Town of Qualicum Beach Waterfront Community Planning Consultation

Leila Willoughby-Oakes, MPA candidate
School of Public Administration
University of Victoria
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Client: Luke Sales, MCIP, RPP, Director of Planning
Planning Department, Town of Qualicum Beach

Supervisor: Dr. Lynda Gagne, CGA, Assistant Professor
School of Public Administration, University of Victoria

Second Reader: Allison Habkirk, MA, MPA, MCIP, RPP, Consultant Town Planner
School of Public Administration, University of Victoria

Chair: Dr. Jim McDavid, Professor
School of Public Administration, University of Victoria
EXECUTIVE SUMMARY

The Town of Qualicum Beach is a small, primarily residential waterfront community, on Eastern Vancouver Island in British Columbia that is increasingly at risk from the impacts of sea level rise, climate change, and increasing storm intensity. Historically, the Town government has experimented with a variety of land-use planning tools and shoreline infrastructure initiatives to control and protect development on the waterfront. However, as waterfront degradation continues to impact public and private properties, these measures require updating and improvement. The Town has three main waterfront responsibilities: protecting the shoreline, creating a long-term waterfront plan, and developing land use policies cognisant of forecasts for sea level rise. With financial assistance from the Province, the Town will begin a two-phased Waterfront Master Plan (WMP) in 2014 to prepare for climate change and rising sea levels. The WMP will implement policies for adaptation in vulnerable areas on the waterfront, including input from coastal engineering and community land use planning studies.

Overview

The purpose of this report is to tell the story of a three-part pre-consultation process conducted by the researcher to support the WMP, but a precursor activity and not a part of the formal plan. The Waterfront Community Planning Consultation elicited the concerns and interests of key waterfront stakeholders to determine the most important issues to be addressed in the WMP. The process also aimed to raise awareness in the local community about sea level rise, climate change, and the future waterfront planning process. Among this study’s strengths is its use of methodology triangulation, integrating and comparing content from three different data sources and research instruments. This report includes:

- Background information on the Town of Qualicum Beach
- A review of the regulatory framework for foreshore works approvals
- Scientific data on global and local sea level rise forecasts
- Background research on local policies and corporate actions taken to protect the waterfront
- Findings from three consultation data sources collected in Qualicum Beach
- A discussion of the research synthesized into themes

The methodology used for the consultation part of this study relied primarily upon analyzing stakeholder responses from comment cards, surveys, and focus groups and grouping them into themes based on frequency of reference and their relationship to measures previously taken by the Town. The feedback included in this report is that of individuals immediately impacted by the Waterfront Master Plan: waterfront property owners, residents, and business owners. The resulting data indicates that Qualicum Beach stakeholders have far reaching environmental, social, and economic concerns about their local waterfront. Concerns are not isolated to the physical waterfront damage caused by sea level rise and climate change. Other identified issues for the waterfront include:

- Economic development – commercial health of the waterfront
- Tourism – attracting visitors to the area
- Town communication with the public – community involvement with the planning process
- Recreation – preserving natural areas and adding new infrastructure for activities
- Fairness – concerns about using public funds to support private properties
• Financing of waterfront infrastructure – concerns about the capacity of the Town to fund major waterfront public works
• Permitting processes and development approvals for foreshore works – complex regulatory requirements

Recommendations

This report concludes with eleven recommendations supported by the underlying research to be integrated into the Waterfront Master Plan. Some of the recommendations may also fit within the current operations and mandates of Town departments. Although not an exhaustive list, the recommendations include:

• Enhancing public communication outreach by the Town during the WMP
• Providing information packages on obtaining foreshore works approvals
• Implementing strategic and phased plans for infrastructure renewal
• Establishing waterfront working groups representative of the community
• Monitoring waterfront locations of concern, as identified in this consultation
• Dedicated economic development planning for the waterfront
• Reviewing existing waterfront land use policies and Development Permit Areas

It is intended that this study prove useful to the community of Qualicum Beach as they move forward addressing issues of sea level rise and climate change.
ACKNOWLEDGEMENTS

I would like to thank Dr. Lynda Gagne for her support throughout this process, and for taking me on as her student. I would also like to thank Allison Habkirk for her keen assistance as second reader.

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Thank you to my friends and family. To Mom, Dave, Monika, Kari and Justyna, thank you for taking my phone calls throughout this process. Most of all I would like to thank Dennis, for your patience and support.

Finally I would like to thank all of the Qualicum Beach residents who participated and for their enthusiastic cooperation. Without your time and input, this project would not be possible. I hope our time together was enjoyable and the feedback gathered can assist in the development of the Waterfront Master Plan, in a way that you have envisioned.

I dedicate this project to my father. Dad, I hope you would have been proud of me.
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INTRODUCTION

Coastal communities around the world are increasingly at risk from the impacts of sea level rise, climate change, and increasing storm intensity. British Columbia is expected to experience an increase in sea level rise on average of one metre by 2100 with some areas forecast to experience higher increases (Ausenco Sandwell, 2011; Thomson, Bornhold, and Mazzotti, 2008). Local governments are investigating strategies to mitigate the impacts of largely unpredictable rising water levels and other climate change events.

The Town of Qualicum Beach (the “Town”), a small, primarily residential waterfront community, located on eastern Vancouver Island, copes with shoreline erosion and sea level rise, and public infrastructure and waterfront homes incur damage, destruction, or exposure to extreme weather, including large breaking waves and storm surges. The Town has three responsibilities for the waterfront: protecting the shoreline, long-term waterfront planning, and developing land use policies cognisant of sea level rise forecasts. Over time the Town has implemented a variety of piecemeal hard and soft shoreline infrastructure projects on the waterfront. These initiatives have had limited success due to the lack of a comprehensive waterfront strategy. It is therefore critical for the Town of Qualicum Beach to begin to prepare, plan, and fund a comprehensive, community-wide Waterfront Master Plan (WMP) to address extreme weather events, sea level rise and, climate change effectively.

As a precursor to the master plan, but not a part of the formal WMP process, the Town of Qualicum Beach commissioned the research effort described in this report. The effort consisted of a public campaign to raise awareness in the local community and multi-staged waterfront stakeholder consultation in the spring of 2013 on sea level rise, climate change, foreshore regulations, and existing shoreline conditions. Primary research was gathered from stakeholders via an open house, public survey, and two focus groups, while the municipality awaited the outcome of a Capacity Building/Integrated Community Sustainability Planning Project grant from the Province to fund the two-phased WMP.

The three step stakeholder consultation was designed to educate and consult Qualicum Beach waterfront property owners, residents, and businesses regarding the impacts of sea level rise and climate change on the waterfront. The consultation study asked two questions:

- Are waterfront stakeholders familiar with the realities of sea level rise and climate change and what are their perceptions or understanding?
- From the perspective of key waterfront stakeholders, what are the most important areas of interest and concern for the Town of Qualicum Beach Waterfront Master Plan to address?

The objectives of this study were to:

- Engage and educate participants through public meetings early in the planning process to build understanding about waterfront projects and build consensus on general shoreline problems.
- Consult with waterfront property owners, residents and businesses using a multi-method strategy.
- Summarize and categorize interests and concerns of waterfront stakeholders using themes.
• Make preliminary long range planning, infrastructure, communication, and local policy recommendations for the WMP based on surveys and focus group interviews with those directly affected by waterfront initiatives.

This report describes the consultation process including participant recruitment, feedback collection, report findings, and analysis. The Background outlines the local government context, the problem of sea level rise and natural processes on the waterfront, foreshore approval regulations and WMP phases. The Literature Review details scientific data on global and local sea level rise forecasts and reviews the local government initiatives and studies leading to this study (the Waterfront Community Planning Consultation). The Methodology describes the public engagement process including the recruitment, consultation events, the study population and methodological limitations. The Findings detail results of the consultation process. The Discussion provides a thematic analysis of the concerns and interests of waterfront stakeholders, exploring the implications of these concerns on future local government decisions. The Recommendations section includes eleven recommendations for both interim measures and for integration into the Waterfront Master Plan commencing in fall 2013 until 2015.
BACKGROUND

Introduction

This section describes the current physical and regulatory environment of the Town of Qualicum Beach waterfront and the implications for waterfront protection and private development. First I describe the municipal context and local demographics. Next, I briefly discuss the problems associated with sea level rise and climate change for the waterfront, the central planning problem examined in this research project. To illustrate the complex nature of public and private foreshore development approvals commonly obtained to install protection, I then describe the regulatory framework governing shorelines in British Columbia. I conclude with a description of the upcoming Waterfront Master Plan phases.¹

Town of Qualicum Beach

The Town of Qualicum Beach is a small residential municipality located in the Regional District of Nanaimo (RDN) on Vancouver Island, British Columbia. The local area is known for natural features, recreation and tourism. The eastern Town boundary stretches along the Strait of Georgia for seven kilometres of waterfront and includes residential waterfront properties, tourist businesses, public parks and undeveloped areas. Qualicum Beach is designated in the Regional Growth Management Strategy as a municipal urban centre and is bounded by unincorporated electoral districts serviced by the Regional District of Nanaimo (RDN) (Regional District of Nanaimo, 2011). Running from north to south and accessible to a major highway exit, Qualicum Beach attracts new residents, particularly retirees, with its distinct small town character. Furthermore, the RDN anticipates that the Qualicum Beach population will grow, and that growth will be concentrated in municipal urban centres, the orange-shaded areas in Figure 1 (Regional District of Nanaimo, 2011).
According to the 2011 Census, Qualicum Beach had a population of 8,687 in 2011, a 2.2 per cent population increase since 2006 (Statistics Canada, 2012). The Town is particularly well known for having the highest percentage of residents over the age of 65 years (47.2 %) with a median age of 63.9, characterizing the Town as a retiree community (Statistics Canada, 2013; Statistics Canada, 2012). The community’s age profile represents a unique environment for public education and consultation and a particularly engaged population.

According to the client, participation in local decision making is high in Qualicum Beach and valuable for the Town, and council meetings are widely attended. In 2013 during contentious agenda issues council needed to relocate meetings from the council chambers to the Civic Centre, a larger facility (Horner, 2011a; Town of Qualicum Beach, 2013a). It was therefore expected that the Waterfront Community Planning Consultation would attract a wide audience and receive sufficient community attention to generate balanced information on the most important areas of interest and concern the Waterfront Master Plan should address.

The Problem

The Qualicum Beach shoreline shown in Figure 2 and 3 is vulnerable and exposed. Past weather impacts include subsiding waterfront pathways, damage to Town owned parks, erosion of private property lines and significant property loss. Bluff properties are also impacted by landslides and bluff erosion, since feeder materials for the beach on the foreshore are swept away during storms. Protective structures such as sea walls are often compromised and ocean debris and water have been known to move dangerously close to Highway 19A due to high tides and storms (Parkville Qualicum Beach News, 2011). Long stretches of the Qualicum Beach shoreline are exposed and vulnerable to increasing storm intensity from all directions, weather, erosion, and the future impacts of climate change. The beach is a key natural asset vital for tourism and an important component of the Town character. Staff and Town officials have growing concerns about the physical, social, environmental, and economic consequences of climate change on the waterfront community. Waterfront vulnerability is not unique to Qualicum Beach. Many under-resourced coastal communities with small populations in British Columbia face similar planning challenges in the development of long term sustainable strategies to prepare for and respond to sea level rise (Seeton & Epp, 2013).
The Town has not implemented a comprehensive waterfront plan before. Over the years the Town has implemented various shoreline protection projects but these interventions have been piecemeal and their effectiveness varied. It is difficult for staff and local decision makers to know “where and when to make interventions and policy changes, and which ones to make” (Seeton & Epp, 2013, p. 6). As there is a lack of “locally specific data” on sea level rise estimates and weather trends, the vulnerability of coastal zones to climate change is relatively unpredictable (Barron et al., 2012, p. 2177).

Competing stakeholder interests also pose challenges and barriers for options available for shoreline planning processes. Property owners, local environmental associations, the Town, and general users of the waterfront have different experiences and values. The shoreline is composed of many waterfront homes and properties some of which are located in prime real estate areas. Owners of these properties want protection. Meanwhile, environmentalists value a natural shoreline and may oppose protection using hardened surfaces and structures along the shoreline shown in Figure 3. Reaching a broad community consensus on waterfront issues and priorities will be a challenge for the Town.

Over the years, waterfront residential growth has presented problems for the Town. The Town has to contend with largely privately owned properties, properties co-owned with other levels of government, and regulation by other levels of government. Worldwide and historically, settlements have encroached onto low lying and waterfront areas (Town of Qualicum Beach, 2012a; Vellinga and Klein, 1993). At times densely populated, these locations face substantial erosion and threats to existing development. Residential growth in Qualicum Beach’s waterfront can only compound planning challenges and private property conflicts.

Preparing for climate change and sea level rise is not only in the interest of the Town but also the waterfront property owners. As the shoreline erodes, waterfront residences experience the inland retreat of their property lines. The phenomenon converts private holdings into crown land foreshore areas and the Province assumes ownership (Green Shores, 2009). During new waterfront property surveys many owners discover that their property lines have shifted and the areas lost to erosion cannot be reclaimed and in some instances the situation is exacerbated by seawall setbacks from the property line (Kipp & Callaway, 2002). In order to rebuild protection, owners must obtain government approvals intended to protect wildlife, transportation corridors, and fish habitats.

Given the increased erosion and property losses along the local shoreline, waterfront property owners, residential tenants, and businesses have a vested interest in providing their input during the Waterfront Community Planning Consultation. They are consequently the subject of this consultation and must develop a consensus on the strategies to protect public and private assets by first identifying waterfront concerns and interests and where they are occurring.
Coastal Foreshore Jurisdictions in British Columbia

Along shorelines, the area between the high watermark or private property boundary and low watermark, is known as the foreshore. The foreshore is a popular location for installing public and private shoreline protective structures. For example seawalls, green shore areas, and rip rap rocks currently exist on the foreshore. The foreshore is subject to provincial, federal, and local statutes, regulations, and policies containing different mandates and is regulated by a host of government agencies (Green Shores, 2009; Ausenco Sandwell, 2011). Therefore, any regulations will involve multiple government agencies, greatly increasing the complexity of authorizing foreshore works and development. Property owners understandably face difficulties discerning and navigating the approval process, especially owners in emergencies who are often faced with a limited building period and require expedited approvals for protection before the next storm season.

The following describes more precisely regulations and permitting processes for foreshore works for the three levels of government.

Federal Government

- **Fisheries and Oceans Canada – Fisheries Act.** Fisheries and Oceans Canada (DFO), under the Fisheries Act is mandated to protect fish and fish habitat. The DFO has created a multi-step process for waterfront property owners to meet legislation requirements to gain approval to develop on the foreshore. Called a project review, this process intends to determine whether a project is harmful for fish or fish habitat (Fisheries and Oceans Canada, 2012). The more invasive a project, the more intensive and multi-staged the project review will be. There are three potential steps required when receiving DFO approvals on the foreshore (listed from the least to highest requirements): project planning, project review, and authorization. For common low impact activities that meet specific requirements, a Regional Operational Statement may be submitted to the Department to notify the agency of works and no project review is required (Fisheries and Oceans Canada, 2012). If a project may potentially harm fish or fish habitat, a Project Notification and Review Application is submitted to the DFO and agency will determine the likelihood of harm. If it finds the risk low and able to be mitigated by specific actions, no further approvals are required and the project review approval letter may provide guidelines on these actions. If a project review finds that the applicant cannot avoid medium or high level risk, the proponent must apply for a Fisheries Act Authorization. This authorization requires detailed review and an environmental assessment under the Canadian Environmental Assessment Act (Fisheries and Oceans Canada, 2012). The DFO will determine whether authorization can be approved or require additional conditions for the applicant to mitigate risk.

- **Transport Canada – Navigable Waters Protection Act.** The Navigable Waters Protection Act (NWPA), which in April of 2014 will be replaced with the Navigable Protection Act, ensures unimpeded navigation along navigable waters (Ministry of Transportation and Infrastructure, 2013). Contact with Transport Canada is required if property owners predict their project will “erect a structure or work on, over, under, through or across any navigable water” (Green Shores, 2009, p.3; Transport Canada, 2013; Transport Canada, 2010). If these conditions apply, a proponent must submit a NWPA request for a works approval. If the project is deemed not dangerous, an approval will be issued to permit construction in
navigable waters under the act, providing the department gives “authority to interfere with public right of navigation” (Transport Canada, 2013).

**Provincial Government**

- **Ministry of Forests, Lands and Natural Resources – BC Wildlife Act.** All estuarine and coastal foreshores in Qualicum Beach lie within the Parksville-Qualicum Beach Wildlife Management Area (PQB-WMA) shown in Figure 4 (Lanarc Consultants Ltd., 2003). These areas in Qualicum Beach are designated for conservation as guided by a PQB-WMA Management Plan (Ministry of Forests, Lands and Natural Resource Operations, 2013a). Proponents proposing works on the foreshore require approval from the regional manager of the Regional Operations Division of the Ministry of Forests, Lands and Natural Resource Operations in the form of a WMA authorization letter or written permission as per Section 4(4) of the British Columbia Wildlife Act. The authorization letter may also include terms and conditions of the Ministry approval (Ministry of Forests, Lands and Natural Resource Operations, 2013b).

![Figure 4. Parksville Qualicum Beach-Wildlife Management Area](image)

- **Ministry of Forests, Lands and Natural Resources – BC Land Act.** Any work performed on the foreshore for residential or commercial protection in Qualicum Beach must undergo a Crown Lands tenure process under the Land Act. The applicant selects a specific program area they are applying for on a general application used for all types of foreshore development and land uses. For example, a variety of general land use program area policies exist, including the Land Use Operational Policy – Residential, and apply to cases where the upland tenure is residential (Ministry of Forests, Lands and Natural Resource Operations, 2011a, 2013c). In the case of a bed and breakfast operating upland from the foreshore, the Land Use Operational Policy – General Commercial applies (Ministry of Forests, Lands and Natural Resource Operations, 2011b).
The program policies for each type of crown land tenure arrangement include a list of submission requirements for each type of proposed land use. Each designated program area policy document details specific information and land use policies including restrictions on development. Crown Lands tenure applications may ask for various types of information depending on the program area, including a management plan, land survey, general area map, site details, elevation and details on a proposed seawall or other protective measures, etc. (Ministry of Forests, Lands and Natural Resource Operations, 2011a). Application complexity and requirements vary depending upon the nature of the proposed development.

