

**COWLITZ COUNTY
GRANT No. G1200052**

NO NET LOSS REPORT

Cowlitz County's Shoreline Master Program



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January 2017

The Watershed Company
Reference Number:
110922

Cite this document as:

The Watershed Company. January 2017. No Net Loss Report for Cowlitz County's Shoreline Master Program. Prepared for the Cowlitz-Wahkiakum Council of Governments, Kelso, WA.

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NO NET LOSS REPORT

FOR COWLITZ COUNTY'S SHORELINE MASTER PROGRAM

1 INTRODUCTION

The Shoreline Management Act guidelines (Guidelines) require local shoreline master programs (SMPs) to regulate new development to “achieve no net loss of ecological function.” This No Net Loss (NNL) Report provides a summary of how the development of the SMP and supporting documents, including the Shoreline Analysis Report, Shoreline Restoration Plan, and Cumulative Impacts Analysis, will ensure that ecological functions will not be degraded or minimized over time as the SMP is implemented.

2 SHORELINE JURISDICTION

As defined by the Shoreline Management Act of 1971, shorelines include certain waters of the state plus their associated “shorelands.” At a minimum, the waterbodies designated as shorelines of the state are streams whose mean annual flow is 20 cubic feet per second (cfs) or greater, lakes whose area is greater than 20 acres, and all marine waters. Shorelands are defined as “those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter. Any county or city may determine that portion of a one-hundred-year floodplain to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward 200 feet therefrom. Any city or county may also include in its master program land necessary for buffers for critical areas” (RCW 90.58.030).

Countywide, 697 miles of streams, rivers, and lakes meet shoreline jurisdiction criteria. The total area of upland shorelands is 47.1 square miles (30,135 acres), including floodways and associated wetlands.

All streams and rivers that have mean annual flow of 1,000 cfs or greater are considered Shorelines of Statewide Significance. This applies to the entirety of the Columbia River, Cowlitz River, Lewis River, and mainstem Toutle River, and to the Kalama River downstream from the National Forest boundary. All lakes

larger than 1,000 acres are also considered Shorelines of Statewide Significance. Merwin Lake, Yale Reservoir, and Silver Lake meet this criterion.

3 SHORELINE ENVIRONMENT DESIGNATIONS

The assignment of shoreline designations is an important step in achieving no net loss of ecological function. It can help minimize impacts by concentrating development in lower functioning areas that are not likely to experience significant function degradation with incremental increases in new development or redevelopment.

The Shoreline Analysis Report evaluated existing conditions in the County's shorelines. The inventory of shoreline conditions and evaluation of ecological functions was completed using six assessment units with a total of 286 reaches. Assignment of environment designations was based on existing ecological function, existing land use, and anticipated future land use according to the County's Comprehensive Plan and zoning map.

The County's proposed SMP establishes six upland environment designations, including High-Intensity, Residential, Urban Conservancy, Rural Conservancy, Natural, and Recreation, and one Aquatic environment designation for areas waterward of the OHWM.

3.1 High-Intensity

The High-Intensity environment designation is proposed for shoreline areas within urban areas and industrial or commercial limited areas of more intensive rural development that currently support or are planned for high-intensity uses related to commerce or transportation. According to the proposed SMP, the High-Intensity designation is intended to provide areas for high-intensity, water-oriented commercial, transportation, and industrial uses while protecting existing ecological functions and seeking to restore ecological functions where they are degraded. Management policies emphasize giving priority to water-dependent, water-related, and water-enjoyment uses; providing public access to the shoreline; and minimizing impacts by utilizing existing developed areas before expanding into new areas.

3.2 Residential

The Residential environment designation is proposed for urban areas, rural shoreline areas of more intense development, or master planned resorts, if they

are predominantly single-family or multi-family residential development or are planned and platted for residential development. The Residential designation is intended to accommodate residential development and appurtenant structures. Management policies focus on ensuring that residential development is designed to be compatible with its location, including any environmental limitations, the level of existing infrastructure and services, and other comprehensive planning considerations.

