

SENSING FOUNDATIONS:
EXPLORING SENSE OF PLACE ON THE SALISH SEA
THE SHORELINE ON THE EVERGREEN STATE COLLEGE

by

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ABSTRACT

Sensing Foundations:
Exploring Sense of Place on the Salish Sea
The Shoreline on The Evergreen State College

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The Salish Sea watershed holds a unique landscape and culture that transcends boundaries. It is important to learn and explore these treasures with thoughtful care – maybe by discovering a local shoreline. Environmental degradation continues to outpace ecological restoration in the Puget Sound area – each of us has a role to play in achieving its recovery. Peoples understanding of their role and motivation for participating in the recovery of Puget Sound is individual and can be influenced by sense of place. Sense of place is created by interactions with community or surrounding environment and how they relate and belong. Whether people have lived in the Puget Sound area their entire lives or are newcomers, the residents of Puget Sound have a strong sense of place (Trimbach, 2020). Residents that have a strong sense of place are more likely to engage in activities that are considered environmental stewardship, and a strong sense of place can be a potential driver for individual and community environmental stewardship (Kibler et al. 2018). While the link between sense of place and positive environmental stewardship continues to gain contributions, challenges, and new research, this study aims to understand how sense of place to local ecosystems is beneficial for the ecosystems and the people. This case study was located on the shoreline of The Evergreen State College. The survey respondents were undergraduate students enrolled in *Taste: What We Hunger For 2021-2022*. First, the students were invited to take a survey to evaluate their sense of place for the shoreline at Evergreen. Then, the respondents participated in a place-based workshop that included three engagement opportunities. Finally, the participants took an after-workshop survey. The results were interpreted to evaluate how the engagement opportunities influenced sense of place. Such results could be used to gain understanding and to gain leverage to spur actions that contribute to ecological restoration or environmental stewardship. This research will contribute to ecosystem and cultural understanding of sense of place to Evergreen and the Salish Sea region.

Keywords: Salish Sea, shorelines, sense of place, ecosystem recovery, well-being

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Finally, I'm grateful to the Salish Sea for being a loving place to play and learn. Thank you for being here today.

In dedication to Rickie,
who gave me the courage to explore my sense of place.

Positionality Statement

Recognizing that positionality is not fixed and will change over time, I offer these findings as only one possible interpretation of these individuals' experiences based on my standpoint as a graduate student at The Evergreen State College. I have been intimately involved with the Evergreen community since moving to Olympia a few years ago and have put effort into understanding the interconnecting human and non-human ecosystems that reside here. I believe that the Salish Sea ecosystem deserves attention, care, and romanticism and that each person can contribute uniquely. I offer sense of place as a foundation to understanding where to begin. The conversation surrounding sense of place during this research could be biased towards my perception of sense of place, the Salish Sea, and Evergreen. I accounted for this in my research process by presenting open-ended questions and keeping the questions directed at the respondent. I did not make assumptions about how the respondents foster or infer sense of place.

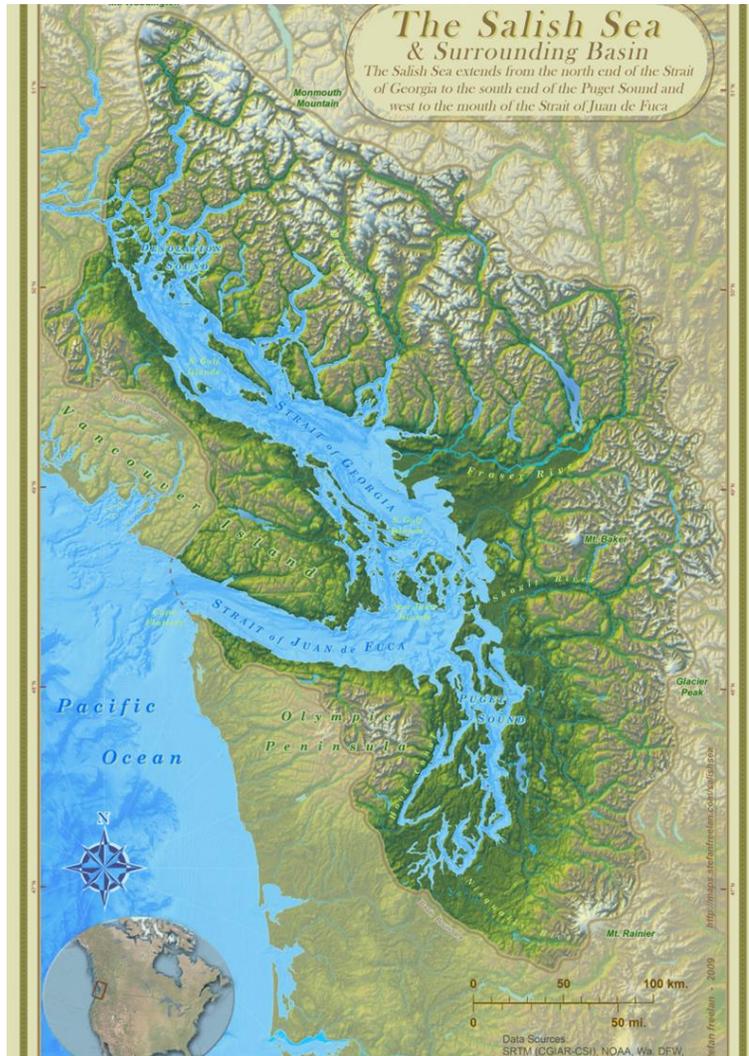
Introduction

To live deliberately along the Salish Sea's shorelines means you are a seeker: a chaser of the tides and a follower of the estuary. The timeless notion of enjoying long walks on the beach colloquially and amusingly illustrates the attraction of such places for romanticism, connection, and significance in our lives. We want to be near the shoreline – the water, the land, and the space between them. The Salish Sea shorelines provide a diverse range of opportunities and benefits to the residents and visitors of the temperate Pacific coast ecosystems.

More than a national border is shared where Canada and the United States meet on the luxuriant Pacific coast. They also share an important gathering place. The Salish Sea watershed is an intricate web of thousands of rivers and streams. It is an estuary, an ecosystem, and a community of living things in their habitat (Simenstad et al., 1982). Figure 1 shows the vast Salish Sea ecosystem that extends beyond geographical borders. At the heart of this basin is the inland sea. In 2009, the boards of geographic names for Washington and British Columbia designated these shared waters as the Salish Sea (Freelan, 2009; *Steh-Chess*, 2018). The name recognizes the Coast Salish Tribes who have lived here for thousands of years. Going beyond romantic claims, national borders, and time itself, the Coast Salish Tribes have always honored the interactions between people and places in special ways (*Steh-Chess*, 2018; Jacobson, 2009).

