations were held on the evening of February the 13th 2012. The two presentations, focused on the topics of climate change predictions for Chéticamp and coastal erosion in Chéticamp, were given by Will Green of the Nova Scotia Climate Change Directorate and Garth DeMont of the Nova Scotia Department of Natural Resources. The presentation titles were "***Climate Change - What does it mean for us?***" and "***Coastal Erosion along the Cheticamp Coastline***". Both presentations

are available online at www.cccheticamp.ca .

What do to about the boardwalk workshop, February 14th, 8:30 – 3:00 pm

The workshop began with a presentation about the original concept for the Chéticamp boardwalk and how it was actually implemented. Following the introductory presentation, participants broke into discussion groups to discuss the importance and functions of the boardwalk in the community.

Vincent Leys, a consultant from CBCL made a detailed presentation on the local wave climate in Chéticamp harbour based on a study conducted a few years earlier. This presentation allowed participants to hear about potential threats to the current infrastructure and ask questions.

After lunch, Mike Davis from Coldwater Consulting talked about how engineering firms are trying to balance risk and probability when designing coastal infrastructure and presented case studies from elsewhere in the world.

Following the presentation on design considerations, the participants were introduced to three potential scenarios for dealing with the Chéticamp boardwalk/Quai Mathieu. Scenario 1. Fix Up and armour the boardwalk; Scenario 2. Redesign the boardwalk, and Scenario 3. Abandon the boardwalk. Participants split into separate working groups to discuss each option. Following the small group work, the entire group discussed which scenario they felt was most practical and effective for the community. At the end of the workshop, participants created a list of next steps for the boardwalk/Quai Mathieu.

Summary of Presentations

Conrad Taves (BASS, M.Arch) Original Boardwalk concept and history
The full presentation is available at www.ccheticamp.ca

After the cod fisheries collapse in the early 1990's, Chéticamp's main economic foothold crumbled and local residents became uncertain about their economic future. Thus, when conceptual plans were laid out, and displaced fisheries workers were asked to partake in the construction of the boardwalk, it became "a beacon of hope for revitalization". The project received media attention, praising Chéticamp's sense of community pride and the Chéticamp Development Commission which spearheaded the project. In 1994, the Chéticamp Development Commission had laid out an eight phase plan for the boardwalk and other coastal infrastructure along its harbour.

Phase 1: Boardwalk and parking lot in the town's core - **Completed**

Phase 2: Boardwalk extension to "La Chaloupe's" wharf - **Completed**

Phase 3: Boardwalk extension between "La Chaloupe" and "Harbour Restaurant" - **Completed**

Phase 4: Wharf Catwalk Construction - **INCOMPLETE** : Irving Oil pier washed away in ice storm and plans to build replica of John Cabot's ship, Le Mathieu, were derailed.

Phase 5: Southwest Expansion Between Quai Mathieu and government wharf- **INCOMPLETE**: due to barriers in securing land ownership

Phase 6: Amphitheatre / Mathieu Complex in front of École NDA- **INCOMPLETE**

Phase 7: Floatation docks off Chéticamp Island and across Plage St-Pierre - **INCOMPLETE**

Phase 8: Travel Lift/Finger piers at LaPointe à Cochon - **INCOMPLETE** - Finger piers were designed, and Travel lifts were purchased, but with work done by Harbour authority this phase was deemed redundant, and lifts were sold.

The cost of the three completed phases was estimated at \$500,000. Each completed phase cost \$500,000 for a total of 1.5 million + The community has made good use of the infrastructure; it has served cultural purposes by hosting Acadian festival events and musical evenings, and it has served as a gathering place for the community to host televised events such as CTV's Breakfast Television.

Sometime after the project (around 2009), the Chéticamp Development Commission folded due to financial complications and disagreements among community members, leaving the boardwalk without an owner or a community group to manage it. However, the Quai Mathieu was purchased by the Credit Union for \$43,000. Following much hard work, le Conseil économique de Chéticamp gained control of the infrastructure, and still controls it today. Since then, the boardwalk has been enhanced with the addition of gateway markers, branding and signage. A partnership with the Credit Union formed in 2011. The Credit Union was committed to costs of repairs/maintenance amounting to \$25,000 over 5 years (2011-2015) to be matched by local businesses.

