Conducting a Comprehensive SMP Update
"Hot Topics: Buffers and Setbacks"

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JEFFERSON COUNTY WASHINGTON

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Shoreline Buffers

Presentation objectives

- Explain basic buffer and setback concepts
- Describe issues that make buffers a hot topic
- Provide guidance on how concerns can be addressed
- Present sample code language and examples of buffer standards

What’s a buffer?

- Something that lessens or absorbs the shock of an impact
- Something that protects by intercepting or moderating adverse pressures or influences
- Something that separates potentially antagonistic entities, or serves to lessen danger or conflict

Buffers vs. setbacks

Buffers:

- Tool for protecting ecological processes & functions
- Typically must be well vegetated
- Not a ‘no touch’ zone – water-dependent and water-related uses are allowed

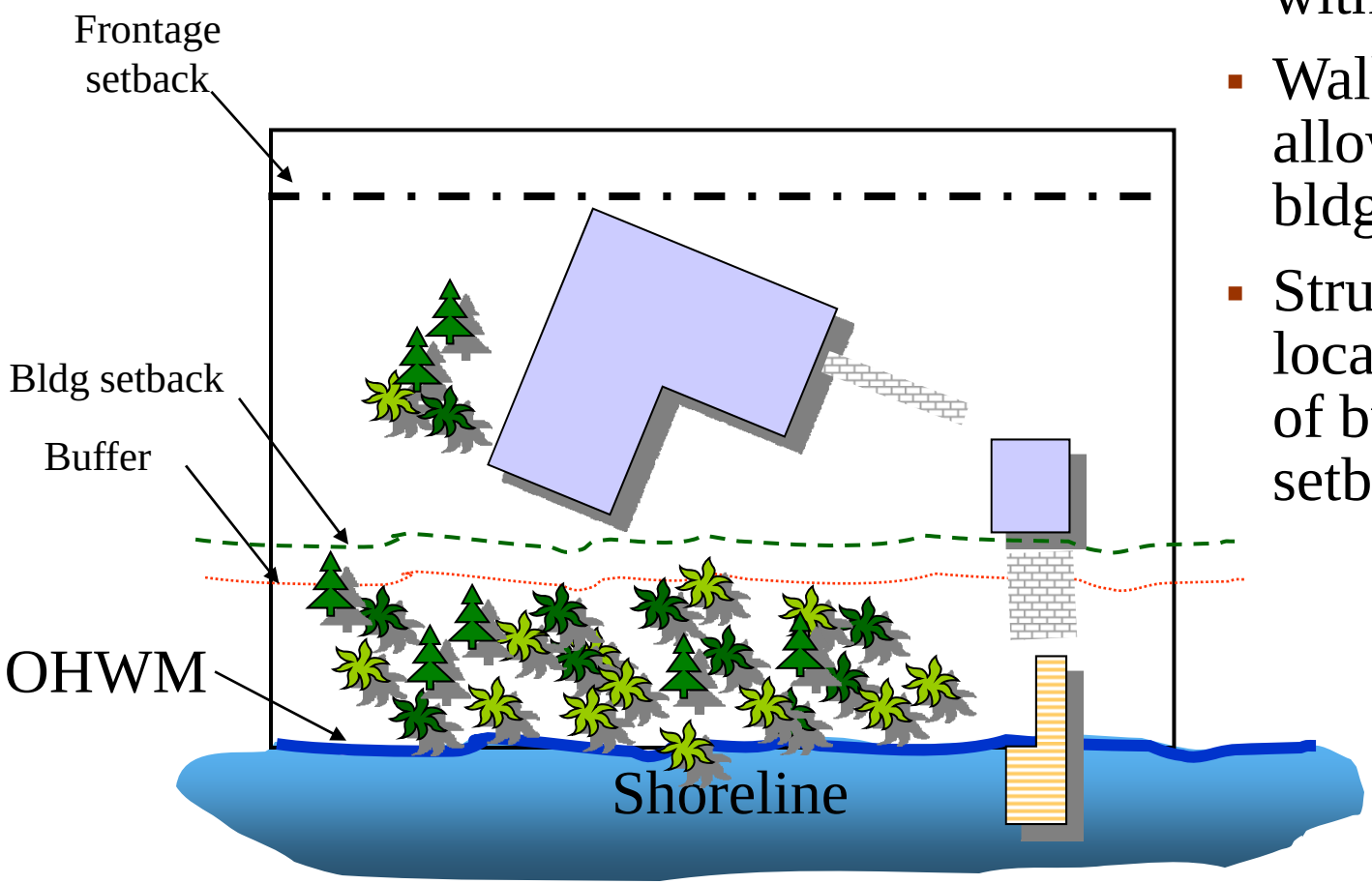
Setbacks:

- Distance between a structure and an adjacent feature
- Tool for preventing view impacts, protecting people and property
- Generally do not need to be well vegetated
- Not a ‘no touch’ zone – usually allow roof overhangs, walkways, etc

Sample code language (Jefferson Co)

Unless otherwise specified in this Program, a buffer zone shall be established landward of all shorelines to protect and maintain ecological functions and processes and to minimize risks to human health and safety. All buffers shall be maintained in a predominantly natural, undisturbed, undeveloped, and vegetated condition. Buffers shall not extend across lawfully established paved roads or hardened surfaces to include areas which are functionally isolated from the shoreline or critical area.

