

Whatcom County
Grant No. G1000002

GRANT TITLE: Northwest Straits Project: Marine Resources Committee Administration and Action Projects

TASK NO: Task 3.4 Coastal Outreach Project

- ANNUAL REPORT
- WORK PLAN
- PROGRESS REPORT No. 1 No. 2 No. 3
- FINAL PROGRESS REPORT
- PROJECT COMPLETION REPORT
- SUMMARY REPORT
- TECHNICAL REPORT
- PROTOCOL
- QUALITY ASSURANCE/QUALITY CONTROL

PERIOD COVERED: July 1, 2009-June 30, 2011

DATE SUBMITTED: June 16, 2011



This report was funded in part through a cooperative agreement with the National Oceanic and Atmospheric Administration.

The views expressed herein are those of the author(s) and do not necessarily reflect the views of NOAA or any of its subagencies.

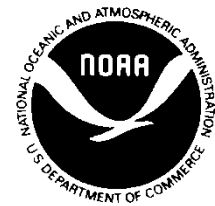
Summary Report

Task 3.4: Coastal Outreach Project

Prepared By
Coastal Geologic Services

June 16, 2011

Prepared For
Whatcom County Marine Resources



This report was funded in part through a cooperative agreement with the National Oceanic and Atmospheric Administration.

The views expressed herein are those of the author(s) and do not necessarily reflect the views of NOAA or any of its subagencies.

Outreach to Coastal Property Owners in Whatcom County, WA A Targeted Approach



Prepared for:
Whatcom County
Marine Resources Committee

Prepared by:
Coastal Geologic Services, Inc.

With assistance from:
Environmental Education Consulting Services



Bellingham, WA
June 14, 2011

TABLE OF CONTENTS

INTRODUCTION AND PURPOSE2

BACKGROUND2

 WHATCOM COUNTY BLUFFS AND BEACHES2

GIS ANALYSIS AND DATABASE DEVELOPMENT5

 GIS ANALYSIS METHODS6

SURVEY DEVELOPMENT AND RESULTS7

 MAILER SURVEY7

 PRE-WORKSHOP SURVEY13

 WORKSHOP DEVELOPMENT AND IMPLEMENTATION14

WORKSHOP EVALUATION SUMMARY16

 PURPOSE16

 METHODS16

 EVALUATION RESULTS16

NEXT STEPS AND RECOMMENDATIONS18

 FUTURE OUTREACH ACTIVITIES18

 FOLLOW UP WITH SURVEY RESPONDENTS19

 TARGETED OUTREACH FOR FUTURE PROJECTS19

REFERENCES21

ATTACHMENTS:22

Introduction and Purpose

The overarching goals of this project were to identify coastal property owners who would be interested in conducting restoration or conservation of their coastal property and to provide information and resources to become better stewards of their properties. Coastal Geologic Services, Inc. (CGS) was contracted by the Whatcom County Marine Resources Committee, through Whatcom County Public Works- Natural Resources, to conduct a targeted outreach program that would function as the first step toward these goals. The outreach program entailed multiple surveys of targeted waterfront property owners in Whatcom County, followed by educational workshops focused on best management practices, nearshore restoration/ enhancement, and why restoration and conservation of private property is critical to the health of Whatcom County marine resources.

The target audience included shoreline property owners whose property encompassed forage fish spawning habitat or feeder bluffs. Forage fish spawn in the upper intertidal of many beaches in Whatcom County and are central to the nearshore food web. Feeder bluffs are the primary nearshore sediment sources, which supply and maintain beach structure and habitat. A GIS database was created of privately held parcels that meet these criteria. A post card mailer that included a brief survey was sent to each of the parcels in the targeted areas. This mailing included information about the Whatcom County Marine Resources Committee, a survey to measure interest in learning more about coastal issues, and an invitation to attend a free "Living with the Coast" educational workshop which included two presentations and a field trip (Appendix 1). Following the workshops, attendees were surveyed in a workshop evaluation to measure the perceived value of the educational experience as well as interest in learning more about voluntary restoration or conservation actions that could take place on their properties. A list was compiled of all coastal property owners interested in learning more about restoring or conserving nearshore habitat on their properties. Interested parties would then be guided along the appropriate path to move forward with their selected action in a forthcoming feasibility and implementation effort. Coastal property owners willing to take steps towards restoration and conservation on their property could mark a progressive step in the face of both a critical need and one of the greatest constraints to nearshore restoration in the Puget Sound region. The Whatcom County coastline is approximately 95% private ownership (Figure 1).

Background

Whatcom County Bluffs and Beaches

The Strait of Georgia and adjacent Whatcom County waterways of the "Northern Straits" are the central features in the Puget Lowland-Salish Sea, and consist of a complex series of generally north-south trending deep basins. The Sound and Straits were created by the repeated advance and scouring of glacial ice-sheets, the most recent of which advanced into the area around 15,000 to 13,000 years ago (Easterbrook 1992). Glacially derived sediment dominates the region (Easterbrook 1976), and along with less common interglacial sediment, that are exposed in coastal bluffs and these are present along the majority of Whatcom County shores.

Bluffs are subjected to wave attack at the toe of the slope, which contributes to intermittent bluff retreat through mass wasting events (commonly referred to as landslides) such as slumps and debris avalanches. Although landslides can also be initiated by hydrologic processes and land use/development changes, wave attack is a long-term driving force in bluff failures in Whatcom County. As forwarded by Emery and Kuhn (1982), a steep, sharp-crested, unvegetated bluff profile with sparse debris at the toe of the bluff is indicative of an actively retreating marine bluff dominated by marine erosion. This is the case

in many Whatcom County bluffs, but there are also many subtleties in area bluffs that vary across the county.

Beaches in the study area are composed of cobble, gravel and sand and are ubiquitous, whether at the toe of bluffs or along very low elevation backshores. The morphology and composition of beaches in the study area are controlled by sediment input, wave climate, and shore orientation. Bluff sediment input, primarily glacially-deposited units, is the primary source of beach sediment in Puget Sound and the Northwest Straits (Keuler 1988, Johannessen and MacLennan 2007). Landslides and erosion of these bluffs deliver sediment to the beach in moderate quantities. A secondary sediment source is rivers and streams, however, river and stream sediment input is thought to be responsible for on the order of only 10% of beach sediment in the Sound and Straits, with the majority (approximately 90%) originating from bluff erosion (Keuler 1988). As sediment is transported along a beach, it must be continuously replaced for the beach to maintain its integrity. Beach sediment size is strongly influenced by the available sediment coming from bluff erosion as well as wave energy, and therefore varies considerably across the county.

A beach serves as a buffer against direct wave attack at the bluff toe. The value of a "healthy" beach fronting a coastal bluff should not be underestimated for absorbing storm wave energy. A gravel berm can serve as a resilient landform with an ability to alter shape under different wave conditions, effectively dissipating most wave energy. Extreme waves do reach bluffs causing erosion, which delivers sediment to the beach and is vital to maintaining the beach. Therefore, bluffs, beaches, and nearshore areas are *completely connected as integral parts of a coastal system*. Past and current management typically treated the bluffs and beaches as separate parts of the coastal system, which has resulted in substantial negative impacts to coastal erosion, nearshore habitats and wildlife.

Net Shore-drift

Shore drift is the combined effect of longshore drift, the sediment transported along a coast in the nearshore waters, and beach drift, the wave-induced motion of sediment on the beachface in an alongshore direction. While shore drift may vary in direction seasonally, net shore-drift is the long-term, net effect of shore drift occurring over a period of time along a particular coastal sector (Jacobsen and Schwartz 1981).

The concept of a drift cell has been employed in coastal studies to represent a sediment transport sector from source to terminus along a coast. A drift cell is defined as consisting of three components: a site (erosional feature or river mouth) that serves as the sediment source and origin of a drift cell; a zone of transport, where wave energy moves drift material alongshore; and an area of deposition that is the terminus of a drift cell. Deposition of sediment occurs where wave energy is no longer sufficient to transport the sediment in the drift cell.

Net shore-drift mapping in Whatcom County was completed in the 1980 by Edmund Jacobson, under the direction of Dr. Maurice Schwartz. This data was reprinted in Schwartz et al. (1991). Wolf Bauer (1974) also mapped "drift sectors" in a report prepared for Whatcom County. The Bauer mapping was based on observations of the upper foreshore only (high tide beach), and was stated as a preliminary effort only. Both of these mapping efforts provided the building blocks of a study conducted in 2006 by CGS, *Whatcom County Feeder Bluff Mapping and Drift Cell Ranking Analysis*, which identified the geomorphic character of the Whatcom County shoreline. The study was contracted by Whatcom County Marine Resources Committee (MRC) and Whatcom County Planning & Development Services (PDS) in support

of the county Shoreline Master Program update. The datasets provided in the 2006 Whatcom County Feeder Bluff Report, specifically feeder bluff and feeder bluff exceptional units, and shore modification units were used in this report to identify the target audience. Refer to the 2006 report for further detail of shore mapping.

Shore Modifications

Erosion control or shore protection structures are common along the shoreline of Whatcom County. Residential and industrial bulkheads (also called seawalls) are typically designed to limit the erosion of the backshore area or bluff, but have numerous direct and indirect impacts on nearshore systems. Seawalls and bulkheads have been installed more routinely in the past few decades as property values have raised and marginal lands are developed. The effects of bulkheads and other forms of shore armoring on physical processes have been the subject of much concern in the region (for example, PSAT 2003).

A bulkhead constructed near the ordinary high water mark (OHWM) in a moderate energy environment increases the reflectivity at the upper beach substantially, causing backwash (outgoing water after a wave strikes shore) to be more pronounced. Increased backwash velocity removes beach sediment from the beachface, thereby lowering the beach profile (MacDonald et al. 1994). A bulkhead constructed lower on the beach causes greater impacts (Pilkey 1988). Construction of a bulkhead at or below OHWM results in coarsening of beach sediment in front of the bulkhead (MacDonald et al. 1994). Relatively fine-grain size sediment is mobilized by the increased turbulence caused by the bulkhead (Miles et al. 2001), and is preferentially transported away, leaving the coarser material on the beach. Over the long term, the construction of bulkheads on an erosional coast leads to the loss of the beach (Fletcher et al. 1997, Douglass and Bradley 1999).

Of all the impacts of shore armoring in the Puget Sound and Northern Straits, sediment impoundment is probably the most significant negative impact (PSAT 2003). A structure such as a bulkhead, if functioning correctly, “locks up” bluff material that would otherwise be supplied to the net shore-drift system. This results in a decrease in the amount of sediment available for maintenance of down-drift beaches. The negative impact of sediment impoundment is most pronounced when armoring occurs along actively eroding bluffs (MacDonald et al. 1994, Griggs 2005). The extent of cumulative impacts from several long runs of bulkheads is a subject of great debate in the coastal research and management communities.

Coastal Processes, Habitat, and Species

Shore modifications damage the ecological functioning of nearshore coastal systems. The proliferation of these structures has been viewed as one of the greatest threats to the ecological functioning of coastal systems (PSAT 2003, Thom et al. 1994). Modifications often result in the loss of the very feature that attracted coastal property owners in the first place, the beach (Fletcher et al. 1997).

With bulkheads and other shore modifications such as filling and dredging, net shore-drift input from bluffs is reduced and beaches become “sediment starved.” The installation of these structures typically results in the direct burial of the backshore area and portions of the beachface, resulting in reduced beach width (Griggs 2005) and loss of habitat area. Large woody debris (LWD) is usually transported away from the shore following installation of bulkheads, with corresponding changes in habitat. This leads to a direct loss of nearshore habitats due to reduction in habitat patch area.

Bulkheads and other hard shore armoring leads to reduction in epibenthic prey items, potentially increased predation of salmonids, loss of organic debris (logs, algae) and shade, and other ecological impacts (Thom et al. 1994). The reduction in beach sediment supply can also lead to an increase in coastal flooding and wave-induced erosion of existing low elevation armoring structures and homes. Habitats of particular value to the local nearshore system that may have been substantially impacted include forage fish spawning habitat. These habitat areas are only found in the upper intertidal portion of fine gravel and sand beaches, with a high percentage of 1-7 mm sediment (Penttila 1978). Forage fish are small, schooling fish that are key prey items for larger predatory fish, such as salmon, and other wildlife in a marine food web. In Puget Sound, forage fish species occupy every marine and estuarine nearshore habitat. Nearshore habitats are of special concern, because many species use them for spawning. Surf smelt (*Hypomesus pretiosus*) and Pacific sand lance (*Ammodytes hexapterus*) are commonly found within the nearshore zone of Pacific Northwest beaches (Penttila 2007). Surf smelt and sand lance spawning habitat areas are found in the upper intertidal portion of fine gravel and sand beaches, with a high percentage of 1-7 mm sediment (Penttila 1978), which is fine gravel (smaller than pea gravel) to coarse sand. Sand lance requires 0.5-3.0 mm sediment for spawning.

Documented forage fish spawning occurs throughout Whatcom County (Figure 2). Most notable locations for surf smelt spawning beaches are along the entire west shore of Point Roberts, most of the Birch Point headland, along Birch Bay State Park, the beaches fronting Conoco Phillips, the east shore of the Lummi Peninsula, Little Squalicum Beach, and scattered throughout various locations along the Bellingham waterfront. Smaller patches of surf smelt spawning beaches have been mapped along the east side of the Point Roberts marina inlet, along Maple Beach, inside of Drayton Harbor, near the Lummi Island Ferry Landing, inside Chuckanut Bay and on the south side of Wildcat Cove in Larrabee State Park.

Sand lance spawning beaches have not been documented as thoroughly as surf smelt spawning beaches. Smaller patches of sand lance spawning beaches are mapped along Maple Beach, the tip of Semiahmoo Spit, inside Drayton Harbor, various locations along the Lummi Peninsula and Portage Island, at the Lummi Island Ferry Landing, Little Squalicum Beach, and a few locations along the Bellingham waterfront. To view a video of spawning sand lance along a Whidbey Island beach visit the website <http://www.youtube.com/user/5thLifeProductions#p/a/u/0/vgjqtiDzP2E> on the 5thLifeProduction's Channel.

GIS Analysis and Database Development

The goal of this project element was to identify coastal property owners in Whatcom County who owned property that contained a feeder bluff, a feeder bluff with a modification (shoreline armor), a beach with documented forage fish spawning, and/or a beach with documented forage fish spawning and a modification. This was the 'target audience' of this project and parcels were initially identified with a definition query of datasets in GIS analysis. These selected parcels and associated parcel data were copied into an excel spreadsheet for further data reduction. Publicly owned parcels were eliminated from the data set, most notably those owned by government, Land Trusts, Port entities, as well as large commercial companies. Several parcels meeting the criteria for targeted outreach had both a physical coastal address and a different owner address. For these parcels, both addresses were included in the database and both residences received a survey mailer.

GIS Analysis Methods

Datasets

Several datasets in the form of a GIS shapefile feature class (.shp format), were used to identify subject parcels targeted for outreach in this project. These shapefiles are listed below, followed by the source:

- Tax_Parcels.shp – Whatcom County Tax Parcels from 1/7/11 (Whatcom County (WC))
- SZLINE_NAD83_SP-n.shp – Shorezone Shoreline (WDNR)
- Wa_Counties_NAD83.shp – polygons of county boundaries
- Lummi_Reservation.shp – polygon of the Lummi Reservation boundary
- fd_shoreform_change – PSNERP change analysis shoreform change data (PSNERP)
- fd_armoring – PSNERP change analysis armoring data (PSNERP)
- WC_CGS_shoretype.shp – CGS shoretype database for Whatcom County (CGS)
- Forage_Fish_Surveys.shp – forage fish spawning mapping SalmonScape database (WDFW)

Parcel Processing

Parcels along the coast were selected out from the entire Whatcom County parcel shapefile. A parcel extrapolation tool was first used for efficient GIS cross-referencing of parcels and the shapefile datasets. This tool extended the waterward extent of parcels to encompass coastal features mapped along the Washington Dept. of Natural Resources (WDNR) high water shoreline, referred to as the Shorezone Shoreline (WDNR 2001). Shapefiles including data such as Washington Dept. of Fish and Wildlife (WDFW) forage fish spawning (2010), Puget Sound Nearshore Ecosystem Restoration Project (PSNERP; Simenstad et al. 2009), Coastal Geologic Services (Johannessen and Chase 2005), and Bauer (1974) shoretype mapping (feeder bluffs and armoring) were all mapped along the Shorezone Shoreline, and were key to identifying the target audience. Parcels found on the Lummi Nation were excluded from the coastal parcel shapefile, per the MRC/Lummi Nation's request.

The final step in GIS analysis was to use a 'definition query' to cross reference the coastal parcel shapefile with the other datasets. Definition queries were used to select Whatcom County coastal parcels that contained any of the criteria indicating the target audience, including: feeder bluffs and forage fish spawning areas both with and without shoreline armor. Notation was added as a field in the attribute table with "1" for presence or a "0" for absence of the criteria listed above. Parcels with a "1" in any of the four fields were selected and the information copied into an excel spreadsheet for further refinement of the target audience database.

Target Audience Database

The *Target Audience Database* is an excel spreadsheet created from GIS analysis. Further refinement, including elimination of large commercial parcels, several adjacent parcels owned by the same person, and parcels without address information, was done manually by using the filter feature in excel. Finally, parcel information was organized in such a way to include two addresses if necessary, one for the physical coastal property and one for the owner address if the two differed. A unique identifier code was added to each parcel entry to enable spatial analysis of survey responses. A 'U' and four digit number was assigned to assumed undeveloped parcels (these did not have a number associated with the physical coastal address) and 'D' and four digit number assigned to developed parcels, and were filtered in separate tabs of the *Target Audience Database* spreadsheet. These spreadsheets show raw parcel data and presence or absence of the target criteria (Table 1).

Table 1. Presence of target criteria in developed and undeveloped parcels. Some parcels may have presence of more than one of the target criteria. Note the criteria data was not duplicated for parcels that received two mailings.

Habitat/Feature Present	Number of parcels undeveloped	Number of parcels developed
Forage Fish (FF)	42	272
Feeder Bluff (FB)	167	339
Modified shore and FF	33	313
Modified shore and FB	49	258
Total	291	1,182

The developed and undeveloped raw data in the *Target Audience Database* was combined and formatted appropriately for final mailing distribution, which required extensive manipulation and corrections. The file was sent to Automated Mail Services (<http://www.amsdirectnw.com/contact/index.html>) who printed, prepared and distributed mailer surveys to the entire target audience database. The *Target Audience Database* and *Final Mailing* spreadsheets are included electronically as part of this report.