Figure 1

The Salish Sea and Surrounding Basin



Note. This map shows the Salish Sea as an estuary ecosystem, unobstructed by human-made boundaries (Freelan, 2009).

Along shorelines of the Pacific coast from British Columbia to Baja California, careful eyes can find a unique treasure tucked into the nooks and crannies. This local gem is *Ostrea lurida*, the Olympia oyster, the only native oyster on the West Coast, one nearly overharvested to extinction in the 19th century (Jacobson, 2009). Once a hallmark tribal culinary tradition and

trading material built on the relationship between people and natural resources, the popularity of the Olympia oyster grew when European settlers arrived (Donatuto and Poe, 2015). The native oyster populations were decimated by overharvesting, pollution, competition from non-native oyster species, and habitat degradation (*Steh-Chess*, 2018). Today, with less than 5% of historic Olympia oyster beds remaining, what's gone is not only the species but also the habitat and estuary function –which restoration advocates are working to bring back.

The importance of native oysters to ecosystems has prompted restoration efforts; Olympia oyster restoration is a growing concern on the Pacific coast, and more than 40 restoration projects include Olympia oyster habitat in their plans (e.g., Brumbaugh and Coen, 2009; Blake and Bradbury, 2012). Plus, there has been increased media coverage of the history, status, and restoration efforts of the Olympia oyster, with titles such as *Saving Native Oysters* (Ridlon, 2021) and *Return of a native: Olympia oysters are making a comeback* (DeWeerd, 2019). These stories provide a glimmer of hope. However, the success of restoration efforts remain uncertain as environmental degradation continues within the Salish Sea.

The United States waters within the Salish Sea are collectively referred to as Puget Sound, as shown in Figure 2. The health of the Puget Sound ecosystem is directly influenced by both natural events and human activities (Ruckelshaus and McClure, 2007). Humans have clearly been an integral part of the Puget Sound ecosystem for millennia, but through changes in the pace and magnitude of resource utilization over the past two centuries, humans have expanded their footprint. The congregation of overexploitation, pollution, sedimentation, habitat destruction, infrastructural modifications, and climate change, among other pressures, has led to the degradation of the Puget Sound ecosystem. Despite the visual beauty of the treasured Puget Sound shorelines, many indicators reveal that Puget Sound is not doing well – although there are

signs of progress (Puget Sound Partnership, 2021). For example, the biomass of spawning Pacific herring remains below the 25-year mean, despite gains over the past few years (Brophy, 2019). The herring serve as food for the iconic salmon species of the region. Additionally, although 3,500 acres of estuaries have been restored and once again connect to the Puget Sound, that number falls short of the 2020 goal of over 7,000 acres (Brophy, 2019). If change does not occur, future generations will not know the unique experiences that embracing the attraction to Puget Sound’s shorelines provides. Through the endless weight of pressure and innocent neglect, environmental damage in the Puget Sound region outpaces recovery (Ruckelshaus and McClure, 2007; Puget Sound Partnership, 2021).

Figure 2

Map of Puget Sound



Note. Puget Sound is a vast estuary where salt water from the pacific ocean mixes with freshwater draining from the surrounding watersheds (Puget Sound Partnership, 2021).

The unstable conditions of a shoreline add to the complexity of how such landscapes are understood and how they can be managed. Managing these distinct places requires the linking of social and ecological systems. An insufficient understanding exists of people-place relationships, environmental stewardship, and future environmental behaviors; therefore, it is important to continue research about sense of place on Puget Sound's shorelines. Sense of place and connections are unique to here and now – they are exceptional.

Our interactions with the natural environment build and enhance people-place identities, dependencies, and meaning, which coalesce into sense of place. Marine shorelines are distinct places that evoke a sense of place, and Puget Sound residents hold a sense of place to the region's shorelines (Trimbach, 2021). Studies reviewed in the following section on sense of place in Puget Sound demonstrate how and why Puget Sound residents connect to their nearby marine shorelines (Trimbach et al., 2020; Poe et al., 2016; Biedenweg, 2017). The findings present a unique perspective for coastal research, management, and recovery, which addresses the need for community inclusion through exploring local ecosystems in diverse ways.

The Evergreen State College campus and community offer unique pathways to make lasting connections between people and the environment. The Evergreen State College is part of the land base that was ceded by the 1855 Medicine Creek Treaty, upon the ancestral home of Coast Salish people. Upon this land is Bushoowah-ahlee Point – an area that has long been recognized as a meeting place for the Coast Salish people who live on the southern inlets. The name Bushoowah-ahlee Point was requested by both Evergreen and the Squaxin Island Tribe in 2011 to distinguish the northernmost point of the Evergreen campus (Evergreen, 2012). Evergreen and the Squaxin Island Tribe have a long-standing positive relationship, and the name Bushoowah-ahlee Point provides a reminder of the history of this place that goes beyond known

dates and names and offers the chance to appreciate the area as it was once honorably known. Additionally, upon the Evergreen campus is a vast natural space that includes a deep forest and 3000 feet of shoreline. This area is available for use by Evergreen students and community members (Evergreen, 2021). This shoreline is a unique asset to Evergreen and should be used and demonstrated as such. However, as with most of the 2,500 miles of Puget Sound shorelines, the shoreline on the Evergreen campus has suffered from a history of habitat fragmentation and logging and needs recovery action (Weidemann, 1987; Evergreen, 1990).

The qualitative case study in this thesis attempts to extend the sense of place research in the Puget Sound region by focusing on this local shoreline and the population who use it. The goal is to understand better people's sense of place on their local shorelines and how that may influence ecosystem recovery. This thesis first explores the relevant research surrounding the Salish Sea and sense of place along Puget Sound shorelines to clarify the necessity of local case studies. Then, I put forward the case study and survey design methods. I designed a place-based workshop for an undergraduate program at Evergreen and invited the students to be my survey respondents. I used the survey results to interpret the students' sense of place and meaning for the shoreline at Evergreen through the lens of ecosystem recovery and community inclusion. The discussion section imagines how we can use sense of place as a foundation for the sole reason of exploring local shorelines and generating support for ecosystem recovery. Additionally, this thesis aims to gain understanding and make recommendations for accessible community inclusion and environmental stewardship at The Evergreen State College.