Example Parcel



- Well-vegetated buffer
- Dock allowed within the buffer
- Walkway allowed within bldg setback
- Structures located landward of buffer plus setback

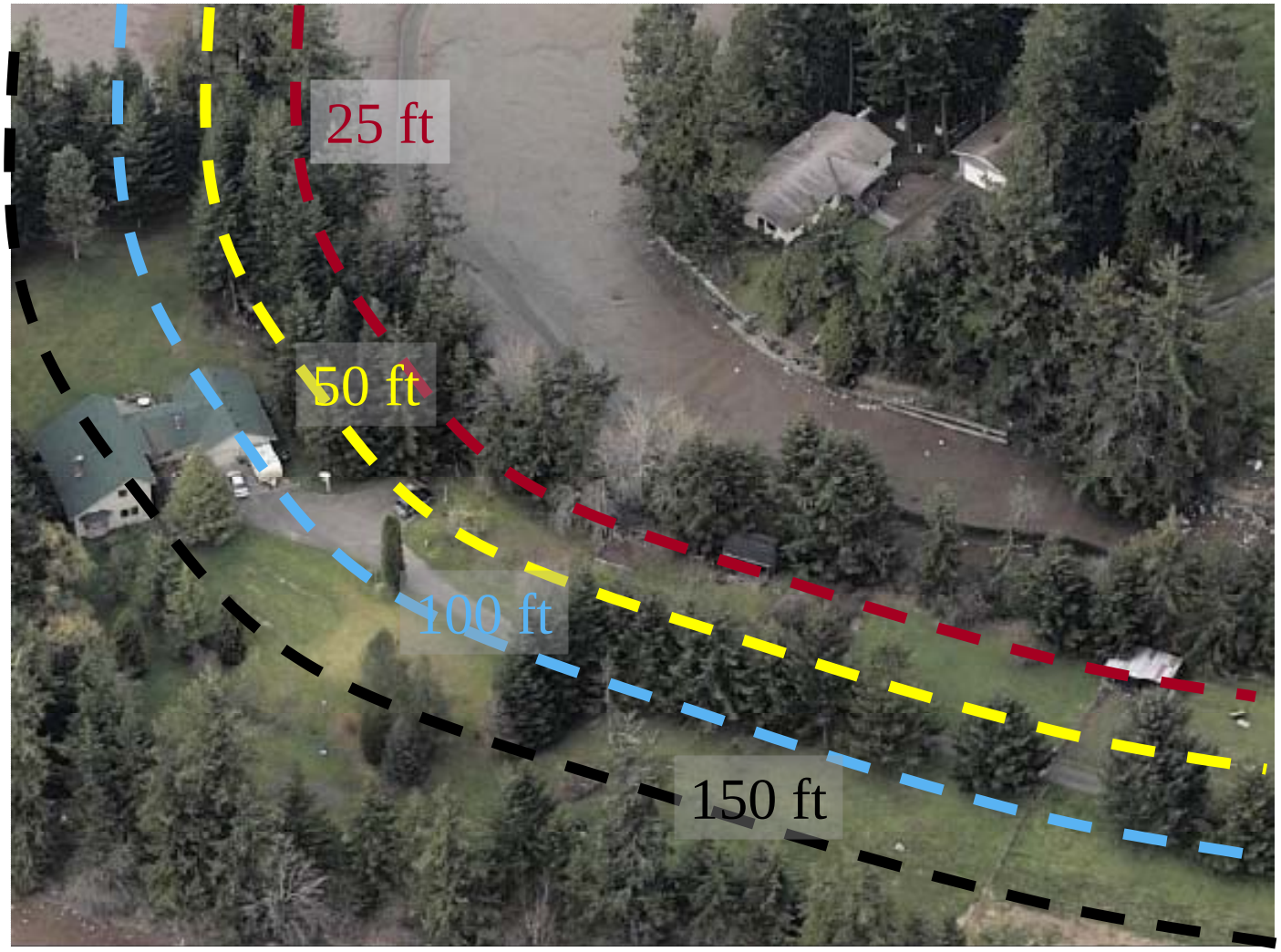
What makes buffers a ‘Hot Topic’?

- Valid concerns *and* misperceptions about restrictions on use of buffers
- Misrepresentations of “the Science”
- Uncertainty about how wide buffers should be (how much protection is enough?)
- Fears about nonconformity
- Potential conflicts with public access and water-dependent uses

Value of ‘smart’ buffer standards

- Essential tool for protecting shoreline ecology and meeting ‘no net loss’
- Can minimize impacts of new development on shoreline environments
- Can protect properties/structures from harm (erosion, storms, floods, etc)
- Can create nonconforming structures, *or not*

How wide is wide enough?