Survey Development and Results

The target audience was sent a mailer survey which included brief information about the Whatcom County Marine Resources Committee, an invitation to participate in the “*Living with the Coast*” workshops, and a request to complete a brief set of survey questions (Appendix 1). Content was developed by CGS along with Environmental Education Consulting Services’ program assessment specialist. A link to an online Survey Monkey website, and a phone number were also included in the survey mailer, which recipients could use to register for the free workshops. Integrated into the online registration process through the Survey Monkey was an option to answer questions from the survey mailer in online format, and an option to answer 5 additional pre-workshop survey questions. The pre-workshop survey was designed to help incorporate target audience interests into workshop content and provide additional profile data of potential attendees. All responses to the mailer survey and the pre-workshop survey were entered into the *Master Survey Response* spreadsheet. The results of pre-workshop survey are discussed in greater detail in the *Pre-Workshop Survey* section.

Mailer Survey

The purpose of the mailer survey was to identify trends among coastal property owner concerns, values, perceived barriers and willingness to participate in workshops. A total of 1,239 mailers were sent to coastal property residents and owner addresses; including 159 to Canada. Four mailers were returned because the address did not exist or the owner had moved. As previously mentioned, property owners on the Lummi Nation Reservation were not included in this outreach project, had these property owners been included in the outreach project, a much larger quantity of mailers would have been distributed.

Survey questions addressed the length of residency, geographic location, attitudes (values and concerns), general interest and perceived barriers to attending a workshop. The draft survey mailer was sent out to the Education and Outreach subcommittee of the MRC as well as MRC staff and others closely involved with this project for feedback and editing.

Survey responses provided a wealth of information regarding owner demographics, values, concerns and what coastal property owners want to learn about their properties and coastal ecosystems. Due to the large volume of survey response data only the major findings are presented here, while individual

responses can be viewed electronically in both the *Master Survey Response* spreadsheet and the *Survey Response Analysis* spreadsheets (Appendix 2).

Response Rate

With 1,239 mailings sent out, only 4 were returned as undeliverable. In total, 59 people responded to the survey representing 5% of those that received the mailer. Thirty-three survey responses were received by mail, 18 survey responses were collected online, and 8 survey responses by phone. Some respondents chose multiple ways of responding, for instance calling and sending back the survey mailer or returning the mailer and also replying online. Of the total 59 respondents, 17 (29% of respondents) completed the pre-workshop survey questions from the Survey Monkey, which were intended to drive workshop content.

Duration and Status of Residence

Most respondents had lived at their property for 5 or more years (46 respondents, 92%). Every respondent who reported owning their property for less than 5 years indicated that they would attend the workshop. Fifty-one percent of the respondents were permanent residents, while 37% indicated they are only seasonal residents. Despite being seasonal residents, 8 of the 22 seasonal respondents (36%) indicated they would attend the workshop. The remaining seasonal respondents (14) indicated that they were interested in future workshops but would be out of town at the time of this workshop (Appendix 2).

Geographic Location

Spatial analysis of respondents showed the greatest response rate from the Birch Bay area (22 responses) followed by Semiahmoo (14 responses). Eight responses were received from Lummi and Eliza Islands. The remaining responses were equally distributed around the County (Chuckanut, Sandy Point and Point Roberts areas) (Figure 3).

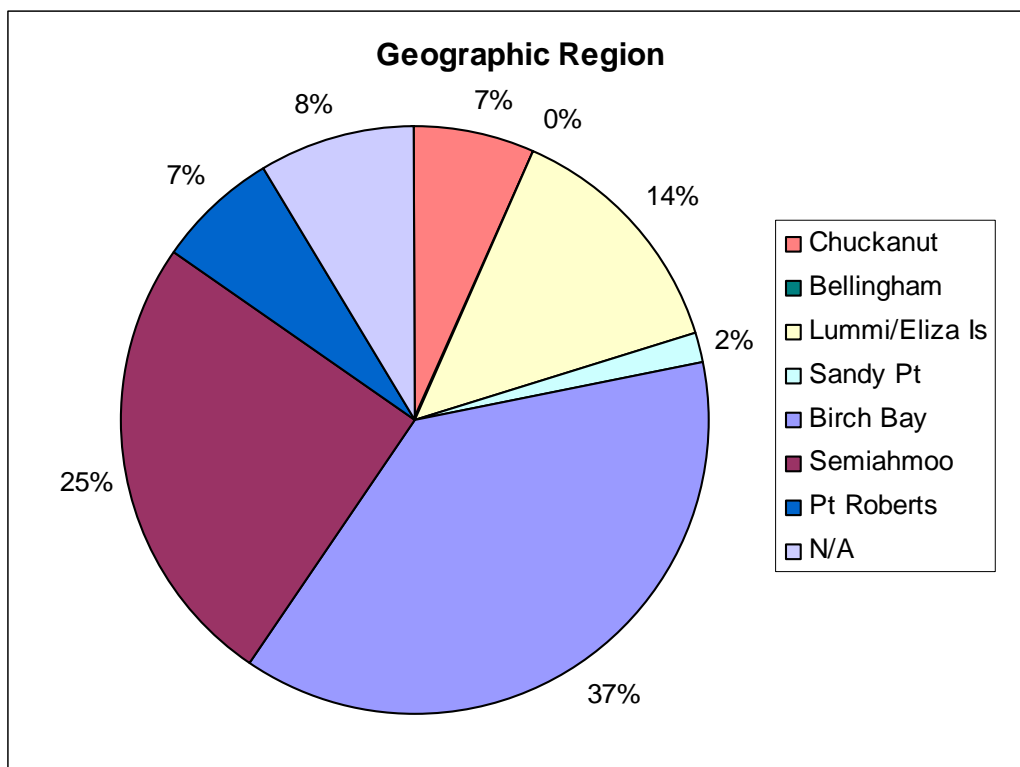


Figure 3. Pie chart exhibiting geographic distribution of respondents to the mailer survey.

Landowner Values and Concerns

Responses to the survey question 'what do you enjoy most about your coastal property' were classified into property owner values. These values were then categorized into 'cultural values' as described in the ranking matrix used by Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) Nearshore Science Team to assess ecosystem functions, goods and services (In: *Historic Change and Impairment of Puget Sound Shorelines Technical Report*, Simenstad et al. 2009). Cultural categories in the Ecosystem Functions, Goods and Services ranking matrix include such categories as Ethical, Existence, Recreation, and Educational (Appendix 2). Survey results showed that the most common value among property owners was existence of the coastal environment (~90% responses; Figure 4). When asked what they value most about living on the shore the responses overwhelmingly referenced aesthetic and cultural values using the words quiet, beauty, view and privacy. Recreational values, such as walking, were also cited. Also valued within this group was the shore being a place to gather with family and friends. Fewer responses referenced the value of being close to nature and the natural world, with some specific responses mentioning birds, whales, shellfish and wildlife.

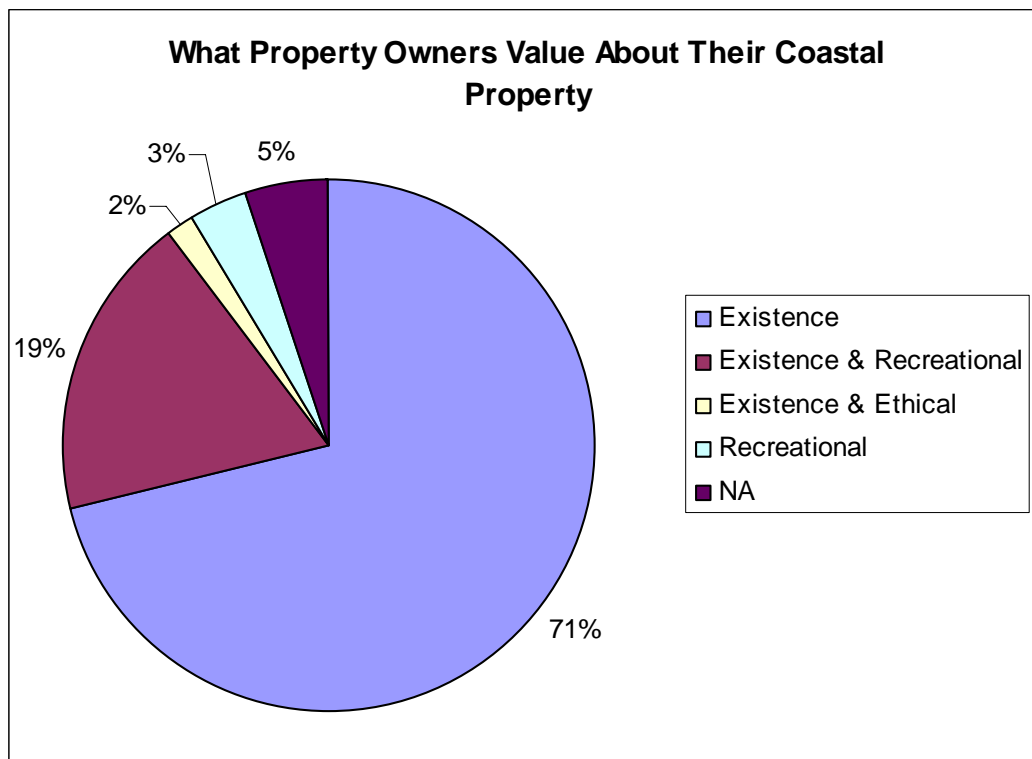


Figure 4. Pie chart exhibiting property owner's cultural values regarding their coastal property. Categories developed in *Historic Change and Impairment of Puget Sound Shorelines Technical Report*, Simenstad et al. 2009.

When asked to respond to the question ‘*what concerns you most about your property*’ 38 respondents (49%) indicated that bluff management and/or armoring were their greatest concerns. Concerns regarding property rights and shoreline regulations represented 15% of respondents while 11% cited current events such as over-development, coal trains and ferry issues as their highest concern. Concerns over stormwater run off and general water quality represented 6% each of the responses. Two responses indicated concern over shoreline access and one respondent reported their greatest concern is flooding or inundation due to sea level rise (SLR) and climate change (CC) (Figure 5).

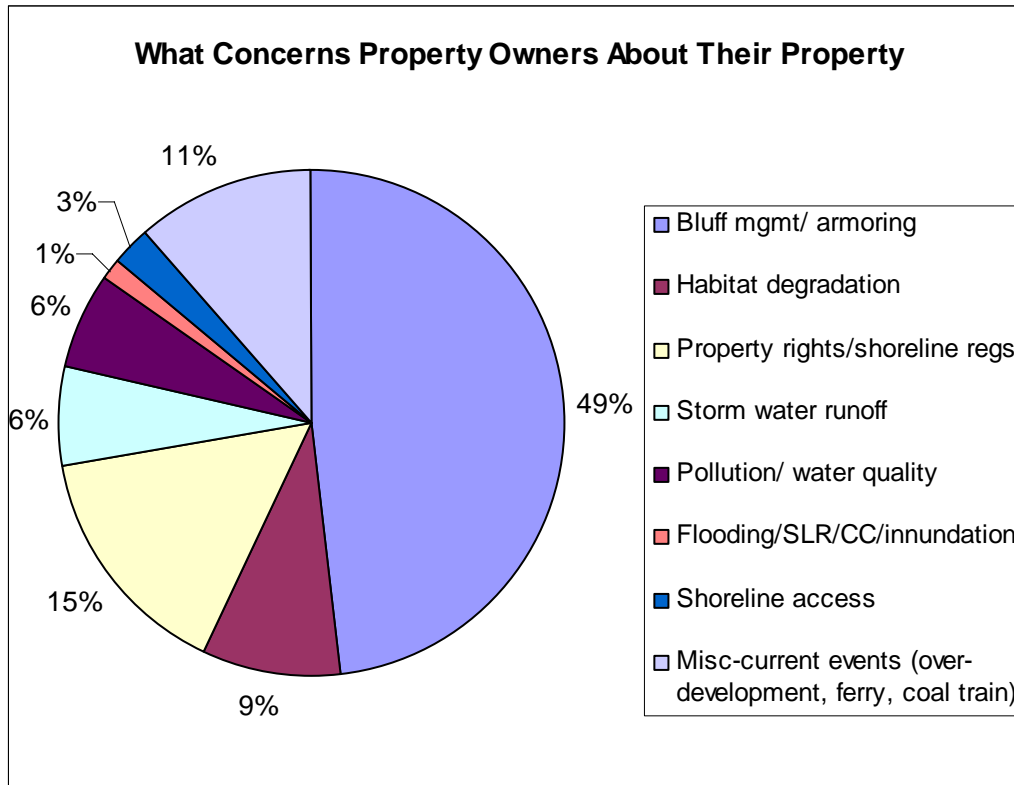


Figure 5. Pie chart exhibiting property owner's concerns regarding their coastal property.

An exploration of property owner concerns by geographic location showed variation among concerns. The greatest concern listed among all property owners was bluff management and armoring. The second greatest concern listed by property owners varied across the county. Secondary to bluff management, those from Birch Bay were also concerned with habitat degradation and property right and regulations. Semiahmoo residents were considerably more concerned with storm water runoff and drainage issues. Residents from Lummi and Eliza Islands, like those from Birch Bay, were more concerned with their property rights and regulations.

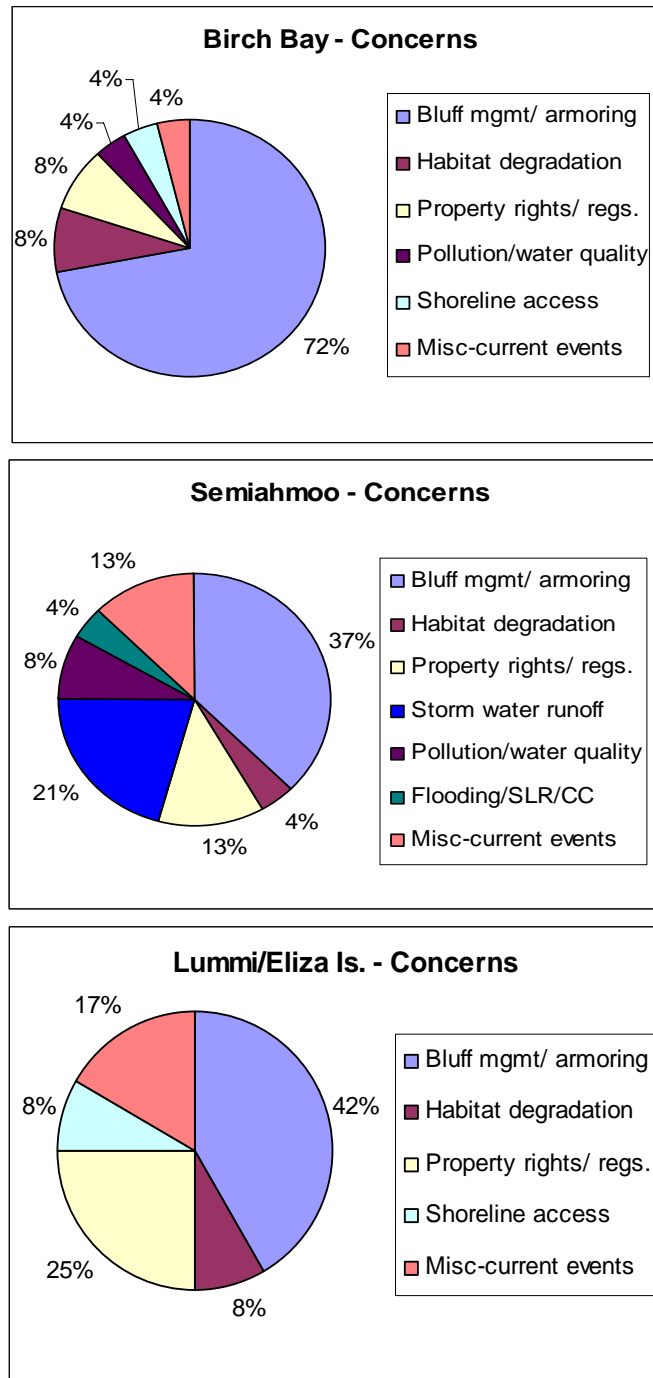


Figure 6. Coastal property owners concerns regarding their property sorted by geographic location.

Attitudes Toward "Living with the Coast" Workshops

Forty-three individuals (72% of respondents) signed up to attend the beach workshop, the bluffs workshop or both. Positive responses included the desire to learn about bluff erosion (22%), and habitat protection (7%) (Figure 7). Of the 16 respondents who indicated that they would not attend the workshop 13 responded that they were interested in attending but had other commitments or conflicts with the date. The remaining 3 respondents gave the following reasons for not attending: one indicated that they owned property but not a residence; one indicated that they had attended a similar previous workshop, and one indicated that they considered attending the workshop 'a waste of time'. Respondents' reasoning for attending or not attending the workshop is displayed in Figure 7 below.

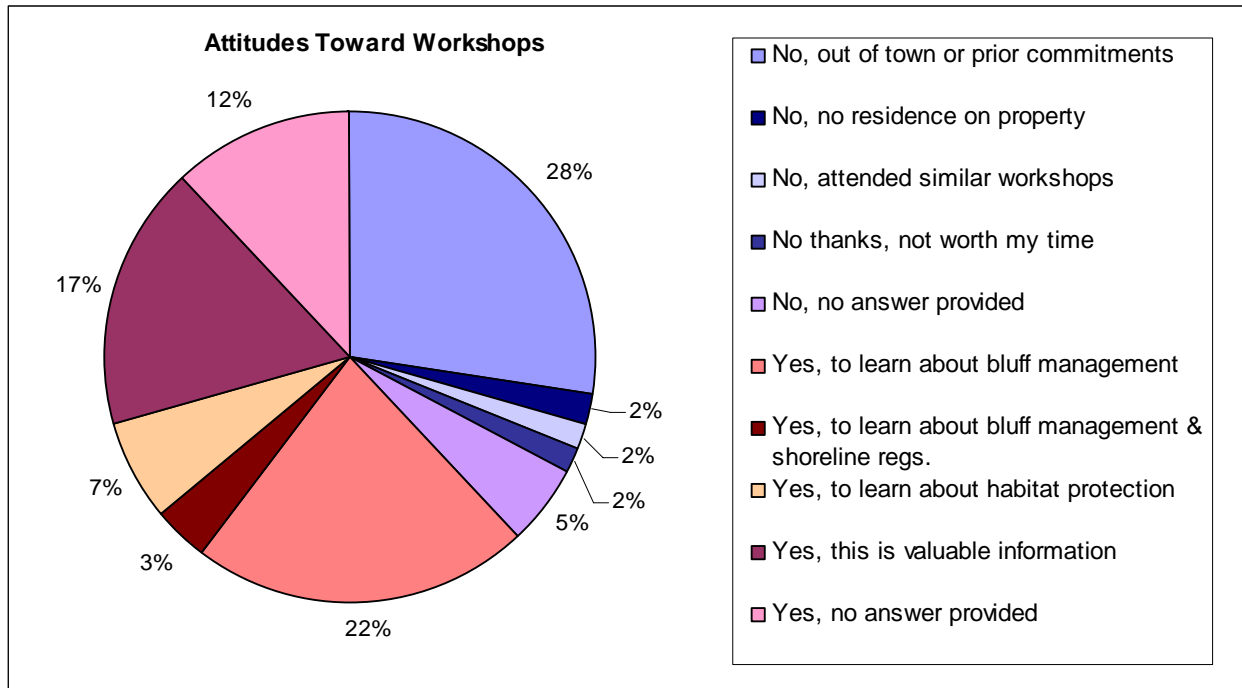


Figure 7. Pie chart exhibiting survey respondents' attitudes toward the 'Living with the Coast' workshop.