However, storm events since then led to important damages in excess of the money committed. Since then, Le Conseil économique de Chéticamp organized local support to fund enough repairs to keep the boardwalk in a condition that satisfies minimal insurance coverage for community use. Among these local funders are the local Credit Union, The Chéticamp Kinsmen and the local branch of Atlantic Co-op grocery stores among others.

Conrad Taves has been hired by the Conseil économique to work on a boardwalk concept development plan. The purpose of this phase is conducting the necessary research to begin developing a viable and sustainable infrastructure along the waterfront that will support and enhance the tourism industry, as well as reinforce the relationship between the town's inhabitants and its shoreline.

The objectives of the Conceptual Development Phase are to :

1. Implement a consultation process with the community,
2. Review and consult existing research/experts on issues of climate change,
3. Conduct a site analysis, and
4. Develop strategies for a long term sustainable business model for the operations and management of infrastructure.

Following the presentation, there was general discussion about the overall condition of the shoreline prior to the construction of the boardwalk. There was general agreement that there was a steep bank where the boardwalk is now located. The original construction was also discussed, and whether the boardwalk should be bolted down to the ground on either rock or other solid foundation.

Philip Finck states that the basic problem with the Boardwalk is that its foundations are either nonexistent or in very poor condition, it is in desperate need of repair, and highly vulnerable to future storm events.

Vincent Leys, CBCL Consulting Engineers "Wave Climate and Coastal Protection at Chéticamp".

(Full presentation available online at www.cccheticamp.ca)

In 2007, CBCL Consulting Engineers conducted a wave study for le Conseil Economique de Chéticamp to understand wave exposure at key sites along the Chéticamp harbour coastline. The current boardwalk/Quai Mathieu site was among the 7 selected sites. An important part of the study was how the relatively shallow north-west section of the harbour and the natural rock breakwater at Gros Cap on Chéticamp Island influenced the wave climate within the rest of the harbour.

Climate change will create further risks to the community's coastal infrastructure. Sea level rise is expected to be greater than 1m in the next 100 years and there is loss of ice cover within the Gulf of St. Lawrence. The combination of the two factors will increase flooding risks, cause more frequent wave attack in the winter and accelerate coastal erosion in the Chéticamp area.

There are multiple ways of adapting to these risks. One is to protect the shoreline with artificial armouring and breakwaters. Another is to modify existing structures by raising them to account for future sea level rise. The final method is to abandon the current structures or relocate them further away from shore. Adaptation solutions are site specific, and a mix of options will need to be examined for each location.

Large offshore waves travelling towards Chéticamp harbour are naturally dampened by the shallow entrance and the natural rock barrier at Gros Cap on Chéticamp island, where they break. Therefore, there is little offshore wave energy entering the harbour. The models of the inner harbour's wave climate reveal that the Boardwalk was exposed to storm surge (high water level due to storm winds and low atmospheric pressure) combined with locally generated wind-waves.

The modelling shows that a breakwater at the mouth of the harbour on the Gros Cap shoal would do very little to attenuate damages, since damages are caused by storm surge and wind generated waves. Therefore local, site specific protection is more appropriate and cost-effective than a breakwater across the mouth of the harbour.

The boardwalk has a relatively low elevation, and its present shoreline slope is too steep to effectively dissipate wave energy. The boardwalk is also unstable due to a large gradation in rock sizes, which causes smaller rocks to slip through larger ones and wash away in storms. Damage to the shoreline protection along the boardwalk was uneven at the time of the study, ranging from relatively little damage along the Northern section to severe damage around the Harbour Restaurant and between La Chaloupe and le Quai Mathieu. Water levels came close to the top of the boardwalk, and allowed smaller rocks to be washed away from underneath of the boardwalk.

The November 2001 storm surge was 0.6 meters above high tide, meaning that some wind generated waves were large enough to land over top of the boardwalk. In 50 years, if worse case climate change scenarios play through, storm surge could reach 1m over high tide, and with a 0.5m sea level rise, sea level could be as much as 0.5m over the current top of the boardwalk.