Determining buffer width

- Consult pertinent scientific literature (e.g., http://wdfw.wa.gov/hab/ahg/riparian_protection.htm). Assess applicability of science findings to local conditions
- Different functions associated with lakes, streams and marine waters may dictate different buffers
- Issues such as channel migration, flooding, slope stability may be critical considerations
- Quality is as important as width –vegetation, slopes, soils are also major determinants of buffer function

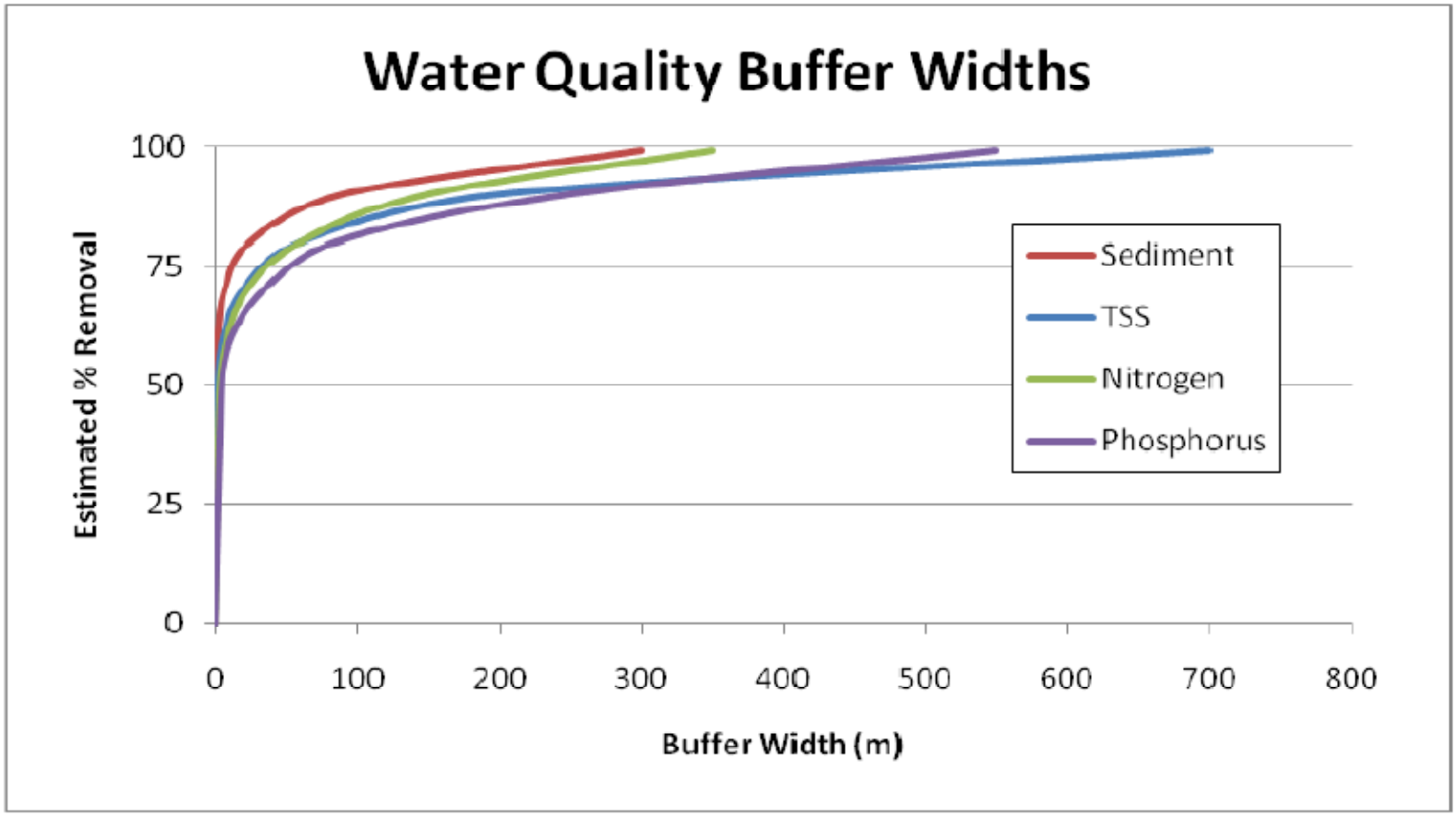


Figure 1. Contaminant removal effectiveness of four water quality parameters at various buffer widths (adapted from Desbonnet et al. 1995).

From WDFW Aquatic Habitat Guidelines Program document

The precautionary principle

"When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."