At a regional Front Counter BC Office the a Ministry of Forests, Lands and Natural Resource Operations, a Technical Land Officer makes the final decision on the application, and approval may not be issued for particular uses. The Crown Lands Division policy encourages all erosion protection structures to be placed within the boundaries of private land. In other non-tenure cases, temporary work permits can also be obtained for work done from public beach for private lands with heavy machinery. Work is restricted to certain periods in the year (Ministry of Forests, Lands and Natural Resource Operations, 2013d). Further, if the works are within a Wildlife Management Area, the proponent must have received a WMA letter of authorization before the Crown Lands tenure application is accepted by Front Counter BC.

- **Ministry of Forests, Lands and Natural Resources – BC Water Act.** Several streams enter the marine foreshore in Qualicum Beach. Proponent for works in areas that abut or are located in close proximity to a freshwater creek or stream must notify the Environmental Stewardship Division if they do not involve the diversion of water or are determined to have a low impact on the environment or another party. For higher impact or risky proposals, a BC Water Act approval or a notification under Section 9 of the Water Act and Part 7 of the B.C. Water Regulation is required for projects that will modify the nature of the stream or activities within the stream channel that have or may have an impact on the stream (Ministry of Forests, Lands and Natural Resource Operations, 2013e).

  The Resources Stewardship Division typically processes these applications within 140 day of receipt and approvals are issued in the form of a written authorization letter (Ministry of Forests, Lands and Natural Resource Operations, 2013e).

**Local Government**

- **Town of Qualicum Beach – Local Government Act.** For foreshore works or development, property owners must conform to the Town of Qualicum Beach Official Community Plan development permit area (DPA) policies, zoning bylaw and building bylaw through the BC Building Code. Local governments are authorized to enforce these documents through the Local Government Act. The local government approves and regulates foreshore development within its boundaries.

  The Qualicum Beach foreshore is located in the Hazardous Lands Development Permit Area under the Ocean Flood Plain designation (Figure 5) in Town of Qualicum Beach Bylaw No. 700. Several waterfront parcels are also located in the Form and Character Development Permit Areas under the E1- Beach Area designation, but not the foreshore area. Therefore,
A foreshore project (works or development) requires the submission of a DPA application in some instances not outlined in the Hazardous Lands DPA policies. Various application requirements and guidelines for the Development Permit Area H1-Hazardous Lands include: demonstration that encroaching into the DPA is necessary based on listed circumstances, restrictions on the placement of fill within floodplains, minimization of encroachment and impact on the DPA, and permission for certain activities to occur without a DPA approval (e.g., emergency procedures to prevent flooding and erosion threats to life and property) (Town of Qualicum Beach, 2011).

A building permit is issued for foreshore works when the project complies with the local bylaws including Town of Qualicum Beach Building Bylaw No. 643, and the Land Use & Subdivision Bylaw No. 580 or zoning bylaw— in which the foreshore is designated under the Water 1 zone. Any “local requirements will supersede any less restrictive provincial or federal government requirements” for the foreshore (Ministry of Forests, Lands and Natural Resource Operations, 2008, p. 1).

![Figure 5. Development Permit Area H1-Hazardous Lands](image-url)
The Town of Qualicum Beach Waterfront Master Plan (WMP) is a two phase scientific, coastal engineering and planning study scheduled for 2013 to 2015. It constitutes an important tool for comprehensive waterfront planning in Qualicum Beach for rising sea levels and is the driving force for this research effort. In the first phase, “Study and Adapt,” consultants will gather shoreline process and hydrogeological data needed to recommend stabilization and protection options, addressing many of the concerns raised by the stakeholders consulted in this study. In the second phase, “Refine and Sustain,” the focus will be on community planning activities including beautification, future land uses, cycling, recreation, and cultural and economic development on the waterfront (Town of Qualicum Beach, 2013b).

The Town applied for a $150,000 grant for the WMP from the provincial gas tax fund. The application proposes $100,000 will be spent on Phase 1, “Study and Adapt,” and $50,000 on Phase 2, “Refine and Sustain.” The grant application identifies public consultation as a process critical to both phases in order to keep the community informed and to engage affected waterfront parties with the proposed consultation dates shown in Figure 6. The Waterfront Community Planning Consultation gathers baseline information from the public, documenting major concerns and interests of essential participants before the official start and drafting of a formal master plan. The Capacity Building/Integrated Community Sustainability Planning Project grant application under the Gas Tax Agreement identified opportunities to engage waterfront land owners before and during the WMP. These opportunities include investigating public-private agreements for foreshore works and the coordination of efforts to protect the shoreline.

In December, 2012, the honourable Minister of Environment, Terry Lake, visited the Town of Qualicum Beach waterfront regarding the grant. He discussed the Town’s funding application with staff and elected officials. On April 22, 2013, the Planning and Engineering Departments announced receipt of the Provincial grant, providing major funding to support development of a WMP for the Town (Town of Qualicum Beach, 2013b; Parksville Qualicum Beach News, 2013. Phase 1 proposals are being reviewed in August and September 2013 for study commencement in late fall/ winter of 2014.
METHODOLOGY

Introduction

This section describes the three methods used to collect feedback from waterfront stakeholders regarding their concerns and interests for the shoreline. The methodology used for the consultation relied primarily upon analyzing stakeholder responses from comment cards, surveys, and focus groups. I review the rationale for choosing waterfront property owners, residents and businesses as the population of interest, the selection process by which they were selected, and event recruitment and consultation activities. I then discuss the methodology’s strengths and limitations including the merits of triangulating research methods.

Participants

Selection of Study Area and Study Participants

The consultation process targeted waterfront property owners, residents, and businesses in a self-selection process. Those stakeholders with a keen interest and open availability participated. These stakeholders provide a first-hand account of existing issues along the waterfront (e.g. storm damage, beach utility, sea wall damage, and erosion) due to their immediate location. I targeted property owners specifically based on the premise that they have specialized knowledge and that their opinions may be overlooked or homogenized during the community wide waterfront consultation. For example, the North Vancouver Waterfront Plan’s summary cited a number of landowner objections and plan constraints including the “disregard for private property and property owners” (District of North Vancouver 2008). There was no significant engagement with this stakeholder community before the draft plan was released. Without significant pre-consultation activities landowner felt that the plan disregarded their property rights as the plan required district acquisition of private land and removal of private docks for continuous public access. Further, landowners felt that they were perceived negatively or “in the wrong” for not supporting a plan that would benefit the wider community (District of North Vancouver, 1998).

In 2010, Town staff estimated that 77% of the shoreline was privately owned and that 23% was owned by the municipality (Town of Qualicum Beach, 2010). As there is a large proportion of waterfront residential property, I identified private waterfront property owners as the consultation target to encourage stakeholder their willingness to explore options for collaborative remediation projects.

The Town geographic information system identified 183 waterfront parcels in the study area shown along the shoreline in Figure 7. A property owners list was generated using the tax assessment roll numbers assigned to each parcel found in the in the Town Municipal Accounting and Information System (MAIS). Using this data I contacted 140 unique property owners. Only 140 unique property owners exist as many owned multiple properties, had their development on two lots or properties were Town owned. Properties held in trust and or by corporations (e.g., Vancouver Island University) were kept in the property owner list.

The Town does not have a waterfront tenant list, therefore, recruitment instruments for consultation activities were hand delivered to these stakeholders. Consultation participation rates, including the
number of waterfront property owner and business owner participants, are reported in the Findings section of this report.

![Figure 7. Qualicum Beach Property Parcel Map](image)
(Town of Qualicum Beach, Information Technology Department)

**Consultation Events List and Participant Recruitment**

*Consultation Events List*

Table 1 presents the consultation activity timeline and the recruitment process. Consultation activities included an open house, a survey, a sea level rise information display, and two focus groups. The table is followed by a discussion of the recruitment process.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
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<tbody>
<tr>
<td>Consultation Study Ethics Approval</td>
<td>March 2013</td>
</tr>
<tr>
<td>Consultation Recruitment Begins</td>
<td>Spring 2013</td>
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<tr>
<td>Open House Invitation Mail/Property Distribution</td>
<td>Late March 2013</td>
</tr>
<tr>
<td>Open House Newspaper Advertisements—PQB News and Oceanside Star</td>
<td>Early April 2013</td>
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<tr>
<td>Open House: Exploring Our Shoreline &amp; Sea Level Rise</td>
<td>April 11, 2013</td>
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<tr>
<td>Second Property Owner Recruitment Mail-out (surveys and focus groups)</td>
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</tr>
<tr>
<td>Sea Level Rise Information Display (Municipal Hall)</td>
<td>April - May 2013</td>
</tr>
<tr>
<td>Waterfront Community Consultation Survey</td>
<td>April 11 - May 24</td>
</tr>
<tr>
<td>Stakeholder Focus Group 1</td>
<td>May 2, 2013</td>
</tr>
<tr>
<td>Stakeholder Focus Group 2</td>
<td>May 9, 2013</td>
</tr>
<tr>
<td>Consultation Summary Report/Council Presentation</td>
<td>June 24, 2013</td>
</tr>
</tbody>
</table>
Recruitment

The recruitment for surveys and focus groups, described below, was a complex process.

- **Exploring Our Shoreline and Sea Level Rise Open House.** This informational open house served as a means of attracting stakeholder participants for other activities. Post card invitations (shown in Appendix A) were distributed by mail, by hand to property owners and waterfront tenants, and made available at the municipal hall front counter. Public notices ran in two local newspapers one week before the open house, as shown in Appendix B. Meeting posters were also placed on Town notice boards around the Village Neighbourhood. Also, the Town website advertised the information open house on a meeting calendar as shown in Appendix C. The consultation process and links to information on sea level rise and climate change adaptation were also posted on the Town website.

- **Surveys (Online and Hardcopy).** At the open house, waterfront property owners, residents and waterfront businesses were invited to complete and submit a brief survey, a copy of which is included in Appendix D. Attendees also provided their contact information for future events and general feedback about their waterfront property and the shoreline, erosion, and sea level rise on comment cards (Appendix E). After the open house, I sent information letters to waterfront property owners (Appendix F) inviting them to take an online survey similar to the meeting survey.

- **Waterfront Stakeholder Focus Groups.** During the open house, focus group volunteers were recruited. I invited attendees to provide their contact information for a focus group follow up and to fill out comment cards. After the open house, information letters were sent to waterfront property owners inviting them to call or email the Town to volunteer for a focus group in May.

Consultation Activities

Table 1, above, displays the consultation components included the open house, information display, survey, and focus groups. The activities are discussed in detail below. Stakeholders could participate in one, two, or all three face-to-face consultation activities.

Open House

A public open house called “Exploring Our Shoreline and Sea Level Rise” was held at the Qualicum Beach Civic Centre on April 11, 2013, officially launching the Waterfront Community Planning Consultation. Eighty community members and residents from neighbouring communities attended. The purpose of the meeting was to inform the community about sea level rise, present waterfront conditions, and collect stakeholder feedback as illustrated in Figure 8, a presentation slide on meeting and consultation objectives. Several information panels presented shoreline conditions showing the transformation of locations on the beach during the 2000’s to demonstrate the urgency for comprehensive waterfront planning (Appendix G). Panels also described the concept of sea level rise, explaining impacts on the natural environment and referencing coastal foreshore government jurisdictions shown in Figure 9 (Appendix H).

The meeting opened with half an hour allowed for information panel viewing, which was followed by staff and guest presentations. Staff presented information on the current shoreline environment and
sea level forecasts for the area. This was followed by a presentation by Grant Lamont PEng from SNC Lavalin Inc. Vancouver who specializes in coastal management and shoreline infrastructure design. He presented technical information on sea level rise and its impact on BC coastal areas, protective works, and best practices. He concluded his presentation by reviewing four ways to deal with sea level rise in Qualicum Beach: avoid, protect (e.g. seawalls), retreat, and accommodate (e.g. raise grades). The presentations were effective in that nearby municipalities noted the importance of this public meeting for community awareness and sea level rise planning for their waterfront (District of Lantzville, 2013).

The Planning Director concluded the meeting by explaining the next steps for climate change adaptation for Qualicum Beach and the Waterfront Master Plan. He outlined the scope of work, schedule, and the anticipated timeline for community input, acknowledging that the Town had not yet received the Capacity Building/Integrated Community Sustainability Planning grant for the work under the Provincial Gas Tax Agreement. He then opened the floor for questions. Public questions, WMP presentation materials are reported in a Parksville Qualicum Beach News article.
**Public Information Display**

Following the open house, information panels were displayed in the Town’s Municipal Hall. The purpose of the information display was to provide context for residents who did not attend the meeting. Panels described the *Waterfront Community Planning Consultation* as a precursor to the Waterfront Master Plan. Comment cards and hardcopy surveys were available for members of the public. In addition, other information including Ministry of Environment Climate Change Adaptation Guidelines was made available. The display ran in April and May of 2013.

**Survey**

Survey collection occurred from April to May, 2013. There were two survey delivery formats: hard copy and online. The hard copy survey was first distributed at the Open House in April. Online survey links were distributed after the open house in a recruitment letter. Survey questions were designed to identify the most important areas of interest and concern for the Town of Qualicum Beach WMP to address and their knowledge about climate change and sea level rise. Both survey delivery methods presented nine identical questions, while the online survey contained an additional 11 questions. The identical questions asked respondents about preferred shoreline features, locations where waterfront damage had occurred, age, a list of top waterfront concerns, and provided space for participants to ask any questions they might have.

The 11 additional questions in the online survey targeted waterfront property owners and related to ownership traits, waterfront businesses, foreshore works approvals, and WMP goals. They asked if landowners were seasonal residents or business owners and if so how many months per year they resided or operated a business in Qualicum Beach. They also asked if individuals operated tourist accommodations and patronage. These questions also asked if they had experience with foreshore approvals and if so which agencies they contacted, and how long their approvals took. Further questions asked to rate their level or concern for the waterfront in terms of sea level rise damage and forecasts. The results for questions with fewer than 5 responses are not reported.

Although the majority of surveys returned were hardcopies, the online surveys were used to provide an avenue for remote participation to seasonal residents or investors with primary residences outside of the Qualicum Beach. Owners resided in Alberta, Ontario, PEI, Quebec and the US, specifically Washington, New York, and California. These owners were sent a recruitment letter with a survey website link.

Hardcopy responses were digitized and merged with the online responses using fluidsurveys.com software. Using this software, categorical answer frequencies were tallied from the identical questions and common themes extracted from the open-ended survey questions. The additional 11 questions unique to the online survey were analyzed separately.

**Focus Groups**

Focus groups represented an important research method in the consultation process. Results from the focus groups helped to validate and identify patterns among two other data collection methods: the surveys and comment cards. Two focus groups held in May featured seven to eight participants per session and followed a set evening agenda. Fifteen focus group participants, recruited based on a list of volunteers from the open house, were split between two sessions. The aim of holding two focus groups was not only to diversify the conversations and the concerns raised about the waterfront, but also to
document repeated themes. Waterfront property owners and business owners were the target participants; however, several members of the public also took part. The participants, unlike the survey respondents, “generally are allowed to say anything they’d like in focus group sessions” — an important advantage of focus group research (Grudens-Schuck, et al., 2004, p. 2). Also advantageous is the fact that discussions generated by fellow participants can raise issues that may not otherwise be considered by an individual in isolation (Grudens-Schuck, et al., 2004, p. 2).

There were seven standardized open-ended questions. Each focus group was asked the same set of questions listed in Appendix I, although for the second group some of the questions were rephrased for clarification. This process allowed collection of the same information from each person in an attempt to generate a holistic view of the problem, while identifying repeated themes and patterns as suggested in Patton (2002). The questions dealt with shoreline protection, perceptions about sea level rise and climate change, recommendations for the waterfront master plan, level of concern for waterfront properties, and motivation for attending. Focus group audio recordings were transcribed and merged, and along with note-taker supplementary notes, reviewed several times to identify common themes (Patton, 2002).

Focus groups stimulated more detailed responses than had the surveys. Surveys often limit the type of information collected, the breadth of which is often shaped by researchers who may assume that they know how participants feel (Grudens-Schuck, et al., 2004). The focus group findings therefore provided richer results.

**Methodology Strengths and Limitations**

*Triangulating Research Methods*

This study employed methodological and data triangulation to strengthen study findings integrating and comparing content from three different data sources and research instruments. The qualitative research instruments used to collect feedback on parallel topics included: comment cards, surveys and stakeholder focus groups. Denzin (1978) states that triangulation strengthens research by comparing perspectives over a period of time and the consistency of the information (Denzin, 1978). It also provides a spectrum of different perspectives on the same issues (Creswell, 2003; Creswell, 2013, p.251). Data and method triangulation offers several advantages, including evidence corroboration and cross validation of public responses gathered from different stakeholders/sources on the same subject (Denzin, 1978). When a set of waterfront concerns and interests arises repeatedly in the consultation data across different activities and stakeholder groups, these concerns are identified as important findings that represent shared ideas. By “using multiple forms of data collection and analysis,” researchers may discover notable patterns and new or clarified information that can comprehensively address the research questions (Creswell, 2003, p. 203).

Focus groups provided an active forum for collecting participant feedback. In this environment participants were free to elaborate on their answers. Survey respondents provided similar feedback on the same topics and questions. However they were limited by the survey instrument, compared to focus groups, by either close-ended questions or writing space. Lastly, in the instance of research process, the study applied “sequential” methodology triangulation, whereby the initial comment card findings helped to frame the focus group discussion questions (Creswell, 2013, p. 251) (Day, n.d.). Table 2 summarizes data and method triangulation strengths.
Table 2. Triangulation

<table>
<thead>
<tr>
<th>Triangulation Strengths</th>
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<tr>
<td>• It strengthens conclusions; findings are not based on a single source (Rossman and Rallis, 1998).</td>
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<tr>
<td>• It compares different perspectives and checks consistency between different data sources and what participants say in public and what they say in private (surveys versus focus groups) (Flick, 1992).</td>
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<tr>
<td>• Multiple data collection methods measure the repetition of feedback about a problem or theme over time (Denzin, 1978).</td>
</tr>
<tr>
<td>• Surveys allowed those owners who are seasonal residents or hold investment properties to give input, though they could not be present for consultations and focus groups.</td>
</tr>
<tr>
<td>• Participants could opt for anonymous surveys if they were uncomfortable speaking in peer groups.</td>
</tr>
<tr>
<td>• Focus groups stimulate discussion points the researcher may not otherwise have considered, broaden attendee perspectives, and bring together individuals who rarely meet in person.</td>
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</table>

Limitations

Limitations inherent in the methodology included researcher bias, absenteeism among waterfront residents, merging data from different methods, and online surveying.