Literature Review

Introduction

Washington State is well known for supporting private and public lands and waters, through conservation programs, funding support for natural and recreational areas, and partnerships with federal agencies to preserve habitat. Within Washington's marine region, many estuaries represent the dynamic interface of the river and marine systems that support full of life ecosystems. Unfortunately, some of the estuaries have been largely converted to agricultural, industrial or other developmental sites. They have therefore lost most of their estuary function. Water movements in estuaries transport organisms, circulate nutrients and oxygen, transport sediments and pollutants from the water, and act as a barrier to uncertain sea level changes (Simenstad et al., 1982). The loss of estuary function disrupts ecological processes that benefit water quality and habitat connectivity and contributes to the degradation of the region's shorelines (Johnson and O'Neil, 2018; Puget Sound Partnership, 2021).

Located where the Nisqually River flows into the delta at Puget Sound, the Billy Frank Jr. Wildlife Refuge protects the river's estuary, providing critical habitat for salmon spawning in the river and tributaries reaching to Mount Rainier. The Nisqually River Basin and surrounding marine waters are the ancestral home of the Nisqually Tribe (*State of Our Watersheds Report*, 2020). The tribe has managed the lands along the river and tributaries through ecological connectedness – they have fished in the river, built seasonal villages along the banks, and used the estuary and mudflats to harvest shellfish for thousands of years (Wilkinson, 2006). The Nisqually have always fished for sustenance; salmon has been a staple in their diet and foundational to their culture (*State of Our Watersheds Report*, 2020). The 1855 Medicine Creek Treaty ceded the tribal lands along the river, moved the Nisqually Tribe to a reservation, and

guaranteed their rights to hunt, fish, and gather in their traditional areas (Wilkinson, 2006). The Nisqually River Basin has been exposed to numerous agricultural and developmental threats, such as dikes and shoreline armoring, leading to the loss of estuary function. Eventually, the habitat for native species was severely restricted, and many species of salmon suffered, impacting the local way of life for the tribes. Through a dense history and concerted community efforts, mutual recognition of the unique resources of this area has led to significant restoration efforts (Wilkinson, 2006). In 1974, community, federal and tribal support won the creation of the Nisqually National Wildlife Refuge, and protections for the Nisqually delta have since been increasing. Collaboratively, U.S. Fish and Wildlife and the Nisqually Indian Tribe have restored over 900 acres at the Nisqually River Delta (Woo, 2016). The restoration efforts removed many dikes, shoreline armoring has noticeably decreased, and saltwater again flows to support the Nisqually estuary ecosystem. Significantly, available fish habitat has increased by 45 percent across the restored river delta (Woo, 2016). The Nisqually Tribe had a central role in this estuary restoration, and in 2015 the refuge was renamed to honor Billy Frank Jr., a Nisqually tribal leader. He challenged Washington State and the U.S. government to honor the Medicine Creek Treaty (Wilkinson, 2006). Although there is still much more work to be done on the Nisqually, the events of the Nisqually River Basin restoration successes present hope for achieving progress across Puget Sound. It is worthwhile to mark these efforts, of which the Nisqually River Basin is one example, of collaboration among people to create a healthier Puget Sound.

The recovery of Puget Sound needs a collaborative and adaptive approach to encourage environmental behaviors that support a healthy and sustainable Puget Sound marine ecosystem. Yet behavioral change is complex. An insufficient understanding exists of people-place relationships, community inclusion in ecosystem stewardship, and future environmental

behaviors. Many studies on sense of place in Puget Sound demonstrate how and why Puget Sound residents connect to their nearby marine shorelines (Trimbach et al., 2020; Poe et al., 2016; Biedenweg, 2017). The findings offer a unique perspective for coastal research, management, and recovery, which addresses the need for community inclusion in ecosystem recovery efforts for local shorelines. Furthermore, they suggest that the strength of an individual's or communities' sense of place may inform and motivate positive actions towards ecosystem recovery. It is crucial to continue research about sense of place of Puget Sound's shorelines so that management, planning, and policy can reflect the distinctions that sense of place provide for enhanced human well-being and effective ecosystem recovery.

To address the necessity of future sense of place research in the Puget Sound region, I will assess the relevant research and provide a theoretical overview as a basis for exploring a case study. First, I will define sense of place to establish a solid understanding and language of the topic. Then, I will discuss the different assumptions agreed upon based on the literature when using a sense of place approach to explore people-place relationships. Using the literature as a guide, I next describe how sense of place situates within the ecological restoration process to illustrate the benefits of evaluating sense of place to enhance the effectiveness of restoration for the environment and people. After that, I will introduce the Puget Sound region within the context of ecosystem recovery, focusing on the dire need for increased shoreline recovery in this region. At last, I will portray sense of place within the Puget Sound region, explaining how sense of place can enhance the recovery of the region's treasured shoreline ecosystems.

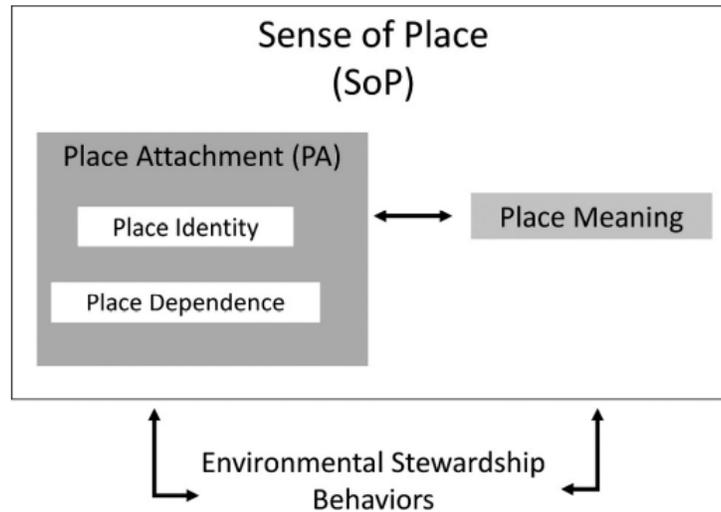
Defining Sense of Place

Sense of place considers the meanings and attachment to a setting held by an individual or group, and focuses on people-place relationships (Masterson et al., 2017; Tuan, 1997).