3.3 Urban Conservancy

The Urban Conservancy environment designation is proposed for shoreline areas where development could occur while having the ability to maintain or restore ecological functions. These are shoreline areas that are not generally suitable for water-dependent uses within urban areas, or commercial or industrial limited areas of more intensive rural development that have the potential for development that is compatible with ecological restoration or retention of ecological functions. The Urban Conservancy designation is intended to protect and restore ecological functions of open space, floodplain, and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. Management policies emphasize that uses permitted within the Urban Conservancy environment should preserve the natural character of the area, and that priority should be given to water-oriented uses.

3.4 Rural Conservancy

The Rural Conservancy environment designation is proposed for shoreline areas outside incorporated municipalities and other urban areas that support lesser-intensity, resource-based uses or residential uses, or that are subject to environmental limitations or of high recreational value. The Rural Conservancy designation is intended to protect ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural floodplain processes, and provide recreational opportunities. Management policies emphasize limiting uses within the Rural Conservancy designation to those which sustain the shoreline area's physical and biological resources.

3.5 Natural

The Natural environment designation is proposed for shorelines that are ecologically intact and performing important ecological functions, or are considered to represent ecosystems and geologic types that are of particular scientific and educational interest. Additionally, shorelines unable to support development without significant adverse impacts to ecological functions or risk to human safety are proposed for designation as Natural shorelines. The Natural designation is intended to protect those shoreline areas that are relatively free of

human influence or that include intact or minimally degraded shoreline functions. Management policies focus on the specific low-intensity uses permitted on Natural shorelines, and emphasize that such uses will only be allowed provided they do not result in significant adverse ecological impacts.

3.6 Recreation

The Recreation environment designation is proposed for shoreline areas where public and private lands support or zoned for recreation use, including parks and open space and water-dependent uses such as marinas which provide recreational moorage. The Recreation designation is intended to provide areas for new and continued recreation and public access opportunities. An additional purpose is to maintain existing ecological functions and open space. Management policies focus on developing recreational uses that are widely usable and promote ecological stewardship.

3.7 Aquatic

The Aquatic environment designation is proposed to protect, restore and manage the characteristics and resources of the areas waterward of the ordinary OHWM, including: overwater and in-water structures for water-dependent uses, public access, or ecological restoration; developments and uses on navigable waters or their beds; uses that adversely impact the ecological functions of critical freshwater habitats; new and maintenance dredging; management of shoreline uses and modification. Management focuses on maintaining ecological functions within the natural hydrographic conditions and to prevent degradation of water quality.

4 POLICIES AND REGULATIONS

The Shoreline Analysis Report evaluated existing conditions, with particular attention to ecological conditions, in the County's shorelines. The overarching purpose of recording baseline conditions is to ensure that the adopted regulations achieve no net loss of shoreline ecological function. The report includes recommendations for translating findings into shoreline designations, SMP policies and regulations, and restoration strategies. Key recommendations for SMP policies and regulations related to no net loss goals are presented in Tables 4-1 through 4-3, with a brief description of how those recommendations are addressed in the proposed SMP.

Table 4-1. Implementation of key Shoreline Analysis Report general policy and regulation recommendations related to no net loss.

Report Recommendation Summary	Recommendation Implementation
<i>Critical Areas</i>	
Review critical areas regulations to assess if they provide a level of protection of critical areas at least equal to the County’s critical areas ordinance.	Critical areas in shoreline jurisdiction are regulated by the County’s Critical Areas Regulations, which are adopted by reference with certain exceptions. Provisions for all critical areas address ecological functions and require mitigation sequencing.
Review and update designation, rating, and classification methods for FWHCAs.	FWHCAs are designated in the Critical Areas Regulations according to WAC 365-190-130. The interim water typing system as provided in WAC 222-16-031 is adopted.
Revise the existing fish and wildlife habitat conservation area (FWHCA) buffers to be based on reach-specific ecological conditions.	Buffers on Type S waters are defined in the SMP under Table 7-2, by shoreline environment designation. Shoreline environment designations were determined in part based on ecological conditions. Buffers range from 50 to 150 feet.
Revise wetland exemptions to be based on function rather than size, and to require after-the-fact mitigation in the case of emergency impacts.	Updated wetland provisions have removed these exemptions and instead specify standards for allowed impacts and mitigation. Critical area provisions require that those undertaking emergency actions apply for a critical areas determination and shoreline permit upon abatement of the emergency situation.
Revise wetland buffer regulations to be based on habitat functions.	Wetland buffers are based on land use intensity and habitat score. Buffers range from 25 to 300 feet.
Update wetland classification methods per Ecology guidance.	Critical Areas Regulations adopt the rating methodology set forth in Ecology’s <i>Washington State Wetland Rating System for Western Washington: 2014 Update</i> .
Revise wetland buffer reduction	In shoreline jurisdiction, buffer reduction

