



# Naturalizing Shorelines in the Salish Sea: Paths to Restoration

Lisa Kaufman, Director of Programs  
Northwest Straits Foundation

DFO  
June 20, 2024

 Northwest  
Straits  
FOUNDATION  
*partners in marine conservation*





*partners in marine conservation*

Mission  
Statement

***Our mission is to protect and restore the health of Northwest Straits' marine resources by promoting and implementing science-based restoration and stewardship, enhancing collaboration, and attracting resources for the work of the Northwest Straits Initiative.***



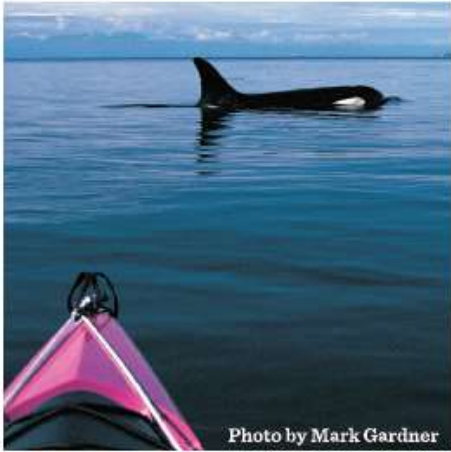


Photo by Mark Gardner



Photo by Katie Fleming



Photo by Andrew Reding



Photo by Mark Gardner

**ORCA**

*need*

**SALMON**

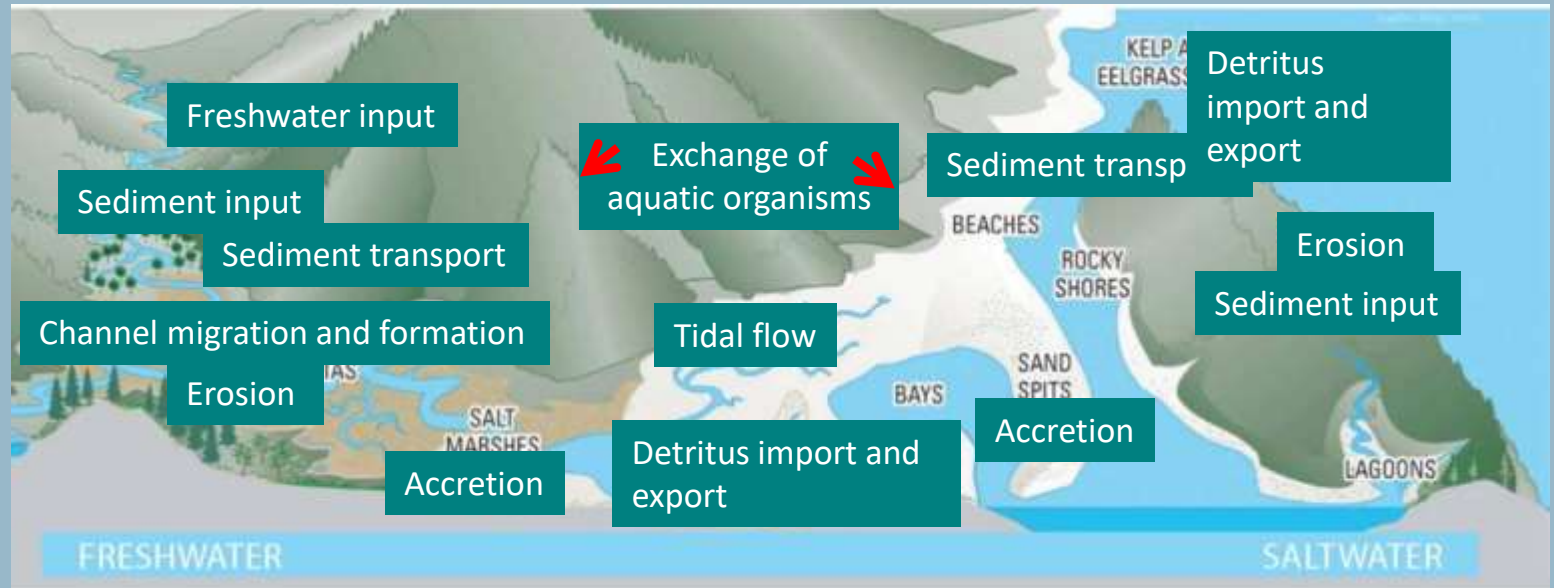
*need*

**FORAGE  
FISH**

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**HEALTHY  
SHORELINES**

# Coastal Processes of the Salish Sea





## Coastal Bluff Erosion: Natural Drivers

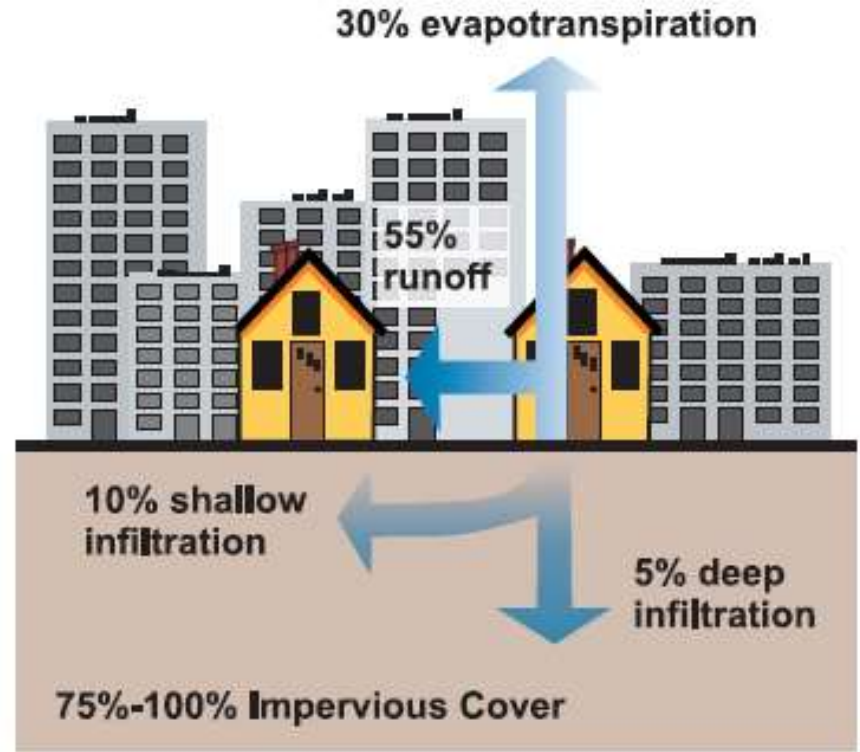
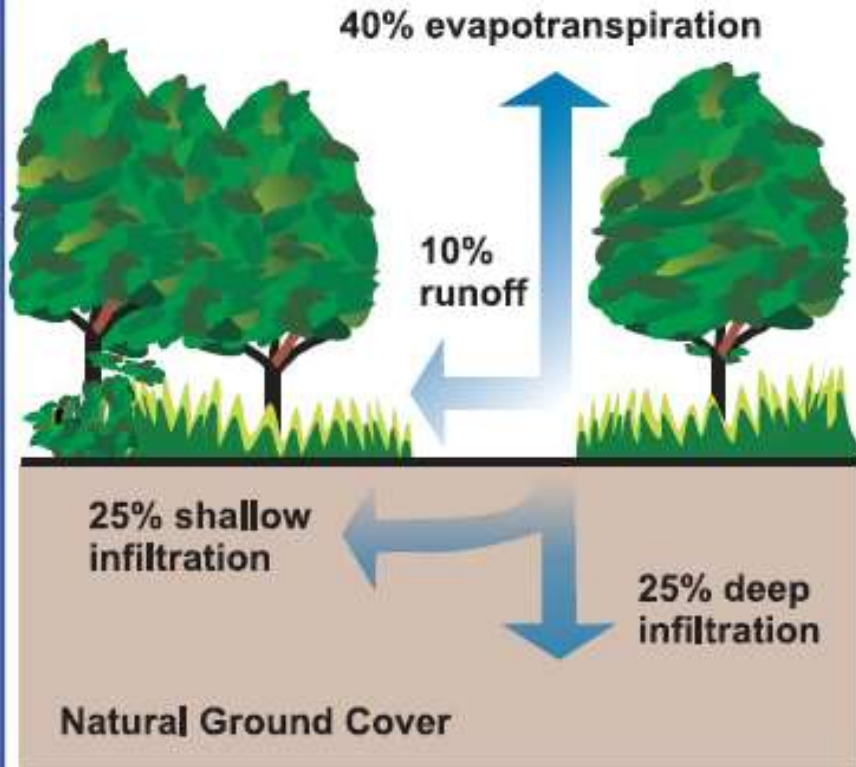
- Marine induced erosion (waves)
- Sub-aerial erosion (upland geology, hydrology, topography)



