



No Net Loss of Shoreline Ecological Functions

The State Shoreline Management Act (SMA) provides a broad policy framework for protecting the shoreline environment. The Shoreline Master Program Guidelines adopted in 2003 establish the "no net loss" principle as the means of implementing that framework.

The standard of no net loss of ecological functions is to be achieved over the City's SMP planning horizon of 20 years by implementing the updated SMP policies and regulations.

What does no net loss mean?

- The no-net-loss standard is designed to stop new impacts to shoreline ecological functions resulting from new development. This means that the existing condition of shoreline ecological functions needs to remain the same, and should even be improved as a result of restoration, as the updated SMP is implemented over time.
- This standard is to be met by appropriately regulating public and private development, implementing a Restoration Plan, and improving practices that affect the shoreline.
- Resulting impacts of development should be identified and mitigated so as to maintain shoreline ecological function as it exists at the time of the City's 2006 shoreline inventory.

How is no net loss measured?

- No net loss is measured from a city wide, cumulative perspective, but met by project-level mitigation from both public and private development and redevelopment.
- Cumulative impacts consider current circumstances affecting the shoreline and relevant natural processes; reasonable foreseeable future development and use of the shoreline; and beneficial effects of any established regulatory programs under other local, state and federal laws.
- Because there are no easy tools to measure ecological function, indicators that are related to function and can be measured are used to assess possible change in ecological function over time (e.g, square feet of overwater cover, average structure setback, area of native vegetation).

Does that mean that an SMP must prohibit all development that will result in a loss of shoreline ecological functions?

- No. The “no net loss of ecological function” standard means that the updated SMP must contain provisions for mitigating these unavoidable impacts by restoring degraded shorelines and by avoiding or minimizing impacts.

When should impacts be avoided, and when may they be minimized?

- SMA policy and the guidelines recognize the need for both the appropriate shoreline use **and** protection of shoreline resources. Thus, the SMP must provide for preferred shoreline uses set forth in the State SMA. These include water-dependent uses, such as marinas; public access facilities; and owner-occupied single-family residences. Impacts resulting from these preferred shoreline uses, where they cannot be avoided, must be minimized by application of appropriate regulations.
- Achieving no net loss of ecological function relies on consistent application of mitigation sequencing. Mitigation sequencing sets a priority to first avoid, then minimize, rectify, reduce or compensate for impacts.
- All development must be carried out in a manner that limits further degradation of the shoreline environment. Uses or development, including preferred uses and uses exempt from a shoreline permit, cannot supersede the requirement for environmental protection.

What are current conditions affecting Kirkland’s shoreline and the relevant natural processes?

- Lack of shoreline vegetation and inability to recruit organic material, which contributes to continuing degradation of fish and wildlife habitat.
- Steep shoreline conditions which lack ability to attenuate wave energy; waves reflect or bounce off the hard bulkhead surface, scouring away beach sediments. Changes in sediment size and distribution affect the plants and animals that can live there. Scouring can also lead to the loss of sand and gravel covering bulkhead footings, thereby causing these structures to become more vulnerable to failure.
- Shading from piers and other overwater structures interferes with migration of juvenile salmonids and provides habitat for non-native predators.
- Lack of upland water and sediment storage that reduce water quality and soil infiltration.
- Contamination of the lake from excessive nutrients and chemicals in runoff.
- Lighting and noise impacts.

What are the preliminary results of the Cumulative Impact Analysis?

A. Residential L Environment (single family residential area north of Downtown):

Existing Characteristics:

- 13% of City shoreline
- Medium functioning shoreline

Development potential:

- 4 lots can be subdivided
- ~54 waterfront lots (roughly 56% percent) considered to have strong redevelopment potential
- 6 new piers, repairs and maintenance to existing
- Bulkhead repairs and replacements

B. Residential – M/H (multifamily residential area south of Downtown):

Existing Characteristics:

- 12% of City shoreline
- Low functioning shoreline

Development potential:

- ~ 20 waterfront lots (roughly 35% percent) considered to have strong redevelopment potential
- 5 new piers, repairs and maintenance to existing
- Bulkhead repairs and replacements

C. Urban Mixed (Downtown, Carillon Point, and Juanita Business District):

Existing Characteristics:

- 10% of City shoreline
- Low functioning shoreline

Development potential:

- ~ 2 waterfront lots considered to have strong redevelopment potential (includes Yarrow Bay Marina, which was recently redeveloped)
- Juanita Beach Park Master Plan implementation
- 1 new pier, repairs and maintenance to existing
- Bulkhead repairs and replacements

D. Urban Conservancy (most City shoreline parks, area near outlet of Juanita Creek):

Existing Characteristics:

- 7% of City shoreline
- Low, medium and high functioning shoreline

Development potential:

- Routine maintenance and upkeep of existing facilities
- Restoration elements
 - Replacement of pier decking with grating
 - Removal or enhancement of shoreline armoring
 - Increases in native shoreline vegetation
 - Restoration of Juanita Creek within shoreline jurisdiction

E. Natural (Juanita Bay and Yarrow Bay wetland complexes):

Existing Characteristics:

- 60% of City shoreline
- High functioning shoreline

Development potential

- Limited development on lots impacted by critical areas
- Routine maintenance and upkeep of existing public facilities
- Restoration of public facilities
 - Replacement of pier decking with grating
 - Removal or enhancement of shoreline armoring
 - Increases in native shoreline vegetation

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What are the key contributing regulations and other provisions towards No Net Loss?

- Environment designations
 - Significant critical areas protected in Natural Environment (60% of shoreline area)
 - Urban Conservancy constitutes 14% of shoreline frontage
- Setback standards
- Shoreline vegetation standards
- Lighting standards
- Best management practices for pesticide, herbicide and fertilizer applications
- Stormwater management
- Shoreline stabilization measures
- Pier provisions
- Protection and restoration activities on public owned properties
- Other Programs
 - Regulation of in- and overwater construction (such as piers and shoreline stabilization) by the Washington State Department of Fish and Wildlife, Department of Ecology, and Army Corps of Engineers

What are the initial findings?

➤ **No net loss of shoreline ecological functions is anticipated**

- Development may occur closer to the water's edge (as compared to existing built conditions), but the condition of the remaining space is improved overall by installations of native landscaping, compliance with lighting standards, etc.;
- Effective overwater coverage should decrease; and
- Overall shoreline hardening condition will remain the same or improve over time.
- Potential for improvements on City-owned property.