• **Researcher bias.** Inevitably the beliefs and assumptions of the researcher infilttrate the materials of the study and perhaps analysis of data. Town staff and the researcher determined the questions for focus groups and surveys. The content is influenced by personal experience and opinions. While every effort was made to maintain objectivity on the part of the researcher, participant meanings had to be interpreted, a process which involved an unavoidable subjective element.

• **Absenteeism among waterfront residents.** Many waterfront homeowners occupy their residences only seasonally. The project timeline limited the data collection period to the spring. Therefore seasonal residents who were out of town could provide feedback only through online or mail in surveys. They were not present in the focus groups and their absence may have limited viewpoints expressed.

• **Merging data from different methods.** Merging information collected from multiple focus groups, two types of surveys, and individuals’ comment cards posed a challenge to the researcher to integrate potentially inconsistent formats and perspectives.

• **Online surveying.** Online surveys had a significantly lower submission and completion rate than hardcopy surveys. The online survey posed a barrier for certain members of the population of interest, particularly those without access to a computer, although it made gathering responses easier. The researcher conveyed that the online survey targeted absentee property owners.

Conclusion

Each research method collects data in different ways, to answer the same research question: From the perspective of key waterfront stakeholders, what are the most important areas of interest and concern for the Town of Qualicum Beach Waterfront Master Plan to address? Triangulating data and methods proved useful when summarizing and categorizing themes found in the findings.
CONCEPTUAL FRAMEWORK

The conceptual framework used for this project is adapted from the Klein, Nicholls, & Mimura's 1999 coastal adaptation model. The same model was used by the United Nations Framework Convention on Climate Change, a document reviewing appropriate shoreline adaptation processes for governments (1999, p. 245). For the purposes of this consultation exercise, Figure 10 displays a step-by-step process for consultation development, stakeholder consultation, and engagement in the Town of Qualicum Beach on climate change and coastal adaptation. The entire diagram represents the proposed plan phases in the Waterfront Master Plan, while the shaded area indicates steps taken in this research effort. The steps for this project include collecting stakeholder feedback using focus groups and developing appropriate survey questions to collect baseline information from key waterfront participants. Recommendations developed from stakeholder input will inform plan development on the direct needs of the community and taxpayers. The formal WMP process may involve repeating the steps located in the shaded area: information gathering, community awareness and education, and stakeholder consultation.

The model presents six steps for developing a climate change adaptation approach in coastal zones. However, this research project did not conduct all six, because the last three steps extend beyond the scope of this project. Steps conducted in the Waterfront Community Planning Consultation include information gathering (literature review, assembling corporate knowledge from Town staff, and reviewing existing waterfront initiatives), raising public awareness and engagement (information open house on sea level rise, landowner meetings and information displays), and stakeholder consultation (comment cards, focus groups, and surveys). The remaining steps include design and plan development (Phase 1 and 2 of the Waterfront Master Plan), adaptation implementation (choosing a physical option to protect the shoreline and council adoption of both a waterfront land use plan and long-range objectives), and program monitoring (after 2015). These six steps are connected by a feedback loop to the original issue of climate change and its unpredictable nature, reoccurring natural processes, and their impacts. Steps in the conceptual framework may be repeated to reframe the local information collected through observation, scientific processes, or input from members of the public.

Klein, et al. (1999) emphasize that in the past too many coastal adaptation projects have focused on the implementation of shoreline technologies without considering the existing situation. These processes also do not consider citizen engagement or recognize stakeholders as a valuable resource. Decision makers should not be the only audience considered in planning (Klein, et al., p. 246). Citizens and stakeholders need to understand public decisions for managing the shoreline and the long and short term goals of those plans. In fact, community awareness is an essential step for the future WMP. This stage is required to communicate the potential impacts of climate change on the shoreline, the need for the Town to take action, and the consequences of not doing so (Klein, et al., p. 244).

The Waterfront Community Planning Consultation is driven by a series of cause and effect relationships preceding the adaptation framework. These relationships were explored and researched before the consultation process to identify the effects of climate change, note natural processes also contributing to shoreline change, and examine the existing local shoreline management practices that have either exacerbated or mitigate damage. The information gathering stage provided knowledge about the present state of the coastal zone as well as the social, environmental, and economic aspects of the shoreline. This information could enhance stakeholder education during the consultation process. As the Town embarks on the WMP, local government would benefit by continuing to gather information and conducting observational analysis as the situation evolves (Klein, Nicholls, & Mimura, 1999).
The United Nations Framework Convention on Climate Change also adopted the Klein model (2006). The organization notes that the consistent use of old and new information strengthens climate change adaptation initiatives created by local governments. In this study, the existing corporate initiatives reviewed provided background information that enriched stakeholder engagement, providing context on what the Town has already done, what has worked, and what the Town could do based on stakeholder recommendations, concerns, and interests.

Figure 10. Coastal Adaptation Conceptual Framework for Town of Qualicum Beach
(Adapted from Klein, et al., 1999)
LITERATURE REVIEW

Introduction

The literature review discusses global and regional sea level rise forecasts and related climate change research and how it is expected to affect the Town. I summarize aspects of the Ministry of Environment Climate Change Adaptation guidelines (2011) including foreshore construction and development recommendations in the context of the local shoreline. I present a map of shoreline areas susceptible to flooding and provide details of the current waterfront conditions in Qualicum Beach.

Global Sea Level Rise

Global sea levels are expected to rise by one metre, or 11 millimetres per year, over the next century (Ausenco Sandwell, 2011). Based on sea level rise projections from 2000 to 2100 the same trend – shown in Figure 11 – is expected for British Columbia. In 2007, the Intergovernmental Panel on Climate Change (IPCC) estimated that sea levels will rise by 2100 between 18 and 59 centimetres (IPCC, 2007; Arlington Group, 2013). However, these are conservative figures and today it is estimated that sea levels will rise by 2100 between 28 and 98 centimetres by 2100 almost 50% higher than 2007 projections (IPCC, 2013). Predictions are subject to fluctuation – in part due to vertical land movements and globally levels are rising faster than expected. In 2013 IPCC estimates that globally mean sea level rise from 2081 and 2100 will range from 26 centimetres to 81 centimetres. Estimates are based on climate change projections and process based models and highly dependent on the level of greenhouse gas emissions (e.g. carbon dioxide) (IPCC, 2013, p. 14).

“Global mean sea level rise have accelerated during the last two centuries” and the anticipated sea level is approximately 10 times faster than the historical rate (IPCC, 2013 p. 12; Ausenco Sandwell, 2011, p. 1).” It is estimated that the linear trend from 1901-2010 was that global mean sea level were rising between 1.7 and 0.21 millimetres per year measured by tide gauges (Arlington Group, 2013; IPCC, 2013). Now, researchers combining tide gauge measurements and advanced satellite imagery, estimate that since 1993 actual sea level rise rates reached 3.2 millimetres per year versus an average of 0.19 millimetres between 1993 and 2010 (Thomson, Bornhold, & Mazzotti, 2008, p. 2; Arlington Group et al., 2013, p. 3; IPCC, 2013).This is a substantial increase over the last decade.

Global sea level rise is expected to increase moderately in the first quarter of the 21st century but increase more rapidly from 2025 to 2100. As a baseline measure, 2100 is widely used in the research and by the Province of British Columbia for estimating construction lifespans, particularly in provincial adaptation guidelines (Ausenco Sandwell, 2010). The technical guidelines released by the Ministry of Environment were developed make provision for a sea level rise of 0.5 metres by the 2050, 1 metre by 2100 and 2.0 metres by 2200, as such the province recommends sea level rise planning to follow to these expected levels as shown in Figure 12 (Arlington Group et al., 2013, p.12)

Sea levels change due to a number of different factors. Factors include warming of the ocean and thermal expansion, arctic and mountain glaciers melting, change in water volume and salinity, tectonic plate uplift, atmospheric pressure and currents (Thomson et al., 2008; Arlington Group et al., 2013). Although sea level rise might be considered minimal for some locations, high tides or intense storms will often increase the risk to shoreline development and coastal communities. Unfortunately, human settlements often locate developments, concentrate populations, and their critical infrastructure along shorelines or coastal hazard zones endangering human lives (Klein & Vellinga, 1993; District of Tofino, 2103).
Provincial and Local Sea Level Forecasts

This section reviews the regional sea level rise for Eastern Vancouver Island's Nanaimo region. Between 2000 and 2100 there will be an increase of 80 centimetres, defined as the mean relative sea level rise, to 113 centimetres, the 95% confidence interval of predicted relative sea level rise by Oceans and Fisheries Canada (Thomson et al., 2008, p.49; Ausenco Sandwell, 2011). The range is applied to all coastal communities in the Regional District of Nanaimo (RDN). The Ministry of Environment suggests such forecasts should be applied to all sea level rise planning policies and a relative sea level rise of 1 metre by 2100, shown in Figure 11. Thomson (2008), states that Victoria will undergo a relative sea level rise of 20 to 30 centimetres fluctuating in range between 10 to 50 centimetres, but a more extreme estimate places Victoria at an anticipated sea level rise of 90 to 100 centimetres by 2100 based on global mean sea level rise (Thomson, et al, 2008).

Figure 11. Sea Level Rise Forecasts - East Vancouver Island

Fisheries and Oceans Canada provides low, medium and high estimates by region for the province of BC measuring historical water levels changes over time at designated government sites. The Province has chosen high estimates for all provincial sea level rise planning materials. These sites across are listed in a federal report released in 2008 (Thomson et al., 2008).

One particular concern for coastal communities like Qualicum Beach is that there is limited local sea level rise local data (Baron, et al., 2012). Therefore regional forecasts are subsequently applied across the jurisdiction. For Qualicum Beach however, sea level rise estimates are calculated by tide gauges relatively close to the municipality, approximately 25 kilometres south in Nanoose Bay (Thomson et al., 2008). The estimates applied to Qualicum Beach in this study and mapping are based on the high scenario for Nanaimo region by 2100.

Figure 12, from the Ministry of Environment, represents sea level rise forecasts along the recommended curve for sea level rise planning in British Columbia based on low, median and high range of global sea level rise projections. The trend line is plotted starting at 2000, and projected forward according to historical data, with the trend indicating 1 metre by 2100.
British Columbia regional projections account for additional factors influencing sea levels, including land motion and tectonic plate movement (Province of British Columbia, 2013). Projected sea levels for Qualicum Beach are reduced by upward land motion due to the rising Juan de Fuca plate in comparison with other Vancouver Island locations like Tofino where plate subsidence will occur (District of Tofino, 2013). Sea levels in Qualicum Beach are still expected to exceed the uplift rate, but have an uplift rate higher than western Vancouver Island (Thomson et al., 2008). The “western Juan de Fuca Strait will only rise about 5 to 15 cm with a range of -5 to 25 cm” (Thomson et al., 2008, p. vi). The uplift rate in Nanoose Bay is 2.1 millimetres per year based on a ten year record (Ausenco Sandwell, 2011; Thomson et al., 2008). There are still uncertainties about expected land motion and the impact to sea level rise forecasts across British Columbia.

The Ministry of Environment recommends BC coastal jurisdiction apply at least average regional forecasts when planning waterfronts or reviewing local shoreline requirements. In the next section, I discuss the types of sea level rise guidelines created in 2011 that should be applied to new construction or existing waterfront development.

**Ministry of Environment (MOE) Climate Change Adaptation Guidelines**

In 2011, the BC Ministry of Environment released the *Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use*. The document is a critical centrepiece in a series of technical papers (e.g., Sea Dike Guidelines and Flood Hazard Area Land Use Management Guidelines, Draft Policy Discussion Paper) providing land management direction for areas exposed to coastal flooding in British Columbia.

The Guidelines use sea level rise projections from Fisheries and Oceans Canada to develop a regional Flood Construction Levels (FCL) and the Flood Construction Reference Plan (FCRP), local sea level rise policies, setback values, technical definitions and appropriate building elevations. The preliminary FCL for East Vancouver Island is 5.0 metres. The FCL refers to a standard sea level rise preparedness measure — the recommended building elevation for all shoreline structures based on the Flood Construction Reference Plan in addition to a buffer or “freeboard”. The FCRP for East Vancouver Island is 4.4 metres and the freeboard is 0.6 metres, together the FCL. The FCRP is the measure used to indicate the “vertical elevation of the estimated future natural boundary”, or where the visible watermark lies
The FCRP is the designated flood level for each region and incorporates the future sea level rise, total storm surges in a designated storm plus the estimated wave effects and maximum high tides (Ausenco Sandwell, 2011, p. 3).

For the sea level rise open house, the Qualicum Beach Information Services Department applied East Vancouver Island sea level rise estimates to the known natural shoreline boundary to create Figure 13, illustrating parts of in Qualicum Beach that were subject to flooding in 2011. Based on the suggested flood construction reference plane from the Ministry of Environment, areas in red indicates the parts of beach from the lowest low water mark to 4.10 meters inland that were subject to flooding. From 2011 onwards on the existing shoreline topography, 0.9 additional metres may flood. The value considers the designated storm, wave run up, and surge estimates when combined, meaning that up to 5 metres from the lowest low watermark may experience flooding.

The Guidelines also encourage landowners to construct only 25% of the floor space of an extension outside of the 2100 flood construction level or at the existing elevation of a building (Ausenco Sandwell, 2011, p. 22). The guidelines can present a great conflict between private property interests and the need for shoreline climate change adaptation. As the Town moves forward with a Waterfront Master Plan which will determine a protocol for shoreline works and designate sea level rise planning areas, consultants may recommend that the Town require substantial development setback rather than sea level rise adaptation.

Although cited as preliminary, the Guidelines for sea level rise planning are essential baseline tools for small or remote coastal jurisdictions like Qualicum Beach. Many low populated jurisdictions do not have the resources to conduct their own technical studies on local foreshore processes. Imposing maximum setback and elevation requirements for all shoreline developments may offset the impacts of unpredictable changing sea levels or weather events in the future that will continue to evolve as more data is available (Arlington Group, et al., 2013).
Town Initiatives for Shoreline Management

Introduction
This section reviews local government policy documents relating to sea level rise and waterfront initiatives in Qualicum Beach. The government literature identifies the ongoing need for waterfront community consultations and a comprehensive shoreline strategy. Official Community Plan (OCP) policies that support the development of a WMP are reviewed followed by 2010 Quality of Life Survey results used to develop the OCP. The 2012-2014 Corporate Strategic Plan objectives, a shoreline stabilization project and the annual shoreline visual survey are also described.

Local government policies, annual site visits, staff reports, and shoreline stabilization initiatives clearly support plans for waterfront adaptation and protection. The aforementioned account indicates a progression of shoreline problems that have led the municipality to pursue a comprehensive Waterfront Master Plan.

2012-2014 Town of Qualicum Beach Corporate Strategic Plan
The Town of Qualicum Beach 2012-2014 Corporate Strategic Plan identifies waterfront protection as a key municipal work priority. The plan describes work objectives for the Town over the current council term, reviews and re-prioritizes existing projects, and identifies new strategic initiatives by assessing the strengths and weaknesses in the organization. Ongoing initiatives and projects from the previous Corporate Strategic Plan include improving and protecting the waterfront (Town of Qualicum Beach, 2012b, p. 8). The plan is approved and adopted by Council at the beginning of their term.

As part of the development of the Corporate Strategic Plan, a strengths, weaknesses, opportunities, and threats (SWOT) analysis was conducted. In Table 3 the analysis identifies climate change and sea level rise as primary threats to the community and the waterfront. The management team and council also determined the waterfront area, in terms of beach maintenance as a weakness in Qualicum Beach. The Corporate Strategic Plan established that the waterfront should be an ongoing priority area for the Town to pursue from 2012 to 2014. By protecting the waterfront from sea level rise and climate change damage, the shoreline would be enhanced to address existing physical conditions, attract visitors to the area, and increase usability.

Table 3. 2012-2014 Town of Qualicum Beach Corporate Strategic Plan

“The Council and Staff participated in a SWOT analysis process in order to consider the Town’s current context….in the process several themes emerged.”

- Maintaining beach/waterfront (Weakness)
- Climate change-waterfront-sea level (Threat)
(Town of Qualicum Beach, 2012b, p.10)

2011 Official Community Plan and Sea Level Rise
The new Qualicum Beach Official Community Plan was adopted in 2011. The OCP provides policies on all land use designations, infrastructure development, sustainability, community objectives and direction on waterfront lands. The Town OCP incorporates a Sustainability Plan that contains complimentary action items to address OCP objectives. The OCP contains reoccurring policies on climate change
adaptation and the impacts of sea level rise on waterfront development, a major land use concern as the shoreline represents the entire eastern municipal boundary.

Table 4 lists OCP and Sustainability Plan policies that describe municipal actions and directions for protecting the shoreline, existing development and infrastructure from sea levels and natural processes due to climate change. Developing a Waterfront Master Plan is a key implementation measure and study established in the OCP, to be completed by 2017— a six year planning horizon applies to Official Community Plans in British Columbia. The policies listed, indirectly or directly address the Qualicum Beach waterfront, responses to sea level rise and the built environment:

Table 4. Official Community Plan Policies Related to Sea Level Rise Planning

<table>
<thead>
<tr>
<th>Official Community Plan Section</th>
<th>Policy</th>
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| 2.2.2 Residential-Land Use Designation (2.2.2.2 Single Family Residential) | General Policy  
- The Town should also prepare for climate change and rising sea levels by implementing policies for adaptation in vulnerable areas such as the waterfront. This should include a review of construction elevation requirements for new construction  
Policy Objectives  
- To prepare for climate change and rising sea levels by implementing policies for adaptation in vulnerable areas such as the waterfront. |
| 2.2.7 Parks & Natural Space-Land Use Designation (2.2.7.1 Waterfront) | General Policy  
- The Town should also prepare for climate change and rising sea levels by implementing policies for adaptation in vulnerable areas such as the waterfront. This should include a review of construction elevation requirements for new construction.  
- Given these conditions, it is recommended that the Town undertake a comprehensive study of the waterfront to produce a Waterfront Master Plan. The directions and policies contained in Section 2.2.7.1 should be reviewed and considered as part of the study. |
| 2.4 Development Constraints-General Planning Section | Constraint—Flooding  
- Rising sea levels as a result of climate change will increase the vulnerability in the Town’s flood-prone areas.  
Policy Objectives  
- To plan for the impact of sea level rise as projected and supported by scientific literature. |
| IMPLEMENTATION  
3.1 CONSEQUENTIAL LEGISLATION, AGREEMENTS AND STUDIES (3.1.18 Waterfront Master Plan) | The Town shall develop a waterfront master plan to provide details on the long term objectives in this Plan. |
Sustainability Plan & Action Plan
Section 3.1 of the OCP contains consequential agreement or studies from the OCP objectives, including the development of a Waterfront Master Plan for Qualicum Beach. Awarded the Federation of Canadian Municipalities Sustainable Communities Award in 2013, the Sustainability Plan is a living document that establishes a work plan schedule for the Planning Department using a Sustainability Action Plan to meet objectives. The Sustainability plan defines the long term vision for the Town based on eight main principles of sustainability, and contains goals and objectives (Town of Qualicum Beach, 2012c). Various studies must be completed before the next OCP review in 2017 to reach Sustainability Plan goals and OCP implementation. A Waterfront Master Plan is the choice implementation tool for the Town to achieve the “preservation of the waterfront area” under the first sustainability principle of the Plan’s “Complete Compact Community Land Use”, and also works in conjunction with controlling growth in Qualicum Beach to create mixed-use patterns of land uses.