CBCL's recommendations in 2007 were to reinforce temporary repairs to the boardwalk. In the long term, it needs to be rebuilt with engineered armour stone, a gentler slope, and a filter system of rocks to prevent rock from washing away. The boardwalk would also ideally be raised by at least a metre; however this may not be easy to do because the boardwalk has been constructed around nearby restaurants that are already established.

The conclusion is that site-specific protection and adaptation is the best option. However,

adaptable strategies are recommended, since climate change predictions such as sea level rise are likely to change as we move into the future. Costs should also be taken into account. Are the services provided worth the costs of maintenance?

After the presentations, there was a lot of discussion about the breakwater area of Chéticamp Island known locally at « Le Platchet ». There were questions about whether the harbour could be protected through the construction of a breakwater that extends to the red buoy marking the entrance of the harbour's navigational channel. The stone church in town (Église St. Pierre) was made from the rock at the same tip of Chéticamp Island, and there is still enough rock on that tip of Chéticamp Island to fully create a breakwater at comparatively little cost. It was also felt that such a breakwater would also prevent sediment from blocking the harbour's navigational channel. Mr. Leys responded that even with a breakwater across the mouth of the harbour, infrastructure and coast would still be vulnerable to storm surges and wind-generated waves within the harbour.

During this conversation, the point was made that La Digue is properly protected from larger ocean waves, and that there is no risk of damage there. La Digue's wharves are built on a crib, and had the Boardwalk been built and bolted down on a crib, the Boardwalk would not need to be raised any further. Mr. Leys states this may be correct as long as the Boardwalk is raised enough already to prevent water overtopping; nonetheless, he still advises that people be kept off the Boardwalk during stormy weather.

Sediment transport was not part of the original wave study, however, Mr. Leys is able to show through pictures how sediment from the dredge spoils (from the navigational channel) were gradually washed away until they formed « the Bar » around 1975. Mr. Leys states that later pictures (from 1975 onward) show less change due to sedimentation, but notes that it can be seen that the Gros Cap natural breakwater is obviously eroding.

Michael Davies, P.Eng., Coldwater Consulting Ltd. "Case Studies of Boardwalks and Coastal Paths".

This presentation is available at www.cccheticamp.ca

Coastal boardwalks and paths provide public access to the waterfront, and are often part of shore protection efforts. When designing such structures, the impacts of waves and water levels (future and present) on structural integrity and public safety must be considered.

The Bremerton Boardwalk, in Puget Sound Washington, is a great example of how to integrate various needs into one piece of infrastructure. The town needed to address the relocation of a utility corridor due to an eroding shoreline. The answer in this case was to move the utility corridor offshore into the water and create a mixed use infrastructure, which allowed pedestrians to use the top of the utility corridor as a walking surface. This at once countered erosion rates, secured the utility corridor, and provided a real connection to the coast for local residents.

Brooklyn Bridge Park is being created as a recreational area for the city. However, due to heavy shipping traffic within New York's harbour, a wave study was needed to ensure that the design would not be too impacted by waves. Wave screens and floating breakwaters are being used to provide shelter from wind and ship waves to allow recreational use of the

waterfront including kayaking.

Climate change conditions will bring increased concerns and vulnerabilities for coastal infrastructure due to sea level rise, more intense storm events, and reduced sea ice cover along the coast of the Maritimes. These concerns will change the wave conditions, and hence influence infrastructure design, such as the optimal elevation and setbacks. Coastal infrastructure can still be viable; however modelling and even statistical probabilities of storm conditions may be needed to identify construction methods and efficient use of capital.

Coldwater Consulting has worked on many coastal issues in Halifax Region Municipality. Work has been done on how to accommodate the effects of sea level rise in Point Pleasant Park among other regions. Other regions face similar issues to Chéticamp such as, wave overtopping, erosion, stone wall damage, and geotechnical instability. Designing to address these problems incorporates the issues of elevations, structural stability under storm attack, geotechnical stability and aesthetics. The Dingle seawall reconstruction project is a great example of this. Instead of using dry stone wall, granite was used because it provided the right aesthetic and better structural integrity.