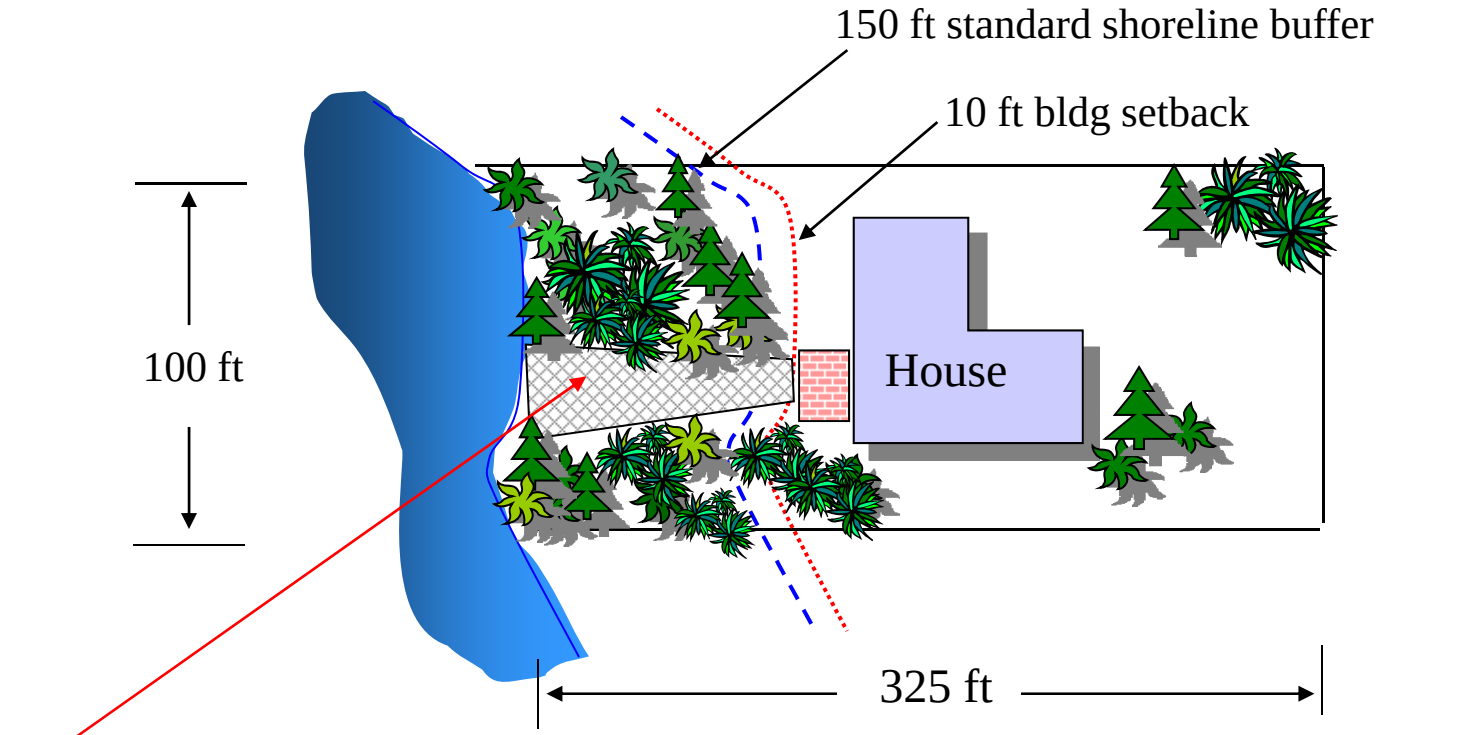
Guidelines: The less you know the more protective your SMP should be.

Buffers and vegetation management

- Preservation of native vegetation
- Clearing for views
- Limbing/trimming
- Noxious weed removal
- Hazard trees

View clearance example (Jefferson Co.)

No more than twenty-five (25) percent of a single tree's leaf bearing crown may be removed and no more than twenty-five (25) percent of the canopy cover of any stand of trees may be removed for view preservation.



4,875 SF area = approx 32 ft wide x 150 ft long (25% of stand)

Sample code language (Jefferson Co.)

Proponents of all new shoreline uses or developments shall demonstrate that site designs and layouts are consistent with the policies of this section to ensure shoreline functions, values, and processes are maintained and preserved. A shoreline permit or written statement of exemption shall not mandate, nor guarantee, unobstructed horizontal or lateral visibility of the water, shoreline or any specific feature near or far.

Buffers and variances

- Provide allowances for water-dependent/water-related uses without a variance
- Provide allowances for shoreline access without a variance
- Consider the effects of these provisions on ‘no net loss’

Sample code language (Jefferson Co.)