## Coastal Bluff Erosion: Human Induced Drivers

- Vegetation removal/poor veg management
- Poor drainage management
- Increased surface water
- Weighted slopes

# DEVELOPMENT AND RUNOFF



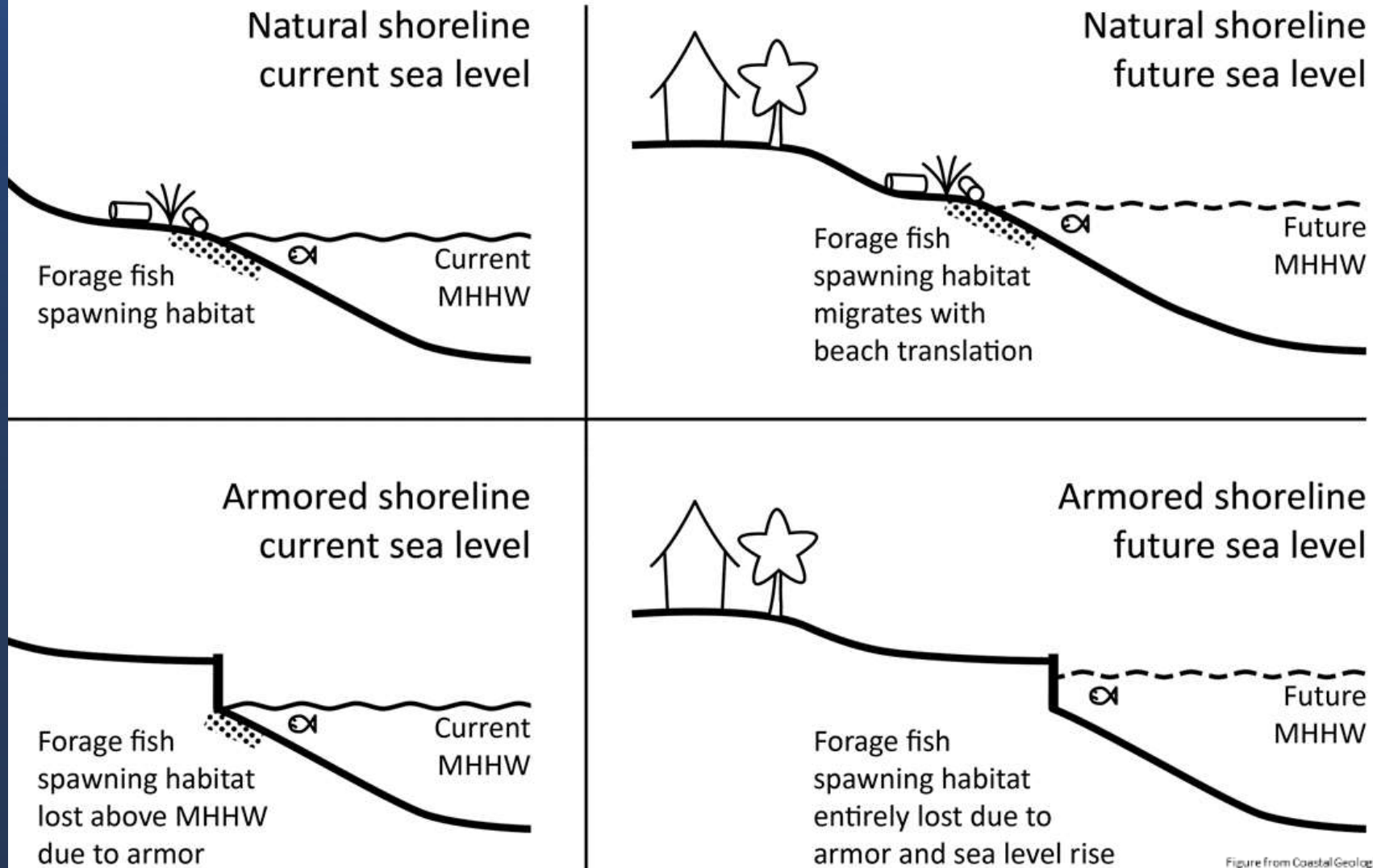




SHORELINE  
ARMOR  
IMPACTS

- ❖ Burial of beach and forage fish spawning habitat
- ❖ Loss of backshore berm
- ❖ Increase wave reflection
- ❖ Beach scour/erosion
- ❖ Loss of fines (sands)
- ❖ Impacts to littoral drift
- ❖ Reduced sediment input
- ❖ Proliferation and expansion
- ❖ Habitats simplified/lost

# The Coastal Squeeze





# What is Shore Friendly?



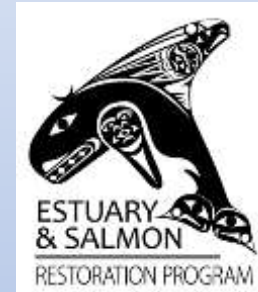
- Regional social marketing program
- Remove or reduce barriers to behavior change
- Encourage natural shorelines or alternatives to hard armor