Quality of Life Survey
In 2010, the Town conducted a Quality of Life Survey to inform new policies during the Official Community Plan review. The survey provided residents, businesses and property owners with an opportunity to give their opinions on a variety of land use and community issues to direct planning in Qualicum Beach. The survey contained questions dedicated to the land use management of the waterfront and actions to improve the area (Mustel Group, 2010). The approximately 2,000 responses represent a significant portion of the population, and provide insight on public values and waterfront preferences. Residents tended to prefer the waterfront area with residential development and approximately 40 per cent wanted more parkland (Mustel Group, 2010). Respondents identified the waterfront as a valuable asset for community recreation, and they stated that they would support the extension of the current public walkway. Many would like to see the Town maintain current waterfront land uses, with three in ten residents preferring the waterfront in its current state (Mustel Group, 2010). Resident preferences for maintaining the status quo may conflict with different protection measures that might be proposed during the Waterfront Master Plan shoreline to address climate change adaptation.

Shoreline Stabilization Project (2011)
Over the years the Town has conducted several projects and studies to stabilize the foreshore, including a brief study in 2010 analysing gaps in Town shoreline data and a site inventory by EBA Engineering Consultants for internal purposes. The report, in a limited duration of time, reviewed site context, natural shoreline conditions, aerial photography, vegetation, regulatory jurisdictions, landslide rating scales, and areas of concerns on the waterfront. The study helped the Town to determine the launch of a pilot shoreline project for stabilizing erosion in a problem area.

In February 2011, the Town launched the $35,000 pilot project using a soft shoreline restoration system or a green shores method — a provincial organization of volunteer professionals (engineers, planners and landscape architects) providing information on the naturalization of shorelines for climate change adaptation (Horner, 2011b). As part of this project, coastal engineers used cables buried fifteen feet below to anchor large cedar logs a few hundred metres up the beach. Grading materials were placed behind the logs to provide additional protection for the highway and block excess debris from travelling past the high water mark. The pilot project intended to capture material behind the cabled wood and to reduce the water main exposure located west of the Shady Rest Pub.

The project was only partially successful and protected the shoreline for one winter season. Remedial work will be performed in this location to address failures, as the Town works on an interim shoreline
stabilization project to address the severe erosion and property loss at the Brant Park Viewing Area in 2013, before the Master Plan. After several strong winter storms the cabled cedar logs disconnected and relocated. This incident highlights the Town's need for a comprehensive coastal strategy to address the shoreline effectively. A scientific study documenting foreshore processes will occur in Phase 1 of the Waterfront Master Plan. During this Phase consultants will determine the most suitable technologies and protection strategies for the Qualicum Beach shoreline given historical processes, existing infrastructure, weather patterns, and shoreline geomorphology (Stubbs, 2013).

Annual Beach Walk and Visual Survey
Town staff photograph shoreline changes each spring. A series of pictures documents the seven kilometres of waterfront in key places of erosion and damage (Appendix G). Several of these areas were presented on panels at the open house showing shoreline changes over the last decade (see Appendix J). The building official who conducts the annual survey will also record site observations at low tide including damage to properties and seawalls. This initiative was supported by the open house guest presenter Grant Lamont and he said that starting this fall with the storm season, landowners and residents should start documenting changes: “Having access to such data is very helpful for engineers” he said (Wilford, 2013).

Surveys indicate that overall tides are higher and storms are far stronger, there have also been an increased number of landowners with deteriorating seawalls and rip rap signalling that these methods are no longer adequate for shoreline protection.

Draft Memo on Shoreline Buffer Areas
In 2010, building staff wrote a draft report containing recommendations for shoreline management. The report suggests the designation of “Shoreline Buffer Areas” on the waterfront. This report recommends:

- A review of bylaws and policies to ensure that adequate guidelines are in place for the proper management of Shoreline Buffer Areas,
- Engagement and education of waterfront property owners to ensure that future improvements follow best practices for shoreline remediation,
- That the Town explore options for collaborative remediation projects,
- That the Town make improvements for affected Town owned properties (Town of Qualicum Beach, 2010).

The 2010 report identifies barriers and opportunities for new shoreline policies. Barriers identified include the clash between preserving properties, and the high cost to purchase these properties and any future shoreline buffer requirements restricting development or extensions on these properties. The report recognized the need to protect waterfront owners from hazardous conditions resulting from inappropriate shoreline protection (Town of Qualicum Beach, 2010). Many of the report recommendations are not new options for the Town, and select policies changes are clearly stated in Official Community Plan. The report content closely aligns with the types of recommendations to be addressed in the Waterfront Master Plan three years later. Today, many of the memo draft recommendations will be strongly considered for the WMP.
Conclusion

A review of the relevant local government shoreline initiatives and waterfront policy documents identified what has been attempted for shoreline protection and remediation. Discussing the global and regional sea level forecasts and their potential effects on vulnerable settlements along the shoreline is an important exercise. Policy development and initiatives to address sea level rise planning are briefly explored in subsequent parts of this report, but will be fully developed during the Waterfront Master Plan for Qualicum Beach.
FINDINGS

Introduction
This section describes the findings from all three consultation methods used for collecting data on stakeholder opinions. A report on the open house attendance and consultation response rates is followed by some of the open house findings (comment card feedback). Next, survey results are reported: first the closed-ended questions from survey questions receiving a significant response rate are presented in frequency tables and then open-ended questions from surveys with a good response rate are discussed. I conclude with general overview of the findings from focus group discussion questions, reported by question, with individual responses aggregated.

Attendance and Consultation Response

Town of Qualicum Beach address mapping indicates there are 183 waterfront parcels that could receive mailed recruitment materials for the waterfront consultation. The number of unique property owners, however, was determined at 140 using a report generated by tax roll numbers in the Town Municipal Accounting and Information System (MAIS).

Table 5 describes consultation response rates by research method. The list reflects responses received from the study population of interest. The rate of survey responses are considered to be high by the local government client at 20 to 25 % return rate from the study population of interest (i.e., waterfront property owners, waterfront businesses, residents, and tenants).

<table>
<thead>
<tr>
<th>Consultation Activity or Survey Instrument</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open house</td>
<td>80 attendees</td>
</tr>
<tr>
<td>Public comment cards</td>
<td>13</td>
</tr>
<tr>
<td>Complete surveys</td>
<td>33</td>
</tr>
<tr>
<td>Online</td>
<td>12</td>
</tr>
<tr>
<td>Hardcopy</td>
<td>21</td>
</tr>
<tr>
<td>Focus group participants (both groups)</td>
<td>11</td>
</tr>
<tr>
<td>Focus group audio recording</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Open House Findings

The following reports the comment card findings; Appendix E contains a sample comment card. The researcher collected 13 cards from the population of interest. The cards were also made available during the open house, municipal hall display, and focus groups, although the majority of these cards were collected at the Open House. Feedback included in twelve cards containing is reported. Several property owners’ submitted cards with their contact information only. Comments represent a variety of unique waterfront concerns.
Comments and concerns included:

- Public safety risks — the Brant Viewing Area Park has a parking lot with no buffer between the lot and ocean.
- Rip rap installation — owners have experienced gradual sinking of their property and installed rip rap rock twice in 25 years.
- Significant shoreline changes — shorelines have changed between Yambury Road and the end of Seacrest Place since 1959, and recent changes are attributed to the diversion of surface water down Yambury Road and out on the beach.
- Sand levels decreases — Eaglecrest Beach has eroded over the last decade with sand disappearing.
- No shoreline changes — owners of waterfront property for over 26 years witnessed high tides in mid-December with nothing changing or damage to their property.
- Property insurance concerns — waterfront lands have to be insured from damage.
- Undermined seawalls — although significantly set-back seawalls have an inability to protect land and private properties from erosion.
- Property devaluation — land owners are concerned that as properties are no longer valuable their property taxes will still rise to fund waterfront projects.

Property owners often associated their waterfront property with shoreline erosion or sea level rise. The concept of shoreline erosion is associated with property damage most often. Comment cards describe experiences at Seacrest Place, Eaglecrest Beach, near Yambury Road, and the Brant Viewing Area related to significant shoreline erosion or property damage. Cards describe the undermining of sea walls, berms or raised land, and the influence of local storm water management practices on shoreline erosion. One card states nothing has changed on the subject’s waterfront for more than 20 years, despite not living on a bluff area and high winter tides.

**Survey Results**

**Sample**

Table 6 outlines the survey sample composition by group in the study population (waterfront property owners, businesses and residents). The majority of respondents are waterfront property owners (59%), the target audience for this study. Few waterfront tenants or businesses completed surveys. The hardcopy and online survey questions are located in Appendix D and K.

<table>
<thead>
<tr>
<th>Study Population Stakeholder</th>
<th>Responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterfront property owner</td>
<td>29</td>
<td>88</td>
</tr>
<tr>
<td>Waterfront business</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Waterfront residential tenant</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
</tr>
</tbody>
</table>
Closed-Ended Survey Questions

Categorical survey questions are presented in frequency charts and described with a brief narrative. Results for identical questions in the online and hardcopy surveys are combined. Select online survey questions that differed from those in the hardcopy survey instrument are only reported if they provided relevant information for thematic analysis and had at least 5 responses.

The findings display variables such as respondent age, the relative value of waterfront features, importance of WMP objectives, potential questions for the master plan, shoreline locations of concern, and local sea level rise concerns. The original study research questions were as follows and the surveys developed questions accordingly:

- From the perspective of key waterfront stakeholders, what are the most important areas of interest and concern for the Town of Qualicum Beach Waterfront Master Plan to add?
- Are waterfront stakeholders familiar with the realities of sea level rise and climate change and what are their perceptions or understanding?

Respondent ages reflect the 2011 population census results (Statistics Canada, 2012). The majority of waterfront stakeholder participants were 50-79 years of age, with years of age represented 45% below 65 years of age and 55% above. The senior and baby boomer populations showed the greatest interest in the Waterfront Community Planning Consultation.

Survey respondents were asked to rate the importance of waterfront features, with a rating of 1 representing “not important” and a rating of 4 representing “very important”. Table 7 provides the results for this question. Respondents ranked “maintaining water quality” only behind “preserving my property from sea level rise impacts” and “erosion control and protection from sea level rise and storm events.” Results indicate that waterfront property owners are particularly interested in protecting their homes and investments. Preserving the existing waterfront ecosystem is also an important feature for the waterfront for participants with 50% of category responses selecting “very important”.

Table 7. Stakeholder Ranking of Waterfront Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Rating</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not important</td>
<td>Somewhat important</td>
</tr>
<tr>
<td>Leaving the systems as natural as possible</td>
<td>2 (6%)</td>
<td>8 (26%)</td>
</tr>
<tr>
<td>Water quality</td>
<td>1 (3%)</td>
<td>5 (17%)</td>
</tr>
<tr>
<td>Preserving my property from SLR impacts</td>
<td>3 (10%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>2 (7%)</td>
<td>5 (17%)</td>
</tr>
<tr>
<td>Access to public recreation areas</td>
<td>9 (31%)</td>
<td>8 (28%)</td>
</tr>
<tr>
<td>Erosion control and protection from SLR or storm events</td>
<td>1 (3%)</td>
<td>2 (7%)</td>
</tr>
<tr>
<td>Preserving ecosystem function</td>
<td>1 (4%)</td>
<td>2 (7%)</td>
</tr>
</tbody>
</table>
Table 8 reports results from the online survey question that asked what goals respondents would like to see addressed in the WMP. Respondents could select one of four different goals. Ten of fifteen online survey returns answered the question. Protection of private property goals received 70% of the responses. Responses indicated natural area preservation and recreation improvement are two secondary goals preferred for the plan. One respondent stated private property protection and recreational area improvement were important goals. They wanted to see a pier and a better boat launch on the waterfront. Question results in Table 8 are consistent with waterfront feature responses in Table 7.

Table 8. Next Steps- Waterfront Master Plan Objectives

<table>
<thead>
<tr>
<th>Goals</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of private property</td>
<td>70%</td>
<td>7</td>
</tr>
<tr>
<td>Natural area preservation</td>
<td>10%</td>
<td>1</td>
</tr>
<tr>
<td>Improving recreational areas</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Tourism and economic development</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>If other, please explain: 1. “re: protection of private property- leave it alone and allow rebuilding to two stories”</td>
<td>20%</td>
<td>2</td>
</tr>
<tr>
<td>2. “protection of private property, also pier for fishing and a better boat launch”]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Online Survey Responses: 10

Table 9 details waterfront locations of concerns identified in online and hardcopy surveys. Participants were asked to answer a two part question. First they were asked to describe an experience, observation or event related to sea level rise on the waterfront in Qualicum Beach. The next question asked survey respondents to list the location of their experiences. Survey results are fairly consistent with the locations of concern discussed in the focus groups.

Table 9. Waterfront Locations of Concern

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eaglecrest Beach</td>
<td>23%</td>
<td>5</td>
</tr>
<tr>
<td>Island Highway</td>
<td>18%</td>
<td>4</td>
</tr>
<tr>
<td>Judges Row</td>
<td>18%</td>
<td>4</td>
</tr>
<tr>
<td>Brant Viewing Area</td>
<td>14%</td>
<td>3</td>
</tr>
<tr>
<td>Seacrest Place</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>The Shady Rest</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>Buena Vista/Sandpebbles</td>
<td>9%</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Responses: 22

The waterfront locations of concern most frequently noted are: Eaglecrest Beach with bluff residential and a golf course, properties along Island Highway, Judges Row, a large lot residential area at the south end of the public waterfront, and the Brant Viewing Area neighbouring a waterfront park. Table 9 shows that Eaglecrest Beach is mentioned most frequently (23% of responses) and in particular participants mentioned the beach transformation from white sand to large rocks. Respondents listing events along
Island Highway noted observations at the north end of the waterfront past the public beach area and close to the Buena Vista and Sandpebbles Resort. Several municipal addresses are listed ranging between 3200 and 2700 Island Highway West.

Online survey respondents were also asked to rate their level of concern between one and ten for local sea level rise forecasts. Based on an average of the online survey ratings from eight completed answers to this question the level of concern was moderate. Individual survey responses were polarized. Online survey responses either had high or low ratings for their concern about the impact of sea level rise on their home or business. The average level of concern for all survey participants was 5/10. A similar question was asked of focus group participants and presents slightly different results.

**Open-ended Survey Questions**

Survey respondents were asked to list three areas of interest or concern that they have regarding the Qualicum Beach shoreline or waterfront whether they had any questions regarding the WMP. There were 29 responses for the first question and 26 responses for the second question. Table 10 details the responses to these questions.

Six themes or areas of concern are identified in the participants’ responses: erosion, waterfront protection, aesthetics, recreation, public access and infrastructure; the economy and environment. Thirty-three waterfront stakeholder responses described a variety of issues and also offered solutions for some of these waterfront concerns.
Table 10. Waterfront Survey: Three Waterfront Concerns and Interests

<table>
<thead>
<tr>
<th>Theme</th>
<th>Respondent Concern or Interest</th>
<th>Proposed Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion</td>
<td>• Eaglecrest Beach erosion through exposure of large rocks/boulders</td>
<td>• Add gravel to beach</td>
</tr>
<tr>
<td></td>
<td>• Reclaiming private property after erosion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Damage to protection measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Erosion occurring above the high water mark</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Not enough feeder materials for the beach from bluffs, due to increasing erosion</td>
<td></td>
</tr>
<tr>
<td>Waterfront Protection</td>
<td>• Flooding of residential land</td>
<td>• Tax relief to encourage individual property owners to conduct protection work</td>
</tr>
<tr>
<td></td>
<td>• Lack of information on effective shoreline technology from municipality</td>
<td>• Install breakwaters along current foreshore</td>
</tr>
<tr>
<td></td>
<td>• Effects of sea walls on neighbours (hardened surfaces)</td>
<td>• Rethink current location of buildings and infrastructure</td>
</tr>
<tr>
<td></td>
<td>• Sea wall overtopping</td>
<td>• Restrict log removal from beach for firewood</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>• Ugly beach</td>
<td>• Do not permit pets on the beach</td>
</tr>
<tr>
<td></td>
<td>• Gravel bar build up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dog poop on the beach</td>
<td></td>
</tr>
<tr>
<td>Recreation, Access and</td>
<td>• Collapse of paved walkway between Memorial Ave. and Bay St.</td>
<td>• Build a public pier perpendicular to the shore</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>• Highway wash outs</td>
<td>• Maintain public walkways</td>
</tr>
<tr>
<td></td>
<td>• Exposure of sewer lines</td>
<td>• Improve boat ramps and dock access for boat, kayaks and long boards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sewer line protection plan</td>
</tr>
<tr>
<td>Economy</td>
<td>• Sustainable tourism</td>
<td>• Waterfront festivals and events</td>
</tr>
<tr>
<td>Environment</td>
<td>• Natural area preservation</td>
<td>• Encourage natural planting to protect bluff properties from erosion</td>
</tr>
<tr>
<td></td>
<td>• Aqua-culture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Green blooms of sea grass</td>
<td></td>
</tr>
</tbody>
</table>

Twenty-six participants submitted questions for the Town of Qualicum Beach on sea level rise planning and the Waterfront Master Plan and five of which were from online surveys. The responses identify areas of interest and concern for the waterfront. Questions were raised about the following areas:

- Best practices for sea walls
- The impact of sea walls on neighbouring properties (increased erosion)
- Feasibility of different protection methods
- Whether the Town would choose extensive protection, as sea level rise is inevitable
- Town decisions to retreat, accommodate, adapt or avoid sea level rise
- What will be done to enhance recreation
- Future consultation processes
- How sand on the beach would be maintained for recreation
- How the Town is going to stop the loss of the beach
• Why initiatives are not being done sooner
• Private and public property protection
• Loss of property lines
• Probable costs

Respondents posed a variety of question with the most common question being how the WMP would protect shoreline properties. One respondent stated “Please consider that sea level rise is INEVITABLE so protect the shore even if the method is not particularly attractive.” Another respondent asked if the Town strategy would be to abandon low lying waterfront properties. Lastly, respondents posed questions regarding seawalls including their impact on neighbouring properties, effectiveness, and construction best practices.