Cole Harbour's Salt Marsh Trail is built on the Musquodoboit Railway bed. However, the trail faces the constant challenges of flooding and erosion, since the rail bed was built many decades ago and sea level has risen. Essentially, the trail hinders natural water circulation in Cole Harbour and its estuary. Multiple options were laid out that could improve the situation such as continual rebuilding while incorporating new adaptive management capacities as funds become available, and increased circulation through the installation of culverts and bridges. The third option of partial abandonment was also on the table for Cole Harbour. In the end they decided to keep maintaining the trail, but to also incorporate adaptive improvements as capital becomes available.

Coastal trails and boardwalks must be designed to fit in with their local environment and adapt to it as well. The more adaptive they are designed to be, the more cost effective they will be.

After the presentation, there were questions about certain sections of the boardwalk that were washed away more than others, and whether "geocontainment bags", which did not exist in the 1990's, could be used today to help retain the supporting structure of the boardwalk. Mike cautions the community should study the entire structure of the boardwalk, as the riprap may be too steep and too small. He does not think the boardwalk is being torn apart by wave action; rather, it is the waves coming over the top of the riprap, smacking the unprotected wood and washing away what is underneath. Mr. Davies discusses a number of possible solutions with regards to how to contain the fill (including geocontainment bags), suggests a more gradual slope for the boardwalk's coastal sides, as well as creating spots where visitors could go down to the shoreline. It is important to see how waves and tidal movement affects the area as a whole before reinforcing any spot. There is the possibility of building bumps in key areas to break waves. He suggests studying the boardwalk's geotechnical structure before investing any further in "fixes at the top".

There was also discussion about the security factor in using "stepping stone" structures in terms of slippage and navigability. These types of solutions are heavily dependent on the elevation of the pathway, and the example he used comes from Wales, using rocks a few metres in width and height.

Small Group Discussions

Throughout the workshop, there were a few small group discussions to solicit participants thoughts on various topics related to the boardwalk. The results of the small group discussions were shared with the whole group and generated more discussions.

In the first group discussion, participants were asked: **(1)** *What is your favorite memory related to the Boardwalk?* **(2)** *List all the functions the Boardwalk serves.* **(3)** *Rank the Boardwalk's functions in order of importance.*

The combined responses are listed below.

Favourite memories:

Unauthorized swimming in the early days

Early Morning farmers market

Late night walks

Original vision was great

People eating lunch on Boardwalk

Concerts (family events, cultural activities)

Older residents asking for repairs because they enjoyed being there so much.

Vibrant feeling around la Chaloupe

Sea gulls raising their young

Watching cormorants dive

Blue herons fish

Tourist memories:

Ice cream stands,

Kiosks (part of full touristic experience),

Going past the boardwalk's security railing and 'beach combing'

Bird watching

FUNCTIONS

Ferry service to les Îles de la Madeleine (The Magdalen Islands)

Community gatherings

Exercise (Walking, yoga)

Commercial Dock

Tourist attraction (gift shop/lighthouse) and information

Farmer's market

Parking and washrooms

Shoreline protection

Concerts/fundraisers

Community health

Showcase for the community

Future functions

Kayak rental

vendors

extend the boardwalk length

educational vehicle

Kids fishing

Functional priorities

Community gathering place
Major pedestrian artery
Increased vendors/commercial activity
Shoreline protection
use for commercial purposes

Boardwalk Scenarios

These small group discussions focused on the three scenarios presented in Vincent Leys' presentation. The purpose of this activity was to get a sense, which scenario the participants thought was the best option for moving forward with the boardwalk.

The three scenarios were:

1. Fix Up and Armor the current infrastructure and leave it as is and where it is
2. Redesign the boardwalk
3. Abandon the boardwalk in its current location.

A different small group focused on each scenario. Participants split up into three separate working groups to answer the following questions: (1) Why are you in this group? (2) What does this scenario look like? /How long do you want it to last? (3) What information is required to be convinced that this is the best scenario?

Prior to beginning the small group work, there was some conversation about the usefulness of discussing all the options when the only option that makes sense would be to redesign the Boardwalk. It was decided that to make case for or against a particular option, all options needed to be explored. The importance of local leadership was also mentioned as essential in communicating the concept of redesigning the Boardwalk, to the community.