- Non-regulatory
- Current focus is on private properties



[www.shorefriendly.org](http://www.shorefriendly.org)



Washington Department of  
**FISH and WILDLIFE**

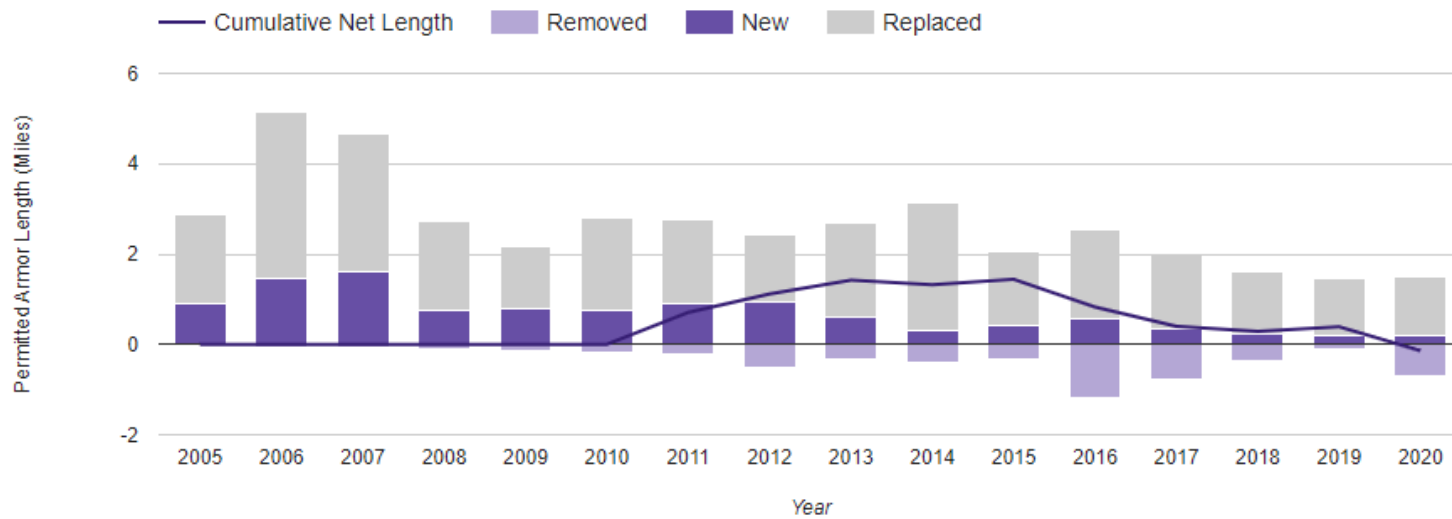


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## VITAL SIGN INDICATOR CHART

Net change in permitted shoreline armor  
By: Permitting Type

Options ▾



The annual length (shoreline miles) of new and removed shoreline armor permitted under the Washington Department of Fish and Wildlife Hydraulic Project Approval. The cumulative net change of shoreline armor is the sum total of the difference (new minus removed) between 2011 and 2020. Replacement of existing shoreline armor is the most common armor project but does not change the cumulative net length in permitted armor.