Survey Response Summary

Offering several ways for people to respond to the mailer survey was helpful in obtaining responses. The return mailer generated the most responses but additional information was gained by having the online pre-workshop survey questions.

The majority of people who returned surveys were those who expressed interest in workshops targeted to coastal property owners. Providing a positive response to the idea of these types of workshop opportunities was a significant motivator in responding to the survey.

Respondents who have owned their property for 5 years or less (4 responses) were unanimously enthusiastic about attending workshops of this type and expressed an eagerness to learn more about stewardship activities related to property management. These newer owners appear to be a receptive audience to the workshop outreach strategy. While longer-term owners were not unanimously interested in attending workshops there was still a high level of interest from this group of respondents.

While none of the respondents indicated that they would not attend this workshop because it was too far to travel, the largest number of respondents was from the area nearest to where the scheduled workshop was to take place. This suggests that workshop location impacts the interest level—the closer the location the higher the interest and participation from local landowners. No significant difference was apparent in workshop interest from seasonal versus permanent residents.

Cultural values are important to this group of coastal landowners. Ecosystem values are present but are viewed through a cultural value perspective. Interest in ecosystem benefits could be increased by linking them to enhanced cultural values.

Landowner concerns were in line with the anticipated workshop format and topics prior to receiving the responses, but responses did help shape fine points of the workshop content. The majority of respondents are motivated by a desire to learn more from experts about specific management activities that can be applied to their own property.

Pre-Workshop Survey

A second set of questions, referred to as pre-workshop survey questions, were used to survey individuals who contacted CGS via the online Survey Monkey link (Appendix 1). The purpose of the pre-workshop survey was to obtain feedback from potential participants to inform design of workshop content and to determine impacts from workshop participation.

Three of the pre-workshop survey questions were related to workshop participation: content, incentives to participate and barriers to participation. Two questions asked about interest in an expert site visit and whether the respondent was considering making any improvements to their property in the next 5 years. These questions were included in order to provide pre-workshop data to be used in comparison to post-workshop data to determine if workshop participation had measurable impacts toward motivating participants to take next steps to integrate stewardship practices into their property management.

Eight respondents indicated that they would be interested in an expert site visit in order to gain specific suggestions for property management. Four respondents indicated that they would possibly be interested depending on what they were able to learn from the workshop. Seven respondents indicated that they are planning to make improvements to their property within the next 5 years. One respondent indicated they

would potentially make improvements in that time and four respondents said they were not planning any improvements within the next 5 years.

When asked what they were interested in learning at the workshop, the greatest number of people by far indicated they wanted to learn more about coastal erosion control/bluff management. Responses indicated high interest in the use of vegetation to control erosion, shoreline regulations and stormwater management. Other responses included learning about what to be concerned about as a shoreline property owner and shoreline restoration and stewardship. Responses to this question were grouped and listed with quantity of these response categories:

- Bluff management (9)
- Vegetation for bluff management (5)
- Shoreline regulations (5)
- Shoreline protection/restoration (4)
- Stewardship (2)
- Stormwater management (1)

Respondents were asked about suggestions for incentives to improve the level of participation in educational workshops for private property owners regarding stewardship of shorelines. Access to experts and the opportunity to gain knowledge was the most common response. Other responses included improved environment and financial incentives such as tax breaks or being able to get reduced prices on plants/plantings for large group orders as a result of participation. One respondent suggested social marketing and that the creation of a strong network of concerned owners would inspire others to join the effort to learn and apply new knowledge to property management. Below is a bulleted list of responses to this question and the quantity of responses for each category:

- Obtain information (10) regarding: bluff mgmt, shoreline regulations, vegetation, or in general
- Speakers/Experts (5)
- Stewardship (3)
- Financial incentives (3)
- Location/timing, social marketing, desire to participate (received 1 each)

Barriers to participation in workshops like "Living with the Coast" include: location and other commitments (7 respondents) and working with government regulations (6 respondents). Other respondents answered that they did not know (3), that there are no barriers (2), or did not provide an answer to this question.

Workshop Development and Implementation

The workshop was designed to provide coastal property owners with a better understanding of marine resources including: coastal processes, bluff erosion management, forage fish habitat and how to reduce impacts to marine resources. A morning presentation, entitled "Healthy Beach Habitats", was presented by Dan Penttila of Salish Sea Biological. An afternoon presentation focused on "Bluff Erosion Management" and was presented by Jim Johannessen of Coastal Geologic Services. The presentations were followed by a beach walk or field trip that applied knowledge from both presentations. Information from the pre-workshop survey was incorporated into the presentation content.

Workshop Preparation

The "Living with the Coast" workshop was scheduled for Saturday, April 23rd, 2011 and was held at the Blaine Fire and Rescue Station 62 at 9001 Semiahmoo Parkway in Blaine, WA, in the Semiahmoo area. Many of the respondents lived in the north county and some from Canada so the Semiahmoo area was chosen for location. Beyond the direct mailing, fliers, media contacts, email announcement, and the MRC website were the main methods of informing the general public of the workshops (Appendix 3), as described below:.

Fliers posted - Fliers were posted around the Birch Bay and Blaine communities and distributed at the April MRC meeting. The C Shop, Bay Café, Birch Bay Teriyaki & Chinese Café, and the Market at Harborview. Stacks of fliers were left at the real estate offices in Birch Bay.

Media contacts - Local newspapers, including The Bellingham Herald, The Northern Light, All Points Bulletin, Whatcom Watch, and Cascadia Weekly were sent an announcement and description of the workshop. The Bellingham Herald and The Northern Light both ran the workshop announcement.

Email announcement - Email announcements were sent to all MRC staff for distribution, Ingrid Enschede of BBWARM, Cheryl Lovato-Niles of Shore Stewards, Wendy Steffensen, Doug Stark, and Matt Krogh of ReSources, Kathy Berg of Birch Bay Community Steering Committee, and the Cliffside Community.

MRC website - The MRC website homepage announced the workshops as an MRC sponsored event and included all relevant workshop information, the Survey Monkey link for registration, further details, and additional survey questions, and images of the presenters in the field.

Of the 31 attendees who signed in 23 heard about the workshop by mailer survey, 5 by newspaper (specifically The Bellingham Herald and The Northern Light), 1 attendee each had heard by mail, by flier, or by email. Workshop sign-in information is included in Appendix 3.

People who registered for the workshop via the Survey Monkey website or by calling were given priority seating. A total of 36 people were registered for the workshop. A confirmation email was sent out 3 days prior to the workshop to those who provided an email address to get a final count of workshop attendees and as a reminder of the workshop.

A workshop packet was provided to attendees and contained informational materials, some included based on feedback from the pre-workshop survey. A Workshop Agenda, Internet Sites resources page, information on an upcoming Green Shores for Homes program, and Shore Stewards brochure and sign-up were all included in the workshop packet (Appendix 3).

Workshop Content

Each presentation opened with a brief introduction of the MRC and the larger outreach project of which the workshop was a part. The MRC was emphasized as a citizen-based, non-regulatory group dedicated to working with the community to accomplish the goal of revitalizing and preserving marine life and habitats for future generations. Workshop organization and workshop packet were explained and we requested attendees to fill out workshop evaluations following the beach walk or following the presentation if not attending the beach walk.

Cheryl Lovato-Niles provided a brief summary of the Shore Stewards program following the presentation introduction. The partnership with Shore Stewards was helpful in both bringing citizens associated with Shore Stewards to the workshop and providing another platform for Shore Stewards to reach citizens. Six people signed up to become Shore Stewards at the workshop.

The *Healthy Beach Habitats* workshop was presented by Dan Penttila in the late morning. This presentation focused on forage fish, especially surf smelt and sand lance, as well as other species found on the beach, the beach as habitat, and forage fish spawning habitat as justification for increased shoreline regulations. Topics and organization can be view in the agenda (Appendix 3).

The *Bluff Erosion Management* workshop was presented by Jim Johannessen in the early afternoon. This presentation included background on coastal geology and bluff processes, proper drainage, vegetation to assist in erosion control, alternatives to shoreline armoring with site specific examples, shoreline regulations, permitting, and methods of erosion control, including example soft shore protection projects.

The *Beach Walk* portion of the workshop was scheduled as a joint field trip for both indoor workshops. The beach walk occurred in the afternoon at low tide. The beach walk began at the base of Semiahmoo Spit at Semiahmoo County Park. Attendees walked south along the beach to view forage fish spawning habitat, riparian vegetation, marine algae and other marine life, and landslides, groundwater seepage on bluffs, and armor burying habitat and exacerbating erosion. Ken Carrasco of the Whatcom MRC recorded footage of the beach walk for the MRC library.

Workshop Participation

A total of 36 people pre-registered for the workshop, including spouses or friends. Thirty-five people signed-in to the workshop (some signed-in jointly). A head count for each of the presentations revealed 20 attendees at the *Healthy Beach Habitats* presentation and 38 attendees at the *Bluff Erosion Management* presentation. Many attendees at the morning presentation stayed for the afternoon presentation and beach walk; however, it is uncertain exactly who or how many people stayed for only a portion of the workshop. Workshop evaluations were filled out by 20 attendees (again, some filled out jointly) following the beach walk.

Workshop Evaluation Summary

Purpose

The post-workshop evaluation had the following purposes:

1. obtain contact information from participants in order to allow for follow-up outreach activities,
2. obtain profile data regarding geographic location, length of ownership, previous workshop attendance and concerns,
3. identify which aspects of the workshop were regarded as most valuable by the target audience,
4. compare pre and post workshop data to gage impact of workshop attendance and to assess interest in future stewardship activities,
5. identify specific individuals interested in future stewardship activities and offer recommendations for future stewardship activities based on participant feedback.

Methods

Workshop evaluations were designed to be easy to complete and administered as a culmination activity integrated into the program in order to obtain maximum return. A copy of the workshop evaluation survey is included in Appendix 3. Participants were given one-page printed evaluations at the end of the field trip and asked to complete them before departing. Clip boards and pencils were provided. Evaluations were collected and data was entered and initially analyzed by CGS staff. Tracie Johannessen, program assessment specialist, provided review and summary of pre-workshop survey data and post-workshop evaluation data.

Evaluation Results

Participant Profiles

Approximately 50 attendees were present at the workshops. In total 20 evaluations were returned (Appendix 4). Some attendees filled out evaluations jointly, while others did not fill out an evaluation at all.

All respondents were shoreline property owners; 8 were seasonal residents, 11 were permanent residents and 1 was the owner of an undeveloped property. Ten people attended both workshops; 10 attended only the bluff workshop. No respondents attended only the habitat workshop. Only 2 respondents reported having attended a similar workshop in the past.

Geographic representation of workshop attendees who returned an evaluation was strongest from the Birch Bay (11), Semiahmoo (5), and Blaine (3) areas. One person owned property on Eliza Island and was considering developing it in the next 5 years and 2 attendees owned property on Point Roberts. The workshop sign-in shows geographic representation of workshop attendees who did not return an evaluation (Appendix 3).

Workshop Feedback

When asked about their incentives for attending the workshop 100% of respondents said the opportunity to gain local knowledge. Main barriers cited for workshop attendance were available time/time conflicts and travel distance. A specific suggestion was given to conduct localized workshops in specific geographic areas such as Point Roberts and Lummi Island in order to get more local participation from these areas.

Participants in the healthy beach habitats workshop reported that the most valuable information they gained was about intertidal spawning, fish habitat, the relationship of bulkheads to habitat impacts. Several expressed a renewed interest in species and habitats.

Bluff erosion management workshop participants reported valuing several areas of content: detailed information on bluff dynamics and the erosional nature of bluffs, how to interpret bluffs, links between erosion and beach restoration and management, the importance of setbacks, and the use of vegetation planting to slow erosion. Ideas for additions to the bluffs workshop were: more information on vegetation, more local content through localized workshops, more information on available resources and using workshops to connect neighbors.

Several participants commented on the importance of the field element to the workshop for the purpose of demonstrating applied knowledge and for localizing the workshop content.

Stewardship Impacts

Post workshop evaluations reflect pre-workshop survey data regarding concerns with bluff and/or beach erosion being the most commonly cited concern.

Over half of workshop participants expressed interests in having an expert site visit as a result of attending the workshop. Those who expressed no interest reported concerns about cost as being the biggest barrier.

When asked if they would apply the information learned from the workshop into their property management activities all but 1 said yes. When asked to express interest in specific follow up activities related to improving stewardship, 14 (70%) respondents said they would be interested in attending future workshops of this type, 3 (15%) expressed interest in becoming shore stewards, 4 (20%) expressed interest in Green Shores for Homes, 4 (20%) expressed interest in learning more about conservation on their property, and 4 (20%) expressed interest in potential restoration on their coastal property.

Next Steps and Recommendations

Future Outreach Activities

The overall approach to this targeted outreach effort can be repeated to measure the success and guide future outreach activities. In general future outreach activities should rely on the coastal property owner geodatabase to perform more localized outreach activities, offer incentives to attendants and address the specified concerns and reflect shoreline property owner values. The database took much effort to create and refine, and provides a great starting point for additional work, before it becomes obsolete due to the high turnover of coastal properties. The following specific recommendations are offered for future outreach activities to private shoreline property owners based on pre- and post-workshop survey content:

Database

Use the property owner database for additional data collection and future outreach. Keep the database updated and keep it circulating in the MRC subcommittees as to not lose sight of it.

Localized Outreach

Conduct localized workshops for shoreline property owners in specific geographic areas for residents of those areas. Specific areas recommended for future workshops include Point Roberts, Lummi Island, and Birch Bay. Include information about local geography, geology, issues and regulations pertinent to the area. Specifically, several coastal residents suggested holding smaller scale workshops in their neighborhoods. Two locations suggested for these smaller scale workshops are Point Roberts and along the west shore and Birch Bay, at Point Whitehorn. Due to the high number of seasonal Canadian coastal property owners at Point Roberts, one workshop attendee suggested that a summer workshop would capture the greatest audience there.

Lummi Nation Reservation shoreline property owners could be the focus for a *Living with the Coast* workshop, if permission were granted from the Tribal Government. This area is rich in forage fish spawning habitat sites and majority of the Lummi Peninsula is composed of feeder bluffs (Figure 2). The shorelines of the Lummi Peninsula and Sandy Point contain a considerable amount of shore armor, and property owners on Sandy Point are vulnerable to flooding and inundation from future sea level rise.

Outreach to Coastal Property Buyers

As every survey respondent who reported owning their property for less than 5 years indicated that they would attend the workshop, targeting new coastal property buyers for educational material and links to resources would be effort well spent. These folks are the most interested in both learning about their new property and also on appropriate management techniques. This is supported by pre-workshop survey responses, and also the experience of Jim Johannessen and also Friends of the San Juans. "Friends" regularly sends mailings to new buyers for this reason.

Incentives for Participation

Consider providing incentives for future workshop participation. Pre-workshop survey results suggest that workshop attendants were motivated to attend to learn from expert speakers, learning about financial incentives, stewardship, and increasing knowledge in areas related to the presentation topics. These responses are likely relevant to other workshop topics aimed at property owners.

Address Values and Concerns of Property Owners

Integrate activities aimed at understanding target audience values and concerns into all outreach activities in order to meet audience needs and increase the likelihood of participation. Data from the initial survey indicates that property owner values are largely social while property owner concerns largely focus around property integrity/value, regulations and costs of implementing improvements. Outreach activities should address concerns while making a link to enhanced social values that can result from good stewardship.

Follow Up with Survey Respondents

Several respondents expressed an interest in marine life or aesthetic, recreational activities related to the marine environment, restoration and conservation on their coastal property, and/or desire to participate in stewardship activities, as noted above in the *Survey Results* and *Evaluation Results* sections. Simple follow up actions with survey respondents and workshop participants over time can help keep interested parties engaged with the MRC. A 'thank you' email was sent to survey respondents and workshop attendees who provided an email address; those who provided an address were sent a 'thank you' letter for their interest and participation in this project. However, this is just the first step, below are recommendations on follow up actions to keep these people engaged with the MRC.

Interest in Marine Life

Follow up with those that expressed interest in marine life fits well with MRC goals. These respondents and workshop attendees could be added to the MRC events and email notification list to inform them of beach walks, local marine related events, and informative MRC presentations.

Best Stewardship Practices

The MRC should follow up with survey respondents and workshop attendees to see if they would like to take additional steps toward integrating best stewardship practices. This could be a future MRC project on a small budget or run through the Education and Outreach Subcommittee or the Shore Stewards program.

Restoration and/or Conservation Actions

Follow up with those indicating an interest in a site visit, restoration or conservation of their property, as this was the overarching goal of this targeted outreach project. The MRC should make every effort to maintain contact with these property owners and work with them to materialize this concept. Grant funding could be sought to provide experts to go to these properties and provide realistic evaluations of the restoration or conservation potential of the sites, and if appropriate, provide next steps for realizing these goals. This is also something done by Friends of the San Juans (www.sanjuans.org/).

Targeted Outreach for Future Projects

The approach of this targeted outreach strategy appears to be successful based on the survey responses from those that attended and did not attend the workshop. It is important that this approach be utilized for future projects that require a concentrated pool of citizens from the larger population. Below are some recommendations for using targeted outreach to initiate and activate potential MRC projects.

On Site Sewage Issues

On-site Sewage System (OSS) management has become a hot topic in Whatcom County politics recently. Leaking OSS is a significant water quality issue. Some owners of OSS have indicated they do not have the financial means and information to keep up their systems; some have resisted working

within the policy guidelines. The MRC could consider this targeted outreach approach to address these issues in a workshop for OSS owners with experts from Public Health, the septic inspection industry, and other stakeholders in regard to proper OSS management.

High Priority Nearshore Restoration Projects

Consider using this approach for the next 2 highest prioritized projects listed in the *Whatcom County Nearshore Habitat Restoration Prioritization* (MacLennan and Johannessen 2007). The first listed priority in Chuckanut Bay was removal of a parking lot from the upper beach and replacement of an under sized culvert for better connectivity of Chuckanut Marsh to Chuckanut Bay and has recently been implemented.