When otherwise consistent with this Program and JCC Chapter 18.22, the following water-oriented uses/developments may be permitted within a shoreline buffer without a shoreline variance. The amount and extent of buffer modification shall be the minimum needed to accommodate the allowed use/development:

i. Primary uses and structures that meet the definition of a water-dependent or water-related use/development;

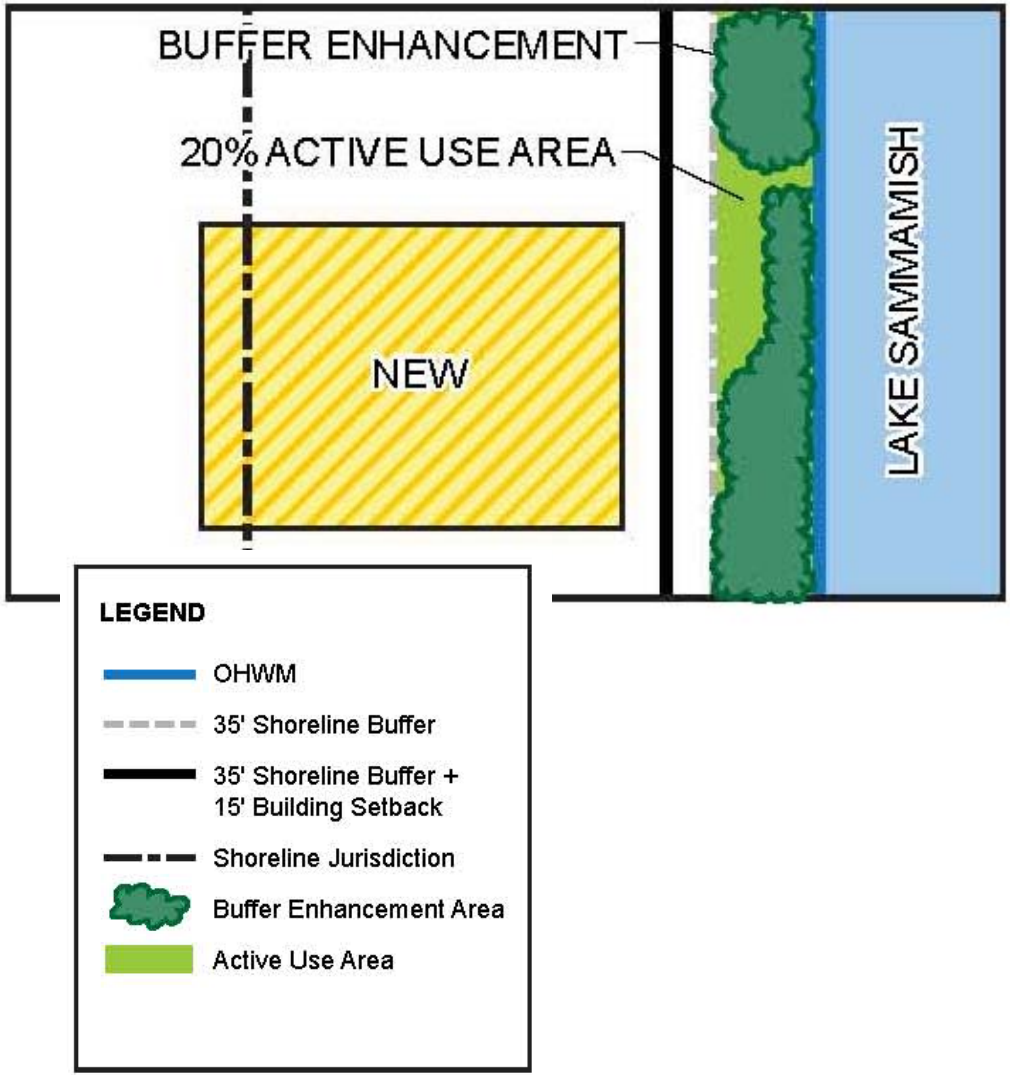
ii. Boating facilities accessory to a single-family residential development including rails, docks, piers and floats;

iii. Boathouses accessory to a single-family residential development provided that all of the following are met:

Buffers and existing development

- On highly developed shorelines, buffers may not be the best tool for protecting functions

New Development/Voluntary Redevelopment



- New development/redevelopment located wholly or partially within shoreline jurisdiction is permitted
- Development must be landward (outside) of shoreline buffer and building setback
- Requires enhancement of 80% of buffer; 20% of buffer may be used for "active use"