Additionally, sense of place reflects “how we interact with places and the emotional connections we develop with a place” (Smith, 2018, p. 2). Sense of place is a multidimensional construct; place attachment and meaning are separate parts of sense of place; this is explained visually in Figure 3. Place attachment refers to strong connections or senses of belonging that people feel for a particular place that involve emotional and symbolic aspects (Trimbach, 2021; Smith, 2018). Place attachment has two subdomains: dependence and identity (Masterson et al., 2017). Place dependence involves a thoughtful connection between people and place that facilitates goal achievement (Masterson et al., 2017). Place identity refers to the aspects of self that define the individual’s personal identity concerning the physical environment, landscape, or even place names (e.g., Salish Sea, Bushoowah-ahlee Point) (Helleland, 2012). Finally, place meaning refers to place-based descriptions that define a place and the imagery a place evokes (Williams, 2014). These meanings contrast with attachment in that they are descriptive statements “about what a place is, what it is like, and the kinds of imagery it conveys” (Masterson et al., 2017). For this literature review, sense of place refers to people’s place attachments and place meanings, both individual and shared. As illustrated in Figure 3, each dimension of sense of place interacts with one another. For example, place attachment (place identity and dependence) informs place meaning and place-based behaviors (Maserson et al., 2017).

Figure 3

Sense of Place Framework



Note. Each dimension of sense of place interacts and/or informs one another (Trimbach et al., 2020).

Assumptions of Sense of Place Framework

Using a sense of place approach to explore people-place relationships allows us to examine the interconnected social and environmental components. In this section I outline a few of the assumptions involved with sense of place that are essential for shaping connections between the social and environmental components.

A vital question in the sense of place research involves how sense of place forms. Early researchers of sense of place, such as Tuan (1977), posit that sense of place is created through direct, intentional experiences with the landscape that allow us to develop a highly personalized place meaning. Although much scholarship has used this approach, recent sense of place research recognizes that people can form a sense of place through social experiences, such as dates, classes or group gatherings (Masterson et al., 2017). For example, shellfish harvesting is

an everyday nearshore activity with personal and social attachments and meanings for tribal and non-tribal participants, which can be related or independent (Donatuto and Poe, 2015).

Therefore, it is assumed that sense of place forms through individual or shared experiences.

Although a sense of place is inherently subjective, it varies systematically (Trimbach et al., 2020; Donatuto and Poe, 2015). The personal result of place-based experiences and knowledge are desirable for inclusivity in environmental research (Williams, 2014). Different environments, people, and experiences will lead to differences in attachment, meanings, and behavior. People's subjective meanings are especially fundamental for engaging environmental stewardship and recognizing different stakeholder perspectives (Masterson et al., 2017; Trimbach, 2021; Stedman, 2016). Although each person's sense of place is unique, this variation is patterned (Masterson et al., 2017; Williams, 2014). Therefore, researchers can examine patterns that are associated with and predictive of specific place-based behaviors (Trimbach, 2021). Interpreting the meaning of a place could incorporate various forms of knowledge and beliefs about a place, including traditional and scientific or local forms of knowledge, into understanding place-based behaviors, management preferences, and community inclusion (Pierotti and Wildcat, 2000; Williams, 2014).

Sense of place is about more than a connection or a feeling; it is a construct that interacts with or informs place-based behaviors, like environmental stewardship (recall Figure 3) (Trimbach, 2020, 2021). This conceptual link recognizes that sense of place positively influences and contributes to local place-based responses to environmental degradation through management, policy, and ecosystem recovery (Masterson et al., 2017; Trimbach, 2020, Stedman, 2017). However, if sense of place is unrecognized, stakeholder support and participation could be lacking, making it challenging to gather support for ecosystem recovery (Clewell, 2006).

Additionally, motivating people with low sense of place to participate in large-scale restoration takes extra steps in the planning process to add outreach, and increase community involvement in implementation and monitoring or recreational opportunities (Kibler et al., 2018).

Restoration as a Focal Point

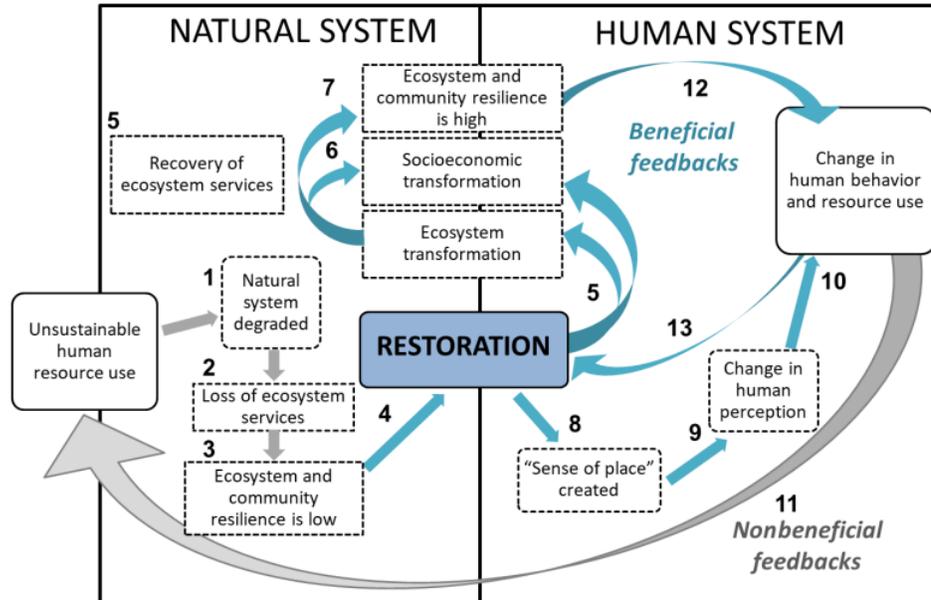
Humans interact with the environment as beneficiaries of the services provided by the ecosystem, by putting pressure on the ecosystem, and as implementors of recovery efforts for the ecosystem. Human behaviors can often harm the environment, and ecological restoration can lessen those impacts as well as improve residents' well-being (Puget Sound Action Agenda, 2021). Impactful restoration of a degraded ecosystem requires a long-term commitment from stakeholders and must fulfill a broad array of stakeholder needs and preferences so that each can see the value of restoring the ecosystem (Kibler et al., 2018). In particular, gaining an understanding of residents' well-being takes into account and brings attention to the issues of diversity, equity, inclusion, and environmental justice attached to restoration projects (Poe et al., 2016).

Community inclusion within the ecosystem recovery process may channel sense of place towards positive stewardship, creating positive feedback of impact (Figure 4, feedback loops 12-13). Participation and engagement may provide a foundation for new connections between people and the environment, ensuing further engagement in activities that aim to improve ecosystem function. Moreover, engagement in such activities may alter behavior (Kibler et al., 2018). For example, a nearshore homeowner may change the fertilizer applications to their lawn after learning about the negative impacts of runoff and helping restore a degraded waterbody. The sense of place generated could also be leveraged for participation in further restoration,

financial contributions to local groups, political action, or a unique contribution to ecosystem function (Kibler et al., 2018).