The second priority was to 'Hydrologically Reconnect the Wetland' at surf smelt spawning beach in Point Roberts just east of the marina entrance (page 11 and Figure 4 in 2007 report). This area is currently in private ownership, but by using targeted outreach and social marketing this high priority restoration project may some day become reality.

The third priority of the Whatcom County Nearshore Habitat Restoration Prioritization was the 'Sunset Beach Riprap Removal' at a community owned beach in Birch Bay Village (page 13 and Figure 5 in 2007 report). With targeted outreach residents of Birch Bay Village may be open to restoring or enhancing the beach, which could entail improving access, which would be beneficial both culturally and environmentally.

References

- Bauer, Wolf, 1974. The drift sectors of Whatcom County marine shores: Their shoreforms and geo-hydraulic status, Whatcom County Planning Commission, 74 p., 1 map.
- Easterbrook, D. J., 1976, Geologic map of western Whatcom County, Washington: U.S. Geological Survey Miscellaneous Investigations Series Map I-854-B, 1 sheet, scale 1:62,500.
- Easterbrook, D. J., 1992, Advance and retreat of Cordilleran ice sheets in Washington, U.S.A.: *Geographie physique et quaternaire*, v. 46, no. 1, p. 51-68.
- Emery, K.O. and G.G. Kuhn, 1982. Sea cliffs: Their processes, profiles, and classification, *Geological Society of America Bulletin*, v. 93: p. 644-654.
- Fletcher, Charles H., Mullane, Robert A., Richmond, Bruce M, 1997. Beach loss along armored shoreline on Oahu, Hawaiian Islands, *Journal of Coastal Research*, vol. 13, no. 1, p 209-215.
- Griggs, Gary B., 2005. The impacts of coastal armoring, *Shore and Beach*, vol. 73, no. 1, p 13-22.
- Jacobsen, Edmund E., and Schwartz, Maurice L., 1981. The use of geomorphic indicators to determine the direction of net shore-drift: *Shore and Beach*, v. 49, p. 38-42.
- Johannessen, J. W. and M. A. Chase, 2005. Final Technical Memorandum: Whatcom County Feeder Bluff Mapping and Drift Cell Ranking Analysis, Prepared for: Parametrix and Whatcom County PDS. 25 p.
- Johannessen, J. W. and A. J. MacLennan, 2007. Puget Sound Nearshore Partnership Report No 2006-10. Beaches and Bluffs of Puget Sound and the Northern Straits a Valued Ecosystem Component of WA State. Published by UW SeaGrant for the Seattle District, U.S. Army Corps of Engineers, Seattle, WA.
- Keuler, Ralph F., 1988. Map showing coastal erosion, sediment supply, and longshore transport in the Port Townsend 30- by 60-minute quadrangle, Puget Sound region, Washington: U.S. Geologic Survey Miscellaneous Investigations Map I-1198-E, scale 1:100,000.
- MacDonald, Keith, Simpson, David, Paulsen, Bradley, Cox, Jack, and Gendron, Jane, 1994, Shoreline armoring effects on physical coastal processes in Puget Sound, Washington: Coastal Erosion Management Studies, Vol. 5, Shorelands Program, WA Dept. of Ecology, Olympia, DOE Report 94-78.
- MacLennan, A. and J. Johannessen, 2007. Whatcom County Nearshore Restoration Prioritization. Prepared for the Whatcom County Marine Resource Committee.
- Miles, J.R., Russell, P.E., and Huntley, D.A., 2001, Field Measurements of Sediment Dynamics in front of a Seawall, *Journal of Coastal Research*, vol. 17, no. 1, 195-206.
- Penttila, Dan, 1978, Studies of Surf Smelt (*Hypomesus pretiosus*) in Puget Sound, WA Dept. of Fisheries, Technical Report No. 42, 47 p.
- Penttila, D., 2007. Marine forage fishes in Puget Sound. Puget Sound Nearshore Partnership Report No. 2007-03. Published by Seattle District, US Army Corps of Engineers, Seattle, Washington.
- Pilkey, O.H, 1988, Seawalls versus beaches, In: N.C. Kraus and O.H. Pilkey (Editors) *The effects of seawalls on the beach*, *Journal of Coastal Research*, SI 4, p 41-64.
- Puget Sound Water Quality Action Team, 2003, 2003 Puget Sound update, Olympia, 127 p.
- Schwartz, Maurice L., et al., 1991. Net shore-drift in Washington State: Vol. 5, Northern Bays and Straits, Shorelands and Coastal Zone Management Program, WA Dept. of Ecology, Olympia.
- Simenstad, C.A., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2009. Historic Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report No. 2009-XX. Published by Washington Dept of Fish and Wildlife, Olympia, WA, and U.S. Army Corps of Engineers, Seattle, WA.
- Thom, R., Shreffler, D., and Macdonald, Keith, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, WA: Coastal Erosion Management Studies. WA Dept. of Ecology 7: Pub. 94-80.
- Washington State Department of Natural Resources, 2001. Washington State ShoreZone inventory. Nearshore Habitat Program, Olympia, WA.
- Washington State Department of Fish and Wildlife, *Salmonscape* 2010. <http://wdfw.wa.gov/mapping/salmonscape/>.

ATTACHMENTS:

Figure 1. Whatcom County study area and parcel map.

Figure 2. Documented forage fish spawning beaches in Whatcom County.

Appendix 1: Outreach Materials

Appendix 2: Outreach Responses

Appendix 3: Workshop Materials

Appendix 4: Workshop Evaluations

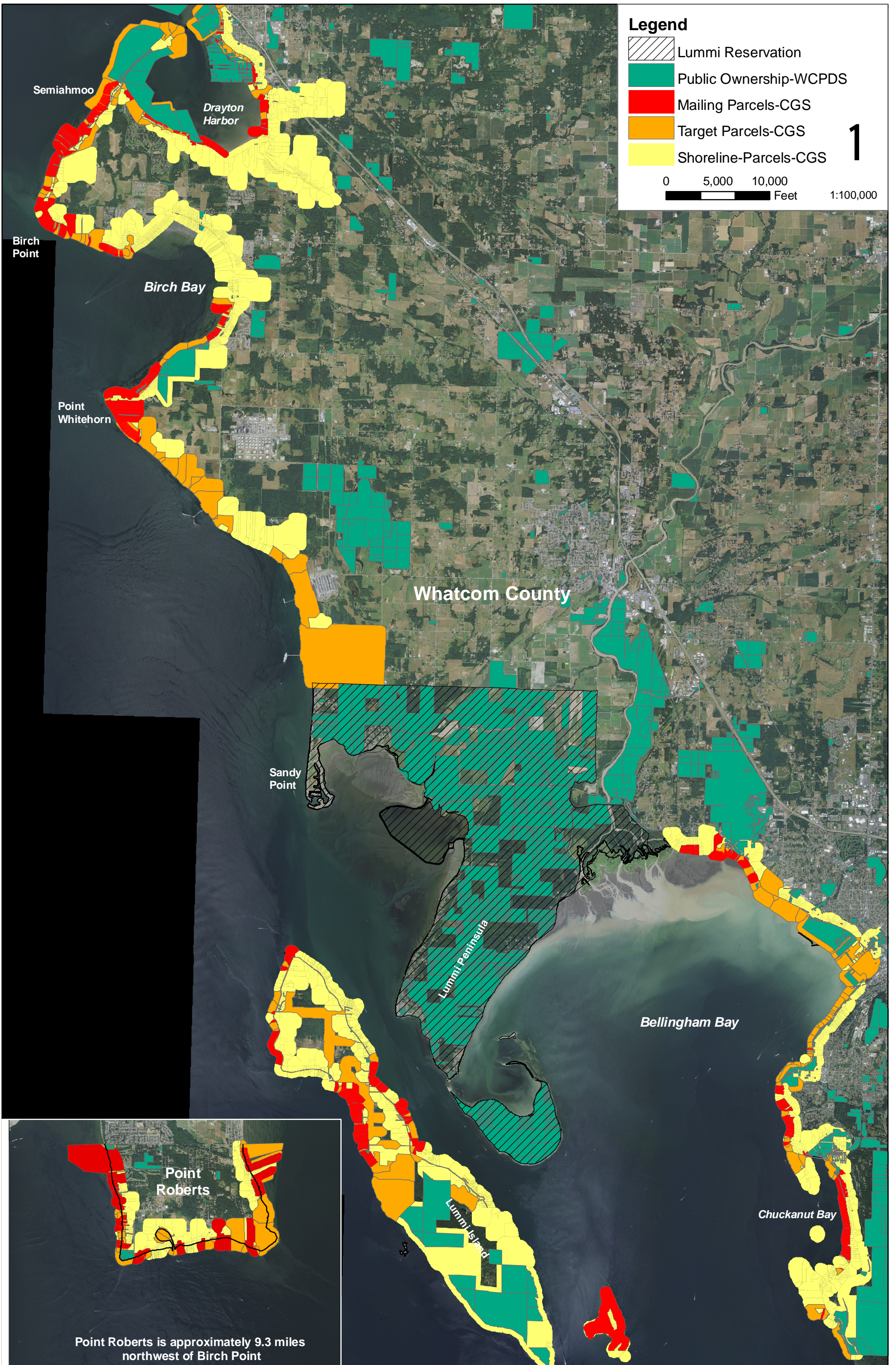
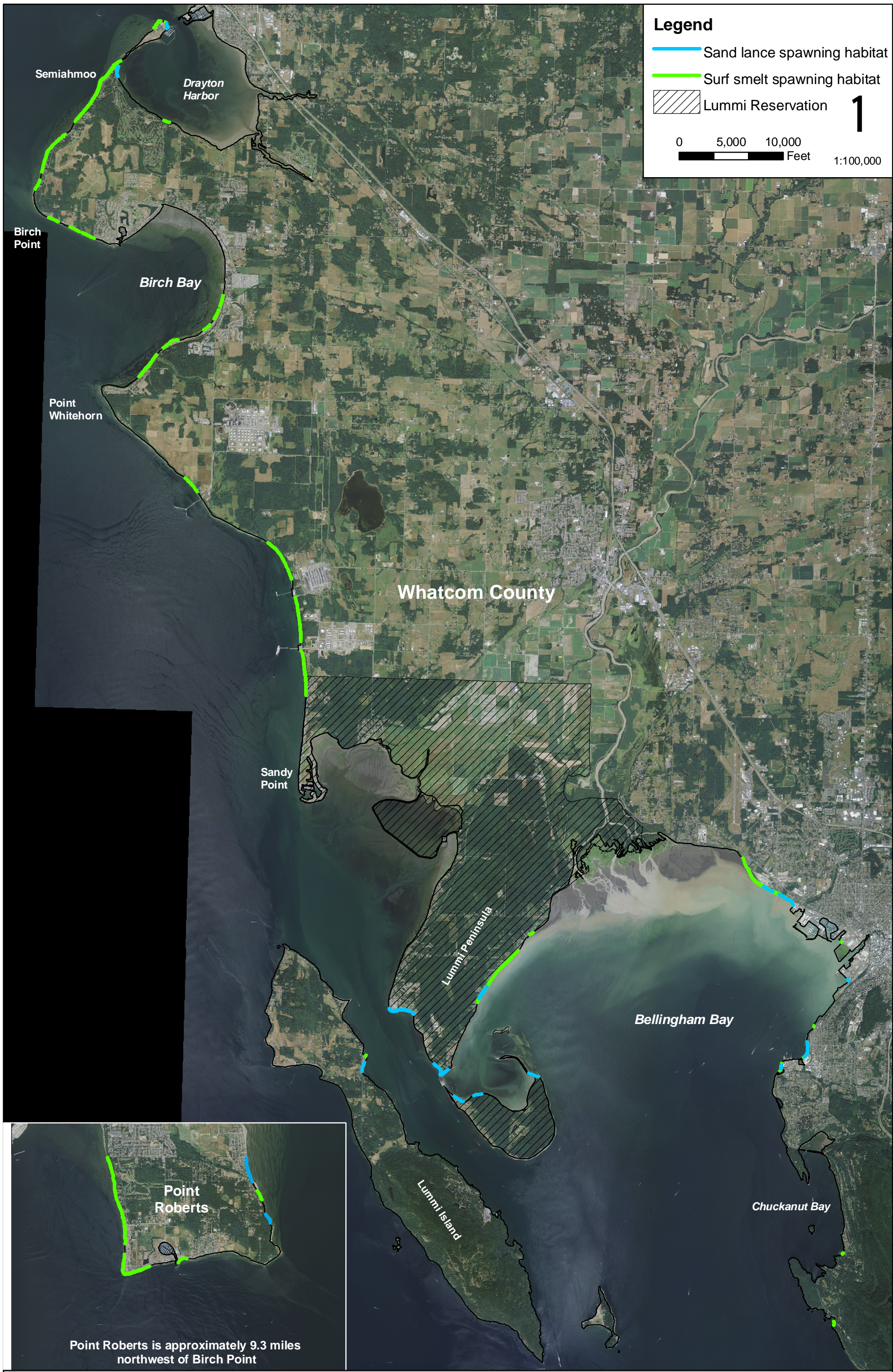


Figure 1. Whatcom County study area and parcel map. Outreach to Coastal Property Owners in Whatcom County, WA.



Legend

- Sand lance spawning habitat
- Surf smelt spawning habitat
- Lummi Reservation

0 5,000 10,000 Feet 1:100,000

Point Roberts

Point Roberts is approximately 9.3 miles northwest of Birch Point

Figure 2. Documented forage fish spawning beaches in Whatcom County (WDFW Salmonscape 2010). Outreach to Coastal Property Owners in Whatcom County, WA.

APPENDIX 1: Outreach Materials

- **Survey Mailer**
- **Survey Monkey & Pre-workshop Survey**

Place
postcard
postage
here.

Marine Resources Committee
C/o Coastal Geologic Services
1711 Ellis St., Suite 103
Bellingham, WA 98225

Marine Resources Committee
C/o Coastal Geologic Services
1711 Ellis St., Suite 103
Bellingham, WA 98225

Recipient Address



The Puget Sound is a beautiful place to live

*Is there a role for private
property owners in the
recovery of Puget
Sound?*

YES!

Can cost effective best management practices benefit your shoreline property value? Come to a FREE workshop to find out!



The **Whatcom County Marine Resources Committee (MRC)** is a citizen-based group representing different interests working together to protect and promote healthy marine resources. Along with our project partners (above), we are committed to working with the community to achieve the goal of revitalizing marine resources for future generations. More information is available at: www.whatcom-mrc.whatcomcounty.org/MRC/

Did you know that private property makes up **95%** of Whatcom County shoreline?

The MRC is conducting surveys to better understand the needs of coastal property owners and provide the right tools, resources, and information to help protect and maintain healthy shoreline properties.

Opportunities exist to assist property owners manage and maintain a healthy shoreline.

Living with the Coast Workshops

You are invited to a **FREE** workshop! Field trip included. April 23rd
North Whatcom Fire and Rescue Station 62, 9001 Semiahmoo Pkwy., Blaine

Healthy beach habitats presented by pioneering fish biologist Dan Penttila.
Saturday, April 23 10:00 - 11:45 am
Beach Walk 2:30 - 4:30 pm

Bluff erosion management presented by coastal processes expert Jim Johannessen.
Saturday, April 23 12:30 - 2:15 pm
Beach Walk 2:30 - 4:30 pm

At this workshop you will:

- Meet experts
- Ask questions
- Learn about specific issues relevant to your shorelines
- Interact with your neighbors
- See beach habitats and geologic processes

Find workshop details, *RSVP*, and to provide feedback on your interests as a coastal property owner visit the web address below or call 360-647-1845.

<http://www.surveymonkey.com/s/M2MXXJX>

We want your input! Help us learn more about the interests and concerns of coastal property owners by completing & returning this postcard or respond via the web address above. Thank you for your feedback.

1. Check the box that best characterizes you: | Status:
- 0-2 yr resident 2-5 yr resident 5+ yr resident | permanent seasonal
2. In which general area do you live?
- Chuckanut Bellingham Lummi/Eliza Is. Sandy Pt Birch Bay Semiahmoo
3. What do you enjoy most about your coastal property?

4. What concerns you the most about your coastal property?

5. Do you plan to attend the workshops and why or why not?

YES _____

NO _____

Appendix 1. Inside Survey Mailer.

1. Workshop details and RSVP

The two workshops consist of a 1.75 hour presentation and a beach walk afterward. The workshops will be held at the North Whatcom Fire and Rescue Station #62 at 9001 Semiahmoo Pkwy, Blaine. The joint field trip following the second workshop will take place at Semiahmoo County Park at the base of the Spit.

Light snacks and refreshments will be provided. Lunch is on your own. Please bring rain gear and boots for the field trip. The workshops are free and open to the public.

The HEALTHY BEACH HABITATS workshop runs from 10:00 - 11:45 am on Saturday, April 23. If you have a broad beach and no or low bank and want tips on how to promote healthy marine ecosystems then consider attending this workshop.

The COASTAL BLUFF MANAGEMENT workshop runs from 12:30 - 2:15 pm on Saturday, April 23. If you live on a bluff, have experienced erosion, drainage, or vegetation issues and want to find ways to reduce impacts to your property then consider attending this workshop.

The BEACH WALK will cover subjects of both workshops and include plenty of opportunity to ask questions and see real-world examples. This will run from 2:30 - 4:30 pm.

We appreciate your interest in the 'Living with the Coast' Workshops. The *RSVP* option is below, those who *RSVP* will be given priority for seating at the workshop(s). Please call Stephanie at 360-647-1845 with any additional questions.

THE ONLINE VERSION OF THE MAILED SURVEY IS BELOW, following the RSVP.

Your input is important to us! 5 additional survey questions are on the NEXT PAGE. Feedback from these surveys will be incorporated into the workshops and further outreach programs to private property owners.

1. To *RSVP* for either or both workshops please provide the following:

- Name
- Address (optional)
- Phone #
- email
- Workshop (ie. Bluffs, Beaches, Both)

2. This section applies to those who preferred to answer the mailed survey questions online. If you have answered and returned the survey portion of the mailer, and wish to give us more valuable feedback please go to page 2 and answer 5 additional questions. We are grateful for your input.

Check the box that best characterizes your residence:

Length

Status

General Area

- 0-2 year resident
- 2-5 year resident
- 5+ year resident
- permanent resident
- seasonal resident
- Chuckanut
- Bellingham
- Lummi Is/Eliza Is
- Sandy Pt
- Birch Bay
- Semiahmoo

3. What do you enjoy most about your coastal property?

4. What concerns you the most about your coastal property?

5. Do you plan to attend the workshops and why or why not?

YES

NO

Next

2. 5 Additional Questions for Coastal Property Owners

Here is your opportunity to tell us your thoughts so we may better address your concerns at the workshop(s).

