



How Plants Help Protect Your Marine Waterfront

Learn how shoreline trees and shrubs offer valuable property protection to homeowners.

Plants and shrubs play a critical role on marine shorelines. When waterfront homeowners preserve or enhance shoreline experience a wide range of benefits including erosion protection, slope stabilization assistance, and stormwater management services. Maintaining mature, diverse trees and shrubs is an effective and cheap strategy for homeowners to reduce the risk of problems with slope stability, drainage, or accelerated bank erosion.

5 THINGS TREES AND SHRUBS DO BETTER AND CHEAPER THAN ALMOST ANYTHING ELSE

1. Maintain slope stability by managing water and stabilizing surface sediments.

Trees and shrubs have dense, interwoven root systems that provide mechanical soil reinforcement. They use and intercept rain during storms.

2. Provide free “natural bulkhead” protection The presence of thick vegetation and roots next to the beach significantly decreases the risks associated with wave-based erosion.



3. Manage rain and shallow groundwater.

Plants intercept and use hundreds of gallons of water. This reduces the volume of water available to compromise slope stability or trigger landslides.

4. Beautify properties and preserve a “sense of place.” The Puget Sound’s unique beauty relates to its plants, light, and weather. Replacing native vegetation with large lawns creates properties that could be “anyplace” USA.

5. Offer food, shelter, and space for wildlife.

Native trees and shrubs support the food web and wildlife sharing our beautiful shorelines, from salmon and Orca whales to hummingbirds and chickadees.



Trees and shrubs offer natural bank protection along marine shorelines. Views of the water are maintained with pruning.



MANAGE VEGETATION TO REDUCE RISK

Natural coastal processes change the shoreline over time. Combined with excessive land clearing or poor development practices, homeowners can unintentionally contribute to instability, erosion, and other serious issues. Preser must be balanced with land use goals and safety, but smart practices help you do both.

IF YOUR PROPERTY IS MOSTLY CLEARED:

- 1. Plant! Plant diverse trees and shrubs** with deep root systems, not just groundcovers. Include a lot of native species. *Avoid invasive plants like ivy, holly, English laurel, cotoneaster, bamboo, & butterfly bushes*
- 2. Plant to establish multi-level vegetation:** use shrubs and groundcovers below an upper canopy of trees.
- 3. Plant in “lines of defense.”** A very simple shoreline preservation strategy is to plant trees. Plant the trees in successive lines as you move inland away from the shoreline. Group the same trees species together to create small communities that will support one another. How does this help? If a tree on the bluff’s edge eventually falls or dies, there will already be mature trees growing nearby to continue protecting your property.
- 4. Reduce lawn and convert unused areas to layered, dense plantings** that will recreate the services of the forest that was removed.
- 5. If starting from scratch, reduce future view maintenance by planting strategically.** Identify the best view corridor(s) and plant trees at the outside edges, with low-growing shrubs between them to easily preseve views.
- 6. Be patient – it takes time** for new plants to establish and provide the many infrastructure benefits that were lost due to clearing. Keep planting and know that your hard work will pay off in the future.
- 7. Keep planting- then sit back and enjoy!**

IF YOU HAVE A FORESTED PROPERTY:

- 1. Keep mature trees and deep-rooted shrubs.** Treat plants as critical “free infrastructure” and leave as many trees on the shoreline and upland as possible while meeting other goals.
- 2. Remove trees thoughtfully.** Remove danger trees that threaten a structure with help from a professional arborist. Remember that removing trees also removes the services they provide., so proceed with care and consider replanting.
- 3. Avoid topping trees to create views.** Topped trees cope by reducing root mass. They are less helpful at maintaining slope stability and are more vulnerable to disease and weak branches.
- 4. Create “view corridors” of the water.** To maintain gorgeous vistas, work with a skilled arborist to prune views through existing trees.
- 5. Avoid creating suburbia on the shoreline.** Shrink lawn and pavement to what’s necessary. Replant the rest with diverse trees and shrubs.
- 6. Avoid the mistake of “lawn to the edge.”** Views created by extensive clearing and lawn can contrinute to unintended slope erosion, drainage challenges, and costly fixes. Keep a wide band of diverse plants growing on the edge of slopes, bluffs, and the shoreline.



Image credit: Washington State Coastal Atlas Map online, WA Department of Ecology



PUT PLANTS TO WORK FOR YOU

AVOID THIS COSTLY MISTAKE!