Group 1: Fix Up and Armor

This option is difficult because:

- There is nothing strong enough to continue building on:
- The riprap is too steep,
- The rocks are too small,
- The geotextile layers seem to be absent,
- The timber is too small,
- The boardwalk's foundation is essentially nonexistent,
- The only remaining piece is the fill, which could then be regraded and covered in armor stone.
- It might be easier to get small funding amounts to repair boardwalk, but massive amounts of armor stone would be required, and proper timbers would be needed to solidify the frame
- Constant maintenance would be required, possibly yearly. This option is identified as a possible high-cost one over the long term.
- Armour would also need to be placed slightly higher than the boardwalk, so that waves can't get under the boardwalk as easily.

What information is required to be convinced that this is the best scenario?

- How much will annual repairs cost?
- Will the current fill/slope support repairs?
- How much funding will we get every year for the boardwalk?
- Who will take ownership of the boardwalk and take care of it on an ongoing basis?

How will this scenario serve the boardwalk's functions?

- In this option, the boardwalk will serve same functions, although its functions are more at risk, and can disappear after the next storm.
- There needs to be a plan if this option is chosen: Mike Davis shares the salt marsh trail example. The trail was improved upon every year because the people involved had a plan. They were able to get funding every year in order to improve upon the trail as funds permitted.
- Although the option of rebuilding the boardwalk looks like a "write-off", this option may end up being the only viable option depending on what funding is granted.

Group 2: Redesign the boardwalk

- Too much time and money have been invested into the boardwalk to just leave the boardwalk "to die". Proceeding with Option 1 (repair as is without redesign) would eventually turn into Option 3 (abandon) when natural conditions made it impossible for that structure to continue to be viable.
- A redesign needs to move quickly, efficiently and well, and to clearly identify a plan so that any work fits with the community vision.
- The original community plan would have to be acknowledged and observed before any boardwalk redesign is made.
- The maintenance and operational requirements of the plan would need to be observed as we would not want to exhaust the volunteer base and leadership energies available to the project.
- The boardwalk could be viewed as a series of sections. Each section should be studied to see how it will be affected by current conditions, how these threats can be addressed, and how each section fits into the larger plan:
- It is possible to change the concept of this route towards being coastal infrastructure instead of strictly a boardwalk. It can be redesigned as a path weaving back and forth between boardwalk and sidewalk. The sections that work as a boardwalk could be reinforced, and problematic areas could be redesigned/diverted.
- The redesign would have to take into account the amount of traffic foreseen on the redesigned path. The desired redesign would be adaptable to changing conditions, while being able to minimize costs of future repairs following storm damage, etc.
- A key to success with the ongoing viability of the redesign would be to generate revenue, which comes down to designing functions into the boardwalk (sales, kiosks, rental, entertainment).
- Financing vehicles such as CEDIFs (Community Economic Development Investment Fund) could be considered to help fund redesign and upkeep. It would also have to be identified if leadership is available to direct the redesign and transformation of the boardwalk.

During the group presentation, there is discussion of whether a CEDIF would require revenue from the boardwalk's activities. It is discussed that different funding sources are available to fund the redesign (ex. The Facade program, partnership with ECBC, etc.). However, revenue-generating details (such as kiosks and other points of sale) would have to be incorporated into the path, as well as agreements with local businesses. There will always be costs related to upkeep, no matter how solid the boardwalk's design turned out to be. The question then was what options could be created for the boardwalk to generate revenue for itself. The period of the year during which the boardwalk could generate revenue would be generally small.

Group 3: Abandon the boardwalk

The advantages of abandoning the boardwalk are:

- Ongoing security concerns,
- Sea level rise,
- Relocating activities to more visible areas (as activities on the boardwalk are out of sight from the general public),
- Ability to shift human and financial resources somewhere else in the community that would impact it more from an economic perspective as the moneys and time invested into the boardwalk is being invested into a physical structure and not economically-generating activities.

The disadvantages to abandoning the boardwalk

- It will cost money to abandon the boardwalk,
- The boardwalk is part of the heart of the community. It may dampen community morale, if the boardwalk is abandoned
- Loss of investment,
- A feeling that the boardwalk never developed to its full potential,
- There would still be a problem of erosion even without the boardwalk,
- Chéticamp is a linear community. There is no other place in the village at this time where a "promenade" can be integrated into the community.
- Some businesses are attached to the boardwalk; abandoning the Boardwalk would take away from these businesses.
- The transportation infrastructure (main road or Cabot Trail) located behind the boardwalk in relation to the shoreline may be endangered by coastal erosion if the boardwalk was removed.