1. Would you be interested in an expert site visit or more information to help you improve management of your shoreline?

2. Are you considering making improvements to your shoreline property within the next 5 years?

3. What are you interested in learning at the workshop?

4. What are potential incentives to encourage participation of coastal property owners in workshops such as these?

5. What are the perceived and real barriers to participation in workshops such as these?

Prev

Done

Appendix 1. Survey Monkey and pre-workshop survey questions.

APPENDIX 2: Survey Results

- **Master Survey Response Spreadsheet**
- **Survey Response Analysis Spreadsheet**
- **Ecosystem Functions, Goods and Services - Ranking Matrix Table used to assess property owner values**

PROPERTY OWNER INFORMATION				SURVEY QUESTIONS				RSVP INFO									
ID code	mail, online, phone	parcel no.	Return address	Name & address-coastal property	1a. Length ownership	1b. Status residency	2. Geographic location	3. What do you enjoy about property	4. What concerns you most about property	5a. Attending workshop	5b. Why/why not attending workshop?	5c. Inform of future workshops	RSVP	Workshop	# of people RSVP	name & address-online	Phone
U0193	M	3702327404	SCOTT D & MAUREEN EVANS 1457 130TH AVE NE BELLEVUE, WA 98005	Undeveloped-no address	5+	seasonal	Lummi/Eliza Is	privacy, views	government regulations (county & state)	No	out of town	--			--		
U0117	M	370110120327	D&P HARDMAN 8505 DOUBLE DITCH LYNEN, WA 98264	Undeveloped-no address	5+	seasonal	Lummi/Eliza Is	accessing beach	availability of water & ferry transportation	No	we own property but not housing	--			--		
D0814	M	405116552209	LINDA K RISING 8624 SEMIAHMOO DR. BLAINE, WA 98230-9314	Same	5+	permanent	Semiahmo	peace, quiet, beauty, view	high bank stability	No	have attended previous workshops	--			--		
D0807	M	370225442408	DEANE & SUSAN SANDELL 1418 COUGAR RD. BELLINGHAM, WA 98225	Same	5+	permanent	Chuckanut	using it	various groups keeping me from using it	No	--	--			--		
D0222	M	400131016323	DEANE & SUSAN SANDELL 7513 Birch Bay Dr Blaine, WA 98230	Same	5+	seasonal	Birch Bay	sunsets, gathering place for family & friends	population increase, pollution	Maybe	other commitments	--	Maybe		1		
D0804	M	405115155439	BOYD & JIM RASER 15512 93RD PL NE BOTHELL, WA 98011	Same	5+	seasonal	Semiahmo	views/beach and crabbing/clamming	Freshwater run off/health of the beach	No	out of town	--			--		
U0030	M	405110380140	JAMES THORSON 1706 40TH ST BELLINGHAM, WA 98229	Undeveloped-no address	5+	--	Semiahmo	views, immediate access to beach	increased restrictions that might prevent me from building my home	No	out of town	Yes			--		
D0928	M	405113413297	STEVEN P. HARMON 4985 DRAYTON HARBOR RD BLAINE, WA 98230	Same	5+	permanent	Semiahmo	view of mountains, the harbor when the tide is in	new planned development, not planned at all	No	out of town	--			--		
D0735	M	405110414195	SENDOY 9045 SHEARWATER RD BLAINE, WA 98230	Same	5+	permanent	Semiahmo	the views, sunsets, wildlife, walking on beach	erosion, chemical lawn products, run off from residents into ocean, building setbacks	Yes	thank you for providing workshop! We need all the professional help we can get	--	Yes		1		
D0949	M	405127515441	THOMAS 5733 NAKAT WAY BLAINE, WA 98230	Same	0-2	permanent	Birch Bay	open views & walking on the beach	bluff erosion (upper Birch Bay Village)	Yes	to get input about slowing the erosion process	--	Yes		1		
D0416	M	370224450410	HOWARD FURST PO BOX 4026 BELLINGHAM, WA 98227	Same	5+	permanent	Chuckanut	the starfishes	pirate attack!	Yes	sounds valuable	--	Yes		1		
D0423	M	395102137076	HULSE 6909 & 6911 HOLEMAN AVE BLAINE, WA 98230	Same	5+	permanent	Birch Bay	freedom of unconfined spaces	lack of respect for private property by visitors who do not understand the environment	Yes	--	--	Yes		1		
D0240	M/P	405110466388	DICK PETERSON PO BOX 1722 SAN MATEO, CA 94401	Same	2-5	permanent	Semiahmo	view	erosion	No	--	--	Yes	Both	1		
U0186	M	370232254161	HAL THURSTON & MARY SWENSON 2662 DONOVAN AVE BELLINGHAM, WA 98225	Undeveloped-no address	5+	seasonal	Lummi/Eliza Is	peace, beauty, simplicity	island over development, tree loss, bank erosion, eelgrass loss	No	out of town	Yes			--		
D0307	M	370109450194	K JONES & F WITHERS 3725 CONSTITUTION RD LUMMI ISLAND, WA 98262	Same	--	--	Lummi/Eliza Is	view, being away from the confines of the city	bank erosion	No	other commitments	--			--		
D0633	M	415335542200	MAPLE BEACH HOUSE LLC 51 BAY VIEW DR POINT ROBERTS, WA 98281	Same	5+	permanent	Pt Roberts	the ever-changing scene out our window, swimming, fresh air	the erosion of our beach because of the seawall design, needs fingers to protect the wall and road	No	--	--			--		
D0058	M	370116505393	BAILEY TRUST 805 MEDFORD PL VENTURA, CA 93004	Same	5+	permanent	Lummi/Eliza Is	scenic view, beach	bank erosion	No	out of town	--			--		
D0826	M/P	395102234058	ROBEVLYNE c/o KEN DALTON 8939 Holman Ave Blaine, WA 98230	Same	5+	permanent	Birch Bay	view	erosion	Yes	more information	--	Yes	Bluffs	1	Ken Dalton, 6939 Holman Ave, Blaine, WA 98230	360-922-0197
D0276	M	405310010255	E KELLIE RYAN 1413 EDWARDS DR PT ROBERTS, WA 98262	Same	5+	permanent	Pt Roberts	being left alone	property tax value reflect property use Too high. Illegal over-regulation by County Planning/Shorelines	No	waste of time	--			--		
U0043	M	40511046096	CAROL & DAVE DUFFY 13516 176 AVE SE RENTON, WA 98059	Undeveloped-no address	5+	seasonal	Semiahmo	sunsets	neighbor above hillside soapuds in gray water comes onto beach	Yes	--	--			1		
D0561	M	370109318391	JANET & LARRY LUTZ SMITH 8973 LEGOE BAY RD LUMMI ISLAND, WA 98262	Same	5+	permanent	Lummi/Eliza Is	the view	erosion and safe access by boat	Yes	information and people	--	Yes		1		
D0875	M	405136576232	DAN SANFORD PO BOX 544 LYNEN, WA 98264	Same	5+	seasonal	Birch Bay	ever-changing tides, privacy, tides/flats, "warm" water	erosion and land use restrictions	Yes	bluff erosion management	--	Yes	Bluffs	1	Dan Sanford, PO Box 544, Lynen, WA 98264	
U0100	M	39511145350	JACK H DAVIS 3524 N WOODLAND DR MOUNT VERNON, WA 98274	Undeveloped-no address	--	seasonal	Birch Bay	view, walking the beach, clam digging	erosion on 100 ft high bluff, base washing away	No	other commitments, funeral	--	No		--		
U0112	M	370109566520	RICK F GRANGER PO BOX 1 LUMMI ISLAND, WA 98262	Undeveloped-no address	5+	permanent	Lummi/Eliza Is	life	views	No	--	--	No		--		
D0033	M	405309480526	DIANA K ALSPACH 229 FOURTH AVE NEW WESTMINSTER, BC V3L 1N5	Same	5+	seasonal	Pt Roberts	Nature and seafife is wonderful-fascinating	responsible management	Yes	would like to in the future, if not too distant (as conflict the time)	Yes	No		--		
U0078	M	405122007061	JULIETTE FRANCISCA 14487 LOMBARD PL SURREY, BC V3X 1B4	Undeveloped-no address	5+	seasonal	Birch Bay	View, peace, solitude	bluff erosion	No	previous engagement	--			--		
D0915	M	405304467006	WENDY SOTVEDT 205-1258 HUNTER RD Pt Roberts, WA 98262	Same	5+	seasonal	Pt Roberts	Wildlife-whales, seals, view, quiet	the noticeable increase in seaweeds, jellyfish, mussel water	No	visitors staying for Easter weekend	--			--		
D0321	M	405110402272	KATHIE CALANDR 267 WYNHAM DR CRESSKOP, PA 15226	Same	5+	seasonal	Semiahmo	fabulous sunsets, the eagles and blue herons in the trees	people cutting trees for view that causes erosion of the bank	No	out of town, will be arriving in mid May	--			--		
U0151	M	370232192443	HOFFMAN 1150 PARADISE RD FERNDALE, WA 98248	Undeveloped-no address	5+	seasonal	Lummi/Eliza Is	the get away from it feeling	having property rights taken away without fair compensation	Yes	further my knowledge about shorelines	--			--		
D0831	M/O	395102126073	SANDRA ABERNATHY 6905 HOLEMAN AVE BLAINE, WA 98230	Same	5+	permanent	Birch Bay	view, wildlife, clean air	bluff erosion	Yes	--	--	Yes	Both	2	SANDRA ABERNATHY 6905 HOLEMAN AVE BLAINE, WA 98230	360-371-5794
D0098	M/O	405115203470	BRIAN & BERNIECE PIWEK 8831 ORTEL DR BLAINE, WA 98230	Same	5+	permanent	Semiahmo	natural setting, peace & quiet	bluff stabilization	Yes	bluff erosion	--	Yes	Bluffs	2	Brian and Berniece Piwek 8831 Ortel Dr Blaine	360-393-4584
	O			Same	--	permanent	Birch Bay	views	erosion, tsunams	Yes	--	--	Yes	Both	2	John and Naomi	360-220-4048
	O			Same	--	permanent	Birch Bay	beach, birds, crabs, view, view wildlife	discarded junk on beach	No	other commitments	--	No	--	--	--	--
	O			Same	5+	permanent	Birch Bay	view	erosion of the bluff	No	out of town	Yes	No	--	--	--	--
D0139	O	400107241541	KAREN CARLSON 2220 MONTFORT AVE BLAINE, WA 98230	Same	5+	permanent	Semiahmo	view of water, quiet, private neighborhood road, nature, space	Erosion, public traffic & unauthorized parking on my property. New laws forbidding building on my property. I pay	Yes	learn about bluff management, and laws and regulations in regard to building on my property	--	Yes	Bluffs	1	Karen Carlson, 2220 Montfort Ave, Blaine	360-332-6604
	O		MARGARET MELTON 4247 SUCIA DR FERNDALE, WA 98248	Same	5+	permanent	Sandy Pt	Ever changing, restful	Indians, beach rights, erosion, new deep water port at Cherry Pt	Yes	want to learn more	--	Yes	Both	1	Margaret Melton	360-933-4942
	O		DAN MAUS 6889 HOLEMAN AVE BLAINE, WA 98230	Same	5+	--	--	the beach and the views	bank/bluff management	Yes	learn more about bank/bluff management	--	Yes	Bluffs	1	Dan Maus	206-714-8900
	O		MARK GASCON PO BOX 1067 FERNDALE, WA	Same	5+	--	--	view, walks	erosion	Yes	erosion	--	Yes	Both	1	Mark Gascon	360-384-4254 x2
D0110	O	395102094089	JANE & BRUCE MONTESGANI 6893 HOLEMAN AVE BLAINE, WA 98230	Same	5+	permanent	Birch Bay	view, peacefulness, birds and other wildlife, walks on beach at low tide, summer sunsets	bluff erosion and losing my stairs to the beach	Yes	learn more about how to protect my bank from excess erosion	--	Yes	Bluffs	2	Jane and Bruce Montesgani	360-371-0403
	O		LOUINDA & BUDD CHURCHWARD 8234 BIRCH BAY DR BLAINE, WA 98230	Same	5+	permanent	Birch Bay	ever changing vistas, depending on weather, tides, and seasons	potential erosion of beach because of some neighbor's attempts to improve the property, interrupting ecosystems in place	Yes	want to know if I am doing everything I can to preserve	--	Yes	Both	2	Louinda & Budd Churchward, 8234 Birch Bay Dr, Blaine	
	O		KEN KATHER & MARY MOONEY 1207 CHUCKANUT DR BELLINGHAM, WA 98229	Same	0-2	permanent	Chuckanut	the views, hosting friends on our deck	log home's structure with current heavy freight train traffic on the BNSF tracks, the proposed heavier rail traffic if the Cherry Point port facility are realized as proposed.	Yes	to learn more about issues affecting our coastal property	--	Yes	Both	1	Ken Kather and Mary Mooney 1207 Chuckanut Drive, Bellingham, WA 98229	360-734-2096
	O		RYHON CALDWELL 429 BLUFF RD PT ROBERTS, WA	Same	5+	seasonal	--	the peace and quiet, the sound of the ocean, the view, the beach, nature, and wildlife	the beach. Removal of trees by the neighbors. The potential for erosion and beach loss.	No	out of town	Yes	No	--	--	Mr. Rhyon Caldwell 429 Bluff Road, Point Roberts, WA	604-505-0223
	O		KEATS & GAIL GARMAN 8710 ORTEL DR. BLAINE, WA 98230	Same	5+	permanent	Semiahmo	views, birds, crabbing, beach walks, quiet	erosion from storm water above, too much development that adds to storm water runoff, lack of effective downstream infrastructure which results in flooding/loss of high bluff property.	Yes	Highly relevant to residents here-- maybe we can share info with those unable to attend	Yes	Yes	Both	2	Keats and Gail Garman 8710 Ortel Dr, Blaine, WA	360-371-3554
	O		MICHELE VOLPP RODRIGUEZ 5566 HADA WAY BLAINE, WA 98230	Same	0-2	permanent	Birch Bay	I'm a Chicago-native, so my husband & I would like to learn everything we can while we are here to teach our young girls to take care of our ocean, beaches and community.	want to learn more	Yes	--	Yes	Beaches	2	Michele Volpp Rodriguez, 5566 Hada Way, Blaine, WA 98230		
	O		BEVAN WILSON 8997 SEMIAHMOO DR BLAINE, WA 98230	Same	5+	seasonal	Semiahmo	Waterfront living	massive increase in run-off over the last 15 years	Yes	Landslides are becoming more and more frequently	--	Yes	Bluffs	1	Bevan Wilson, 8997 Semiahmoo Drive	604-318-9399
	O		KEN SHANNON 5697 NAKAT WAY BLAINE, WA 98230	Same	5+	seasonal	Birch Bay	Connection with the outdoors that provides relaxation	Bluff erosion	Yes	--	--	Yes	Bluffs	1	Ken Shannon	360-371-4118
D0074	O	395102071082	BERNARD & ELAINE KLOP 9545 GIBSON RD CHILLIWACK, BC V2P 6H4	Same	2-5	seasonal	Birch Bay	views and sounds of the ocean	bluff erosion and soil loss due to waves	Yes	management strategies that meet gov't/environmental/ecological approval	--	Yes	Bluffs	2	Bernard & Elaine Klop	604-792-8088
	O		LYNN ROSE 5519 MAPLE WAY BLAINE, WA 98230	Same	0-2	--	Birch Bay	The funny seals and majestic eagles	erosion of bluff	Yes	first time coastal property owner, wants to protect it	--	Yes	Both	1	Lynn Rose	360-393-4562
	O		BONNE ANDREWS 5727 NAKAT WAY BLAINE, WA 98230	Same	5+	permanent	Birch Bay	the connection of earth and sea	bluff stability	Yes	Latest info, new ideas	--	Yes	Bluffs	1	Bonne Andrews	360-305-4246
	P		TONY AIELLO 8979 SEMIAHMOO DR BLAINE, WA 98230	Same	5+	permanent	Semiahmo	view, wildlife	erosion of bank	Yes	learn about bluff management	--	Yes	Both	1		
	P		CARDI RICE 5751 NAKAT WAY BLAINE, WA 98230	Same	5+	permanent	Birch Bay	view, wildlife	erosion of bank	Yes	protection of habitat	--	Yes	Both	1		360-371-5507
	P		NANCY HOBERLIN 5670 SANDERLING WAY BLAINE, WA 98230	Same	5+	permanent	Birch Bay	view, wildlife	erosion of bank	Yes	wants to learn more, does not live on the shoreline	--	Yes	Both	1		
	P		DONNA PROCTER PO Box 2236 BLAINE, WA 98230	Same	5+	seasonal	Birch Bay	view, tranquility, water	erosion, wet clay?	Yes	learn more about bluff erosion	--	Yes	Bluffs	1	Donna Procter	
U0013	P/M	405301138316	BECKY AND JOHN CHAN 2-2629 CEDAR PARK PL ABBOTSFORD, BC V2T 3S4	Undeveloped-no address	5+	seasonal	Semiahmo	natural setting	erosion	Yes	learn more about bluff erosion	--	Yes	Both	2	Becky Chan & Whinney	604-807-2020
	P		FRYTH & JIM RASER 8985 SEMIAHMOO DR BLAINE, WA 98230	Same	5+	permanent	Birch Bay	view	bluff erosion	--	wants to learn more about bluff erosion	--	Yes	Bluffs	2	Fryth & Roger Raser	360-371-8121
D0539	P	39510209089	ANDY KEAY 6595 Holman Ave Blaine, WA 98230	Same	5+	seasonal	Birch Bay	view, water	erosion on bank	Yes	wants to learn more about bluff erosion	--	Yes	Bluffs	2	Andy Keay	
	P		BRIAN MCKNIGHT 307 W BLUFF RD PT ROBERTS, WA 98281	Same	5+	seasonal	Birch Bay	view	erosion	Yes	--	--	Yes	Both	1	Brian McKnight	604-377-7353
U0137	P	370213017397	LORI POND PO BOX 2213 PORT ANGELES, WA 98362	Same	5+	seasonal	Chuckanut	unique, family owned tidelands	potential value of tideland plot	Yes	learn about healthy beaches	--	Yes	Beaches	1	Lori Pond	360-460-4888
D0783	P	405116484061	RANJEET & JASWINDER SANGARA 7271 BRUCE ST RICHMOND, BC V6Y 2S6	Same	5+	seasonal	Birch Bay	view	erosion	Yes	learn about erosion	--	Yes	Bluffs	1	Ron Sangara	

Appendix 2. Master Survey Response spreadsheet (see electronic copy for complete results).