Focus Group Results

The following consultation findings correspond generally to the focus group questions listed in Appendix I, and are followed by an overview that aggregate findings for each question.

Motivation

In a roundtable format, participants were asked why they had decided to attend the focus group and what they hoped to achieve. Answers varied, but there was a general consensus that the waterfront was changing, which directly impacted some participants. Many were frustrated by the difficulties of obtaining approvals and determining what they could or could not do to protect their properties and their investments or infrastructure. Others attended to follow up on knowledge gained at the Open House. Business owners attended because commerce on the beach is declining. For one participant, new sea walls were being undermined, while another landowner feared eventually losing their home. One business owner attended to find out about the implications of sea level rise protection projects on their property taxes, which they stated were very high. Some participants attended because they were interested in what other participants perceived as problems on the waterfront and for the Town.

Climate Change Perception and Awareness

The focus group facilitator asked participants to discuss their level of understanding and perception, either positive or negative, of sea level rise and climate change impacts on the waterfront. The resulting discussion addressed the research question of whether waterfront participants familiar with the realities of sea level rise and climate change.

Focus group participants said they appreciated the information at the Open House on sea level rise and local forecast data. Some said that they “have been looking for this type of detailed information for some time” but did not know where to get it. Participants stated public education and discussions were “...an important first step” towards addressing the larger issue of what the Town should do about the beach. A landowner from the Eaglecrest subdivision communicated enthusiasm for public education, saying, “The more I end up learning about anything, the more motivated I get….I think it all starts with education.” This stakeholder had very little knowledge about what causes sea level rise and climate change, but wanted to know more.

Participants with limited knowledge about sea level rise and climate change had reservations about the theories discussed by participants with a stronger understanding. Some participants were sceptical
about the concept of climate change, saying, “I don’t know if I agree with a lot of it…” but did attribute the shoreline changes to “predicated cycles” and agreed the Town needed to do something about it.

Those with a basic understanding of climate change relayed their knowledge to the group and attributed their understanding to having witnessed changes along the waterfront. In particular, seasonal residents returning to the Town in the summer remarked on increased erosion to their properties and ocean debris on their lawns. Some owners conversely stated they had not witnessed any shoreline changes. Generally, participants with stronger understanding about climate change and sea level rise were the homeowners facing extreme circumstances and who had conducted their own research. One participant conveyed their knowledge: “As polar ice caps melt there will be less reflection from the solar basin and it is going to get warmer.” Knowledgeable residents said they were aware that climate change had been happening for quite some time but one added, “I thought I would have more time…” before the effects threatened their home.

A third participant acknowledged the implications of sea level rise on the waterfront but was reserved about the Town making rising sea levels the focus for local policy making. The participant said that, although sea level rise planning is an important component of the WMP, many other elements of the beach including beautification and tourism should receive equal consideration. The participant added:

“What we do know is that there is climate change. Sea level rise is minimal and the future sea level rise is pretty close to speculation, and we’re putting in our faith in terms of reacting to this theory. However, as a number of people have said, as we live on the coast we’ve all seen the tides and winds and more extreme weather brings the water a lot closer to our doorsteps and, for some of us, past our door steps….Change happens so very slowly that urgency is not applied…”

Level of Concern

Participants were asked to rate their level of concern about climate change and sea level rise on the waterfront on a scale from 1 to 10, followed by any description they could offer about waterfront damage in Qualicum Beach, either observed or experienced. Focus group results shown in Table 11 reflect a high level of concern for sea level rise impact on the shoreline. Over half of the focus group respondents selected ratings from 8 to 10. On average focus group participants rated their concerns a 6.9/10, compared to a 5/10 average survey respondent rating. Together, the weighted average for this question in both consultation instruments was 6.1/10 based on 19 responses.
Table 11. Level of concern for SLR forecasts and property damage

<table>
<thead>
<tr>
<th>Rating</th>
<th>Survey 3</th>
<th>Focus Group 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Respondents</td>
<td>8</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>Average</td>
<td>5</td>
<td>6.9</td>
<td>--</td>
</tr>
</tbody>
</table>

Weighted Average*: 6.1

*Weighted Average Calculation: [11(6.9) + 8(5)]/ [19]

Participants described their observations and experiences of waterfront damage:

- Water is coming up higher on seawalls
- Tides have begun to pull more rocks away
- Decks had sunk after the winter
- Part of the Brant Viewing Area has washed away
- Damage “influencing the state of the beach” means fewer tourists
- Patios were lost on Judges Row
- Seawall foundation has been undermined
- Rip rap rocks have been lost

**Installing Protection Measures**

Landowners, both residential and commercial, were asked if they had installed any protective measures on their property or the foreshore, and if so, what type. Participants responded that they had installed rip rap rock, thick cement sea walls reinforced with rebar (increasing their height over time), wooden sea walls (that had lasted longer than expected), rock seawalls, boulders within property lines, seawalls tied with gravel and mesh material, and cedar skookum posts positioned vertically from the previous owner.

Participants were also asked, in each case, how well their investments had worked. Answers varied, but consistently participants said that the structures had held up until more recently, when they were increasingly undermined by more intense storms. Landowners said that rip rap rocks needed to be shored up again every year as they washed away, and that sea walls rocks and boulders were lost over

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3 Online survey question: On a scale of 1 to 10, with 1 representing not at all concerned and 10 representing extremely concerned, how concerned are you about the sea level forecasts affecting your waterfront property or business

4 Focus group discussion question: On a scale from 1 to 10, please rate how concerned you are about any existing or future damage to your property, business or home?
the years. A participant mentioned that a lot of people in the Eaglecrest area used to have really big logs almost 3 feet high in front of their property for protection, but during the previous winter a huge storm had relocated them.

*Community Collaboration for Solutions*

Focus group participants were asked if they could suggest any ideas for community collaboration in Qualicum Beach to work towards adapting the shoreline for sea level rise. While many thought that only the Town could fully address the problems they had described, others suggested that social media or email exchanges may provide a communication venue. They raised the issue that there would be difficulty finding a common ground for collaboration, simply because community members hold such a variety of perspectives and ideas. Other participants identified turbulent relationships with their neighbours as barriers to community collaboration, or the tendency for waterfront owners in Qualicum Beach to act rather independently.

Some participants recommended establishing regularly meeting waterfront groups with the assistance of the Town, over and above “going to a couple of meetings.” They believed such a group had once existed but since become inactive and that the waterfront landowners needed a central person or delegate to approach the Town on behalf of all of them with collective ideas. Other participants emphasized that collaboration needed to occur outside of the Town boundaries as well, because RDN waterfront owners were experiencing the same problems.

*Foreshore Approval Experiences*

I asked participants about their experience with foreshore development and works approvals. The second focus group members had no experience submitting permits, but the first group had substantial experience. These landowners had obtained approvals dating back over a decade and acknowledged that government processes may have changed in the interim. Newer approval experiences included building permits from the Town building official and were reported to be fairly clear and quick; however senior government approvals were required before local approvals.

Property owners stated that the same contractors they had hired for years now faced significantly more federal and provincial requirements to work on the foreshore. Further, one landowner said that they had spoken with Front Counter BC, in charge of permits for the Ministry of Forests, Lands and Resource Operations. They said that agency applications at that time were 11 months behind. The same owners had applied to the DFO for a project review and received a similarly delayed reply to their request via email. As an owner on Judges Row phrased it, “getting the blessing to do the right thing is a difficult path.”

Even as they contacted different government agencies to seek approvals to fix their beach front, they could not find the appointed official to consult with to clarify the processes. Another property owner could not get permission to remove rubble on the foreshore from the collapse of a deck. A property owner on Hall Road received approval for their rip rap and the local contractor they used consciously avoided exceeding the property line to avoid additional permit processes. Property owners perceived decision-making in federal government as becoming more centralized, indicating that front-line workers could no longer make objective decisions on foreshore permits without director reviews.
Participants were asked if they could describe what they would like to see addressed in the WMP. The focus group attendees, primarily property owners, presented the following recommendations for the Waterfront Master Plan:

- Develop an emergency remediation process for waterfront properties
- Devise a blanket approval system via the WMP for all development, “blessed” by various levels of government
- Clarify the “chain of command” and “who is in charge of what” for various works along the foreshore area (e.g., public education)
- Represent waterfront stakeholders on issues to senior levels of government
- Emphasize tourism, culture, and economic development on the waterfront and make the beach an activity focal point in the Town
- Create a transit-oriented corridor (active transportation) along Hwy 19A or re-route Hwy 19A to avoid the waterfront district
- Promote festivals, walkability, and safety for non-motorized transportation
- Ensure natural area preservation and creation of a plan that is environmentally sound
DISCUSSION

Consultation Themes

This section examines fifteen most important themes identified through an analysis of open houses, surveys, and focus groups findings. Most important themes are those that were most frequency raised. The objective is to link these themes with the Waterfront Master Plan, in order to formulate key recommendations for shoreline management and local waterfront policies in Qualicum Beach. Several themes were already discussed in the survey findings, including locations of concern along the shoreline, but are explored in further detail here. Themes are analyzed in no particular order.

1. Foreshore Works Approvals
2. Natural Area and Ecological Protection
3. Private Property Protection Costs
4. Public Walkway Conditions
5. Seawall Impacts on Neighbouring Properties
6. Opportunities for Community Consultation
7. Comprehensive Waterfront Planning
8. Waterfront Master Plan Funding
9. Waterfront Property Damage and Loss
10. Shoreline Protection Best Practices
11. Recreation
12. Public Investment for Private Property Protection
13. Improving Community Cohesion
14. Tourism and Economic Development
15. Waterfront Locations of Concern

1. Foreshore Works Approvals

The current approval system for foreshore works protecting properties was a major concern for focus groups and in the surveys. Property owners expressed their frustration with the approval process of federal and provincial agencies. Their frustrations focussed on process ambiguity and application delays that stalled construction on the foreshore or near the foreshore needed by the next winter storm season. Timeframes for heavy machinery on the beach further limited construction. Owners who have been living on the beach for some time, indicated that the approval process has become increasingly difficult to navigate for the average citizen as well as local contractors.

Participants emphasized the difficulty of dealing with a multi-layer approval process and the impact on construction timing. Survey respondents cited their top concerns as “trying to get permits from so many government levels” in order to obtain a “timely fix for damaged (eroded) and unsafe areas.” If the approvals do not coincide with the needed timeframe, it results in additional damage to their land. Delays affect emergency foreshore remediation to protect homes, investments infrastructure and expose them to further risk. Although there is an Emergency Works Review Process with Fisheries and Oceans Canada (Oceans and Fisheries Canada, 2013), this was not known by participants at the time of the focus group. There was a group consensus that the current system needs to be simplified, possibly facilitated by the Town, and that the “chain of command” needs to be made transparent. Property owners “wanted to do the right thing” and to comply with these processes, and they understood that for each application agencies represented very different interests and mandates for protecting the environment or fish habitats etc.

Participants emphasized that the Town could play a coordinating and representative role for almost 150 different waterfront land owners in Qualicum Beach. Moreover, they hoped that established relationships between the Town and senior agency departments could ensure that applications reached
the right person or could receive updates on an application’s progress. Property owners felt disconnected from government representatives working in Victoria, Ottawa and Nanaimo and those in Qualicum Beach suggested that, if the process continues to grow unnecessarily complex, some landowners may start “working under the table.” Qualicum Beach property owners agreed a coordinated blanket approval system could protect the interests of each agency, and could be administered using a streamlined process via the Town.

In one instance, participants seeking sea wall repair on the foreshore were denied a review pending agency receipt of plans approved by an engineer. These landowners objected that the agency representative possessed little understanding of the technical requirements of sea walls and wanted simply “check a box,” costing the owners $400 in engineering fees. Another stakeholder who had worked in government commented that junior bureaucrats in the federal government have less discretion than ever to make decisions due to increasing procedural requirements.

In answer to open ended survey questions, survey respondents made statements similar to those of focus group participants regarding foreshore works approvals. One property owner said among their top three concerns was “trying to get permits from so many government levels,” while another owner concurred that they would like to see “coordinated approval to all properties” when applying for permits. Respondents expressed that senior government did not seem to be sympathetic or understand their urgency to protect homes. Landowners wished that “senior government... [would be] more cooperative and coordinated.”

2. Natural Area Preservation and Sustainability

The comments cards, surveys and focus groups all identified the theme of natural areas preservation on the beach as significant. During focus group discussions and in answer to open-ended survey questions, natural area preservation and ecosystem protection was indicated as a major area of interest for the Waterfront Master Plan and further survey respondents were not only interested in shoreline protection, but also in the resulting impacts on the environment. At the end of each focus group, participants were asked, “Can you describe what you would like to see addressed in the Waterfront Master Plan?” Four participants in the population of interest stated either natural features or environmental sustainability. Open-ended survey questions produced similar results and comments regarding natural area preservation in the participants’ top three concerns and interests. Natural area preservation was mentioned second most frequently by waterfront property owners, after their interests for protecting waterfront property from erosion and sea level rise.

In relation to preserving natural areas, participants hope for beautification and beach preservation. One focus group participant wanted to know how the Town intends to balance the economy, beautification, and natural area protection in the master plan policies. Several hope the plan encourages a “sustainable Qualicum Beach in every aspect.” Survey responses also indicated an interest in the initiatives the Town will use to maintain or enhance the beauty of the beach. One survey respondent recommends the Town consider a barrier free, eco-friendly beach, maintaining public accessibility by using a naturalized approach rather than the existing sea walls.
3. Private Property Protection Costs

Focus group participants spoke about the high cost of protecting their waterfront homes, while a survey response recognized that the community may not be able to fund all of the necessary protection works. Therefore it was the respondents belief that the Town should then give substantial tax relief to encourage individuals owners waterfront infrastructure, an interesting idea but difficult to implement and with adverse Town budgetary consequences. In focus groups land owners claimed they could not keep up financially with the replacement of destroyed decks and seawalls. These participants had inherited land or family cabins with an addition. One owner in particular wanted to sell this waterfront property, but could not do so until he obtained foreshore works approvals to remove debris from a damaged deck and wall.

Other focus group property owners recognized the financial challenges of living on the waterfront. Four of five landowners in the second focus group recognized shoreline changes in recent years. As one landowner stated, “Some can write a check for one million, while others cannot.” Discussion participants in the first focus group who could afford to protect their homes said that they were “shocked that any level of government is allowing a home to be undermined.” They sympathized with those facing the costs of shoreline protection and did not want to be put in that predicament as well. The same land owner indicated that an engineering study to determine the most appropriate protection measures for their property alone would cost an estimated $20,000.

In one focus group, five waterfront owners had all spent considerable amounts of money maintaining or rebuilding walls and rip rap rock on the foreshore. Property owners who had inherited waterfront property insisted that they were “not rich and living on the waterfront. We are getting poorer and living on the water.” These owners had also left a $6,000 bond with the Town for future foreshore work. The focus groups felt that these costs should be absorbed or split when there is a master plan. Further, the plan should include a strict protocol for future development on the waterfront so as to spare the community the costs of later shoreline problems.

4. Public Walkway Conditions

Waterfront walkway conditions were a primary concern for waterfront participants in this consultation and in previous Town consultations, especially across survey and focus group answers. In 2010, the Town conducted a Quality of Life Survey receiving over 1,000 responses from residents. Sixty-eight per cent of the mail-in surveys indicated the action they would most support was extension of the current walkway on the waterfront (Mustel, 2010). Similar remarks were documented in the Waterfront Community Planning Consultation.

Surveys often registered discontent with walkway dis-continuity and the encroachment of buildings and benches in the public space creating walking hazards. Respondents noted pavement conditions were poor and participants noted the Town’s failure to regularly maintain the walkway surface, as indicated by cracks and pavement subsidence. Others noted the pavement was sinking from winter storms. The number of surveys and focus group participants describing poor walkway conditions indicate they are a priority concern for the waterfront.

A second walkway concern involved the condition and height of the seawall which supports the public walkway. Respondents felt the wall was not high enough to prevent future damage from rising sea levels.
or extreme weather events. Participants mentioned the unpleasantness of excess debris reaching the sea wall steps and public walkway.

5. Seawall Impacts on Neighbouring Properties

Surveys and focus groups identified concerns about the impact sea walls have on adjacent properties. Respondents stated that the coastal engineer at the open house had alerted them to the potential disadvantages of shoreline structures. For instance, impervious sea walls may divert water to an adjacent property without a sea wall. One focus group member, an owner from a waterfront residential subdivision near Judges Row, remarked that a neighbouring sea wall had a low evacuation capacity. The wall created a bit of a bay on the foreshore in front of his house so that waves began to reach their property more quickly, causing increased yard erosion. Respondents were concerned about the threat of sea level rise and new structure development. In trying to mitigate the impact on their property, landowners could inadvertently create new problem areas on the waterfront.

Requirements for long term foreshore leasing or crown land tenures by senior governments were a concern for Judges Row and Hall Road residents. If a lease is required to install rip rap rock on the foreshore, a commonly used protection measure for residents, owners felt this requirement may encourage homeowners to install sea walls instead of meeting conditions for maintaining rip rock segments. Focus group participants thought that increased sea wall use would not only pose erosion impacts to adjacent properties, but also cause property loss for the owner over time if sea walls were setback significantly.

Focus group respondents stated that an existing sea wall had caused land loss. Survey respondents wanted to ensure that mitigating actions by property owners in other areas along the beach would not negatively impact their property, and create a new problem. An owner lost three feet of land upon resurveying the property, although the last land owner received “good” advice from an engineer to install a vertical wooden seawall with a setback. A different home owner remarked that they had built a sea wall 14 feet behind the property line. When this sea wall was undermined by storms they lost a major section of the property. In the focus groups, each time a new seawall was constructed they had to be relocated further into a waterfront property, and property owners did not know if this was the best option for preserving their home.