During their presentation, this group also discussed Option/Group #2's design of "weaving" the walk path between the boardwalk and the village itself, back and forth. This would require another public meeting, a survey throughout the community, and/or getting school classes involved in designing this weaving path, with the possibility of building shacks (similar to the old buildings on La Digue) for businesses to rent, and a unique stage set (ex: a stage that is located on the water extending out into the harbour) to stand out from other theatre locations). The development of a stage/theatre location in the harbour, but detached from the boardwalk, might bring a sense of nostalgia for the old « Irving wharf »

formerly located across from the post office/liquor commission area.

Part 3 - Conclusions and Next Steps

Knowledge Gaps

The working groups identified knowledge gaps that hinder the community's ability to choose the most suitable future scenario for the boardwalk/Quai Mathieu. These are:

- How much will annual repairs cost if kept in its current state?
- Will the current fill/slope support repairs?
- How much funding is available on a yearly basis for the boardwalk?
- Who will take ownership of the boardwalk and take care of it on an ongoing basis?
- Is there leadership in place to facilitate the redesign?
- How can revenue be generated on the boardwalk to make it more sustainable?
- Will local business owners accept that this infrastructure be run as a business?
- What will upkeep cost after the redesign?
- How much capital is needed to completely redesign the boardwalk?

Preferred Options

During the large group discussion, participants felt strongly that they did not want to abandon the boardwalk at this time. They also felt that rebuilding or redesigning would be the most popular community solutions in further consultations.

Next Steps

- The Boardwalk Concept planning exercise will undertake community consultations. This will involve an evening session, as well as sessions in the school. This generates some discussion on how to actively engage the community, including whether dramatic measures such as shutting off access to the boardwalk can be effective. Conrad Taves and Mr. Gallant indicate the April meeting is to present the findings of this workshop, and to follow that with consultations specifically on the design and vision of the plan.
- There will also be upcoming meetings with stakeholders such as the Farmer's Market board, the Conseil économique de Chéticamp, and the Comité touristique, to figure out the model of ownership for the boardwalk.
- Mike Davies shares his view that, throughout the day's activities, no one brought up the option of "greening" up the boardwalk area and renaturalizing the waterfront/habitat. He underlines that other funding sources (such as TD Canada Trust) may open up if a "greening" element be added to the boardwalk redesign program. In the Summer 2011, the boardwalk was increasingly used for community "healthy living" activities such as Zumba, and that the Boardwalk could probably be rebranded as a "healthy lifestyle" option in combination with an « environmental approach ».

- There will be fundraising letters sent to the local business community to raise funds for the boardwalk.
- There is a suggestion that a survey will allow for more people to share their opinion, as this method would allow them to proceed in a more anonymous fashion, which may influence their courage to honestly share their opinion.
- Mike Davies indicates the need for a « carrot » instead of a « stick » with regards to attracting people to discussions regarding the Boardwalk, by preparing plans that can be presented to get people excited about the possibilities with the Boardwalk. He suggests getting a coastal engineering assessment to help determine the best option with which to proceed, before proceeding with an option that may end up being not viable.
- From the point of view of the EAC's climate change adaptation project, the next steps are to complete the workshop report and post all presentations online.
- The next project workshop will be on March 26th, and will focus on coastal erosion and assessing vulnerability.

Appendix A - Workshop Agenda

Time	Topic	Format	Who and notes
8 :30	Café registration		
9 :00	Welcome	Short presentation	Alfred-Arthur Poirier
9 :15	Overview of workshop Housekeeping Introduction (name, affiliation, best memory of the boardwalk) Highlights from last night		Scott Aucoin
9 :30	Historical overview of the boardwalk : Storms, Costs	présentation	Conrad Taves
10 :00	Boardwalk values	Small group discussions	List of functions Rank importance to community
10 :30	Break		
10 :45	Report back to large group	Large group discussion	
11 :15	Boardwalk wave study	Presentation	Vincent Leys, CBCL
12 :00	Lunch		
1 :00	Case study and examples from other places	Presentation	Mike Davies, Coldwater Consul.
1:30	Boardwalk scenarios: Abandonment /Rebuild/Redesign	Explanation	Veronika Brzeski
1:45	Scenario work :	Small group discussions	Responsibility (Who) Financing (How) Research needs
2:30	Report back	Discussion	
3 :00	Next steps	Large group discussion	