PROPERTY OWNER INFORMATION			SURVEY QUESTIONS																				
ID code	mail_online_phone	parcel no.	1a. Length ownership	1b. Status residency	2. Geographic location	3. What do you enjoy about property	Cultural	Concerns	Bluff mgmt/armorings	Habitat degradation	Property rights/shoreline regs.	Storm water runoff	Pollution/ water quality	Flooding/SLR/C/Inundation	Shoreline access	Misc-current events (over-	Workshop 5a. Attending workshop	5b. Why/why not attending workshop?	NO-categories	YES-categories	5c. Inform of future wksp		
U0193	M	370232274044	5+	seasonal	Lummi/Eliza Is	privacy, views	Existence	government regulations (county & state)			1						No	out of town	out of town, prior commitments				
U0117	M	370110120327	5+	seasonal	Lummi/Eliza Is	accessing beach	Rec	availability of water & ferry transportation									No	out of town	out of town, prior commitments				
D0814	M	405116562209	5+	permanent	Semiahmoo	peace, quiet, beauty, view	Existence	high bank stability	1							1	No	we own property but not housing	no residence on property				
D0807	M	370225442408	5+	permanent	Chuckanut	using it	Rec	various groups keeping me from using it			1						No	have attended previous workshops	already attended similar wksp				
D0222	M	400131016323	5+	seasonal	Birch Bay	sunsets, gathering place for family & friends	Existence, Rec	population increase, pollution					1				1	No	other commitments	out of town, prior commitments			
D0804	M	405115155439	5+	seasonal	Semiahmoo	views/beach and crabbing/clamming	Existence, Rec	Freshwater run off/health of the beach		1		1						No	out of town, prior commitments	out of town, prior commitments			
U0039	M	405110380140	5+	--	Semiahmoo	views, immediate acces to beach	Existence, Rec	increased restrictions that might prevent me from building my home			1							No	out of town	out of town, prior commitments	Yes		
D0928	M	405113413297	5+	permanent	Semiahmoo	view of mountains, the harbor when the tide is in	Existence	new planned development, not planned at all									1	No	out of town	out of town, prior commitments			
D0735	M	405110414195	5+	permanent	Semiahmoo	the views, sunsets, wildlife, walking on beach	Existence, Rec	erosion, chemical lawn products, run off from residents into ocean, building setbacks	1		1	1	1					Yes	thank you for providing workshops! We need all the professional help we can get	valuable info			
D0949	M	405127515441	0-2	permanent	Birch Bay	open views & walking on the beach	Existence, Rec	bluff erosion (upper Birch Bay Village)	1									Yes	to get input about slowing the erosion process	learn about bluff erosion			
D0416	M	370224450410	5+	permanent	Chuckanut	the starfishes	Existence	pirate attack!									1	Yes	sounds valuable	valuable info			
D0423	M	395102137076	5+	permanent	Birch Bay	freedom of unconfined spaces	Existence	lack of respect for private property by visitors who do not understand the environment		1	1							Yes		NA			
D0240	M/P	405110466388	2-5	permanent	Semiahmoo	view	Existence	erosion	1								Yes		NA				
U0186	M	370232254161	5+	seasonal	Lummi/Eliza Is	peace, beauty, simplicity	Existence	island over development, tree loss, bank erosion, eelgrass loss	1	1							1	No	out of town	out of town, prior commitments	Yes		
D0307	M	370109450194	--	--	Lummi/Eliza Is	view, being away from confines of the city	Existence	bank erosion	1									No	other commitments	out of town, prior commitments			
D0633	M	415335542200	5+	permanent	Pt Roberts	the everchanging scene out our window, swimming, fresh air	Existence, Rec	the erosion of our beach because of the seawall design needs fingers to protect the wall and road	1									No		NA			
D0058	M	370116505393	5+	permanent	Lummi/Eliza Is	scenic view, beach	Existence	bank erosion	1									No	out of town	out of town, prior commitments			
D0826	M/P	395102234058	5+	permanent	Birch Bay	view	Existence	bank erosion	1									Yes	more information	valuable info			
D0276	M	405310010255	5+	permanent	Pt Roberts	being left alone	Existence	property tax value reflect property use! Too high. Illegal over-regulation by County Planning/Shorelines			1							No	waste of time	no thanks, not worth my time			
U0043	M	405110346096	5+	seasonal	Semiahmoo	sunsets	Existence	neighbor above hillside soapsuds in gray water comes onto beach										Yes		NA			
D0581	M	370109318391	5+	permanent	Lummi/Eliza Is	the view	Existence	erosion and safe access by boat	1									Yes	information and people	valuable info			
D0875	M	405136576232	5+	seasonal	Birch Bay	ever-changing tides, privacy, tideflats, "warm" water	Existence	erosion and land use restrictions	1		1							Yes	bluff erosion management	learn about bluff erosion			
U0100	M	395111145350	--	seasonal	Birch Bay	view, walking the beach, clam digging	Existence, Rec	erosion on 100 ft high bluff, base washing away	1									No	other commitments, funeral	out of town, prior commitments			
U0112	M	370109566520	5+	permanent	Lummi/Eliza Is	life	Existence	views	1		1							No		NA			
D0033	M	405309480528	5+	seasonal	Pt Roberts	Nature and seallife is wonderful-fascinating	Existence	responsible management	1	1								No	would like, if not too distant (conflict this time)	out of town, prior commitments	Yes		
U0078	M	405122007061	5+	seasonal	Birch Bay	View, peace, solitude	Existence	bluff erosion	1									No	previous engagement	out of town, prior commitments			
D0915	M	405304467004	5+	seasonal	Pt Roberts	wildlife-whales, seals, view, quiet	Existence	the noticeable increase in seaweeds, jellyfish, musky water		1			1					No	visitors staying for Easter weekend	out of town, prior commitments			
D0321	M	405110402273	5+	seasonal	Semiahmoo	fabulous sunsets, the eagles and blue herons in the trees	Existence	people cutting trees for view that causes erosion of the bank	1									No	out of town, will be arriving in mid May	out of town, prior commitments			
U0151	M	370232192443	5+	seasonal	Lummi/Eliza Is	the get away from it feeling	Existence	having property rights taken away without fair compensation			1							Yes	further my knowledge about shorelines	valuable info			
D0831	M/O	395102126079	5+	permanent	Birch Bay	view, wildlife, clean air	Existence	bluff erosion	1									Yes		NA			
D0098	M/O	405115203470	5+	permanent	Semiahmoo	natural setting, peace & quiet	Existence	bluff stabilization	1									Yes	bluff erosion	learn about bluff erosion			
	O		--	permanent	Semiahmoo	views	Existence	erosion, tsunami	1									1	Yes	NA			
	O		--	permanent	Birch Bay	beach, birds, clams, crabs, view, fresh air	Existence	discarded junk on beach											No	other commitments	out of town, prior commitments		
	O		5+	permanent	Birch Bay	view wildlife	Existence	erosion of the bluff	1										No	out of town, prior commitments	out of town, prior commitments	Yes	
D0139	O	400107241543	5+	permanent	Semiahmoo	view of water, quiet, private neighborhood road, nature, space	Existence	Erosion, public traffic, unauthorized parking on my property. Laws forbidding building on my property; I pay high property tax, but can't build.	1		1							Yes	learn about bluff management, and laws and regulations in regard to building on my property	learn about bluff erosion, shoreline regs			
	O		5+	permanent	Sandy Pt	Ever changing, restful	Existence	Indians, beach rights, erosion, new deep water port at Cherry Pt	1		1								1	Yes	want to learn more	valuable info	
	O		5+	--	--	the beach and the views	Existence	bank/bluff management	1										Yes	learn more about bank/bluff management	learn about bluff erosion		
	O		5+	--	--	view, walks	Existence, Rec	erosion	1										Yes	erosion	learn about bluff erosion		
D0110	O	395102094089	5+	permanent	Birch Bay	view, peacefulness, birds and other wildlife, walks on beach at low tide, summer sunsets	Existence	bluff erosion and losing my stairs to the beach	1						1			Yes	learn more about how to protect my bank from excess erosion	learn about bluff erosion			
	O		5+	permanent	Birch Bay	ever changing vistas, depending on weather, tides, and seasons	Existence	potential erosion of beach because of some neighbor's attempts to improve their property, interrupting the ecosystems in place	1	1									Yes	want to know if I am doing everything I can to preserve	learn about habitat protection		
	O		0-2	permanent	Chuckanut	the views, hosting friends on our deck	Existence, Rec	Current heavy freight train traffic on BNSF tracks, the prospect of heavier rail traffic if the Cherry Point port facility										1	Yes	to learn more about issues affecting our coastal property	valuable info		
	O		5+	seasonal	--	The peace and quiet, the sound of the ocean, the view, the beach, nature, wildlife	Existence	neighboring septic systems draining on the beach. Removal of trees by the neighbors. The potential for erosion and beach loss.	1	1			1					No	out of town	out of town, prior commitments	Yes		
	O		5+	permanent	Semiahmoo	views, birds, crabbing, beach walks, quiet	Existence, Rec	erosion from storm water runoff, and lack of effective infrastructure resulting in flooding and loss of high bluff property.	1			1		1				1	Yes	Highly relevant to residents here--maybe we can share info with those unable to attend	valuable info	Yes	
	O		0-2	permanent	Birch Bay	New to the area. I would like to learn everything we can while we are here and teach our young girls to take care of our ocean, beaches and community.	Existence, Ethical	want to learn more										Yes		NA			
	O		5+	seasonal	Semiahmoo	Waterfront living	Existence, Rec	massive increase in run-off over the last 15 yrs				1							Yes	Landslides are becoming more and more frequently	learn about bluff erosion		
	O		--	seasonal	Birch Bay	Connection with the outdoors that provides relaxation.	Existence	Bluff erosion	1										Yes		NA		
	O		2-5	seasonal	Birch Bay	views and sounds of the ocean	Existence	bluff erosion and soil loss due to waves	1										Yes	learn about any approved slope management strategies that meet gov't/environmental/ecological approval.	learn about bluff erosion, shoreline regs		
	O		0-2	--	Birch Bay	The funny seals and majestic eagles	Existence	erosion of bluff	1										Yes	first time coastal property owner, wants to protect it	learn about habitat protection		
	O		5+	permanent	Birch Bay	the connection of earth and sea	Existence	bluff stability	1										Yes	Latest info, new ideas	valuable info		
	P		5+	permanent	Semiahmoo	view, wildlife	NA	--											Yes	learn about bluff management	learn about bluff erosion		
	P		5+	permanent	Birch Bay	view, wildlife	Existence	erosion of bank	1										Yes	protection of habitat	learn about habitat protection		
	P		--	--	--	--	NA	--											Yes	wants to learn more, does not live on the shoreline	valuable info		
	P		5+	seasonal	Birch Bay	view, tranquility, water	Existence	erosion, wet clay?	1										Yes	learn more about bluff erosion	learn about bluff erosion		
U0013	P/M	405301138316	5+	seasonal	Semiahmoo	natural setting	Existence	erosion	1										Yes	learn more about bluff erosion	learn about bluff erosion		
	P		5+	permanent	Birch Bay	view	Existence	bluff erosion	1										Yes	wants to learn more about bluff erosion	learn about bluff erosion		
D0539	P	395102099089	5+	seasonal	Birch Bay	view, water	Existence	erosion on bank	1										Yes	wants to learn more about bluff erosion	learn about bluff erosion		
	P		--	--	--	--	NA	--															
U0137	P	370213017397	5+	seasonal	Chuckanut	unique, family owned tidelands	Existence	potential value of tideland plot			1								Yes	learn about healthy beaches	learn about habitat protection		
D0783	P	405116484061	5+	seasonal	Birch Bay	view	Existence	erosion	1										Yes	learn about erosion	learn about bluff erosion		

Appendix 2. Survey Response Analysis spreadsheet (see electronic copy for complete results).

Ecosystem Function Goods & Services		
Provisioning	Food	Crops
		Livestock
		Captured fisheries
		Aquaculture
		Wild foods
	Fiber	Timber and wood
		Other fibers
		Biomass Fuel
		Fresh Water (quantity)
		Genetic resources
	Biochemicals, natural medicines	
Regulating	Air quality regulation	
	Global Climate	
	Regional and local Climate	
	Water (quality)	
	Erosion	
	Water purification and water treatment	
	Disease	
	Pests	
	Pollination	
	Natural Hazards	
	Cultural	Ethical
Existence		
Recreation		
Educational		
Supporting	Nutrient Cycling	
	Soil Formation	
	Food Web	
	Photosynthesis	

Appendix 2. Ecosystem Functions, Goods and Services (EFG&S) Ranking Matrix Table used to assess 'cultural values': Ethical, Existence, Recreation, and Education (Simenstad 2009).

APPENDIX 3: Workshop Materials

- **Workshop Flyer**
- **Workshop Sign-in**
- **Workshop Packet Materials**
- **Workshop Evaluation**



WHATCOM COUNTY BEACHES & BLUFFS

Want to learn more about healthy habitats and your options as a coastal property owner?

Living with the Coast Workshops – Sat, April 23

**North Whatcom Fire and Rescue Station 62, 9001 Semiahmoo Pkwy., Blaine
Joint Workshop BEACH WALK at Semiahmoo County Park**

FREE & OPEN TO THE PUBLIC

Healthy Beach Habitats

by pioneering fish biologist Dan Penttila
10:00 - 11:45 am, ***Beach Walk 2:30 - 4:30 pm***

Bluff Erosion Management

by coastal processes expert Jim Johannessen
12:30 - 2:15 pm, ***Beach Walk 2:30 - 4:30 pm***

*Light snacks and refreshments provided. Lunch is on your own.

*Bring rain gear, boots, or other appropriate attire for the field trip.

At this workshop you will:

- Meet experts
- Ask questions
- Interact with your neighbors
- Learn about specific issues relevant to your shorelines
- See geologic processes and beach habitats
- Learn about resources and information available

Find workshop details, *RSVP*, and provide feedback on your interests as a coastal property owner at <http://www.surveymonkey.com/s/M2MXXJX> **or** call 360-647-1845.

These workshops are part of a ***Whatcom County Marine Resources Committee*** (Whatcom MRC) outreach project. The Whatcom MRC is a citizen-based group representing a variety of marine related interests working together to protect and promote healthy marine resources.

More information is available at: www.whatcom-mrc.whatcomcounty.org/MRC/

Workshops
sponsored by:



Name	Address (Optional)	Phone	email	Workshop	Informed
Dick Peterson	9165 Great Blue Heron	778-1264		Both	Mail
Keats Garman	8710 Oegtel Dr	371-3554	KeatsandGail@comcast.net	Both	Flyer
Carol and Dave Duffy	13518 178 Ave SE, Renton, WA 98059	425-226-3274	cjdfy@aol.com	Both	Mail
Magie Bell	2057 Bayview Ave, Blaine	360-332-1157	gmbell07@comcast.net	Both	Newspaper
R Hoffmann		384-0348		Both	Mail
Andy Keay	6895 Holeman Ave, Birch Bay	371-2304		Beach	Mail
Tom and Nan Thomas	5733 Nakat Way BB Village	671-1045		Bluff	Mail
Ann Spink				Bluff	Mail
Tony Aiello	8979 Semiahmoo Dr	371-9090		Bluff	Mail
Jim Rasar	8985 Semiahmoo Dr	371-8121		Bluff	Mail
Ron Sangara		604-833-5284	ron@leslieforest.com	Bluff	Mail
Karen Carlson		332-6604		Bluff	Newspaper-NL
John Welch		371-5703	welchj2@comcast.net	Both	Neighbor
Mark Gascon	PO Box 1067, Ferndale, WA 98248	360-319-6304	markstuf@gmail.com	Both	email
Naomi and John Knowlton	2067 bayview Ave	360-220-4048	naomiknowlton@yahoo.com	Both	Mail
Dan Maus	6889 Holeman Ave, Blaine, WA 98230	206-714-8900	dmaus@the-mausgroup.com	Bluff	Mail
Ken Shannon	5697 Nakat Way	371-4118	kshannon26a@comcast.net	Both	Newspaper
Bryan McKnight	Pt Roberts	604-377-7353	jbmcknight@telus.net	Both	Mail
Sandra & Robert Abernathy	6905 Holeman Ave, Birch Bay, WA	371-5794	sandaber2@comcast.net	Both	Mail
Carol Rice	Birch Bay	371-5507	crclcr@gmail.com		Mail, Newspaper
Louinda Churchward	Birch Bay Dr.	201-8146	louinda@honorlevel.com	Both	Newspaper-BH
Michele Volpp Rodriguez	5566 Haida Way	773-456-2563	michelevolpp@gmail.com	Beach	Newspaper
Ken Kaliher	1207 Chuckanut Dr	734-2096	kenkaliher@hotmail.com	Bluff	Mail
Howard Furst	1207 Chuckanut Dr	961-6476	h_furst@hotmail.com	Bluff	Mail
Lynn Rose	5519 Maple Way	393-4562	rose1565@msn.com	Both	Mail
Barnard and Elaine Klop	9545 Gibson	604-792-8088	bklop@caylix.com	Bluff	Mail
Bruce Montegani	6893 Holeman Ave	371-0403	bruce@montegani.com	Bluff	Mail
Brian Piwek	8831 Oertel Dr	393-4584	bpiwek@mac.com	Bluff	Mail
Nancy Hobberlin	5670 Sanderling Way	392-7795	nhbrln4u	Bluff	Mail
Becky Chan	Abbotsford, BC	604-807-2020	bchan1066@shaw.ca	Both	Mail
Bevan Wilson	8997 Semiahmoo Dr	604-318-9939	bevanwilson@telus	Bluff	Mail

Appendix 3. Workshop sign-in sheet.



AGENDA

Living with the Coast Workshops

April 23, 2011, 10:00 am - 4:00 pm

Dan Penttila, Salish Sea Biological --- Jim Johannessen, Coastal Geologic Services

Workshop One: Healthy Beach Habitats

Saturday, 10:00 am - 11:45 pm - beach walk to follow Workshop Two

- 10:00 Opening and Marine Resources Committee Introduction (Stephanie Williams)
- 10:05 Shore Stewards Program Introduction (Cheryl Lovato-Niles)
- 10:10 Dan Penttila - Introduction
 - Food webs
 - Forage fish - herring, surf smelt, and sand lance
 - Other forage fish
 - Habitat preservation and modifications
 - Marine riparian
 - Threats to habitat - oil spills
 - Other coastal habitats
 - Other coastal species and sampling
 - Habitat restoration, preservation, and regulation
- 11:25 Question/Answer and scope viewing of forage fish eggs

Workshop Two: Bluff Erosion Management

Saturday, 12:30 am - 2:15 pm - beach walk to follow

- 12:30 Opening and Marine Resources Committee Introduction (Stephanie Williams)
- 12:35 Shore Stewards Program Introduction (Cheryl Lovato-Niles)
- 12:40 Jim Johannessen - Introduction
 - Puget Sound geology
 - Landslides and coastal erosion
 - Beach processes
 - Erosion control - slope stabilization, drainage, and vegetation
 - Modifying the nearshore environment and climate change
 - Shoreline rules and regulations - drainage, setbacks, permitting
 - Alternative beach erosion control
- 2:15 Question/Answer and prepare for beach walk

Beach Walk: Examples in the Field

Saturday, 2:30 pm - 4:30 pm - Semiahmoo County Park

- 2:30 Meet at Semiahmoo County Park (1/2 mile north of Workshop location along Semiahmoo Pkwy)
 - Explore beach habitats and benefits of riparian vegetation
 - Walk south to view bluffs, toe erosion, and landslides
 - Armoring the nearshore environment
- 4:00 Question/Answer
- 4:20 Workshop Evaluation
- 4:30 Adjourn

INTERNET SITES – WA COASTAL, NEARSHORE, & MANAGEMENT ISSUES

Compiled by Jim Johannessen, Coastal Geologic Services www.coastalgeo.com

Coastal Processes, Shoreline Photos, Landslides: WA Dept. of Ecology – Shorelands

DOE maintains oversight over the County Shoreline Program and the shoreline permit process. They also maintain a large and informative website. New developments are planned for shorelines.