6. Opportunities for Community Participation

Surveys and focus groups expressed the hope that their input would be included in the development of a Waterfront Master Plan. They wanted to know how their comments from this and future consultations would be incorporated. Some participants presumed they would provide input on a draft plan, but also indicated that they would like to be kept up to date on each plan phase. Surveys and comment cards repeatedly expressed participants wanted more information and wanted to be kept updated on the subject of sea level rise in the community.

Unfortunately, participants had expressed some scepticism about the WMP process due to previous disappointing experiences with public consultations. A survey respondent stated their wariness about local decision processes, and wanted reassurance “that the Council will actually follow” the plan once it was adopted. This could be facilitated by staff clearly communicating implementation projects addressing plan objectives. Focus group participants at the end of one session were also particularly interested in what the Town would do with their feedback and wanted to see it used. “When would we
have a timeline of when the city may respond to this so...we feel something can be implemented” they said.

7. **Comprehensive Waterfront Planning**

The Town anticipates a coordinated approach to protect and develop the waterfront through a Waterfront Master Plan. Participants emphasized the need and their support for a comprehensive waterfront planning exercise recognising that private and public shoreline protection efforts were historically piecemeal and that the Town “lack[ed] a working strategy.” Property owners felt that the Town should share the responsibility to protect their property, homes and the public foreshore. Property owner opinions contrast with waterfront business owner views, who perceived the Town may emphasize protection of private residential areas in a Waterfront Master Plan. Business owners also communicated their concerns for investing public money on projects that benefit a few waterfront owners.

Property owners suggest the Town should protect multiple properties using a unified protection system such as continuous rip rap across the bay. The Town would be responsible to senior government agencies, including Oceans and Fisheries Canada for the maintenance of the foreshore under a single works permit. Other comprehensive planning recommendations included the placement of a development moratorium on the foreshore until the completion of the WMP. The WMP would determine appropriate development protocol for the waterfront.

Participants were also interested in a blanket development approval system possibly implemented through the WMP. Several participants mentioned the West Vancouver waterfront system whereby the municipality has the authority to approve some waterfront development. Stakeholders were enthusiastic that the Town through the waterfront master plan could seek approval from multiple agencies simultaneously. In other words landowners could apply for approvals using one application coordinated by the local government. Overall a blanket approval process for waterfront policies in Qualicum Beach may expedite foreshore remediation including emergency projects for eroding areas.

One survey respondent remarked on the inevitable nature of sea level rise on the shoreline, suggesting that the protection of the shoreline should be the main objective for the WMP. This respondent also said that the waterfront should be protected even if the method is not attractive. Other surveys and open house comment cards commented that the Town should develop the waterfront intelligently and maintain aesthetic standards. Together across consultation processes stakeholders recognized that the WMP is the necessary tool for comprehensive planning, but that the community must “buy into” the plan recommendations in order for successful plan implementation. Stakeholders mentioned in their surveys for the Town to hurry up the process and get it done.

8. **Waterfront Master Plan Funding**

Surveys and focus groups raised concerns about Waterfront Master Plan costs and plan implementation costs. Concerns relate to the present waterfront property taxes and future property tax rates for all Town residents. Waterfront owners said their existing tax rates were “already pretty exorbitant” and “the Town makes a lot of money off of us”. One seasonal residential owner said “politically they would love it if everyone who owned property on the beach said you pay for this you pay for that, you pay for your dock and then the Town would not have to pay for anything.” Future tax increases was a concern
for survey respondents, they were doubtful that a $150,000 grant could pay for all future protective shoreline infrastructure. One respondent asked “Who will pay for the research and engineering?”

Business owners were sceptical about waterfront change. They voiced concerns about the community support necessary for the financing of waterfront infrastructure and capacity of municipal funding. One stakeholder stated “I also feel that it might be difficult to get support for the type of investment needed for changes or the creation of major infrastructure, when there is nothing pressing being presented to the public.” They believed that a natural disaster or an extreme weather event would be required. This investment is perceived as less urgent than other projects. “Change will come…more drastically with more impact on the awareness of the public, than a gradual average increase in sea level” they said.

Next, waterfront participants were particularly interested in the calculation of costs. They wanted to know how the “prescriptions” or preventative actions addressing sea level rise and climate would be calculated. For the long term, they wanted to know how the Town could finance unpredictable changes. At the open house a resident suggested the community collectively raise funds for infrastructure, because the job was simply too big for the Town budget.

If there is a large public investment in the WMP, property owners stressed that the plan be effective. They said that the planning permission process must be carefully crafted and approve only appropriate development and “…not incur the likely problems that are going to cost the community later on.” The participants were referring to decisions on permitting the expansion of existing development or creating new development that is too close to the shoreline. One business owner emphasized the Town should use their best judgement anticipating the cost of future protection, whether conducting permits on a multi-million dollar waterfront proposal or a minor adjustment to a family waterfront cabin.

9. Waterfront Property Damage and Loss

Although waterfront property damage and loss are explored within other themes (i.e., locations of concern), damage and loss were consistently identified in the comment cards, surveys, and focus groups as the prominent theme. Focus group participants describe many different types of damage. The damage included erosion, the dropping of rocks, and destruction of sea wall footings, water running beneath sea walls, lawn washouts and collapsing decks. Property owners noted that these events are recurring.

Sub-themes relating to property loss and damage include reclamation rights. Property owners asked “At what point does land taken by the sea change ownership?” and “Can I rebuild property that has been swept away by a storm?” They wanted to know if fill could be placed on their former lands where erosion had taken their property. Crown Lands staff informed them that at this point the land becomes a part of the foreshore.

Property damage ranged from extreme structural impacts to aesthetic. Decks near the Brant Viewing Area collapsed for three years in a row while residents at Cameron Court experienced storm surges and waves on their lawn also near the Brant Viewing Park. Although their damage was superficial the property owners of this strata spent significant time coordinating clean-ups removing debris and seaweed from amenity spaces. Cameron Court also repositioned protective boulders that moved in the winter. Other residents living on Hall Road responded to foreshore erosion by coordinating rip rap rock
installation every two years. Respondents’ property buffers to protect structures from annual high tides and winter storms have eroded and survey responses included statements like “my home is jeopardy”.

Property owners from different areas with less property damage “were shocked that any level of government would allow a home to be undermined.” Some owners observing the shoreline said that they “had seen structures wash away and have to be rebuilt.” Focus group volunteers living on the bluffs in the Eaglecrest subdivision observed erosion impacted tree stability on the shoreline and trees had fallen over. “I have not seen any houses fall in yet” they said, “but I guess that is just the beginning.”

10. Shoreline Protection Best Practices

Waterfront property owners want to protect their properties and investments. However, they also wish to invest in protection projects that are viable for the long term and that can adapt to climate change. The surveys asked respondents to state any questions they have for the Town on sea level rise and the WMP. Common property owner questions included the following: “What is the feasibility of implementing certain protection methods?” and “What are the best approaches to sea walls?” Focus group participants were more informed about shoreline best practices. The discussion of protective infrastructure clearly showed that they had conducted their research and had formed opinions. They had also observed the effectiveness of neighbouring shoreline works and spoke about the information on waterfront protection provided at the open house. Comment card submissions expressed concerns that no intervention may impact insurance coverage.

There were two district protective shoreline works mentioned in the surveys and focus group discussions. Breakwaters and groins are perceived as effective mitigation measures for erosion. “Is there a plan to protect all current foreshores, by putting in rock breakwater style seawalls?” a survey respondent asked. Participants wanted to know if the Town had plans to install breakwaters or groins, especially groins based on local experiences. Participants were aware that groins are designed to break wave power as well as diminish the amount of water reaching the shoreline. Further, waterfront owners had observed success for local property owners installing groins, for example on the “Mewburn property” located near Milner Gardens south of the public waterfront. They stated that erosion had not increased in that area. Participants show they have a keen interest in the policy and investment choices made by the Town. They hope protective works chosen for the waterfront will work in the long-term. Further the likelihood of a comprehensive shoreline plan or this level of waterfront investment occurring again would be rare in the near future therefore they would like the Town to “get it right”.

11. Recreation

Surveys and focus group results throughout the consultation emphasized the need for new infrastructure for activities or improvements on the Qualicum Beach waterfront. Across all methods respondents identified they were interested in different improvements including a boating and kayak dock, a public pier and walkways that might accommodate long boards and bicycles. Some participants had trouble understanding the need for a longitudinal shoreline study and wanted recreational improvements now and not after a two year study. However this consultation emphasized the need to educate the public about the WMP process, scheduling and rationale for studying natural processes. New infrastructure can be appropriately located and protected from weather and sea level rise after determining a shoreline management plan.
Focus group participants indicated that recreational amenities have a clear connection with the attractiveness of Qualicum Beach as a key visitor destination. The development of a public dock and boat ramps for small boats could promote more marine traffic and fishing opportunities. One business owner indicated a dock should be big enough to accommodate 20-foot boats on the beach. In addition to a pier, survey responses recommended a pier perpendicular to the shore and that the Town should infill highways ditches to provide more parking and greater access to the beach. Overall consultation participants were interested in the protection of existing recreational land including the public beach and park areas for recreational purposes.

12. Public Investment for Private Property Protection

Participating property owners were concerned about private property protection from shoreline erosion, but participating tenants were concerned about the true beneficiaries of the investment. “A Waterfront Master Plan should not emphasize public investment for the protection of residential waterfront areas,” remarked a business owner attending the focus group. They later added “...and if so this may be perceived by the public as an unfair [public] investment for private gain.” Non-waterfront land owners felt it was the responsibility of landowners to protect their land without government subsidies. Also these participants viewed many of those living on the waterfront as those who already “have a lot” and should realize they are “privileged” to have this location on the shoreline. Participants in one focus group felt strongly that any investment should benefit the entire community and not a single group. A different seasonal business owner said “It becomes critical that the plan becomes inclusive and that it is considered by the leadership to be for the whole of Qualicum Beach.”

Participants expressed concerns about the fairness of using public funds to support private properties. A business owner inferred that the magnitude and cost to protect private residential areas was uncalled for. Instead, investment on the public beach should be the priority: “...it is the perception of many residents of Qualicum Beach that the beach is the area between the end of Judges Row and the Brant Viewing Area [and] homeowners should be left on their own.”

The WMP request for proposal (RFP) document recognizes funding constraints based on geographic scope for the project. The RFP for Phase 1 states “if the project budget does not permit the same level of detailed analysis to be applied to the entire area, the Town defines the highest priority area as the high activity area bounding in the east by Memorial Avenue and Garrett Road” (Town of Qualicum Beach, Request for Proposal, 2013). The area identified is largely public waterfront area and includes the public walkway and parks (e.g., Beach Front Park, Jubilee Park and the Brant Viewing Area).

13. Improving Community Cohesion

Focus groups identified a lack of community cohesion in local decisions as a barrier for the WMP. This was noted by younger participants. They viewed change and new development as a positive direction for the Town of Qualicum Beach and feared that disagreement on civic issues among different age groups would present problems for the plan. They spoke about the concept of NIMBYism (Not in My Backyard) experienced in past Town decisions and its implications for community feedback about infrastructure investment and shoreline protection. People in the community “do not in general feel a great deal of ownership, in terms of thinking global but acting locally,” a participant stated.
A business owner in one focus group thought retirees were “living in little bubbles” isolating themselves from the rest of the community. This participant felt that the Town would hear no feedback from this group unless civic issues arose to which they were strongly opposed or “that they perceive to negatively affect them.” Another land owner agreed, “...people do retire here and they do have their own little bubble.” Another participant commented that, in general, if there are plans “agreed as something mutually beneficial for the whole community, but believed to be the detriment to their own interests or opinions,” people would strongly oppose the new plans. The business owner said that the retiree population does not “require an awful lot” in terms of goods and commerce as “they come with all they have,” which impacts economic development in Qualicum Beach. Meanwhile, young families and youth require these changes and community economic investment to sustain the community in the long term.

Other participants noted the need for strategies to bring the community together on large decisions. They said that many in the senior population do want things to happen in Qualicum Beach, but the few who speak out strongly against projects get all the attention. The Qualicum Beach community needs to fully inform the naysayers about the benefits of community change and future development of the Town overall. “I think there are a lot of people in the Town that do want things to happen,” a participant said. “I do not think that we should be sitting back and letting [those] people that keep coming forward saying don’t do this and don’t do that” speak as the majority.

14. Tourism and Economic Development

An important concern raised by all participants, particularly representatives of businesses, was the health of waterfront tourism. Tourism is viewed as essential to developing a sustainable waterfront and encouraging private investment. Owners stated that the “beach is a dead zone,” and one stakeholder remarked, “[The] beach is becoming less and less commercial and more residential.”

Findings from past studies support these concerns for economic and tourism conditions. In 2009, the Town commissioned the Qualicum Beach Retail and Tourism Gap and Opportunity Analysis, conducted by Coriolis Consulting Corporation. The report found a limited concentration of waterfront-oriented development as described by participants, but also potential niche opportunities for specialty shops or restaurants along the waterfront. The report did indicate that waterfront-oriented development “complement[s] the downtown” (Coriolis Consulting Corporation, 2009). However, focus groups have more recently observed a disconnection between the Village Neighbourhood and waterfront. There is competition between the two key economic zones in Qualicum Beach. Further one stakeholder felt that the beach was “a different place to live...Qualicum Town and Qualicum Beach feel like two different communities sometimes.”

Waterfront business owners emphasized their concern that the Town concentrated tourism and public events in the Village Neighbourhood. They felt the waterfront would benefit from more exposure and a shared focus on economic development in the beach and downtown should be cultivated. Small festivals to attract children and their families could draw more economic activity to the beach, they stated. In concert with more beach events the Town would need to provide additional parking, improved shuttle service, and consider developing the waterfront as a multi-modal transportation corridor. One business owner suggested removing cars from Highway 19A, because the heavy traffic diminishes waterfront character. They mentioned re-routing the road to attract pedestrians or encourage non-motorized traffic.
Hotel operators, remarking on the state of tourism in the region, stated their concern for the shrinking number of hotel rooms in Town. The room count they estimated was now 150, since permanent residences have become more popular than short-term accommodations. Participants also reported that many tourists are choosing to stay in Parksville since it has newer facilities. The retail and tourism gap and opportunity analysis report also recommended that the municipality encourage the development of more high quality accommodation property on the waterfront, recommending a “one-destination orientated hotel development” with adequate facilities such as a spa or conference rooms to promote tourism. (Coriolis Consulting Corporation, 2009, p.20).

15. Waterfront Locations of Concern

Survey responses and focus group discussions reflected the theme of concern for numerous waterfront locations. The following integrates the feedback from many participants, including information from all stages of the consultation process and survey responses. Appendix L describes observations in greater detail and Figure 14 shows the areas along the shoreline that are waterfront locations of concern in Qualicum Beach. Participants often described physical and structural damage or a significant natural change to the beach observed over many years.

At the open house, the guest speaker, Grant Lamont, encouraged residents to report their shoreline observations to the Town. Mr. Lamont emphasized the importance of documenting changes by photographing and noting significant waves and shifts in water levels, especially during the storm season (Oceanside Star, 2013). Phase I of the WMP will provide an assessment of vulnerable waterfront areas, “where there is important infrastructure or valuable land use or extremely dynamic or sensitive coastal processes” (Town of Qualicum Beach, 2013c). Any documented shoreline damage may provide a clearer historical context for consultants who are unfamiliar with Qualicum Beach as well as insight into natural patterns while they embark on Phase I of the shoreline observation period.

Overall, several participants identified the Brant Viewing Area, Eaglecrest Beach, Judges Row, and the Shady Rest Pub as major places of concern. Observations are reported below in order of importance (frequency of observations):

- **Eaglecrest Beach.** Observations and significant changes in Eaglecrest Beach were noted by 7 survey respondents. In the focus group, residents stated that the beach had been gradually transitioning from sand to large exposed rocks due to erosion, a major aesthetic and recreational concern. The beach has also dropped 60 to 70 centimetres in the last 10 to 20 years. Property owners on the bluffs of the Eaglecrest subdivision raised concerns over possible landslides as the beach continues to erode, as well as noting a decrease in the number of wildlife sightings, which has accompanied the loss of sand.

- **Judges Row (and Hall Road).** A fairly large residential lot at the end of the public beach, this area received significant recognition in the focus groups. Damage to decks and existing retaining and sea walls was common, and landowners emphasized beach erosion, enabling water to flow under their seawalls. Residences along Hall Road participated every two years in communal projects to replace rip rap and noted property loss. Concerns for Judges Row and Hall Road residents included possible upper-upper tier government requirements for long-term foreshore leases in order for landowners to install rip rap rock outside of their property lines.
• **The Brant Viewing Area.** An area with both privately owned and public park lands received much attention in 2012 due to winter storms. Landowners reported extreme damage and loss to their property and existing seawall and the inability to receive approvals in time to repair their seawall on what is now the foreshore. These landowners were fairly concerned that future storms would destroy their homes. Scouring of the beach has occurred, and neighbouring properties experience annual collapses of their decks as wave energy is directed to this location. Storm surges have eroded the Brant Viewing Area Park and seawalls. Seawalls in this location are set back 12 feet from the property line and have experienced erosion to the foreshore and the erosion of private property. The Brant Viewing Area was mentioned by 7 survey participants.

• **The Shady Rest Pub.** The Shady Rest Pub, a major landmark in Qualicum Beach, experienced high tide and king tides in the winter, as well as ocean run-up and road erosion nearby. Participants have reported seeing wave run-up overtopping the public walkway in front of the restaurant. Participants reported the disappearance of large cedar logs from the foreshore, located beyond the high tide water mark, and the movement of shoreline debris onto Island Highway. The Shady Rest was mentioned by 3 survey participants.

![Figure 14. Qualicum Beach Shoreline Locations of Concern](image)

**Conclusion**

The surveys, open house, and focus groups identified many important themes that will help define the scope of the Waterfront Master Plan. Some of the key themes were government processes, financing the waterfront, infrastructure, and the consultation aspects of developing a plan that includes a wide variety of participants’ opinions. Focus group participants made it clear that they wanted to the Town to present to them tangible actions or outcomes in response to their feedback. In the next section, I use findings from this research to develop recommendations the Town might feasibly address in the Waterfront Master Plan.
RECOMMENDATIONS

Introduction

Together the open house, survey, and focus group findings represent a wide range of concerns and interests from waterfront property owners, residents and businesses in Qualicum Beach. Almost 50 waterfront property owners and renters participated in this research to identify key concerns about the waterfront. An analysis and synthesis of these concerns is used to develop recommendations to the Town of Qualicum Beach for long range planning, infrastructure, stakeholder communications, and local policy reform using the WMP. Some of these recommendations may also fit within the current operation and mandate of Town departments.