Figure 4

Feedbacks in Ecological Restoration



Note. Feedbacks between the natural system and the human system, with restoration as the focal point (Kibler et al., 2018).

Puget Sound

Within the southern part of the transboundary inland Salish Sea is Puget Sound. Carved by glaciers 10,000 years ago and forming 2,500 miles of shorelines, it is the largest estuary by volume in the United States (Puget Sound Partnership, 2021). Many shorelines aren't easily accessible because of natural bluffs or constructed barriers, or because they are considered private property. For example, just over 94 percent of the length of the Deschutes River estuary is armored with concrete bulkheads or rock walls, tidal barriers block 46 percent, urban

development overcomes 76 percent of the nearshore lands, and roads are present for 13 percent of the length of the estuary. Only remnants of the historically 17.5 km long shoreline – now 9.0 km in length – remain for ecosystem function and human well-being (City of Olympia, 2016). Across Washington State, more than 27 percent of nearshore habitat is armored with bulkheads, seawalls, dikes, or other structures (Puget Sound Partnership, 2021). Although hard armoring seeks to reduce hazard and risk for humans, hard armor causes the disruption of nearshore natural processes, degradation of nearshore habitat, and decreases overall estuary function (Johnson and O’Neil, 2018).

While change is an innate aspect of shorelines, Puget Sound shorelines face increasing pressures due to population growth, development, construction of infrastructure nearby, and climate change impacts (Puget Sound Partnership, 2021; Trimbach, 2021). The high bluffs of the shoreline of Puget Sound naturally feed and nourish the region’s beaches over time (Trimbach, 2021; Terich, 1987). These bluffs and shorelines morph slowly and have fluctuating natural processes, like erosion, making them unpredictable. They shift with changing tides, and natural nearshore processes allow them to replenish their habitat. The natural instability and hazards conflict with shoreline appeal, urbanization, and development and have led to shoreline modifications as a human attempt to tame the fluid boundary (Leyson, 2018).

Sense of Place and Ecosystem Recovery

Puget Sound's shorelines contribute to the social-ecological prosperity of the region. People develop their sense of place throughout Puget Sound through shoreline harvesting and non-harvesting activities. Furthermore, people interact with the nearshore in physical, social, and psychological ways (i.e., walking, community learning, stewardship) (Poe et al., 2016). For example, shellfish harvesting develops place attachment that can be central to people's well-

being. The shellfishing experience may occur on a specific beach; however, interactions with the nearshore environment ripple into their homes through subsistence and quality time with friends and family. Thus, a collection of such experiences can develop a sense of place. Furthermore, Trimbach et al. (2019) studied Puget Sound shorelines and community sense of place and the results show that residents recognized the importance of shorelines to their sense of place. Not only is sense of place essential for human well being, but a strong sense of place that is developed through activities such as harvesting and swimming is also positively linked to support for restoration (Kibler et al., 2018). However, limited access due to management and policies can affect place-based attachment (Poe et al., 2016). These outcomes imply that protecting shorelines that are used by the community is important for developing sense of place and for gaining public support for local restoration.

Puget Sound shorelines are so important – and so disrupted in many parts – that a complex strategy for ecosystem recovery is necessary, including contributions from Coast Salish tribes, trans agency collaborations, and community efforts. Therefore, Washington State created The Puget Sound Partnership in 2007. The Partnership is responsible for leading and coordinating ecosystem recovery in Puget Sound across boundaries and stakeholders. They also advocate for recovery goals that enhance ecosystem function and human well-being, such as conditions that improve water, species, and habitat, and address accessibility and environmental justice (Puget Sound Partnership, 2021). The Partnership provides a list of the highest priority funding requests necessary to advance Puget Sound recovery for each state budget round. However, in the last ten years, many of the most consistently high-ranked funding requests have repeatedly received awards that are less than what was requested (Puget Sound Partnership, 2021).

The Partnership uses Vital Signs as a critical aspect of their efforts as a monitoring tool. These indicators measure biophysical attributes of the ecosystem and environmental indicators of human well-being. In addition, the Partnership monitors human well-being indicators through a regional public survey conducted every two years. The indicators of human well-being include a strong sense of place as a Vital Sign. Therefore, this work contributes to research focused on sense of place in the region, concerning ecosystem recovery (Poe et al., 2016; Trimbach, 2021).

As just outlined, addressing human well-being through ecosystem recovery is highly beneficial. The benefits humans derive from the environment and ecosystem services – economic, recreational, cultural, and psychological – become enhanced when people take action to improve the ecosystem. In addition, people who have a strong sense of place related to Puget Sound shorelines are more likely to support efforts that advance ecosystem recovery and thus enhance human well-being.

Conclusion

The connections between people and the environment always change and alter natural systems. Ecological restoration is one of few human activities designed to benefit ecosystems directly. Despite the increasing pervasiveness of restoration, there is a critical knowledge gap in how people-place relationships influence ecosystem recovery. The studies reviewed suggest that a stronger sense of place often leads to individual or group action. Therefore failing to understand these vital connections as a foundation may result in missed opportunities to synergize community engagement in the restoration process. Future sense of place research should include local-scale case studies to understand better how to facilitate ecosystem recovery exactly where and how it is needed most by the people and the Salish Sea.

Methods

This thesis research aimed to gain a subjective understanding of people's sense of place at a local shoreline and of what activities may have strengthened that sense of place. The Puget Sound Partnership has modeled how to measure sense of place in the Puget Sound region. Additionally, social scientists often use qualitative research methods to understand the meanings individuals or groups have to a specific location (Kibler et al., 2018). Therefore, I conducted qualitative research using workshops and surveys that included ranked and open-ended questions to amplify the respondent's unique contributions. This thesis research was conducted on the campus of The Evergreen State College, particularly along the shoreline of Eld Inlet. Evergreen is a desirable place to conduct sense of place research because the college campus provides trails and outdoor spaces that encourage learning about the local environment, such as the shoreline, the forest, and the Organic Farm, shown in Figure 5.

Figure 5

Trails Map of The Evergreen State College



Note. This map shows the main trails on the Evergreen campus that connect important areas such as the Organic Farm, the shoreline, and the forest.