Report Recommendation Summary	Recommendation Implementation
provisions to be stricter.	is limited to 25 percent of the standard buffer width for all wetlands.
<i>Flood Hazard Reduction</i>	
Review and update provisions to address direction in WAC 173-26-221(3) to preserve the dynamic physical processes of rivers, including preservation of floodplains. Separate flood hazard reduction regulations from other shoreline stabilization regulations; emphasize maintaining existing ecological functions through no net loss criteria while providing flexibility for developing and maintaining existing uses.	Sections 6.4 and 7.2.8(D.) of the proposed SMP includes provisions that: prohibit new development that would require new flood control structures in the CMZ or floodway; require mitigation sequencing for new flood control works; and require that flood control works are located and designed to protect and restore natural floodway functions.
<i>Shoreline Vegetation and Conservation</i>	
Build on the critical areas protections, paying special attention to measures that will promote retention of shoreline vegetation and development of a well-functioning shoreline.	Section 6.6 of the proposed SMP, Vegetation Conservation, requires that all new development minimize vegetation removal to the amount necessary. Vegetated buffers are required to protect and maintain shoreline vegetation (Table 7-2 and Critical Areas Regulations). Vegetation may be removed or altered landward of shoreline buffers only provided there is no net loss of ecological function.
Include clear standards for fill, grading, and excavation by environment designation.	Table 7-1 designates fill and excavation as permitted, conditionally permitted, or prohibited modifications by environment designation. Section 7.3.5 contains regulations specific to fill and excavation.
Ensure that vegetation standards are clear regarding thinning, trimming, and pruning of nearshore vegetation to maintain views and minimize safety hazards.	Section 6.6(H.) requires that limbing or crown thinning comply with the Tree Care Industry Association standards and that it is limited to 25 percent of the limbs of any single tree and 20 percent of the canopy cover in any single stand of trees.

Report Recommendation Summary	Recommendation Implementation
<i>Water Quality, Stormwater, and Nonpoint Pollution</i>	
Consider incorporating regulations to facilitate maximum implementation of TMDL plans and controlling introductions of 303(d)-listed pollutants.	Considered and not included in the proposed SMP.
Ensure that regulations allow for placement of water quality improvement-related structures or facilities.	Section 6.7, Water Quality and Quantity, provides regulations for stormwater and sewage management structures.
Consider adding clarifying statements noting that the policies of the SMP will also be policies of the County's comprehensive plan, and that the policies also apply to activities outside of shoreline jurisdiction that affect water quality within shoreline jurisdiction.	Added in Section 8.2(D.).

Table 4-2. Implementation of key Shoreline Analysis Report shoreline modification recommendations related to no net loss.

Report Recommendation Summary	Recommendation Implementation
<i>Shoreline Stabilization</i>	
Separate shoreline armoring structures from regulations pertaining to breakwaters, jetties, groins, and weirs.	The proposed SMP contains regulations for shoreline stabilization in Section 7.3.2 and regulations for breakwaters and groins in Section 7.3.3.
Give preference to those types of shoreline modifications that have a lesser impact on ecological functions, promoting "soft" over "hard" measures.	Section 4.10.2(B.)(2.) reads, "Types of shoreline stabilization that have a lesser impact on ecological functions are preferred." Section 7.3.2(D.) defines a hierarchy of preference for permitting new or expanded shoreline stabilization.
Ensure "replacement" and "repair" definitions, standards, and thresholds are consistent with WAC 173-26-231(3)(a).	Section 7.3.2(J.)(1.) defines "major repair" consistent with the WAC, and 7.3.2(K.)(1.) defines "replacement."
Consider inclusion of incentives to encourage modification of existing armoring to improve habitat.	Not explicitly included.
<i>Piers and Docks</i>	