# BARRIERS TO CHANGE

Social/Cultural

Timing

Lack of  
Knowledge

Cost

Psychological

Fear of SLR

Fear of  
decreased  
property values





**OBJECTIVES**

- **Reduce barriers for landowners to opt for natural solutions**
- **Alleviate erosion concerns**
- **Provide technical assistance**
- **Create partnerships with local planners to direct landowners to the Shore Friendly program**



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**Shore Friendly Living Workshops**

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**Shore Friendly Living Video Series**

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**Your Marine Waterfront Booklet /  
Outreach Materials**

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**Community Beach Walks**

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**Free site visits**

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**Free Engineering Design and  
Permitting Assistance**

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**Cost-Share & Grant Opportunities  
for Implementation**



# CONCERNED ABOUT YOUR SHORELINE?

Bulkheads are not your only solution.

## SHORE FRIENDLY CAN HELP YOU PROTECT YOUR PROPERTY THROUGH NATURAL METHODS.

**Shore Friendly Living workshops** with coastal professionals discuss strategies to protect your shoreline home and cover topics such as coastal processes and drivers of erosion, vegetation and drainage management, impacts of bulkheads and more.

**Free site visits** with coastal professionals address vegetation, flooding, drainage, and erosion. Qualified landowners can also access cost-share assistance for design, permitting, and implementation of solutions following the site visit.

**Beach walks** provide educational opportunities for you and your neighbors to work towards building community through shoreline stewardship.

**Permitting** is complex, time consuming, and expensive.

The Shore Friendly program can coordinate and lead the process for local, state, and federal permits for restoration and armor removal projects.

New rules at all levels of permitting make it easier and less expensive to permit armor removal and shoreline restoration projects than bulkhead and hard armor installation and repairs.

**Removing bulkheads** increases spawning habitat for forage fish which feed salmon, resident Orca, and marine birds.

- Shore Friendly offers cost-share options and the potential for project management assistance and grant funding for larger projects.
- Working together with neighbors to restore larger areas of the shoreline increases the benefits of removal for habitats and your property.



**Engineering design and planning assistance** is available for:

- Armor removal/replacement with natural solutions.
- Developing native planting plans specific to your property and needs.
- Identifying drainage issues that can potentially increase erosion rates and develop strategies to mitigate the problem.
- Develop a plan to increase setbacks between your structures and the shoreline or bluff crest to decrease risk of flooding or landslide.

**Effective vegetation management** provides erosion protection, slope stabilization, and stormwater management. Shore Friendly can assist landowners with:

- Native planting plans
- Purchase of plants and planting materials.
- Assistance with installation of plants.
- Cost-share options for removal of invasives.