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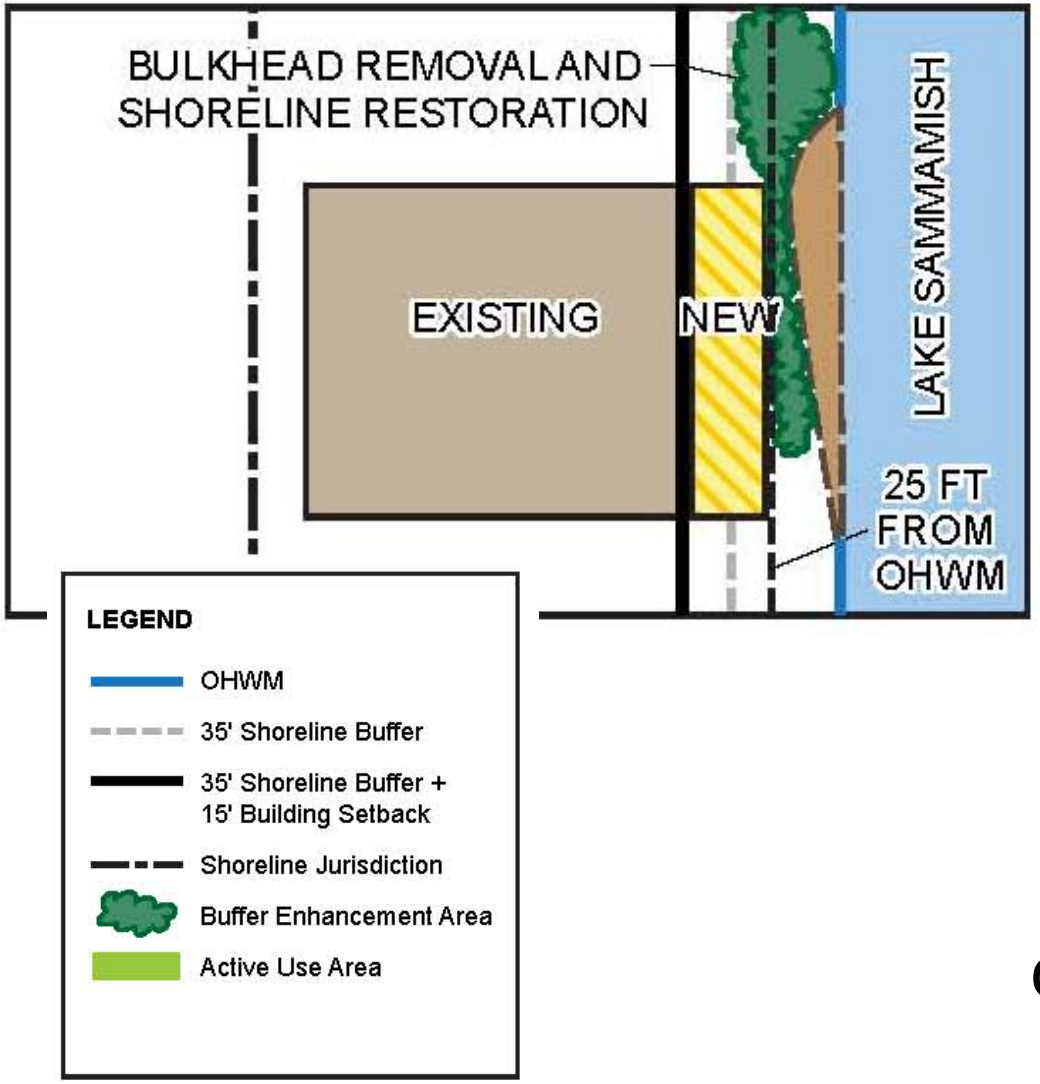
Buffer Reduction with Bulkhead Removal



- The standard shoreline buffer may be reduced from 35 ft to a minimum of 10 ft if a property owner removes an existing bulkhead and replaces it with natural softshore stabilization
- New/expanded structure must be at least 25 ft from OHWM
- Approval of shoreline buffer reduction shall be contingent on City review of bulkhead removal and shoreline restoration plan

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Tip: Your inventory should support your buffer standards

- Show your work!
- Help others who review your documents to reach the similar conclusions
- Vet your proposed buffers with your advisory committees
- Identify opportunities to restore/enhance buffers where feasible

Degraded Marine Features	Reaches A-C	Unnamed Creek Estuary	Fulton Creek Estuary	McDaniel Cove (includes McDonald Creek Estuary)	Duckabush River Estuary	Reaches F-I	Dosewallips River Estuary	Reach J (includes Turner Creek Estuary)	Right Smart Cove
Altered Riparian Buffers	X	X	X	X	X	X	X	X	X
Altered or Filled Riparian Wetlands		X	X	X	X	X	X	X	X
Lack of Large Woody Debris		X	X	X	X	N/A	X		X
Reduced Channel Complexity		X		X	X	N/A	X		
Eroded Riparian Surface									
Eroded Banks									
Prograding Estuary				X	X	N/A	X		N/A
Constricted or Filled Estuary		X	X	X	X	N/A	X	X	X
Constricted, Armored, or Filled Shoreline	X	X	X	X	X	X	X	X	X
Degraded Water Quality-Temperature			X						
Degraded Water Quality-Nutrients & Pathogens			X		X		X		
Invasive Species[1]					X	X	X		X[a]
Impaired Fish Passage									
Battelle Shoreline Function Score[2]	L	L	M	L	M	M-L	MH	ML	M
Battelle Shoreline Stressor Score[2]	MH-H	M	MH	MH	ML	M-L	ML	MH	H