I planned a sense of place workshop with Evergreen faculty member Dr. Sarah Williams for the three-quarter undergraduate course Taste: What We Hunger For (*Taste*) 2021-2022. In *Taste*, students learned about how people make choices in their lives to create, consume, and enjoy sounds, foods, and elements of material culture through readings, lectures, workshops, conferences, hands-on learning, and more (Evergreen, 2022). Combined with the workshop, I invited the 2021-2022 *Taste* students to be the survey respondents for this thesis research. As preparation for the study, I completed the Human Subjects Review application and received approval from Evergreen's IRB; the approval letter is in Appendix A. I planned for the research to follow the schedule found in Table 1 below.

Table 1

Research Schedule

	Introduction Presentation	Engagement Opportunity 1: History Walk to the Evergreen Shoreline	Engagement Opportunity 2: Human Taste on the Shoreline	Engagement Opportunity 3: Contemplation on the Shoreline
Date	3/2/2022	3/9/2022	3/30/2022	3/30/2022
Time	1 hour	1 hour	25 minutes	25 minutes

Note: This table shows the schedule that was followed for this research during the 2021-2022 Evergreen academic year.

As the first part of the *Taste* workshop, I gave introductory presentation about my thesis topic and research proposal to the *Taste* students during the winter 2022 quarter--the student's second quarter of the *Taste* program. I assured the student respondents that the surveys would be

low risk and anonymous, and that they could withdraw from the research anytime. Then, I invited the respondents to take the before-workshop online survey. The survey questions were inspired by existing surveys and analysis performed by the Puget Sound Partnership (2020) that focus on sense of place in the Puget Sound region. I adapted the survey questions to measure and evaluate sense of place to the shoreline at Evergreen. I created an online survey using Google Forms to send to the respondents before and after the workshop, including the Consent Form for the research. The Consent Form and survey questions are in Appendix B.

The *Taste* students had the opportunity to participate in three engagement opportunities as a part of the workshop. After discussing with various Evergreen community members, I decided to plan engagement opportunities that would familiarize the students with their college campus and embrace the unique resources available to students at Evergreen. For the first engagement opportunity, I invited the students to join me on a History Walk to the shoreline on campus. I met the students near The Organic Farm and we proceeded to walk for about 3/4 mile to the shoreline, stopping along the way to highlight important historical facts about TESC that are relevant to the shoreline and the adjacent ecosystems. I had conducted extensive research in the Daniel J. Evans Library to obtain local historical information exploring Evergreen's natural resources. Additionally, I spent a day at the Squaxin Island Museum immersed in Squaxin Island tribal history so that I could effectively express its significance to the *Taste* students. The History Walk to the shoreline then was crucial for establishing the background information for understanding the Evergreen students' resources and how people have influenced the campus land.

The next engagement opportunity was Human Taste on the shoreline. While gathered on the beach of Eld Inlet on the Evergreen campus, I invited the students to explore their senses by

tasting a spread of Pacific Northwest-sourced foods and ingredients while providing them the opportunity to converse about the flavors and senses they experienced. I sourced most of the tasting supplies from local businesses, such as Salinity Seafood and More, providing a variety of unique flavors, nutrients, and minerals, such as kelp, honey, and smoked geoduck. I also included foods that accompanied those local ingredients to balance the palate, such as tea and chocolate. The Human Taste on the Shoreline engagement opportunity was important for offering a social experience that invigorated the human senses and linked respondents directly with the shoreline and local ecosystems.

The third engagement opportunity was Contemplation on the Shoreline, during which I offered various ways to contemplate the essence of the shoreline we were standing on alone or in a group. As motivation, I provided some beach toys, random objects, books, and art supplies to encourage creativity during this time. Then I offered about 20 minutes of unstructured time. The Contemplation on the Shoreline engagement opportunity was necessary for providing a personalized experience for each student to capture the shoreline memorably and personally.

Finally, I invited the respondents to take the after-workshop online survey. It included the same questions as the first survey, plus some questions with recommendations for future workshops or research at Evergreen. The final survey concluded the respondents' involvement in my thesis research process. I expressed my utmost appreciation and ensured the survey respondents that they could reach out for further questions about the research. Photos that were taken throughout the workshop are in Appendix C.

I must note that not all students in *Taste* participated in the workshops. Nor were the same students in attendance at all three workshops. As a result, I cannot discern the cumulative impact of the three workshops on the students. The small and different sample sizes for the three

workshops also makes statistical analysis impossible. However, the survey results do provide insights into the influence of these types of experiences on respondents sense of place.

My data analysis was similar to that of the Puget Sound Partnership (2020), using the Sense of Place Index to interpret sense of place on a scale of 1 (low) to 7 (high). Additionally, I used the answers to the open-ended questions to evaluate the what the shoreline means to the respondents and how that many impact their views on restoration. I compared the sense of place measurements and evaluations from the before-workshop and after-workshop surveys to interpret how the workshop Engagement Opportunities influenced the respondent's sense of place to the shoreline at Evergreen. I also created a word cloud with the short-answer responses to notice any trends in vocabulary. Finally, I compiled the answers to a few of the recommendation-related questions to offer recommendations for the future sense of place workshops or community events at Evergreen.

Results

This research intended to explore sense of place on a local shoreline – the shoreline at The Evergreen State College – and to describe how different activities could influence sense of place. The survey results represent the *Taste* students' sense of place and place meaning associated with that shoreline. There were ten survey respondents for the first survey and five survey respondents for the second survey of this workshop that I used for analysis.

The first part of the survey consisted of a sense of place scale with seven questions that facilitated interpreting sense of place. The survey results show that students may have developed a stronger sense of place at the Evergreen shoreline due to the workshop and its activities. As seen in Table 2, the scores for all questions in the before and after surveys indicate a medium to high sense of place. Noticeably, there was a small but positive change in sense of place from the

before survey to the after survey for the questions addressing place attachment and dependence. However, there was a negative change for the last sense of place question, indicating that students could be less satisfied spending time on other shorelines than Evergreen's shoreline. That could indicate that they developed a sense of place linked to that specific shoreline and not to shorelines in general.