CONTACT YOUR NORTHWEST STRAITS  
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SHORE FRIENDLY LIVING WORKSHOPS

# Shore Friendly Living: Coastal Processes

Northwest Straits Foundation Nearshore Restoration Program



Lisa Kaufman, Nearshore Program Manager – Northwest Straits Foundation



# Shore Friendly Living: Vegetation Management for Shoreline Landowners

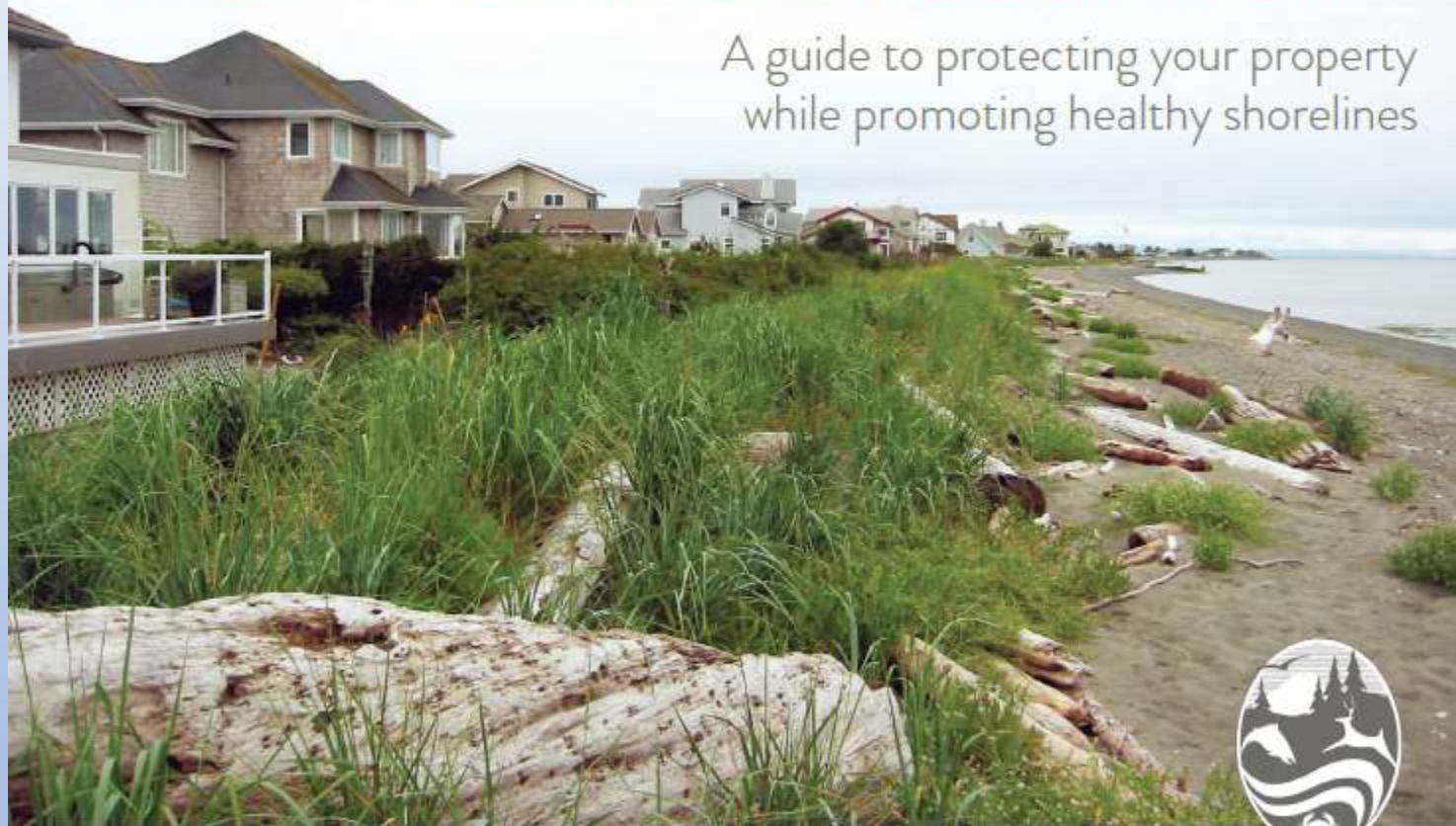
Northwest Straits Foundation  
Nearshore Restoration Program

Lisa Kaufman, Director of Programs  
Northwest Straits Foundation



# Your Marine Waterfront

A guide to protecting your property  
while promoting healthy shorelines



Enjoy the beach. Protect your home. Improve shoreline habitat.