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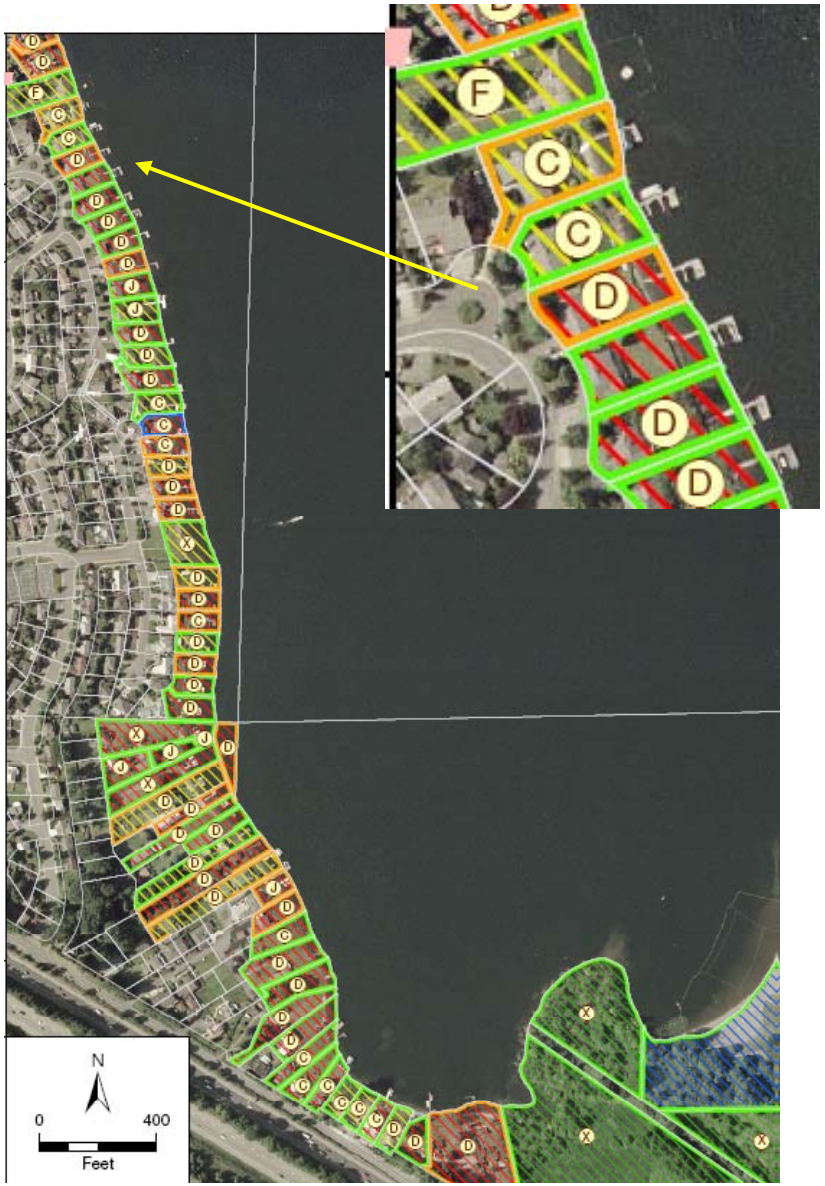

Legend

Overwater Structures

- Ⓧ No Dock
- Ⓓ Private Residential Docks
- Ⓒ Private Residential Docks, Covered
- Ⓕ Floats
- Ⓙ Joint Use Private Residential Docks
- Ⓡ Major Public Boat Ramp Facility

Shoreline Modifications

- Natural / Un-modified
- Some Modification / Partially Vegetated
- Hard Armoring
- Alternatively Modified and Natural

Building Setbacks

- Less than 20 ft
- 20 to 50 ft
- More than 50 ft
- Only Accessory Structure / Large Impervious Surface Within 50 ft