ABOVE: A common mistake with serious consequences for Puget Sound shorelines. Clearing all trees and shrubs for views can add to slope instability or even landslides. Installing lawn to the edge of the water does little to protect your property.

BELOW: Keep your slope and your views by working with a good arborist to prune view corridors through the trees (top right). A lawn, dense shrubs and trees, and an amazing view of the water are all compatible features of a waterfront home.



It's never too late to plant more shrubs and trees. Be strategic and plant the taller plants at the edges of your main view corridors. Don't depend on groundcovers - they have shallow roots just like grass, so they won't protect your property.





NATIVE PLANTS TO CONSIDER FOR THE MARINE SHORELINE & UPLAND

SHRUBS FOR VIEW CORRIDORS

These shrubs have good root systems and grow well on the shoreline. If necessary, they can be pruned every few years to keep them ~ 3-4' tall. The plants below are just a starting point; others will also do well. Research the plants to select the best fit for your goals.

- **Snowberry** (*Symphoricarpos albus*)
- **Salal** (*Gaultheria shallon*) - part/full shade
- **Bald-hip rose** (*Rosa gymnocarpa*) - part/full shade
- **Evergreen huckleberry** (*Vaccinium ovatum*) - part/full shade
- **Red-flowering currant** (*Ribes sanguineum*)
- **Tall Oregon grape** (*Mahonia aquifolium*)
- **Low Oregon grape** (*M. nervosa*) - part/full shade
- **Sword fern** (*Polystichum munitum*) - part/full shade

LARGE SHRUBS

These shrubs will grow larger and are best for planting at the edges of view corridors or further down slopes where height won't be a concern.

- **Oceanspray** (*Holodiscus discolor*)
- **Mock orange** (*Philadelphus lewisii*)
- **Thimbleberry** (*Rubus parviflorus*) - spreads; moist areas
- **Salmonberry** (*Rubus spectabilis*) - wet areas, shade
- **Pacific wax-myrtle** (*Morella (Myrica) californica*)
- **Pacific rhododendron** (*R. macrophyllum*)
- **Mock orange** (*Philadelphus lewisii*)

LARGE TREES: WHERE THERE IS SPACE

Large trees are the "work horses" of the shoreline and provide tremendous benefits, but they need room to grow. They should be located at a safe set back from a home* but thrive on the waterfront.

- **Grand fir** (*Abies grandis*)
- **Big-leaf maple** (*Acer macrophyllum*)
- **Sitka spruce** (*Picea sitchensis*)
- **Shore pine** (*Pinus contorta*)
- **Douglas-fir** (*Pseudotsuga menziesii*)
- **Pacific madrone** (*Arbutus menziesii*) - very hard to establish
- **Western red cedar** (*Thuja plicata*) - part/full shade
- **Western hemlock** (*Tsuga heterophylla*) - part/full shade
- **Garry Oak** (*Quercus garryana*)

* Smaller non-native trees may work best if space is very limited. Emphasize evergreens that retain their canopy in winter.

SMALL TREES/LARGE SHRUBS

- **Serviceberry** (*Amelanchier alnifolia*)
- **Oceanspray** (*Holodiscus discolor*)
- **Indian plum** (*Oemleria cerasiformis*) - part shade
- **Beaked hazelnut** (*Corylus cornuta*) - forms thickets
- **Vine Maple** (*Acer circinatum*) - likes some shade
- **Pacific Crabapple** (*Malus fusca*)
- **Choke cherry** (*Prunus virginiana*)
- **Cascara** (*Rhamnus purshiana*)
- **Willows** (*Salix sp.*) - Pacific, scouler's, hooker's and sitka - prefer wet soils. *Salix hookeriana* - best choice near saltwater

LEGAL DISCLAIMER: THIS TECHNICAL ASSISTANCE MEMO (TAM) SHOULD NOT BE USED AS A SUBSTITUTE FOR CODES AND REGULATIONS. THE APPLICANT IS RESPONSIBLE FOR COMPLIANCE WITH CODES AND REQUIREMENTS, WHETHER OR NOT DESCRIBED IN THIS TAM. DO NOT HESITATE TO SEEK ADDITIONAL PROFESSIONAL GUIDANCE.

This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement PC-01J223-01 Contract #16-05251 through the Washington Department of Fish and Wildlife. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency or the Washington Department of Fish and Wildlife, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.