Washington Department of  
**FISH and WILDLIFE**

SHORE FRIENDLY LIVING WORKSHOPS

# Shore Friendly Living: Coastal Processes

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# Shore Friendly Living: Vegetation Management for Shoreline Landowners

Northwest Straits Foundation  
Nearshore Restoration Program

Lisa Kaufman, Director of Programs  
Northwest Straits Foundation





Shore  
Friendly  
Living

Episode #1:  
"Coastal Beaches  
& Bluffs"



Episode #3

"Restoring the Connection  
between Land and Water"



Episode #2  
"Managing Shoreline Erosion:  
Bulkheads or Natural Solutions"



Shore Friendly  
Living  
Episode 4:  
"Native Plants:  
Holding the Shoreline Together"

SITE VISITS &  
COMMUNITY  
BEACH  
WALKS















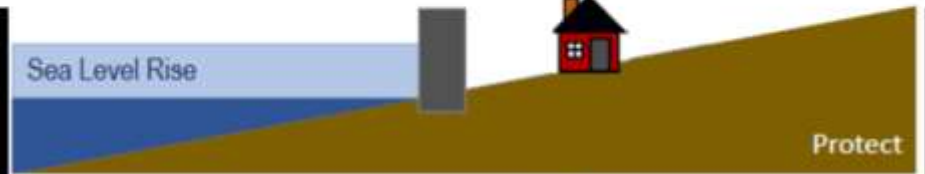
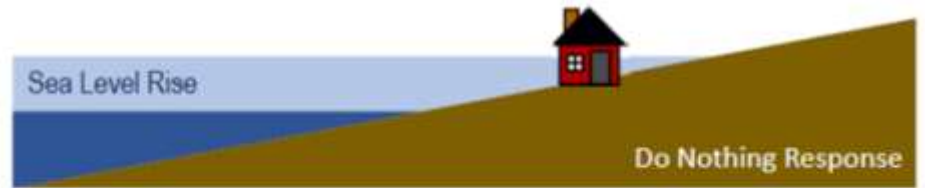






Hugh Shipman

# SOLUTIONS









NICKEL BROS

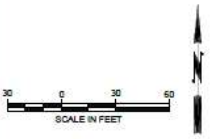


Artistic renderings help landowners envision what a restored shoreline can look like.





**NOTES:**  
 1. EXISTING DRAINAGE SWALE/RETAIN WALL SHOULD BE CONSIDERED AS A BARRIER FOR LAND USE (E.T.C.)



STATE: WA  
 COUNTY: SKAGIT  
 CITY:  
 LOCATION: FIDALGO ISLAND  
 WATERBODY: DECEPTION PASS

LAT/LONG: 48° 25' 18.02" N / 122° 36' 41.62" W  
 SECTION/TWP/RNG: S19 T32N R62E  
 VERTICAL DATUM: NAVD83



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 LISA KAUFMAN

**RODIN SHORELINE RESTORATION  
 BULKHEAD REMOVAL**

SITE MAP

<b>FIGURE</b>  2	REFERENCE: XXXX
	DATE: SEPTEMBER, 2023
	SHEET: 2 OF 6

C:\Users\lisa.kaufman\OneDrive\Documents\Rodin\Rodin Shoreline Restoration\Rodin Shoreline Restoration\_Site Map.dwg

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	PERMIT/PROCESS	AGENCY
✓	SEPA	Shoreline jurisdiction (County, City)
?	NEPA	Federal agency depending on funding
✓	Shoreline Substantial Development Permit Exemption	Shoreline jurisdiction (County, City)
✓	Clearing & Grading	County/City
?	Discharge Permit (Section 404)	USACE
?	Section 10	USACE
✓	Nationwide Permit	USACE
✓	ESA Compliance/Concurrence	NMFS/NOAA/USFWS
✓	Hydraulic Permit Approval	WDFW
✓	Section 401 Water Quality	Dept of Ecology
?	CZM Certification	Dept of Ecology
?	NPDES Construction Stormwater General Permit	Dept of Ecology
?	Aquatic Use Authorization or Right of Entry	Dept of Natural Resources
✓	EO 05-05 Cultural & Historical Review	DAHP
✓	Section 106 Cultural & Historical Review	Federal lead
✓	Biological assessment for FEMA/ESA	County/City/USACE

Renderings - Planting Plans





Sunlight Shores - Clinton



## Seahorse Siesta - Langley





Similk Bay – Skagit County

Clark's Point  
Chuckanut Bay,  
Bellingham



# Where do we go from here?



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