Seven of the fifteen discussion themes were selected for the Town of Qualicum Beach Waterfront Master Plan to address. Overarching waterfront themes that addressed several of the areas of concern for the participants are reviewed. These seven themes were selected based on their repetition in the consultation data and urgency. Further they were selected if the problems identified under each theme could be reasonably addressed by the Town. Eleven distinct recommendations each associated with a different theme aim to address a specific interest or concern identified in this consultation. The first five recommendation areas focus on the physical attributes and infrastructure problems along the waterfront, particularly protection, followed by social concerns, and economic concerns. The themes used to develop recommendations are as follows:

- Foreshore Works Approvals
- Public Walkway Conditions
- Shoreline Protection Best Practices
- Waterfront Property Damage and Loss
- Waterfront Locations of Concern
- Opportunity for Community Consultation
- Tourism and Economic Development

The recommendations are crafted to be consistent with the Waterfront Master Plan framework. Provincial funding may provide the Town with sufficient resources to implement some of these changes. Final study recommendations articulated here were selected with this funding base in mind, in addition to anticipated community support. In other words, the Town can implement them realistically; they are practical and non-controversial.

Foreshore Works Approvals

Focus group participants were nearly unanimous in requesting that the permitting processes for foreshore works be made easier. Requirements are unclear and the resources or options to expedite approvals for emergency situations nonexistent at the time of this consultation. These concerns became abundantly evident in this study and during independent research on foreshore permitting processes for British Columbia especially in terms of crown land management. Exploring this process, this researcher found several websites and government publications were out-dated or lacked means to contact directly those representatives in charge of various processes. To obtain local approval, by contrast to complex regulatory requirements, was relatively simple, as the relationship between waterfront stakeholders and Town staff allowed clear communication. Unfortunately, property owners mentioned that they sensed
the Town “had their hands tied” when it came to federal and provincial government applications. Addressing these government inefficiencies will not be easy, but the following incremental initiatives may improve or clarify these processes.

1. **Create a foreshore approvals information package and agency/government contact list.**

While the Town does not have sufficient staff to complete senior government foreshore applications on behalf of local landowners, the Town may work towards interpreting and translating the ‘government speak’ of federal and provincial requirements on behalf on the local population. Those Town officials who have successfully completed federal or provincial applications could also create a How-to guide for local citizens both on the Town website and as hand-outs.

The Town could develop a resource package containing a bibliography of relevant local, provincial, federal, and first nation policies and regulation references, with mapping to show areas most susceptible to sea level rise. Most importantly, this package should include estimated permit approval timelines, application costs, costs for various protection methods, and foreshore construction windows according to the government. A contact information list on the Town website providing access to specific government agents would also be valuable, and should be updated by the Town as needed.

2. **Determine the viability for blanket approvals on the shoreline during the WMP process.**

Participants desire a WMP that will provide blanket approval for a number of projects to protect their homes and properties, to be developed as a part of the Waterfront Master Plan. Certain policies under this plan would be “blessed” by various level of government to streamline foreshore permit processes, incorporating existing agency mandates such as the protection of fish habitats etc. Ideally, if the Town conducts the first screening of an application, it would have authority, under the WMP, to either approve minor foreshore projects, using powers delegated to it by the province or federal governments, or to classify an application for urgent approval in an emergency situation.

**Public Walkway Conditions**

The public walkway is highly visible, being used frequently by members of the community, tourists and visitors. It is not surprising that stakeholders identified walkway revitalization as an important area or concern for the WMP to address, as they had in the 2010 Quality of Life Survey.

3. **Develop a strategy for replacement or renovation of the waterfront walkway and seawall as a WMP implementation objective.**

Given that the walkway comprises a several kilometre stretch of infrastructure, the Town will require a phased plan for its replacement, renovation, relocation and possible reconfiguration. Strategic and phased plans for infrastructure renewal will be necessary. Phase 1 of the WMP would determine shoreline management options, including those potentially for the walkway. Public walkway initiatives may require several rounds or years of municipal funding to bring about incremental replacement of the walkway.

4. **Develop a public walkway sponsorship or dedication program.**

To address two themes identified in the findings—Waterfront Master Plan Funding and Public Walkway Conditions— the Town may consider a walkway sponsorship program. Just as the bench program is
popular in the Town, such that multiple parties or family may sponsor one bench, a walkway segment could be similarly sponsored. In this way, incremental funding could be gathered, with the added benefit of a community-building exercise.

**Shoreline Protection Best Practices**

Addressing the impact of sea walls and existing piecemeal shoreline protection are key considerations required when adapting the shoreline. Although many participants indicated that they observed or thought that a breakwater might be the best option for Qualicum Beach, it is not certain that this technology will be used after Phase 1. In the meantime, the Town can work towards informing waterfront property owner on the acceptable development along the shoreline that will support natural area preservation, soft methods and effective options.

5. **Release information on shoreline protection best practices and hold annual landowner information meetings before or after winter storm seasons.**

Annual workshops provided by the town would help landowners maintain a sense of awareness of best practices and available technologies to optimally protect their property. The town could bring in a consultant who would address stakeholders at town meetings or other community events. The level of participation garnered by the study’s Open House alone indicates this would be a valued service, and one highly beneficial to stakeholders. Such public service could be initiated even before the WMP is adopted and implemented, as the process will require several years whereas property owners need guidance now. More knowledge throughout the community could prevent the incidence of detrimental measures such as sea walls that cause increased erosion to neighbouring properties. Workshops would also provide an opportunity for neighbours to collaborate on projects through cost sharing, submitting approvals jointly and or developing plans for multi-property remediation.

**Waterfront Property Damage and Loss**

Throughout the consultation process damage to private properties was identified by participants as a major concern directly and often indirectly throughout each of the themes. However, there were concerns that investment in waterfront protection would benefit largely private interests. The Town must take a balanced approach to addressing property damage and loss that will benefit the wider public. The Town must do this carefully, but also with a sense of urgency to protect homes and human safety during winter storm seasons.

6. **Outline a remediation/improvement plan for affected Town owned properties.**

Following recommendations from the staff memo draft on Shoreline Buffer Areas from 2010, this plan would enable the Town to proceed with waterfront remediation on its own properties first. The Town could phase in improvements on public properties according to a multi-year plan consistent with the annual budget and expedite protective works on the waterfront. In the meantime and under a separate process, the Town could embark on the negotiations, if required, for a plan or cost sharing program to protect private properties.

Work on Town properties may be prioritized by the degree of damage or erosion documented in Phase 1 of the study results. Recommendation 10 acknowledges stakeholder concerns regarding large public investments for the sake of private property protection. Investment in climate change adaptation for
public property, including recreational areas, will benefit the wider community. The Town could work on their own assets until such time as the community and Council arrives at a final decision for a protection plan or sea level rise adaptation program for private properties.

7. **Establish a Development Permit Area (DPA) specific to Sea Level Rise Adaptation or review the Hazardous Lands DPA policies for consistency with MOE climate change adaptation guidelines.**

During Phase 1, consultants should review existing waterfront land use policies and Development Permit Areas based on their findings for shoreline natural processes and regional sea level rise forecasts. The Town could consider a new DPA category, designating the waterfront as a Sea Level Rise Adaptation DPA in the Official Community Plan (OCP). DPA policies would be modelled after construction guidelines in the *Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use* document. Alternatively, these sea level rise planning guidelines would be added to the Hazardous Lands Development Permit Area policies, and consultants would reassess the Ocean Flood Plain boundaries shown in Figure 15. Further areas impacted by sea level rise and flooding would be added to the DPA land use designation legend in Figure 15 (e.g. Flood Susceptible Areas) using an OCP amendment.

![Figure 15. Hazardous Lands Development Permit Area in Qualicum Beach](image)

**Waterfront Locations of Concern**

Addressing the seven kilometre stretch of waterfront will be a difficult and expensive task for the Town. However, there are areas along the shoreline requiring significant adaptation planning for rising water levels and climate change impacts. Targeting and prioritizing the areas experiencing the highest degree of damage or threat in the Waterfront Master Plan should be an objective for local decision makers.

8. **Monitor those waterfront locations of concern, as identified in this consultation. Use the locations as a reference point for shoreline observations in Phase 1 of the WMP.**

Phase 1 of the Waterfront Master Plan will scientifically study shoreline processes to develop a shoreline adaptation and rehabilitation strategy that addresses rising sea levels (Town of Qualicum Beach, 2012a). While staff will provide previous waterfront studies and data to the consultant and discuss the problem areas, Phase 1 should consider the specific locations emphasized by waterfront participants during this study. Study findings establish four major areas of damage: Judges Row, the Brant Viewing Area, the Shady Rest Pub and Eaglecrest Beach. Highlighted concern for these areas is based on direct
observations of a longitudinal nature and first-hand experiences in the local environment. Although stakeholder accounts are non-technical, the four areas identified were underscored consistently across three consultation methods.

The WMP request for proposals (RFP) recognizes funding constraints based on geographic project scope. The RFP for Phase 1 states, “if the project budget does not permit the same level of detailed analysis to be applied to the entire area, the Town defines the highest priority area as the high activity area bounded in the east by Memorial Avenue and Garrett Road” (Town of Qualicum Beach, 2013). The area of study identified is largely the public waterfront and includes the public walkway and parks as well as two of the locations documented in the consultation (e.g., the Shady Rest Pub, and the Brant Viewing Area. The remaining two areas identified repeatedly by participants (Judges Row and Eaglecrest Beach) should likewise be considered for Phase 1 observation.

**Opportunities for Community Consultation**

Qualicum Beach residents are highly engaged and vocal on civic issues, therefore the Town should enhance public communication outreach during the WMP planning process and throughout its implementation. In order to help buoy the community’s level of trust that their interests are considered in the decisions that affect them, the Town’s process for arriving at a future waterfront plan and long-term plans for investment must be made transparent and clear. Further, information updates should be available for those who did not participate in the Waterfront Community Planning Consultation, especially seasonal owners.

9. **Town staff should post information on the municipal website, hold public cafes during the WMP process, and provide other informal communication on the WMP.**

The Town already plans to conduct communication cafes with residents on a wide range of issues in 2013, using a communication consultant. If resources permit, a café focused around the WMP should be held bi-monthly for the duration of the planning process. At these cafes, Town staff may inform attendees of upcoming public meetings, council meetings to review shoreline management options, and the public consultation in Phase 2 of the WMP, “Refine and Sustain.” An easily accessible section on the Town website could include Waterfront Master Plan updates and post materials distributed at public meetings.

10. **Establish a waterfront working group representative of the community for the duration of the WMP.**

During development and implementation of the WMP, the Town should establish a working group of waterfront property owners or stakeholders or a Waterfront Master Plan Advisory Committee who can voice the interests of those concerned about the waterfront. Since the Waterfront Residents’ Association no longer meets, a gap has been left in community representation. Assembling a well-rounded group lessens the risk of having only the most vocal parties dominate input from the community and may encourage more efficient use of time at public meetings, helping to identify the key concerns relevant to large group of local residents. Contact information collected at the open house and focus groups could serve as a starting point if staff were to enlist those participants willing to form a working group.

An Advisory Committee, established by the local council and carefully selected to represent balanced community interests, could serve as a vehicle for disseminating information to landowners from the Town and for receiving draft plan comments. As the Town may not have the resources to continue the
same level of waterfront stakeholder consultation performed in this study, an email distribution list or a newsletter updating seasonal owners could be facilitated through the group. Staff or consultants could also present updates at group meetings on the WMP or relay information through a working group chair representative. Finally, this group would encourage increased communication among waterfront property owners and identify opportunities for coordinating foreshore projects, thus reducing costs, approval times, or negative impacts on adjacent properties.

**Tourism and Economic Development**

The WMP cannot provide specific guidelines for tourism and economic development on the beach. However, much like the Official Community Plan, the WMP may be the place to establish clear objectives or implementation measures for tourism and economic development, including consequential studies or action plans.

11. **Create an economic development plan for the waterfront area as a key implementation measure of the WMP.**

Investment in the waterfront will produce economic spin offs and attracting visitors to the area again and influence the commercial health of the waterfront, addressing the concerns of business owners. The economic development portion of the WMP could commit to a series of milestones for revitalizing the waterfront, such as a schedule of events or activities designed to attract families and encourage tourist spending or an assortment of cultural works and scheduled activities. Such activities have a domino effect of bringing new investors who will in turn create more cultural and economic opportunities, developing a positive reputation for the Town.
CONCLUSIONS

Sea level rise and climate change will undoubtedly impact coastal communities in British Columbia over the next century. These impacts are beginning to noticeably affect the interests, safety, and livelihood of Qualicum Beach waterfront property owners, business owners, and residents, as weather and climate change draw the water and tides closer to development. It is critical that local communities receive the assistance of the BC Government, both financial and technical, to determine the most effective, site-specific shoreline management methods. Small Coastal communities of limited organizational capacity and structure rely on the Ministry to assist them with the education and resources needed for climate change adaptation. The BC Ministry of the Environment’s 2011 publication, Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use, represents one such educational resource. To further this partnership, it is essential that local governments consult with waterfront citizens on the application of these guidelines, educate them on future impacts of sea level rise and climate change, and understand their first-hand experiences.

The Waterfront Community Planning Consultation, which featured more than 30 surveys and 11 focus group discussion participants, represents the most comprehensive multi-party account to date of Qualicum Beach waterfront issues. The consultation process proved a valuable exercise for the Town. Held over several months, the process demonstrated a visible commitment by the Town to listen to community concerns and consider their pertinence to the WMP, the process culminating with a council presentation summarizing consultation results. Where feasible the Town may integrate into the Plan the community input synthesized from this consultation process and recommendations. Qualicum Beach residents appreciated the opportunity to be heard and give their personal accounts of living on the waterfront. The project as a whole demonstrated the degree to which consultation and communication with stakeholders develops a positive and environment substantiated by facts rather than public fears and perceptions of the local government’s decisions regarding shoreline infrastructure, sea level rise planning, or potential shoreline retreat.

A review of the relevant literature, Town waterfront policies, and consultation feedback from the study population of interest identified several opportunities for the Town. Opportunities were synthesized as fifteen themes reflecting to the most important areas of interest and concern, as named by the most participants and/or with most frequency. The result is eleven preliminary long range recommendations for the WMP in planning, infrastructure, communication, local policy, and municipal departmental work. Developing communication strategies, walkway renewal, reassessing land use policies for consistency with climate change adaptation guidelines, disseminating information about foreshore works and development, and stakeholder working groups are all measures strongly advised.

The Town of Qualicum Beach should act now to set a precedent of consulting continuously with the public during major Waterfront Master Plan developments, and not restrict their consultation efforts to this one exercise. Adaptation of the waterfront for sea level rise and climate change faces significant barriers of many kinds, including an overly-complex regulatory system and diverse stakeholder interests. The goal for future processes should be to maintain the defined project timeline and budget while avoiding misunderstanding or public disillusionment with the Town’s methods for arriving at final decisions for the waterfront, which is a crucial element of the community’s identity. To bring this about, the Town must continue to build relationships and foster an understanding of shared or conflicting interests among all parties concerned with the waterfront. Doing so will encourage cooperation for far reaching long term environmental, social and economic stakeholder goals for the local waterfront that continues to absorb the impacts of global climate change in years to come.
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[60]


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APPENDIX A: INVITATION

OPEN HOUSE
Waterfront Property-Owners, Residents & Businesses

EXPLORING
OUR SHORELINE &
SEA-LEVEL RISE

TOWN OF QUALICUM BEACH

THURSDAY
APRIL 11th 2013
from 6:30-9:00 PM
Qualicum Beach Civic Centre
747 Jones Street, QB, V9K 1S4

OPEN HOUSE AGENDA
6:30-7:00 Information Panels
7:00-7:20 Presentation & Focus Grp. Sign-Up
7:30-9:00 Survey

Questions?
lwilloughby-oakes@qualicumbeach.com
lsales@qualicumbeach.com
250.752.6921

More Info: www.qualicumbeach.com
APPENDIX B: NEWSPAPER NOTICES

TOWN OF QUALICUM BEACH
Please join us to attend and provide input at an Open House on Sea Level Rise
Exploring Our Shoreline & Sea Level Rise
Thursday, April 11, 2013
6:30 pm-9:00 pm
Information panel viewing held at 6:30 pm
Presentation held at 7:00 pm
Qualicum Beach Civic Centre, 747 Jones Street
This meeting will give the public an opportunity to explore and discuss Sea Level Rise in Qualicum Beach. The meeting will include a presentation on existing shoreline conditions, coastal planning practices and information about the future Waterfront Master Plan. There will be opportunities for the public to provide written comments, complete a survey and ask questions of Town staff and researchers.
For further information visit the Town’s website at www.qualicumbeach.com or contact the Planning Department at 250.752.6921.

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For further information visit the Town’s website at www.qualicumbeach.com or contact the Planning Department at 250.752.6921.
APPENDIX C: TOWN WEBSITE ADVERTISEMENT
APPENDIX D: HARDCOPY SURVEY INSTRUMENT

EXPLORING OUR SHORELINE AND SEA LEVEL RISE PRESENTATION SURVEY

*Please note this consultation is not a part of the Waterfront Master Plan process.

ABOUT YOURSELF
Are you 18 years of age or over?

☐ Yes
☐ No

What is your age group?

☐ 18-34
☐ 35-49
☐ 50-64
☐ 65-79
☐ 80+

OPINIONS
List three areas of interest OR concern that you have regarding the Qualicum Beach shoreline or waterfront as a:

a) Waterfront property-owner
d) Member of the General Public
b) Waterfront resident or tenant
e) Local Interest Group
c) Waterfront Business
f) None of the Above

Please circle the description that best describes you.

i)

ii)

iii)

---

TOWN OF QUALICUM BEACH | OPEN HOUSE

P.1
EXPLORING OUR SHORELINE AND SEA LEVEL RISE
PRESENTATION SURVEY

*Please note this consultation is not a part of the Waterfront Master Plan process.