Other

- Parcels

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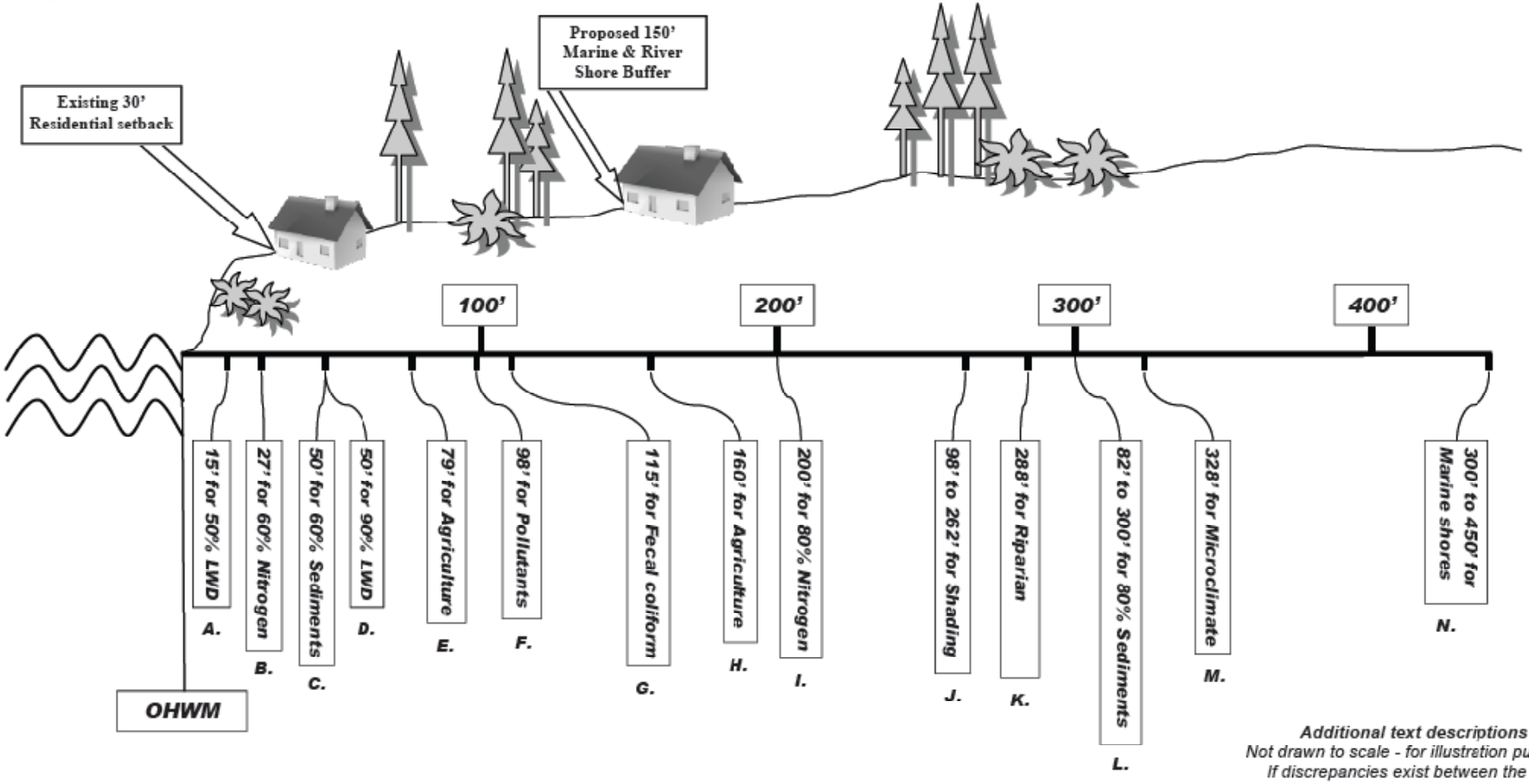
Shoreline Ecological Functions Affected	Condition and Causes of Impairment	Scale of Alterations	Programmatic Restoration and Management Opportunities
Hydrologic Hyporheic	Increased impervious area and increased stormwater runoff cause Summer low flows in the tributaries flowing to the lake shoreline	Basin scale	•Protect groundwater and natural surface water sources to the lake. Restore wetlands. •Minimize impervious surface especially in areas of high infiltration (e.g., upper reaches of the Main Stem and East Fork Issaquah Creek within the City).
Hydrologic Hyporheic Water quality	Water quality is at risk due to inputs from phosphorus and altered sediment delivery.	Basin scale Reach scale	•Encourage wise stewardship of shoreline properties to minimize inputs from lawns and other residential sources. •Implement BMPs to minimize erosion and sedimentation in upslope areas.
Water quality Biological functions	Decreased habitat diversity, habitat quality, and reduced large woody debris due to the lack of lakeshore vegetation and riparian structure.	Reach scale	•Provide/encourage native landscaping along the lakeshores, including forested riparian habitat wherever possible. •Promote development of natural in-water habitat structures such as downed trees/rootwads. •Minimize future removal of trees. •Educate property owners on the importance of the nearshore zone and general lakeside stewardship practices.
Hydrologic Riparian habitats Biological function	Docks, riprap and other hardshore armoring disrupt natural connections between the lake and riparian habitats and increase vulnerability of juvenile salmon to predation.	Reach scale	•Discourage bulkhead and dock construction and promote replacement of armoring with soft shore alternatives. •Replant riparian habitats using native trees and shrubs.
Hydrologic Water quality Riparian habitat	Increased surface water runoff from impervious surfaces delivers pollutants and sediment to the lake. Erosion and stream scouring caused by flash runoff from impervious surfaces.	Basin scale Reach scale	•Continue efforts in surface water quality improvement. •Manage, detain and treat stormwater discharging to the lake. •Coordinate with King County and adjacent cities to develop BMPs with existing property owners to reduce runoff and pollutant loading. •Protect and restore wetlands adjacent to the lake and in the upper basin that serve to improve water quality. •Target wetland restoration and mitigation in areas where they would provide water quality functions. •Encourage Low Impact Development and infiltration. •Retrofit existing roads to provide water quality treatment. •Limit the use of new septic systems.

Jefferson County Shoreline Master Program (SMP) Comprehensive Update

Buffer Science Summary

Source: Chapter 5.2 of the November 2008 *Final Shoreline Inventory & Characterization Report*



Additional text descriptions on reverse.
Not drawn to scale - for illustration purposes only.
If discrepancies exist between the text and this diagram, the text shall prevail.
9-2-09

Tip: Manage concerns about buffers by:

- Making the reasoning for your policies and regulations transparent
- Allowing flexibility for buffer uses
  - Access (public and private)
  - Water-dependent/water-related uses
- Be creative to minimize nonconforming uses