Table 2

Sense of Place Survey Results

Sample Size:	n=10	n=5	
	Before Survey Average	After Survey Average	Change
<i>I am very attached to the shoreline on the Evergreen campus.</i>	5.4	6.0	0.6
<i>I am proud to be a part of the community that cares for and uses the shoreline on the Evergreen campus.</i>	6.2	6.8	0.6
<i>I feel responsible for taking care of the shoreline on the Evergreen campus.</i>	4.7	5.6	0.9
<i>Spending time on the shoreline on the Evergreen campus says a lot about my academic experience at Evergreen.</i>	4.7	5.6	0.9
<i>Being able to engage in outdoor activities and cultural practices is important to my connection to the shoreline on the Evergreen campus.</i>	5.5	6.4	0.9
<i>Of the shorelines that are nearest to me, I am mostly attached to the shoreline on the Evergreen campus.</i>	5.6	5.8	0.2
<i>I could be satisfied spending time on other shorelines.</i>	6.2	6.0	-0.2

Note. This table shows the number of people taking the before and after survey (n) and scores for the before and after workshop surveys for the sense of place scale (1-7) for the shoreline at Evergreen.

The open-ended question for the sense of place analysis asked the student respondents to describe what the shoreline at Evergreen means to them. The answers to this question were an intriguing part of the data collection, and the answers provided a deep insight into their sense of place. I compiled a word cloud for both the before and after survey, shown in Figure 6 and Figure 7. It is clear from both of these word clouds that the students had a sense of place before and after the workshop; however, some noticeable differences seem to rework the meaning of the shoreline to involve increased connection, stewardship, and accessibility.

Figure 6

Before Survey- Shoreline Meaning



Note. Before workshop survey: common words that depict the meaning of the shoreline at Evergreen from the student respondents.

Figure 7

After Survey – Shoreline Meaning



Note. After workshop survey: common words that depict the meaning of the shoreline at Evergreen from the student respondents.

An open-ended question asked the student respondents which of the engagement opportunities was their favorite during the workshop – Evergreen History Walk, Tasting Session, or Time in Contemplation. Of the three, Human Taste was the clear favorite. Furthermore, when asked what other engagement opportunities interest them on the shoreline, their responses included a myriad of creative activities to do outdoors like shoreline walks, restoration groups, and community meals. Finally, the students also expressed interest in exploring their sense of place in other parts of campus, such as the forest and the Organic Farm.

Discussion

The purpose of this case study was to extend the sense of place research in the Puget Sound region, to explore the sense of place on a local shoreline, and to understand how sense of place may influence ecosystem recovery. The research using the sense of place scale and the various open-ended questions about Evergreen's shoreline shows that the *Taste* student respondents have a sense of place for the shoreline and may have gained a stronger sense of place through participation in the workshop. Significantly, the students were attracted to the shoreline and showed interest in exploring the shoreline intentionally and more often.

The statement "being able to engage in outdoor activities and cultural practices are important to my connection to the shoreline on the Evergreen campus" on the sense of place scale showed a large change from before to after the workshop. As outlined by Trimbach et al., 2020, this demonstrates that having access to and knowledge of the local outdoor spaces is essential for having the opportunity to develop a sense of place. The workshop intended to offer an array of activities to account for the multidimensional framework of sense of place (recall Figure 3). The multidimensional place-based engagement opportunities included an interactive walk to the shoreline to discuss the land and history of Evergreen, a community meal to explore local and cultural flavors, and a modest amount of time to contemplate the shoreline uniquely. The *Taste* students may have developed a stronger sense of place at the Evergreen shoreline by participating in the workshop, which supports previous Puget Sound research suggesting that engaging in place-based activities fosters a sense of place (Poe et al., 2016).

Sense of place was particularly pertinent to the large change in the results for the agreement statement "I feel responsible for taking care of the shoreline on the Evergreen campus." This result demonstrates that sense of place created through a workshop that focuses on

ecosystem recovery may encourage a sense of belonging and, therefore, gain ambition to participate in stewardship or other activities that aim to improve ecosystem recovery throughout the workshop. In addition, previous sense of place research indicates that a strong sense of place encourages positive environmental behaviors (recall Figure 4, steps 8-10) (Kibler et al., 2018). Furthermore, these relationships support a positive feedback loop between restoration and sense of place within human-ecological systems that have the potential to initiate increased positive action for ecosystem recovery (Kibler et al., 2018). This finding is significant because it implies that access to place-based engagement opportunities could initiate or improve ecosystem recovery efforts. Especially, Evergreen students may be interested in participating in local shoreline restoration.

The results also showed a positive change in the responses to the statement "spending time on the shoreline on the Evergreen campus says a lot about my academic experience at Evergreen." This result seems incredibly profound because it suggests that through experiencing the campus's resources and developing a sense of place, the *Taste* student respondents recognize that Evergreen's shoreline is valuable to their academics. Academics involves more than just books and classroom learning; academics encompasses experiences with one's surroundings.

While the respondents may maintain a strong sense of place to the shoreline, sense of place is not uniform (Trimbach et al., 2020). For example, some students may value Evergreen's shoreline for learning and research, while others value the shoreline for rest and leisure, as illustrated by other responses. Such variability reflects their distinct, individual or shared connection to the shoreline. Regardless, focusing recovery efforts on places valued by the community facilitates a strong sense of place and is vital for gaining community support (Poe et al., 2016).

The shoreline had a different meaning for each respondent of the surveys. The results show that throughout the workshop, the words that the *Taste* students use to describe the shoreline meaning become more inclusive and understanding of ecosystem recovery. In the survey conducted before the workshops, responses by participants emphasized the land and other physical features and were related to Evergreen in general (beach, campus, academic enrichment, establishment, opportunities), as shown in the before word cloud (Figure 6). In the after workshop-word cloud, “place” stands out, surrounded by the words shoreline, Evergreen, and access (Figure 7). These results indicate a subtle change in perception from the place being The Evergreen State College to the place being a local ecosystem that is a part of the Evergreen community, which follows the feedback system between human and natural systems presented in the literature review (recall Figure 4, steps 8 and 9) (Kibler et al., 2018). Taking this idea one step further, creating a sense of place within the restoration framework can significantly benefit ecosystem recovery and human well-being by fostering connection and highlighting the intrinsic value of Puget Sound.

As illustrated by other responses, students were also intent on learning about the other outdoor spaces on the Evergreen campus and participating in community events. These results reveal that sense of place may distribute across landscapes. Therefore, access to the Evergreen campus's experiences and knowledge should be encouraged. To further foster sense of place, Evergreen could adopt several of the 50 individual strategies proposed by the Puget Sound Partnership:

- Increase the number and improve the accessibility of natural environments, including shorelines

- Enhance protections for areas crucial to cultural practices or relevant to the history of the area
- Provide or improve access opportunities for gathering local foods on public shorelines
- Include diverse participation in Puget Sound recovery planning boards
- Engage interdisciplinary scientists to work with communities to understand better social relationships, connectedness, and sense of place
- Augment understanding of the connections between mental health and a healthy natural environment (Puget Sound Partnership, 2015).