Puget Sound: <http://www.ecy.wa.gov/programs/sea/pugetsound/>

Shoreline aerial photos: <http://apps.ecy.wa.gov/shorephotos/>

Landslides: <http://www.ecy.wa.gov/programs/sea/landslides/>

Coastal Maps: http://www.ecy.wa.gov/programs/sea/SMA/atlas_home.html

Applied coastal geology: www.coastalgeo.com

USGS Shoreline Armoring Impacts-State of the Science

The US Geological Survey is the federal research and advisory agency for earth science issues. A scientific workshop was convened in May 2009, specifically to bring local and national experts together to review the state of the science regarding the physical and biological impacts of armoring on sheltered shorelines such as those of Puget Sound.

Website: <http://pubs.usgs.gov/sir/2010/5254/>

USGS Landslide Hazards

The US Geological Survey operates an Internet site with a large amount of information, including landslide hazards.

Website: <http://geohazards.cr.usgs.gov/>

WA USGS: <http://geology.wr.usgs.gov/docs/stateinfo/WA.html>

Earthquakes – USGS Earthquake Hazards Program

<http://earthquake.usgs.gov/>

Cascadia Region Earthquake Workgroup

<http://www.crew.org/>

Whatcom County Planning and Development Services - Chad Yunge, Phone: (360) 676-6907

Website: <http://www.co.whatcom.wa.us/pds/naturalresources/shorelines/index.jsp>

Corps of Engineers

The US Army Corps of Engineers needs to permit any beach structures/modifications below mean higher high water (MHHW). The Corps also initiates dredging & shore protection projects and handles River & reservoir issues.

Website: <http://www.nws.usace.army.mil/>

Regulatory Branch Phone: (206) 764-3495

Regional Marine / Water Quality/ Pollution/ Ecosystem Issues

Puget Sound Partnership has a wide variety of reports and booklets on the status of the Sound and Straits and an Action Plan to rehabilitate habitats.

Puget Sound Partnership Website: <http://www.psp.wa.gov/>

WDFW Fish and Shellfish Science

News, forage fish, shellfish, salmon... information, alerts, products <http://wdfw.wa.gov/science/>

White Papers on nearshore & marine issues <http://wdfw.wa.gov/hab/ahq/ahqwhite.htm>

Vegetation for shoreline management

Greenbelt Consulting, Elliot Menashe, (360) 341-3433 <http://www.greenbeltconsulting.com/>

Plantas Native, LLC, Bay Renaud, (360) 715-9655 <http://www.plantasnativa.com/>

National Ocean Service

Part of NOAA, the NOS provides information on coastal and ocean programs and issues

Website: <http://www.nos.noaa.gov/welcome.html>

Storm surge real time information: <http://tidesonline.nos.noaa.gov/geographic.html>

Prelim. tides levels: http://www.co-ops.nos.noaa.gov/data_retrieve.shtml?input_code=101011111pw

Tsunamis: U. Washington Geophysics Program Tsunami: <http://www.geophys.washington.edu/tsunami/intro.html>

Natural History Programs

North Cascades Institute is a non-profit group offering one and multi-day field seminars covering marine ecology, coastal sciences, and a wide variety of natural history topics, Elderhostel & school curriculum.

Website: <http://www.ncascades.org>

Phone (360) 856-5700 ext. 209



City of Seattle, San Juan County and Islands Trust to develop and pilot Green Shores for Homes

In March 2010, the U.S. Environmental Protection Agency (EPA), under the Puget Sound Watershed Management Assistant Program, awarded the City of Seattle and partners a four-year grant of over \$500,000 to develop and test technical guidelines and incentives for improving the ecological function of residential shorelines along Lake Washington and in San Juan County. Green Shores for Homes will build on Seattle's existing Green Shorelines guidelines http://www.seattle.gov/dpd/Planning/Green_Shorelines/Overview/. The assessment framework, Green Shores for Homes, will be based on the Green Shores for Coastal Development Rating System (CDRS) developed by the Stewardship Centre of British Columbia (www.greenshores.ca) and www.stewardshipcentre.bc.ca). The CDRS provides a voluntary rating certification framework for coastal development modeled after the highly successful LEED[™] Green Building rating system.

The City of Seattle proposes to pilot Green Shores for Homes credits and locally developed incentives on Lake Washington, building on previous multi-jurisdiction efforts to facilitate alternatives to shoreline alteration. San Juan County is a project partner and will pilot Green Shores for Homes in marine shoreline locations. In September 2010, Islands Trust, a federation of local governments within the BC Gulf Islands joined this initiative as a transboundary partner. Select members of the original Green Shores Technical Working Group, which oversaw the development of the original Coastal Development Rating System, will join with new technical team members to coordinate the development of the Green Shores for Homes credit system.

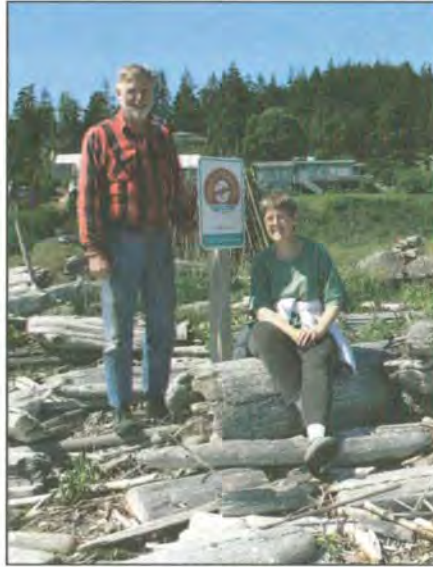
Implementing Green Shores for Homes simultaneously in British Columbia and Washington, in both urban freshwater and rural marine shorelines, will model how other jurisdictions within the Salish Sea can protect shoreline ecological function from future impacts of growth.

For more information regarding Green Shores go to <http://www.greenshores.ca/>. For more information regarding Green Shores for Homes, please contact Maggie Glowacki at the City of Seattle (margaret.glowacki@seattle.gov) or project coordinator Katrina Hoffman at Washington Sea Grant (kathoff@uw.edu).

10 guidelines for shoreline living

For complete details and many helpful suggestions, please see the Shore Stewards Guide for Shoreline Living.

- Use Water Wisely
- Manage Water Runoff
- Encourage Native Plants and Trees
- Control Pests & Fertilize Safely
- Understand Bluff Dynamics Before Developing
- Respect Intertidal Life
- Preserve Eelgrass Beds and Forage Fish Spawning Habitat
- Know and Practice All Elements of Septic Maintenance
- Use Soft Armoring Techniques When Appropriate
- Know Permit Procedures for Shoreline Development



Shore Stewards
c/o Watershed Master/Beach Watchers
WSU Extension Whatcom County
1000 North Forest Street #201
Bellingham WA 98225

Questions or Comments?
Call Cheryl Lovato Niles
(360) 676-6736
(360) 676-6707 ext. 50281
Or email: clniles@wsu.edu

Shore Stewards is made possible through funding from the U.S. Environmental Protection Agency and Washington State administered by the Puget Sound Action Team and the Northwest Straits Commission.



Shore Stewards

**A program to help you
better understand
your property
and take more
pride and enjoyment**



Would you like to...?

Understand how your beach works?

Protect against bluff erosion?

Attract more salmon and marine life?

Enhance your property values?

Create a healthier, more abundant place for your children and grandchildren to live and play?

Shore Stewards

Shore Stewards can help you achieve these goals and also bring you recognition for your efforts to make our area a healthier place to live and own property. Shore Stewards does not require changes to your property. It asks for your agreement to 10 wildlife-friendly guidelines of shoreline living. As you learn more, you may become excited and decide you want to make some changes. But that's up to you.

Why Shore Stewards?

No one appreciates the richness and beauty of our marine waters more than shoreline landowners, and no one is in a better position to protect our waters, our shorelines, and the wildlife which depends on them. Shore Stewards was created to help shoreline residents feel more connected to the entire nearshore community. When you understand the natural processes at work on your beach, you are better equipped to make choices that will keep our waters cleaner and benefit all of our marine life.

Enhance your investment

Shore Stewards gives you access to people and information that can help you make wise decisions for the long-term health of your property and shoreline.

Who came up with this?

WSU Beach Watchers worked in collaboration with marine educators and experts to develop sound guidelines and reference materials addressing the most important issues affecting shoreline health today.

How to join

To join Shore Stewards, simply sign up. You will receive an informative Guide For Shoreline Living reference book. There is a Shore Stewards newsletter, and there are occasional programs or workshops you can attend. A free metal Shore Stewards sign is available to those who become "Certified Shore Stewards" by pledging to practice three of the ten guidelines for shoreline living.

For more information

Visit our Website: www.shorestewards.org

E-mail: clniles@wsu.edu

Phone: (360) 676-6707 ext. 50281

To find out more about

Watershed Masters/Beach Watchers

<http://www.whatcom.wsu.edu/environ/water/bw.htm>

There are no fees or dues required to join Shore Stewards. No classes or meetings to attend. We are simply an educational resource for those who live along the shoreline or in shoreline communities.

To become a Shore Steward

Clip and mail to:

Shore Stewards
c/o Watershed Master/Beach Watchers
WSU Whatcom County Extension
1000 N. Forest Street #201
Bellingham WA 98225

____ Yes, sign me up and please send me your free guidebook and newsletters.

Name

Address

City / State / ZIP

Phone

Email

____ Yes! I'd like to pledge to practice three guidelines for shoreline living. Please send me a pledge.

Become a Shore Steward!

*Shore Stewards is designed to meet the unique needs of people who live near our beaches, bays, Straits, and Sound, but **everyone is welcome to join.***

Name: _____

Mailing Address:

Email: _____ Phone: _____

Don't miss out! Shore Stewards newsletters are distributed electronically and rest assured we will never sell your email address.

Shoreline Address (if different from your mailing address):

I own or live on:

shoreline property

bluff property

beach access or a boar ramp through my community association

I live at my beach property:

year round

seasonally

my property is undeveloped

Take the Shore Stewards Pledge

Most Shore Stewards have pledged to follow at least 3 of the 10 Guidelines for Shoreline Living.

If you take the pledge we will give you a free Shore Stewards yard sign as a token of our appreciation.

1. Use Water Wisely:

Already Do

Will do More

Not Applicable

2. Manage Water Runoff

Already Do

Will do More

Not Applicable

3. Encourage Native Plants & Trees

Already Do

Will do More

Not Applicable

4. Control Pests & Fertilize Safely

Already Do

Will do More

Not Applicable

5. Understand Bluff Dynamics before Developing:

Already Do

Will do More

Not Applicable

6. Respect Intertidal Life:

Already Do

Will do More

Not Applicable

7. Preserve Eelgrass Beds & Forage Fish Spawning Habitat:

Already Do

Will do More

Not Applicable

8. Know & Practice all Elements of Septic Maintenance:

Already Do

Will do More

Not Applicable

9. Use Soft Armoring Techniques when Appropriate:

Already Do

Will do More

Not Applicable

10. Know Permit Procedures for Shoreline Development:

Already Do

Will do More

Not Applicable

Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name _____

Coastal property owner? YES/NO

Physical Address (optional) _____

Address of coastal property (if different) _____

Phone (optional) _____

email _____

CIRCLE applicable: seasonal resident/permanent resident

CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

2. Do you have specific concerns regarding the management of your property? YES/NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



APPENDIX 4: Workshop Evaluation

- **Workshop Evaluations**
- **Workshop Evaluation Responses Spreadsheet**

Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Row Sangula
Coastal property owner? YES NO
Physical Address (optional) 4531 Seaside-Gunpowder Dr. Richmond BC ^{7221 Bridge St}
Address of coastal property (if different) Above
Phone (optional) 604-279-9966
email row_s@lwcforest.com
CIRCLE applicable: seasonal resident permanent resident
CIRCLE applicable workshop attended: Bluffs Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

gained more knowledge that I started with

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

practical, speaker was very knowledgeable

What could be added to this workshop to enhance its value to coastal property owners?

?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

Contact and knowledge we can do something to slow down erosion

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name R HOFMANN

Coastal property owner? YES / NO

Physical Address (optional) 1150 Paradise Rd. Fernandale

Address of coastal property (if different) Lot 50 Eclaira Island

Phone (optional) 387-0378

email _____

CIRCLE applicable: seasonal resident/permanent resident UNDEVELOPED LOT

CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES / NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES / NO

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

BECOMING MORE EDUCATED

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

LEARNING ABOUT FISH HABITATS

What could be added to this workshop to enhance its value to coastal property owners?

I THINK IT WAS DONE AS IS.

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

GENERAL EDUCATION

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

RE: DRAINAGE ISSUES

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

PLANTING VEGETATION

Overall, what is the most valuable thing you will take away from this workshop?

GENERAL EDUCATION

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name MAGIE BELL

Coastal property owner? YES NO

Physical Address (optional) 2057 BAYVIEW AVE BLAINE

Address of coastal property (if different) _____

Phone (optional) _____

email gmbell07@comcast.net

CIRCLE applicable: seasonal resident/permanent resident

CIRCLE applicable workshop attended: Bluffs Beaches Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *Interest, motivation, pressure of climate change, changes in thinking*

Barriers: *Time, follow-up, Resources*

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop: - *new knowledge of habitat of species,*

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property?

~~*Planting of bank*~~ *Respect for species that share beach habitat* YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

Renewed interest, increased knowledge

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

Knowledge of plants that assist in bluff maintenance

What could be added to this workshop to enhance its value to coastal property owners?

More emphasis on resources available

Are you likely to apply any of the information or resources from the workshop in management of your own property?

Planting to maintain bank YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Lynn Rose

Coastal property owner? YES / NO

Physical Address (optional) ~~5519 Maple Way~~ 7356 Seashell Way, Blaine

Address of coastal property (if different) 5519 Maple Way

Phone (optional) _____

email Lrose1565@msn.com

CIRCLE applicable: seasonal resident / permanent resident

CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

No

2. Do you have specific concerns regarding the management of your property? YES / NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline?

YES / NOT at this time

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) Called Jim initially - not in budget but put in certain drain around house & new septic system to help with drainage, plus found water basin for property

If YES, what would be the obstacles for you to make this happen: (check all that apply) which are told is great to have

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: Learn how to protect and maintain fish habitat and bluffs

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop: Learning about our beach area and what to look for to keep healthy

What could be added to this workshop to enhance its value to coastal property owners? not sure - too new to coastal living

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify) watch out for fish habitat on beach and protect

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop: vegetation ideas and found out our water basin catch & taking down bluff is great

What could be added to this workshop to enhance its value to coastal property owners? not sure - too new to coastal living

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify) vegetation on bluff

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Louinda Churchward

Coastal property owner? YES NO

Physical Address (optional) 8234 Birch Bay Dr.

Address of coastal property (if different) _____

Phone (optional) 360-201-8146

email louinda@honorlevel.com

CIRCLE applicable: seasonal resident / permanent resident

CIRCLE applicable workshop attended: Bluffs Beaches Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

2 Wolf Bauer presentations

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Barriers: Time - Saturday's are pretty "booked"

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

Extremely informed & passionate speakers
you brought SUNSHINE!!

What could be added to this workshop to enhance its value to coastal property owners?

encourage people to bring a sack lunch so they
can take full advantage of posted exhibits & stay
the whole day!

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

by discouraging my neighbors from building
lunches

Overall, what is the most valuable thing you will take away from this workshop?

Don't fool w/ mother nature. She has it right
didn't know about blue shells
clams

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

good examples - "simplified" geological
explanation

What could be added to this workshop to enhance its value to coastal property owners?

??
o o

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

don't build too close to edge of beach -
Bluff

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property

Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Ken Shannon
Coastal property owner? YES NO
Physical Address (optional) 5697 NAKAT WAY
Address of coastal property (if different) _____
Phone (optional) _____
email kshannon26a@comcast.net
CIRCLE applicable: seasonal resident / permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

INCR. KNOWLEDGE + BETTER PROTECTION OF BLUFF

Barriers:

NONE
BLUFF EROSION MANAGEMENT
~~HEALTHY BEACH HABITATS~~ - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

I GAINED SOME VALUABLE SHOBE STABILITY INFO.

What could be added to this workshop to enhance its value to coastal property owners?

INCREASED FOCUS ON ISSUES DIRECTED TOWARDS BEACH OWNERS
(i.e. LESS PLATE TECTONICS)

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

SAME

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name KATH GAWAN

Coastal property owner? ^{YES/NO} YES

Physical Address (optional) 8710 BERTSLD

Address of coastal property (if different) _____

Phone (optional) 371-3554

email Kathgawan@coast.net

CIRCLE applicable: seasonal resident/permanent resident permanent resident

CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?
YES - 1/6 lane - 2001

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff
- rate of erosion of beach
- health of beach
- integrity of protective structures
- drainage issues
- shoreline regulations
- interest in implementing better stewardship practices
- other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns
- lack of trust in experts
- assume it will be too expensive
- concern about ramifications (please specify) _____
- other (please specify) beachway with neighbors along Sand Drive

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost
- Lack of knowledge of who/how
- other (please specify) _____

4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

Dan's Knowledge, Candor, Sense of humor

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

Specific suggestions on what step to take

What could be added to this workshop to enhance its value to coastal property owners?