Report Recommendation Summary	Recommendation Implementation
<p>Develop detailed dimensional and material standards for new and replacement/modified piers and docks, customized for river and lake environments. Be consistent, to the extent practicable, with WDFW, WDNR, and Corps design standards.</p>	<p>Section 7.3.4(F.) includes dimensional standards for new single-family residential docks that are consistent with state and federal standards. Section 7.2.3 contains more general standards for boating facilities, including non-residential docks.</p>
<p>Emphasize joint-use or community piers and docks over single-use structures.</p>	<p>Section 7.3.4(A.) allows new moorage structures to serve a single-family residence only when a shared structure is not available, and there is no entity capable of developing one. Section 7.3.4(C.) requires that new residential development of two or more dwellings with new accessory docks provide joint use or community dock facilities when feasible.</p>
<p>Regulate according to environment designation, with a focus on protecting ecological functions in conservancy and natural designations.</p>	<p>Table 7-1 permits boating facilities in all environment designations except for the Natural environment designation. Marinas are permitted in the High-Intensity and Recreation environment designations; a conditional use in the Residential environment designation; and prohibited in all other upland environment designations. All boating facilities in the Aquatic environment designation are regulated according to the adjacent upland environment designation.</p>
<i>Fill</i>	
<p>Encourage restoration fills.</p>	<p>Section 7.3.5 permits fill below the OHWM for ecological restoration; all other uses require a conditional use permit.</p>
<p>Prohibit fills waterward of the OHWM, and allow fills landward of the OHWM only when they result in no net loss.</p>	<p>Consistent with WAC 173-26-231(3)(c), fill waterward of the OHWM is permitted only to support a water-dependent use, public access, cleanup</p>

Report Recommendation Summary	Recommendation Implementation
	and disposal of contaminated sediments, restoration, or expansion of transportation facilities of statewide significance (SMP Section 7.3.5(B.)).
<i>Breakwaters, Jetties, Groins and Weirs</i>	
Consider prohibiting new breakwaters, jetties, groins, and weirs except where essential to restoration or maintenance of existing water-dependent uses.	Per SMP 7.3.3(A.), permitted through a SCUP only where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose. For restoration or protection of ecological functions, permitted through an SSDP.
<i>Dredging and Dredge Material Disposal</i>	
Allow continued dredging on the Cowlitz River as part of a master program.	Section 7.3.6(B.) requires that dredging be approved by state and federal agencies with jurisdiction.
<i>Shoreline Habitat and Natural Systems Enhancement Projects</i>	
Consider incentives to encourage restoration projects.	Section 4.4.2(B.) includes a policy to facilitate the projects described in the Shoreline Restoration Plan. Restoration projects are permitted in all environment designations (SMP Table 7-1).

Table 4-3. Implementation of key Shoreline Analysis Report shoreline use recommendations related to no net loss.

Report Recommendation Summary	Recommendation Implementation
<i>Aquaculture</i>	
Differentiate between commercial aquaculture and species restoration aquaculture.	Per SMP 7.2.2, aquaculture undertaken for conservation or habitat restoration is a preferred use.
<i>Boating Facilities</i>	
Consider requirements for demand analysis for new marinas as a means to minimize cumulative impacts from multiple facilities.	Per SMP 7.2.3(B.)(4.)(a.), applicants for modification or enlargement of existing boating facilities must demonstrate an increased or changed use or demand, safety concerns, or inadequate water depth.

Report Recommendation Summary	Recommendation Implementation
<i>Commercial Development</i>	
<p>Make provisions for the public access and ecological restoration requirements for non-water-dependent uses for those areas where water-dependent uses are not practical. Consider provisions for mitigation banking.</p>	<p>Per SMP 7.2.4(C.), non-water-oriented commercial development may be permitted only when part of a mixed use project or navigability is severely limited and the development provides a significant public benefit with respect to the SMA, such as public access and/or ecological restoration.</p>
<i>Forest Practices</i>	
<p>Include specific limits on clear-cutting provided in RCW 90.58.150.</p>	<p>SMP Section 7.2.5(C.) limits timber cutting on shorelands adjacent to Shorelines of Statewide Significance to 30 percent of the merchantable trees in any ten-year period.</p>
<i>Industry</i>	
<p>Make provisions for the public access and ecological restoration requirements for non-water-dependent uses for those areas where water-dependent uses are not practical. Consider provisions for mitigation banking.</p>	<p>Per SMP 7.2.6(D.), non-water-oriented industrial development may be permitted only when part of a mixed use project or navigability is severely limited and the development provides a significant public benefit with respect to the SMA, such as public access and/or ecological restoration. Per SMP 7.2.6(C.), public access is required for industrial use on public lands.</p>
<i>In-stream Structural Uses</i>	
<p>Allow existing in-stream structural uses while ensuring continued protection and preservation of ecosystem functions. Consider distinguishing appropriate areas for in-stream structures based on environment designation or ecological conditions.</p>	<p>Proposed SMP includes a regulatory section (7.2.8) dedicated to in-stream structures, which requires a hydraulic analysis and habitat management plan for applications for new or permanent expansion of in-stream structural uses.</p>
<i>Mining</i>	
<p>Provide policies and regulations according to SMP Guidelines, differentiating between upland and aquatic mining.</p>	<p>Section 7.2.10 of the SMP provides regulations for mining in accordance with the WAC. Subsection (D.) provides regulations specific to mining waterward</p>