Overall, the sense of place and place meaning results illustrate that the *Taste* student respondents deeply connect to the Evergreen shoreline, as similarly found for Puget Sound residents to their shorelines (Poe et al., 2016, Trimbach et al., 2020). These results illustrate how localized, unique shoreline experiences can influence a group of people's sense of place and give insight into where shoreline management could add or improve access.

This research had some potential weaknesses that may affect the validity of the findings. For example, it is unclear which students took the before and after survey. In retrospect, comparing the before and after results could have led to stronger results had that information been known. Also, the sample size was small, making it difficult to make many significant relationships within the data. However, the results of this case study are significant to connecting the Evergreen community with accessible resources on campus.

Conclusion

The Evergreen State College campus includes a vast forest and trail system leading to the college's Organic Farm and Puget Sound beachfront that is accessible to Evergreen students and the greater community. Additionally, Evergreen remains committed to promoting Indigenous arts

and culture through education, cultural preservation, and creative expression. Furthermore, Dr. Sarah William has offered an undergraduate program, *Taste: What We Hunger For (Taste)*, that has welcomed workshops that aim “to gain a broader sense of how people make choices in their lives to create, consume, and enjoy particular sounds, foods, and elements of material culture” (Evergreen, 2022). These collaborative resources provided the foundation necessary for a well-rounded conversation about the past and current state of the Evergreen shoreline with a group of Evergreen students. The results of the case study show insight into sense of place and place meaning on Evergreen’s shoreline that can inform community inclusion and shoreline management.

The critical features of Puget Sound ecosystem recovery are not physical traits such as length or width or vegetation but rather how the ecosystem functions. Ensuring the health of estuaries is vital to the survival of the local environments and people. Throughout the sense of place workshop with the *Taste* students, the sense of place developed through place-based activities may have spread from Evergreen’s shoreline to other parts of the Evergreen campus. Furthermore, sense of place is unique to a person's individual or shared experiences, and it will stand out as bright as an Olympia oyster in mud. It is with great hope that sense of place deepened by the complexities of Puget Sound shorelines will similarly ripple across the Salish Sea, transcending expectations and boundaries to inspire healthy ecosystems and human well-being.

The analysis and integration of sense of place research are increasingly important because of the role of place-based activities in developing community support for ecosystem recovery and increased environmental stewardship. This more profound understanding of sense of place deserves recognition and inclusion in policy, monitoring and management. Environmental

challenges are increasingly significant as crucial coastal resources such as shellfish and salmon face cumulative impacts of habitat degradation. Future sense of place research could replicate this study at a different location along Puget Sound shorelines. Additionally, the research could compare people currently engaged with restoration and those who have yet to start.

Sense of place can cultivate a more engaged level of intimacy and reverence for the Salish Sea. People can connect with the ecosystem through education, subsistence, art, history, play, silence, touch, rest, care. Especially, through each other. Maybe over a cup of tea. Start with a discussion about a place's name. What is the significance of that name? The answer could be foundational.

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Appendix A



To: Emily LaPlante
CC: Kathleen Saul
From: Mike Crow, IRB Chair
Date: February 24, 2022
RE: IRB Request for Protocol Review
IRB Protocol #: 22-007-R2
Protocol Title: Sensing Foundations: Exploring Sense of Place on the Shoreline and Beyond

Thank you for your recent Institutional Review Board Request for Review of Protocol #22-007-R2 entitled "Sensing Foundations: Exploring Sense of Place on the Shoreline and Beyond." Your protocol has been approved as Human Subjects Research. We have reviewed this request and find that it meets the IRB's criteria for protection of human participants in accordance to the federal regulations 45 CFR 46. Your IRB approval end date is **February 24, 2023** and you are free to begin your research.

If this study continues unchanged past the IRB approval end date, you will need to submit a Request for Continuing Review. If there are changes to the research design or data that is collected, you will need to submit a Request for Review of Modification or Amendment to Approved Research form.

Best of luck with your study.

Appendix B

My name is Emily LaPlante and I am a student at The Evergreen State College working towards a Master of Environmental Studies degree. I am conducting research about sense of place at the shoreline on the Evergreen campus through a place-based workshop and survey. The purpose of this study is to understand how a place-based workshop may influence sense of place to local environments. Would you agree to facilitate my thesis research by participating in a workshop and answering corresponding survey questions? If you choose to participate in this workshop, I will ask you to take part in several engagement opportunity activities on the Evergreen campus and answer survey questions that reflect your personal connection to the local environment. The following terms apply: Consent to participate in this study will be obtained through the Google Forms survey as a first question. You may choose to discontinue participation at any point during this study. You may decline to answer any question on the survey. Your identity will be kept confidential, and I will not ask for your name or email for this research. Your decision to participate or not participate in this study will not be reflected in your course evaluations and will not have any effect on your course evaluation. I am happy to provide more details about the research. emily.laplante@evergreen.edu

Sense of Place Scale-

How much do you agree or disagree with the following statements related to the shoreline on the Evergreen campus (scale 1-7):

I am very attached to the shoreline on the Evergreen campus.

I am proud to be a part of the community that cares for and uses the shoreline on the Evergreen campus.

I feel responsible for taking care of the shoreline on the Evergreen campus.

Spending time on the shoreline on the Evergreen campus says a lot about my academic experience at Evergreen.

Being able to engage in outdoor activities and cultural practices is important to my connection to the shoreline on the Evergreen campus.

Of the shorelines that are nearest to me, I am mostly attached to the shoreline on the Evergreen campus.

I could be satisfied spending time on other shorelines.

Open-ended questions-

What does the shoreline on the Evergreen campus mean to you?

Which engagement opportunity activity was your favorite?

What other engagement opportunity activities would you recommend for future sense of place workshops on the Evergreen campus?

What other parts of the Evergreen campus are you interested in exploring through sense of place?

Please provide any feedback that you have about this workshop. Thank you for participating!

Appendix C

Image 1

A Walk Through the Forest



Note. The *Taste* students walked through the forest on their way to the shoreline, stopping every now and then to comment on the local flora. At the time, the oso berry (*Oemleria cerasiformis*) was lush.

Image 2

Shoreline Gathering



Note. The *Taste* students gathered on the shoreline for the workshop.

Image 3

Exploring Through Taste



Note. Many local foods were provided, along with hot tea, for the *Taste* students to try.

Image 4

Contemplation on the Shoreline



Note. The last few minutes of the workshop were quiet and peaceful.