Appendix B - List of participants

Workshop Participants:

Alfred Arthur Poirier, local business owner and president, Conseil Économique de Chéticamp

Diane Poirier, manager, Coopérative Artisanale

Calixte Poirier, local business owner, Autorité portuaire de Chéticamp and past board member of Cheticamp Development Commission (formerly charged with Boardwalk sustenance)

Robert Barnett, local citizen

Denis H. Larade, Caisse Populaire Acadienne

Daniel Boudreau, Municipal Counselor

Evan Cormier, local citizen

Paul P. Poirier, local citizen

Fidel LeFort, past local business owner and current member, Conseil Économique de Chéticamp

Glen Bourgeois, local citizen

Abdou Moslih, Rural development agent, Conseil de Développement Économique de la Nouvelle-Écosse

Paul D. Gallant, agent, Commission du Tourisme Acadien du Canada Atlantique, as well as board membre, Conseil Économique de Chéticamp

Presenters and resource people :

Will Green, Nova Scotia Climate Change Directorate) (presented the previous evening)

Garth Demont, Nova Scotia Department of Natural ressources (presented the previous evening)

Philip Finck, Nova Scotia Department of Natural Resources

Conrad Taves, consultant

Vincent Leys (by remote teleconference)

Mike Davies (Coldwater Consulting)

Facilitators :

Scott Aucoin, Ecology Action Centre

Jen Graham, Ecology Action Centre

Veronika Brzeski, Ecology Action Centre

Appendix C - List of Project Partners

In Chéticamp:

Alfred Arthur Poirier, President, Chéticamp economic council

Heather Davis, Head of Conservation programs, Cape Breton Highlands National Park

Angus Lefort, Coopérative Radio-Chéticamp (CKJM) and Harbour Master of the Harbour Authority of Chéticamp

Abderrahim (Abdou) Moslih, Community development officer, Conseil de développement économique de Nouvelle-Écosse (CDENE)

Gretchen Noyes-Hull, Gulf Aquarium and Marine Station Cooperative Ltd. (GAMS)

In Port Hawksbury

John Bain, Chief Planner, Eastern District Planning Commission

Blaine Gillis, Chief Executive Officer, Strait Highlands Regional Development Agency

Karen Malcolm, Strait Highlands Regional Development Agency

Tom Gunn, Principal, Nova Scotia Community College Strait Area Campus

Waddy Long, Faculty of Natural Resources, Nova Scotia Community College Strait Area Campus

Joe O'Connor, Chief Administrative Officer, Municipality of the County of Inverness

In Petit-de-Gras

Yvon Samson, Administrator, Conseil de développement économique de Nouvelle-Écosse, Petit-de-Gras.

In Antigonish:

Paul Boyd, Habitat Specialist, Department of Fisheries and Oceans, Gulf Region

David Garbary, Professor of Biology, St. Francis Xavier University

In Halifax:

Garth Demont, Geologist, Geological Services Division, NS Dept. Natural Resources

Will Green and Kyla Milne, Adaptation Specialist, Climate Change Directorate, NS. Dept Environment

Cameron Ells, Project Engineer, Cameron Consulting

Patricia Manuel, Professor, School of Planning, Dalhousie University

Lisa Dahr, Program Coordinator, Tourism Industry Association of Nova Scotia

Wanda George, Professor, Department of Business & Tourism, Mount Saint Vincent University

Danika van Prooskij, In_CoAST Research Unit, Dept. of Geography, St. Mary's University

Jennifer McKeane, Tourism Development Officer, Tourism Division, Nova Scotia Economic and Rural Development and Tourism

Nancy Shackell, Research Scientist, Dept. of Fisheries and Oceans, Bedford Institute of Oceanography

In New Brunswick:

Chantal Gagnon, Executive Director, Southern Gulf of St. Lawrence Coalition on Sustainability, University of Moncton