Vegetation suggestions; surficial water management

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops
 Shore Stewards Program Learning more about conservation on my coastal property
 Green Shores for Homes Program Potential restoration on ~~my~~ coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name KAREN CARLSON

Coastal property owner? YES NO

Physical Address (optional) 2220 MONTFORT BLAINE WA 98230

Address of coastal property (if different) _____

Phone (optional) _____

email CARLSONKRNO@MSN.COM

CIRCLE applicable: seasonal resident/ permanent resident

CIRCLE applicable workshop attended: Bluffs Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES/NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/ NO

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Barriers:

BLUFF EROSION

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

THOROUGH & DETAILED EXPLANATION - HISTORICAL & GEOLOGICAL ANALYSIS, PLUS REAL DOABLE SOLUTIONS. JIM WAS AN EXCELLENT SPEAKER

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

ANCHORED LOGS
PLANTING OF VEGETATION

Overall, what is the most valuable thing you will take away from this workshop?

ANCHORED LOGS, GRAVEL & VEGETATION
BULKHEADS ARE DESTRUCTIVE

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

- I would like more information regarding (Check all that apply):*** Future workshops
- Shore Stewards Program Learning more about conservation on my coastal property
- Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Knowltons

Coastal property owner? YES/NO

Physical Address (optional) _____

Address of coastal property (if different) _____

Phone (optional) _____

email naomiknowlton@yahoo.com

CIRCLE applicable: seasonal resident/permanent resident

CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

No

2. Do you have specific concerns regarding the management of your property? YES/NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/NO

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Gaining Knowledge

Barriers:

none

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

expertise of leaders

What could be added to this workshop to enhance its value to coastal property owners?

time for lunch

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

YES

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

see above

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply):

- Future workshops
 Shore Stewards Program Learning more about conservation on my coastal property
 Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Jim RAGAN

Coastal property owner? YES NO

Physical Address (optional) 8985 SEMIATMOU DR, BCLAVE WA. 98230

Address of coastal property (if different) _____

Phone (optional) _____

email _____

CIRCLE applicable: seasonal resident/ permanent resident

CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/NO

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *educational, info-mative*

Barriers: *none*

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

educational, informative

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

hillside (bluff) planting

Overall, what is the most valuable thing you will take away from this workshop?

everything!

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name CAROL & DAVE DUFFY
Coastal property owner? YES/NO
Physical Address (optional) 13518 178 AVE SE RENTON 98059
Address of coastal property (if different) 8977 SEMIAHMOOD DRIVE
Phone (optional) 425 226 3274
email cjdffy@aol.com
CIRCLE applicable: seasonal resident/permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES/NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

VERY INFORMATIVE

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

INFORMATIVE

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

INFORMATION

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Carol Beas
Coastal property owner? YES / NO
Physical Address (optional) 5751 Nakat Way Blaine
Address of coastal property (if different) _____
Phone (optional) _____
email crbeas@gmail.com
CIRCLE applicable: seasonal resident / permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

no

2. Do you have specific concerns regarding the management of your property? YES / NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES / NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) am not sure I need a site visit



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *Better knowledge*

Barriers: *none*

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

Both presentations excellent, well presented, easy to understand

What could be added to this workshop to enhance its value to coastal property owners?

have to think about it -!

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

improve shore bluff plantings

Overall, what is the most valuable thing you will take away from this workshop?

Increased knowledge of bluff management & the fact that the erosion is natural & generally not
BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

above comment same

What could be added to this workshop to enhance its value to coastal property owners?

n u c

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

above response

Overall, what is the most valuable thing you will take away from this workshop?

above response

just joined **would like more information regarding (Check all that apply):** Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Blair Pinick
Coastal property owner? YES/ NO
Physical Address (optional) 8831 OERTZ DR., BLAINE
Address of coastal property (if different) _____
Phone (optional) 360-393-4584
email bpinick@mac.com
CIRCLE applicable: seasonal resident/ permanent resident
CIRCLE applicable workshop attended: Bluffs/ Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES/ NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/ NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Barriers:

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

SCIENCE BEHIND EROSION CYCLE

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

EXPLANATION EROSION - PROCESS / AND BEACH RESTORATION & MANAGEMENT

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property

Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name BERNIECE PIWEK
Coastal property owner? YES/ NO
Physical Address (optional) 8831 OERTEL DR BLAINE 98230
Address of coastal property (if different) _____
Phone (optional) 360 393-4584
email bpiwek@mac.com
CIRCLE applicable: seasonal resident/ permanent resident
CIRCLE applicable workshop attended: Bluffs/ Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES/ NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/ NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *learn more about keeping our property safe from wave + erosion damage.*

Barriers: *None*

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

clear explanation re: formation + erosion of bluffs + how this may impact our own beach. Proper maintenance

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

to watch for another opportunity to hear in speak.

I would like more information regarding (Check all that apply): Future workshops
 Shore Stewards Program Learning more about conservation on my coastal property
 Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name BERNARD & ELAINE KLOP
Coastal property owner? YES NO
Physical Address (optional) 9545 Gibson Rd. Chilliwack, B.C.
Address of coastal property (if different) 9672?? Holeman Ave.
Phone (optional) 604-792-8088
email bklop@cajlix.com
CIRCLE applicable: seasonal resident/permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

No.

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *Educative value.*

Barriers: *None*

~~**HEALTHY BEACH HABITATS - Evaluation**~~

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

Practical Experience of Facilitator.

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Gives me some key pointers to evaluate my bluff.

Overall, what is the most valuable thing you will take away from this workshop?

Access to resources.

~~**BLUFF EROSION MANAGEMENT - Evaluation**~~

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name BRYAN MCKNIGHT
Coastal property owner? YES NO
Physical Address (optional) _____
Address of coastal property (if different) 397 West Bluff Rd Pt Roberts
Phone (optional) 604 377-7353
email jbmcknight@telus.net
CIRCLE applicable: seasonal resident permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

No

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: all of above

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *Learn a lot, real experts, great speakers*

Barriers: *Availability*

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

Learned about ferry beach, spawning etc, very good speakers,

What could be added to this workshop to enhance its value to coastal property owners? *knowledge*

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

Spawning area

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

Terrific knowledge, very clear, sensible/practical approach

What could be added to this workshop to enhance its value to coastal property owners?

Love it!

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Suggest offer this again - would like lots of people on beach habitats who would love to attend on near Easter etc - end

Overall, what is the most valuable thing you will take away from this workshop?

*Various types of shoreline protection
Learned about soft shore - very interesting*

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property

Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Becky Chan
Coastal property owner? YES/ NO
Physical Address (optional) Abbotsford
Address of coastal property (if different) Pt Roberts
Phone (optional) 604 807-2020
email bechan1066@shaw.ca
CIRCLE applicable: seasonal resident/ permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

No

2. Do you have specific concerns regarding the management of your property? YES/ NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES/ NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) have to go & check on amount of erosion



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: ↑ Knowledge

Barriers: distance, time

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

don't go to property that much

Overall, what is the most valuable thing you will take away from this workshop?

Knowledge of tidal spanning in sand.

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

Talk was over my head but good eye opener. Will look into our property & see what applies. Stephanie very nice.

What could be added to this workshop to enhance its value to coastal property owners?

Maybe let us know who are our neighbors, i.e. from Pt. Roberts?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Maybe

Overall, what is the most valuable thing you will take away from this workshop?

erosion awareness

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name BONNE ANDREWS
Coastal property owner? YES NO
Physical Address (optional) 5727 NAKAT WAY - BB VILLAGE
Address of coastal property (if different) _____
Phone (optional) 360.305.4246
email BONNE.ANDREWS@COMCAST.NET
CIRCLE applicable: seasonal resident permanent resident
CIRCLE applicable workshop attended: Bluffs Beaches, Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

NO

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) HAVE GEOTECH EVAL

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: INFORMATION HELPS DEVELOP A KEEN SENSE FOR THE OBVIOUS

Barriers:

HEALTHY BEACH HABITATS - Evaluation COULDN'T ATTEND

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

FIELD TRIP; REAL LIFE EXAMPLES OF EXACT MATERIAL COVERED IN CLASSROOM

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

CLOSE EXAMINATION OF BLUFF VEGETATION TO DETERMINE WET / DRY SUB-SURFACE CONDITIONS TO AID IN PLANT SELECTION

Overall, what is the most valuable thing you will take away from this workshop?

PERFORM MORE DETAILED EXAMINATION OF MY BLUFF TO MAP MICRO CONDITIONS.

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Ann Spink

Coastal property owner? YES NO

Physical Address (optional) _____

Address of coastal property (if different) _____

Phone (optional) _____

email _____

CIRCLE applicable: seasonal resident permanent resident

CIRCLE applicable workshop attended: Bluffs Beaches Both

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

no

2. Do you have specific concerns regarding the management of your property? YES NO

If YES what is the nature of your concern (Check all that apply):

rate of erosion of bluff rate of erosion of beach health of beach

integrity of protective structures drainage issues shoreline regulations

interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES NO

If NO why not? (Check all that apply):

No concerns lack of trust in experts assume it will be too expensive

concern about ramifications (please specify) _____

other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

concern about cost Lack of knowledge of who/how

other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives: *knowledge of the area*

Barriers: *time*

HEALTHY BEACH HABITATS - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

rebuilding beaches

What could be added to this workshop to enhance its value to coastal property owners?

more info on vegetation

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Feedback & Evaluation

We appreciate your interest in the *Living with the Coast* Workshops. The target audience for these workshops is coastal property owners. Please help us learn more about your needs and concerns by answering the following questions. Responses will be used to design future outreach programs and resources. (Please feel free to write additional comments on scratch paper)

Name Tom & Nan Thomas
Coastal property owner? YES / NO
Physical Address (optional) 5133 Nakat Way Blaine, WA
Address of coastal property (if different) _____
Phone (optional) _____
email _____
CIRCLE applicable: seasonal resident / permanent resident
CIRCLE applicable workshop attended: Bluffs, Beaches, Both *and beach walk afterwards*

1. Have you ever attended a similar workshop on coastal processes? If so when/where?

No

2. Do you have specific concerns regarding the management of your property? YES / NO

If YES what is the nature of your concern (Check all that apply):

- rate of erosion of bluff rate of erosion of beach health of beach
 integrity of protective structures drainage issues shoreline regulations
 interest in implementing better stewardship practices other: _____

3. Would you be interested in an expert site visit in order to obtain site specific suggestions to help you improve long term management of your shoreline? YES / NO

If NO why not? (Check all that apply):

- No concerns lack of trust in experts assume it will be too expensive
 concern about ramifications (please specify) _____
 other (please specify) _____

If YES, what would be the obstacles for you to make this happen: (check all that apply)

- concern about cost Lack of knowledge of who/how
 other (please specify) _____



4. What are incentives and barriers to participating in educational workshops such as these?

Incentives:

Barriers: Only nice sunny day in Whatcom Co!

HEALTHY BEACH HABITATS - Evaluation didn't attend

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Healthy Beach Habitats* workshop:

What could be added to this workshop to enhance its value to coastal property owners?

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

BLUFF EROSION MANAGEMENT - Evaluation

exceeded expectations met expectations did not meet expectations

What I appreciated most about the *Bluff Erosion Management* workshop:

* ideas of what to do for bluff erosion
* lots of great information

What could be added to this workshop to enhance its value to coastal property owners?

more locally specific

Are you likely to apply any of the information or resources from the workshop in management of your own property? YES/NO (please specify)

Overall, what is the most valuable thing you will take away from this workshop?

including beach walk with bluff talk

I would like more information regarding (Check all that apply): Future workshops

Shore Stewards Program Learning more about conservation on my coastal property

Green Shores for Homes Program Potential restoration on my coastal property



Name	Address	Region	seasonal	Length	phone	email	owner	perm/seasonal	workshop attended	attended similar workshop	specific concerns*	site visit?	why or why not?	workshop incentives	workshop barriers	HB wksp met expectation	HB what to add?	HB will you apply?	HB best content	BF wksp met expectation	BF what to add?	BF will you apply?	BF best content	Future workshop	Shore stewards	Green shores	Conservation	Restoration
Ann Spink							Y	S	Bluff	N	N	N		local knowledge	time	N				N	more information on vegetation	Y	rebuilding beaches					
Bonnie Andrews	5727 Nakat Way, Birch Bay Village	BB		5+	360.305.4246	bonnie.andrews@comcast.net	Y	P	Bluff	N	BfER, AR, DI, BS	N	have geotech	knowledge						Y		vegetation information	detailed understanding of bluff	Y				
Becky Chan		PR	CND		604.807.2020	bchan1066@shaw.ca	Y	S	both	N	BfER	Y	cost concern, lack of knowledge to whom? Wants to check erosion rate	increase knowledge	distance, time	Y		N	intertidal spawning	Y	connect neighbors or have more local content	maybe	erosion awareness					
Bryan McKnight	397 West Bluff Rd, Pt Roberts	PR	CND		604.377-7353	lbmcknight@telus.net	Y	S	both	N	all	Y		knowledge, great speakers	time	Y		Y	intertidal spawning	Y	again on pt roberts	Y	types of shoreline protection	Y				
Bernard and Elaine Klop	9545 Gibson Rd Chilliwack, BC	BB	CND	2-5	604-792-8088	bklop@cavlix.com	Y	S	Bluff	N	BfER, SR	Y	cost concern	knowledge	none					Y		Y	resources	Y			Y	
Berniece Piwek	8831 Oertel Dr Blaine, 98230	SM		5+	360.393.4584	bpwek@mac.com	Y	P	Bluff	N	N	Y	cost concerns, lack of knowledge as to who	knowledge	none					Y		Y	clarity, information, how to interpret on their bluff	Y				
Brian Piwek	8831 Oertel Dr, Blaine	SM		5+	360.393.4584	bpweic@mac.com	Y	P	Bluff	N	BfER	Y	cost							Y		Y	erosion, beach restoration and management	Y				
Carol Rice	5751 Nakat Way, Blaine, WA	BB		5+		crclcr@gmail.com	Y	P	both	N	BfER, DI, BS	Y	cost concerns, lack of knowledge as to who	knowledge		Y		Y	bluff plantings	Y		Y	bluff erosion is natural	Y	Y	Y		
Carol and Dave Duffy	13518 178 Ave SE Renton, WA 98050	SM	Renton	5+	425.226.3274	djdffv@aol.com	Y	S	both	N				knowledge		Y				info			information					
Jim Rasar	8958 Semiahmoo Dr, Blaine WA 98230	SM		5+			Y	P	Bluff	N	BfER, DI, BS	N	no concerns	knowledge						Y		Y	bluff plantings	Y	Y			Y
Knowltons	2067 Bayview Ave	BL				naomiknowlton@yahoo.com	Y	P	both	N	BfER, DI, SR	N	too expensive	knowledge		Y	time for lunch	Y		Y	time for lunch	Y		Y			Y	
Karen Carlson	2220 Mont Fort Blaine, WA 98230	BL		5+		carlsonkrm@msn.com	Y	P	Bluff	N	BfER, DI, SR	N	too expensive, cost concerns							Y		Y	vegetation planting, bulkheads are destructive, gravel and vegetation better					
Keats Gaman	8710 Oertel Dr	BB		5+	371-3554	keatsandgail@comcast.net	Y	P	both	Y	DI	Y				Y		Y		Y	vegetation suggestions	Y			Y	Y	Y	
Ken Shannon	5697 Nakat Way	BB	BB			kshannon26a@comcast.net	Y	S	Bluff	N	BfER, BS	N	too expensive, concerns with ramifications,	knowledge						Y	more focus on beach owners less plate tectonics	Y	slope stability information	Y				
L Churhward	8234 Birch Bay Dr	BB		5+	360.201.8146	louinda@honorvel.com	Y	P	both	Y	BH, DI, BS	Y	too expensive, concern about cost		time	Y	emphasive sack lunch	Y	clams, bulkheads, habitats	Y		N	importance of setback distances	Y				
Lynn Rose	7356 Seashell Way, Blaine, WA	BB	BL	0-2		Lrose1565@msn.com	Y	S	both	N	ER, BchER, HB,	N	too expensive	knowledge		Y		Y	watch out for fish habitat and protect	Y		Y	bluff vegetation	Y		Y	Y	Y
Magie Bell	2057 Bayview Ave Blaine, WA	BL				gmbell07@comcast.net	Y	P	both	N	BchER, HB, DI,	Y	cost concerns, lack of knowledge as to who	knowledge, climate change	time, follow up, resources	Y		Y	new knowledge of species, renewed interest	Y	more on resources available	Y	vegetation planting on bluff	Y	Y		Y	
R Hoffman	1150 Paradise Rd Ferndale, WA	EL	FE	5+	384-0348			undeveloped	both	N	BfER, SR, BS	Y	cost concern	knowledge		Y		Y	fish habitat	Y		Y	vegetation planting	Y				
Ron Sangura	8531 Semiahmoo Dr, 7271 Bridge St, Richmond BC	SM	CND	5+	604-279-9966	rons@lesliefores.com	Y	S	Bluff	N	BfER, DI, BS	Y	cost concern	knowledge						Y		Y	what to do to slow erosion					Y
Tom and Nan Thomas	5733 Nakat Way, Blaine WA	BB		0-2			Y	P	Bluff	N	BfER,	Y			nice weather!					Y	local specifics	Y	beach walk showed applied knowledge, what to do to slow bluff erosion					maybe
* indicates responses via survey monkey questions, but did not fill out evaluation form																												
Bevan Wilson*	8997 Semiahmoo Dr, Blaine, WA 98230	SM		5+	604-318-9399	bevanwilson@telus.net	Y	S	Bluff		DI, BfER,	Y		knowledge, great speakers	conflicts btwn Depts													
Dan Maus*	6889 Holeman Ave, Blaine, WA 98230	BB		5+	206.714.8900	dmaus@themausgroup.com	Y		Bluff		BfER	Y																
Jane and Bruce Montegani*	6893 Holeman Ave, Blaine, WA 98230	BB		5+	360-371-0403	bruce@montegani.com	Y	P	Bluff		BfER	Y		financial incentives available	working with local gov. regulations													
Ken Kaliher and Mary Mooney*	1207 Chuckanut Dr	CH		0-2	360.734.2096	kenkaliher@hotm.com	Y	P	both		BH, SR, BS			knowledge	don't know													
Mark Gascon*	PO Box 1067, Ferndale, WA 98248				960.319.6304	markstuf@gmail.com			both		BfER			financial incentives available	none													
Rhyon Caldwell*	429 Bluff Rd, Pt Roberts, WA 98	PR	CA	5+	604-505-0223	rcaldwell1@yahoo.com	Y	S			DI, BS, BfER	Y	build house in next 2 yrs	knowledge on shoreline regs	time									Y				
Sandra Abernathy*	6905 Holeman Ave Blaine, WA 98230	BB		5+	360-371-5794	sandaber2@comcast.net	Y	P	both		BfER, BH, BS	Y		knowledge, vegetation to help bluff stability	gov. restrictions													

*specific concerns: bluff erosion rate (BfER), beach erosion rate (BchER), beach health (BH), integrity of armor (AR), drainage issues (DI). Shoreline regs. (SR), better stewardship (BS), other

Appendix 4. Workshop Evaluation Responses Spreadsheet