Sound Shorelines: The What, Why, & How of Waterfront Management





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... and PLANTS



Part I: the "Big Picture"

- A need for change in how we manage our waterfront property and why
- Getting it done- Part II

What is at risk?



Forest cover loss:



During the past 150 years, Puget Sound lost at least 2/3 of its remaining old growth forests . . .

Puget Sound Partnership Vital Signs, 2016



Cumulative Impacts of Deforestation?

Continued development

replaces forest with homes, roads, and impervious surfaces



Impacts of Development



- Mature forest canopy
- High infiltration rates
- Wildlife habitat
- Ground water recharge
- Stormwater runoff volumes small
- Water quality protected

- Permanent forest loss
- Impervious surfaces increase
- Loss of wildlife habitat/ decline of species
- Hydrologic changes above and below land surface
- Stormwater runoff volumes, flows increase
- Pollution impairs water quality



[&]quot;Soils for Salmon" online

Why Does My Shoreline Matter?

- ✓ Wildlife aquatic + terrestrial
- ✓ Native plants and their habitats
- ✓ Puget sound processes –
 ✓ natural bluff erosion
 ✓ sediment availability
 ✓ hydrologic processes



✓ Property value, costs, and peace of mind



✓ Preserving a "sense of place"





What does it take for a "sense of place" to disappear?

✓ The next generation of waterfront residents



Our challenge: accept the gift and the responsibility of "living on the edge"

The "Big Picture" - Benefits

"Sound" shoreline management

- Peace of mind
- Giving back
- Property value & costs
- Contributing to a sense of place



Our challenge:

Finding "the right way" to create and maintain:

✓Ecologically functional landscapes

✓ Beautiful & Useful Landscapes

How? Plants on the Shoreline

Thoughtful vegetation & drainage management are two of the easiest - and most effective – ways for homeowners to help their properties, and Puget Sound.



Role of Vegetation on the Shoreline



1. Adopt a Puget Sound Aesthetic

MESSY = COMPLEXITY = LIFE





A Place of Remarkable Beauty MESSY = COMPLEXITY = LIFE





MESSY = COMPLEXITY = LIFE









MESSY = COMPLEXITY = LIFE

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2. Treat plants like the INFRASTRUCTURE they are: stability, stormwater, habitat



Source: The Importance of Root Strength and Deterioration Rates Upon Edaphic Stability in Steepland Forests By O'Loughlin and Ziemer

Capture the Rain



- ✓ Rain is captured on leaf surfaces at different heights.
- ✓ Leaves transpire and water evaporates away.
- ✓ Rain slows as it drips through vegetation to the ground, allowing the soil time to absorb it.
- ✓ Plant roots suck up gallons of water from the soil and make room for more water.
- ✓ "A PNW conifer intercepts and transpires as much as 30% of the rain that falls on it each year." (Herrera Environmental Consultants, 2008)

Things Change. Shoreline vegetation does help



Avoid topped trees; yard waste; storage on edge



3. Preserve Existing Native Vegetation

- 1. Save time (low maintenance once established)
- **2.** Save money (few inputs, bareroot = inexpensive)
- 3. Protect your property (erosion, stormwater, weeds)
- 4. Help the neighbors (repeat above)
- 5. Protect our local economy (water quality, recreation)
- 6. Conserve natural resources for your children . . .

and their children...

Adopt a new view About views

Trees and views are compatible.

• Work with skilled certified arborists

The cost of maintenance pruning = infrastructure maintenance



Native vegetation (& stability) lost for a view.....



Limbing Up





Maintain View Corridors







5. Add more vegetation. Reconsider lawn.





How much do you love to mow? [scale]

What happens to the stormwater management, site stability, and habitat services that were lost?



Lawn to the edge?

1 11 hits



Lines of defense

Image: Washington State Coastal Atlas Map

6. Avoid unnecessary interruptions to processes and habitat



7. Shorelines are dynamic spaces. Change is constant



Recognize shorelines as dynamic settings. Avoid unnecessary stress





Fine Gardening

Magazine

8. Location matters . . .

Bluff top irrigation/high intensity gardens are risky



Reduce Use Of Herbicides & Fertilizers









a lot of it ends up in Puget Sound

9. Landscape is infrastructure

- Vegetative cover rich, layered
- Stormwater management
- Surface water runoff minimal
- Mechanical stabilization of slopes
- Biodiversity supported
- Shoreline natural erosion rates,
- Sediment accretes and moves on
- Water quality protected



10. Celebrate, honor, and respect our region



HOOD CANAL, DABOB & QUILCENE BAYS

ED BOOK PHOTO