



Evaluating Barriers & Motivators for Shoreline Armor

Prepared for: WA Department of Fish and Wildlife and WA State Department of Natural Resources

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Introduction

Project Background

The Puget Sound Marine & Nearshore Grant Program, co-led by Washington Departments of Fish and Wildlife and Natural Resources, funded this project with the goal of reducing the total amount of traditional “hard” armor along Puget Sound marine shorelines. This can be accomplished by a combination of reducing new armor and removing existing armor. Hard armor refers to structures placed on the upper beach and at the toe of bluffs typically to reduce erosion, and is referred to using a variety of terms in the Puget Sound region, including the terms bulkhead, seawall, revetment, and rockery. Armor has been associated with numerous negative impacts to the Puget Sound nearshore. The *Social Marketing Strategy to Reduce Puget Sound Shoreline Armoring* project describes how we can overcome barriers and motivate residential landowners to voluntarily choose alternatives to hard armor.

The project team has used social marketing principles to research and design a program that will help reduce the amount of hard armor along Puget Sound marine shorelines. It resulted in:

- A Sound-wide GIS database of residential marine shore properties, including audience segmentation based on shore characteristics, and prioritization based on high value shoreforms and habitats with documented ecological impacts from shore hardening
- Descriptions of priority segments in terms of size, demographics and additional parcel data
- Desired audience behaviors for each segment
- Prioritized list of barriers and motivations for each desired armoring behavior
- Social marketing strategies and interventions to encourage the desired behaviors
- Toolkit for stakeholders to use in implementing social marketing campaigns in Puget Sound
- Detailed evaluation plan and report that details all project findings

The goal for this project is to create a social marketing behavior change strategy designed to influence priority segments of residential shoreline landowners to make behavior changes related to shore armor in order to achieve grant program goals. The strategy focuses on realistic approaches that use research-based incentives to overcome the specific barriers to reducing shore armor among key target audience segments.

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Evaluating Barriers & Motivators

Approach

The team worked together with WDFW and DNR to identify a set of nine initial target audience segments of residential marine shore property owners, organized by the following marine shore parcel characteristics:

- Armor Status (does the parcel currently have hard armor?)
- Structure Status (does the parcel currently have a home on the property?)
- Erosion Potential (based on shoretype and wave energy considerations, does the parcel have no, low, moderate, or high erosion potential?)
- Behavior objective (preserve unarmored condition OR remove armor where not necessary)

After the nine segments were identified, the consultant team worked with the Grant Program to identify behavior options for each audience segment. The options were prioritized according to their feasibility for the parcels and potential to address the Grant Program's ultimate goal of reducing the amount of hard armor along Puget Sound residential marine shorelines. The eleven behavior options included:

1. Maintain native vegetation (trees, shrubs, groundcover, backshore)
2. Plant native vegetation (trees, shrubs, groundcover, backshore)
3. Reduce uncontrolled runoff and drainage destabilizing bluffs
4. Leave shore unarmored
5. Remove all hard armor
6. Remove a portion of hard armor
7. Replace armor with soft shore protection where necessary and feasible
8. Build new homes with a generous setback (further from shoreline than current regulations require)
9. Install soft shore protection on unarmored properties with homes where necessary and feasible
10. Move existing home further from the shoreline on unarmored properties
11. Obtain professional advice

The team took a 4-pronged approach to conduct qualitative and quantitative research to identify primary barriers and motivators for the nine target audience segments. Strategies included:

1. Property Owner Interviews

Futurewise identified and recruited a cross section of 13 shoreline landowners and scheduled one-on-one interviews to discuss behavior options associated with their shoretype, assess whether they have engaged in any of the desired behaviors, and gain insight about their primary motivators, barriers, and their perception of long term benefits/satisfaction with their choices. Participants were asked a standard set of questions with additional follow-up questions to add depth to some of the answers. The team interviewed property owners who had and those who had not made a shoreline modification decision, assessing factors that would lead them to choose hard armor or alternatives to hard armor, as well as

choose other shoreline behaviors. Full time residents, seasonal residents, in-state and out of state residents were included in the selection of interview participants.

2. Influencer Interviews

Futurewise identified, recruited and conducted Interviews with 11 people who have a role as a potential influencer to property owners when making shoreline modification decisions. These interviewees included realtors, contractors, county permitting/outreach staff and outreach workers and representatives from conservation district and NGO organizations. An effort was made to include interviews from all areas of Puget Sound. The interviews explored the influencer's role in the landowner's process of deciding whether to engage in desired behaviors, their perceptions of the barriers and motivations that property owners have surrounding target behaviors, and their ideas of potential incentives.

3. Literature Review

Colehour + Cohen reviewed a broad sampling of current and past research, case studies, public opinion polling and reports related to residential shoreline armor behavior. In evaluating the materials, C+C tracked references to the target behaviors identified for this project, and identified references and mentions of key barriers and motivators to undertaking the behaviors. Insights from the literature review were used to inform questions for the quantitative Survey of Shoreline Property Owners conducted by Applied Research Northwest (ARN).

4. Survey of Shoreline Property Owners

Team member ARN used initial data from the Soundwide Database developed by CGS to identify a representative sampling of the nine key property owner segments, and worked with the consultant team, WDFW and DNR to develop an online survey for residential shoreline landowners in Puget Sound. The survey included questions about people's property, their concerns, their experiences with managing the shoreline, as well as their awareness of behaviors and choices that could impact the health of their shoreline's habitat. For each desired behavior, the survey asked respondents to indicate aspects of the practice that were appealing or *motivated* them to take interest, what *incentives* might make them more likely to engage, as well as *barriers* that make them less willing to engage in the behavior. Response to the survey was strong, with 1,164 responses representing a response rate of 30 percent.

Barriers & Motivators Prioritization

The team analyzed and prioritized the primary barriers and motivators that emerged for each target behavior addressed in the survey, and looked for consistencies across behaviors and target audience segments. A few barriers and motivators emerged as common to a broad selection of target behaviors. These primary barriers and motivators also correlate with findings in the qualitative research (interviews and literature review). The team weighted each barrier and motivator based on the percentage of respondents who indicated that it would be a top issue for them, multiplied by the number of target audience segments that the barrier or motivator was applicable to, giving an indication of potential target audience size for outreach programs. This calculation resulted in a “Priority index” number for each barrier and motivator listed in the survey.

The full breakdown of barriers and motivators by priority and by behavior can be found in the document titled “Task 4E – Barriers and Motivators Prioritization.”

Top Barriers to engaging in recommended shoreline behaviors:

Barrier	Priority Index
Expense	360
Concern With erosion	285
Regulatory & permitting process	148
Don’t know enough	144
Don’t know who to talk to	99
Time	77
Don’t see the value	77

Top Motivators to engaging in recommended shoreline behaviors (a mix of benefits and incentives):

Motivator	Priority Index
Property protected or enhanced	450
Tax break	284
Healthy habit for fish and wildlife	187

Slope more stable	159
Natural look of it	99
Knowing where to get expert advice	77
If there were substantial changes in erosion of shore or bluff	77
Streamline permitting	115
Knowing more on how	108
Loan or grant or reduced fees	100