Rate the following in terms of importance to you:

1 Not important
2 Somewhat Important
3 Important
4 Very Important

Water quality ___ Preserving my property from SLR impacts ___

Aesthetics ___ Preserving ecosystem function ___

Access to public recreation areas ___ Erosion Control/ Protection from sea-level-rise or storm events ___

Leaving the system ___ as natural as possible ___


EXPERIENCES

Briefly, describe an experience, observation or an event related to sea-level-rise in Qualicum Beach (e.g., a king-tide high, infrastructure/property loss, shore erosion, or storms surges, etc.)

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

☐ NOT APPLICABLE

P.2
EXPLORING OUR SHORELINE AND SEA LEVEL RISE
PRESENTATION SURVEY

EXPERIENCES CON’T
Where did you make these observations on the shoreline? Circle an area on the map or describe in the box below.

Shoreline Location: ____________________________ (e.g., Shady Rest, etc.)

MOTIVATION
Why did you attend the open house? ____________________________

__________________________

__________________________

In terms of sea level rise planning and the Waterfront Master Plan, do you have any questions?

__________________________

__________________________

Thank you for completing this survey.

Comments will be summarized removing all personal information. If you have questions about the collection, use or disclosure of personal information contact 250.738.2202 and ask for the Corporate Administrator.

Additional public input: A similar more-detailed survey will be posted online for waterfront property owners and residents who were unable to attend the Open House. A waterfront property owner, resident & business focus group sign up sheet is available at this meeting.
APPENDIX E: COMMENT CARD

Exploring Our Shoreline & Sea-Level Rise

Thank you for attending the Open House. Please fill out this card and drop it off at the entry “drop box” before leaving.

My comment relates to (check one)... □ Sea level rise □ Shoreline erosion □ My waterfront property □ Open House
□ Other: ____________________________

Please note this public engagement project/open house is not a part of the Waterfront Master Plan process. Public engagement opportunities regarding this plan will be made available at a later date, upon the formal launch of a Waterfront Master Plan.

THANK YOU FOR YOUR COMMENTS

Would you like to be contacted regarding the Waterfront Master Planning Process?
□ Yes □ No

How do you like to be engaged?
□ Presentations at Council Meetings □ Email Updates
□ Open House(s) □ Social Media (e.g., Facebook)
□ Discussions Groups □ Online Surveys

How would you like to be contacted (contact information optional)?
Name ________________________________
□ Email ________________________________
□ Mail-out ________________________________
( Address) ________________________________
□ Telephone ________________________________

During or after the “Exploring Our Shoreline & Sea-Level Rise” Open House submit by April 28th to: Town of Qualicum Beach, Planning Department, 201-480 Pim Sreet, PO Box 150, Qualicum Beach BC, V9K 1S7 or to TOWN@QUALICUMBCH.COM.

Personal information you provide is collected under the authority of the Freedom of Information and Protection Privacy Act and will only be used to contact you regarding your comments and a future Waterfront Master Plan process. Comments will be summarized removing all personal information. If you have any questions about the collection, use or disclosure of your personal information, please call 250 798 2201 and ask for the Corporate Administrator.
APPENDIX F: PROPERTY OWNER RECRUITMENT LETTER

TOWN OF QUALICUM BEACH

WATERFRONT PROPERTY OWNER, RESIDENT AND BUSINESS CONSULTATION

Coastal communities around the world are at risk due to sea-level rise and increasing storm intensity. The Province of British Columbia anticipates sea levels will rise one metre by the year 2100. It is critical for the Town to plan strategies to mitigate impacts on waterfront homes, businesses and infrastructure. The Town of Qualicum Beach has been awarded a grant to develop a Waterfront Master Plan (WMP) and is seeking your input before beginning this process. This consultation is not a part of the WMP.

**HERE IS HOW YOU CAN GET INVOLVED:**

1. By completing a **SURVEY** for waterfront owners/residents 18 years of age or older; available online or by quick response (QR) code (a custom bar code on the right-hand side, linking mobile devices to the survey website). **Hard copy surveys are available on request.**

   Survey Link (closes May 24 at 4:00 pm):

2. By attending **one** of the following **FOCUS GROUPS** to provide input on shared interests and concerns from waterfront residents and owners on May 2 or May 9, 2013 from 6:30 pm to 9:00 pm. Participants will be included on a first-come, first-served basis. **Please RVSP with Leila Willoughby-Oakes by April 30th.**

3. “Exploring Our Shoreline & Sea-Level-Rise” **OPEN HOUSE** was held on April 11, 2013, with presentations by Grant Lamont, P.Eng., Sr. Coastal and Metocean Engineer (SNC Lavalin) and Town staff on sea-level-rise and the Qualicum Beach shoreline. The meeting presentation is available here: [https://qualicumbeach.civicweb.net/Documents/DocumentList.aspx?ID=3976](https://qualicumbeach.civicweb.net/Documents/DocumentList.aspx?ID=3976)

If you would like to volunteer for a **FOCUS GROUP** or require additional information about the project contact: **Leila Willoughby-Oakes**, MPA Candidate/Graduate Planning Assistant, [lwilloughby-oakes@qualicumbeach.com](mailto:lwilloughby-oakes@qualicumbeach.com), or **Luke Sales**, Director of Planning, [lsales@qualicumbeach.com](mailto:lsales@qualicumbeach.com)
APPENDIX G: QUALICUM BEACH SHORELINE CONDITIONS

CURRENT SITUATION
CURRENT SITUATION
Annual Shoreline Walks 2003-2013
APPENDIX H: SEA LEVEL RISE INFORMATION PANEL

WHAT IS SEA LEVEL RISE?

Globally, sea level rise is determined by several mechanisms such as melting ice caps, growing ocean volume due to thermal expansion and salinity effects on water density, regionally, dynamic atmospheric and ocean processes affect wind systems and wave patterns. Locally, vertical land motions caused by the recovery from the weight of the glaciers of the last ice age (rebounding) as well as the sinking of areas caused by sediment transportation in river deltas and tectonic processes in the earth’s crustal plates.

Waterfront properties are affected by rising sea levels forcing home and business owners to adapt protection measures. For existing structures three options should be considered:

**PROTECT**: structural protection of land and buildings with hard and/or soft measures (i.e. seawalls, dikes, storm surge barriers, dunes etc.)

**ACCOMMODATE**: elevate lands and structures beyond the reach of sea level rise.

**RETREAT**: the would mean giving up the property in order to avoid the risk of future failures.

**AVOID**: in case of future developments the only long-term option would be to avoid building beneath the expected flood construction level in areas that are subject to possible flooding or storm surges. Financially, this would be the cheapest measure since none of the aforementioned three measures will have to be applied.


Coastal Shore Governance

**Federal (Crown Levels)** (i.e. Department of Fisheries and Oceans) - Transport Canada is responsible for preserving the public right of navigation under the Navigable Waters Protection Act.

**Provincial** (i.e. The Ministry of Environment...)

- The financial area of the shoreline and has jurisdiction over the financial area (amount of the allowable work and cost per permit) within the area of the tidal.
- The local community planning license (under the Ministry of Nature’s Discovery Strategy) authorities, these authority, bodies, permits, issuance, or license for a wide range of use - private and public uses, inlets, marinas, exposition, and log storage on water resources.

**Local Government**

- **Towers of Oceanic Beach**
  
- **Regional Services of Inverness**

- The local government is the authority to plan and regulate land use within.
- From responsible considerations, which may extend to forested and non-forested areas.
- How to the functionality of community plans, zoning, development permits, subdivision activity, building permits and a variety of regulatory bodies that affect real development.

[73]
APPENDIX I: FOCUS GROUP QUESTIONS

Discussion Questions

You have been asked to participate in this focus group because you are a resident, business or owner of a waterfront property in Qualicum Beach. Please thoroughly review and sign the consent form in front of you. If you have any questions about the consent form please feel free to ask the focus group facilitator.

If you participate in this focus group, you will be asked questions in a 60-90 minute group interview, with approximately 6-10 waterfront property owners, residents, businesses, and general members of the public who have expressed an interest in participating in the group discussion. There will be a facilitator asking questions and guiding the discussion, co-facilitator and a note-taker recording ideas expressed by the group removing identifying information. The meeting will be audio-recorded. You may withdraw from this study at any time before or after the discussion commences without negative consequences, by notifying the focus group facilitator or leaving the focus group meeting room. Since written notes and summaries do not include identifying information, we will not be able to remove your contributions to the point of withdrawal from our records. All audio recordings will be transcribed removing personal identifiers and destroyed. Thank you for volunteering your time for this public consultation exercise and research effort. Do you have any questions before we get started?

MOTIVATION
[QUESTION 1] Why did you decide to attend the focus group? What do you hope to get out of the meeting?

KNOWLEDGE AND PERCEPTIONS
[QUESTION 2] In a few sentences explain your knowledge or perception of sea level rise/climate change.

EXPERIENCES
[QUESTION 3] a) On a scale from 1 to 10, please rate how concerned you are about any existing /future damage to your property, business or home due to climate change or sea level rise? b) Please any describe any waterfront damage you have experienced or observed?

[QUESTION 4] This question is for waterfront property owners, both residential and commercial. a) Have you installed coastal engineering protection measures on your property/ the foreshore? b) When did you? c) How well did it work

SUGGESTIONS/RECOMMENDATIONS
[QUESTION 5] a) How can the Qualicum Beach Community collaborate in order solve current problems on the waterfront that have been identified in this stakeholder group? b) How might we achieve it? Provide examples.

[QUESTION 6] a) What has been your experience, if any, with waterfront development approvals b) Who did you speak with (e.g., government bodies)? c) Did you encounter any problems?

[QUESTION 7] Can you describe from the perspective of a waterfront stakeholder what areas of concern or interest you would like most addressed in the Waterfront Master Plan?
APPENDIX J: SHORELINE HISTORICAL COMPARISONS

CURRENT SITUATION

Photos taken by town staff over the course of several years to documenting shoreline change, damage and erosion.

For further information contact: Dick Hubbs, Building Inspector, stahubs@qualicumbeach.com, 250 295 6921
Town of Qualicum Beach
Waterfront Property Owner, Resident, & Business Survey

ABOUT YOURSELF

Question 1
Are you 18 years of age or over?
○ Yes
○ No

Question 2
What is your age group?
○ 18-34
○ 35-49
○ 50-64
○ 65-79
○ 80+

Thank you for your interest. This survey is restricted to people 18 years of age and older.

Question 3
Do you own waterfront property in Qualicum Beach?
○ Yes
○ No

Question 4
Do you reside on waterfront property in Qualicum Beach?
○ Yes
○ No

Question 5
Are you a seasonal waterfront resident?
○ Yes
○ No
Question 6

Do you operate a business on a waterfront property in Qualicum Beach?
○ Yes
○ No

Question 7

If you are a seasonal resident, how many months do you reside in Qualicum Beach?
○ less than one month
○ 2-5 months
○ 6 months
○ more than 6 months

Question 7 or Question 8

How long have you operated a business on the Qualicum Beach waterfront?
○ 0-4 years
○ 5-9 years
○ 10-14 years
○ 15 years or more

Question 8

If you operate a business, please select the business that best describes your type of business.
○ Tourism / recreation
○ Transportation
○ Home business
○ Food services
○ Other, please specify ______________________

Question 9

Do you operate tourist or seasonal accommodations?
○ Yes ○ No

Question 10

If you operate tourist accommodations, have you any experienced a decrease in patrons per year?
○ Yes ○ No
CLIMATE CHANGE AND SEA LEVEL RISE

**Question 8 or 11**
The B.C. Ministry of Environment predicts sea levels will rise by 1 metre over the next 100 years. On a scale of 1 to 10, with 1 representing not at all concerned and 10 representing extremely concerned, how concerned are you about predicted sea level rise affecting your property or business on the Qualicum Beach waterfront?

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5
- [ ] 6
- [ ] 7
- [ ] 8
- [ ] 9
- [ ] 10

**Question 9 or 12**
In 2012 the Town of Qualicum Beach applied for a UBCM Capacity Building Grant for two-phased Waterfront Master Plan. The phases are as follows:

**Phase 1: Study and Adapt**—This phase of the project is technical, drawing heavily on consulting expertise to improve the Town's understanding of the foreshore and future effects of climate change.

**Phase 2: Refine and Sustain**—This phase of the project will follow after the first phase defined the baseline criteria for the management of the Qualicum Beach waterfront including flood plain guidelines, ecological inventory, shorelines stabilization strategies and other considerations appropriate to a well-conceived master planning process.

Have you heard about this initiative?
- [ ] Yes
- [ ] No

**Question 10**
Rate the following aspects of the waterfront in terms of importance to you, by selecting 1 (not important) to 4 (very important) from the drop down menu.

1 = Not important 2 = somewhat important 3 = Important 4 = Very important

a) Water Quality
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4

b) Access to public recreation areas
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
c) Aesthetics
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
d) Preserving my property from sea level rise impacts
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
e) Leaving the system as natural as possible
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
f) Preserving ecosystem function
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
g) Erosion control/protection from sea level rise or storm events (for all land uses)
   1  2  3  4

EXPERIENCES

Question 11
Briefly, describe an experience or observation related to sea level rise that you've had in Qualicum Beach. For example, a king tide; infrastructure, property or seawall loss, shoreline or bluff erosion, or storm surges) [250 word maximum].

   

Question 12
Where did you have this experience or observation along the shoreline?
   1  Judges Row
   2  Brant Viewing Area
   3  Visitor Information Centre
   4  Seacroft Place
   5  Butterball Drive
   6  The Shady Rest
   7  Buena Vista By the Sea
   8  Other (please state): ________________________

APPROVALS

Question 13
If you are a waterfront property owner have you applied for, or received foreshore development approvals (i.e. for sea-walls, rip-rap, boulders or access improvements)?
   1  Yes  2  No

Question 14
If you answered "yes" to 14) a), which of the following government entities did you contact?

   ☐ Federal Department of Ocean & Fisheries (DFO)
   ☐ BC Integrated Land Management Bureau
   ☐ Transport Canada
   ☐ BC Ministry of Environment
   ☐ Regional District of Nanaimo
   ☐ Town of Qualicum Beach
   ☐ Other (Please explain) ________________________
Question 15
Did you successfully receive an approval for work on the foreshore?
○ Yes  ○ No

Question 16
If answered "yes", how long did the foreshore approval take (approximately)?
○ 6 months  ○ 12 months  ○ 18 months  ○ 24 months

SHARED INTERESTS & CONCERNS

Question 17
List three areas of interest OR concern that you have regarding the Qualicum Beach shoreline or waterfront (e.g., recreation, public access, my waterfront property, shoreline erosion, aqua-culture, sea wall).

[Blank lines for three entries]

NEXT STEPS- WATERFRONT MASTER PLAN

Question 18
What would you like to see addressed in the Waterfront Master Plan (choose one)?
○ Protection of private property
○ Natural area preservation
○ Improving recreational areas
○ Tourism and Economic Development
○ Other (please explain) ______________________

Question 19
In terms of sea level rise/coastal planning and the future Waterfront Master Plan, what are your specific questions?

[Blank line]

Thank you for taking the time to complete this survey.

To volunteer for a waterfront property owner, business and resident focus group on May 2nd or May 9th please contact Leila Willoughby-Oakes at lwilloughby-oakes@qualicumbeach.com or call 250-752-6921. Focus groups will include approximately 8-10 volunteers and will be guided by questions posed by a moderator.
**APPENDIX L: STAKEHOLDER OBSERVATION CHART**

<table>
<thead>
<tr>
<th>Location</th>
<th>Observations/Natural Events</th>
</tr>
</thead>
</table>
| Brant Viewing Area | • location at a point of land with concrete seawall relocated back from the shore by 12 feet causing erosion to the sand soils  
• winter storms scouring the beach and west side of Grandon Creek, causing seawall undermining and collapse  
• loss of 30 feet or shore and the beach is 0.6 metres lower  
• winter storms causing beach erosion have undermined seawalls and caused deck collapse  
• storms and storm surges causing the erosions of Brant Viewing Area Park  
• adjacent public parking lot without a buffer is causing significant erosion to shoreline  
• observed erosion of Brant Viewing Area, which was probably caused by hardened shoreline protection measures |
| Eaglecrest Subdivision/Beach | • erosion at Eaglecrest area from sea level rise, beach dropped approximately 60-70 cm in the last 20 years  
• former pure sand is now a mixture of large rocks due to exposure from beach erosion (up to 150 metres from the shoreline)  
• shoreline has dropped about 75 m over the last 20 years  
• king tides, high water and storms contribute to loss of lawns, and debris on lawns in 2013  
• sand level at beach eroded steadily over past decade  
• landslide at Eaglecrest anticipated, due to Town mismanagement of groundwater flow off bluffs  
• loss of sand at Eaglecrest Beach |
| Island Highway | • neighbouring seawalls are increasing the erosion of our bluff  
• concern for the condition and height of seawall on public beach between Memorial Avenue and Bay Street and the resulting continuous subsidence of walkways  
• king tides and storm surges frequent occurrence |
| Judges Row-Hall Road Area | • shoreline erosion: seawalls swept away and yards having to be rebuilt  
• rebuilding of seawall two years ago  
• two king tides have taken over some land in the past eight years  
• seawall compromised by the beach dropping significantly and water levels  
• over 55 years the introduction of piecemeal single property owner solutions have degraded the natural processes and beauty of the beach |
| Milner Gardens | • concern over the collapse of bluffs  
• property owner on the west side of Milner experience erosion on waterfront property a few years ago |
| Seacrest Place | • large tides have eroded several feet of frontage on residential lands  
• erosion to the foreshore of respondent’s house  
• changes to shoreline on beach between Yambury Road and the end of Seacrest Place  
• significant change since 1959, change at Yambury Road significant since the diversion of surface water by the Town down Yambury and out onto the beach  
• beach now rock and gravel where sand used to be |
| The Shady Rest Pub | • road side erosions  
• private property owners encroaching onto public foreshore to construct sea walls  
• king tide, infrastructure and property loss and shore erosion  
• shoreline erosion and highway is next  
• large logs about the high tide mark have disappeared winter 2013, although long standing |
| Sand Pebbles, Westerlea and Buena Vista Motel Area (Island Highway N) | • Difficulty in maintaining rock seawall from king tides, particularly when accompanied by high winds, and similarly our beach access. This is in the former BenBow Inn Resort area.  
• changing shore of the protective shoal, sandbanks and rocks in front of Buena Vista/ Westerlea/Shorewater tourist accommodations |