Report Recommendation Summary	Recommendation Implementation
	of the OHWM.
<i>Recreational Development</i>	
Protect and enhance existing natural parks.	Section 4.8.2 of the proposed SMP includes several policies aimed at protection and enhancement of shoreline recreation areas.
Distinguish appropriate intensities of recreation uses based on environment designation.	Table 7-1 defines recreational development as a permitted, conditionally permitted, or prohibited use by environment designation.
<i>Residential Development</i>	
Incorporate clear dimensional criteria, including setbacks/buffers, lot coverage, height limits, etc. Recognize existing development patterns and ecological functions in developing these criteria.	SMP Table 7-2 defines dimensional standards, including buffers, building setbacks, maximum height, and maximum lot coverage for all environment designations. Environment designations were assigned based on existing and future development patterns and ecological functions.
Require that new development, including lot subdivision, not require new shoreline stabilization.	Section 7.2.12(C).(1.) requires that new residential development, including subdivisions, short plats, new appurtenances, and accessory uses and structures, be designed such that no shoreline stabilization measures are necessary.
Although single-family residential development is a shoreline preferred use, include provisions to ensure it meets the no-net-loss standard.	Section 6.1(A.) states that all shoreline use and development, including preferred uses and uses that are exempt from permit requirements, be located, designed, constructed, conducted, and maintained in a manner that maintains shoreline ecological functions in accordance with the mitigation sequencing provisions contained in subsection (E.) of the same section. Section 7.2.12 contains regulations which ensure residential development, where permitted, meets the no-net-loss standard.

Report Recommendation Summary	Recommendation Implementation
<i>Transportation and Parking</i>	
<p>Ensure that location of new roads and parking areas considers location outside of shoreline jurisdiction. Provide standards for necessary new roads and parking areas where locations outside of shoreline jurisdiction are not feasible.</p>	<p>Section 7.2.13(A.)(1.) requires that all new or expanded non-water-dependent surface transportation facilities be located outside of shoreline jurisdiction unless infeasible. The remainder of the section contains standards to ensure that transportation facilities, including roads, railroads, bridges, non-motorized facilities, and parking, be located, designed, and operated to ensure no net loss of ecological function.</p>
<i>Utilities</i>	
<p>Ensure that location of new utilities considers location outside of shoreline jurisdiction. Provide standards for necessary new utilities where locations outside of shoreline jurisdiction are not feasible.</p>	<p>Section 7.2.14(A.) requires that all new or expanded non-water-dependent utilities be located outside of shoreline jurisdiction unless such a location is demonstrated to be infeasible. The remainder of the section contains standards to ensure that utilities in shoreline jurisdiction be located, designed, and operated to ensure no net loss of ecological function.</p>

5 RESTORATION OPPORTUNITIES

The Shoreline Restoration Plan prepared as part of the SMP update will serve as a valuable resource for the County and its restoration partners to improve impaired ecological functions on the County’s shorelines. The plan provides a framework for restoration on all County shorelines, including the cities of Castle Rock, Kalama, Kelso, and Woodland. Restoration goals were developed from the County and City comprehensive plans and SMPs.

The plan focuses on restoration projects that are reasonably likely to occur in the foreseeable future. Potential restoration opportunities were identified based on recommendations in existing restoration planning documents, including the 2010 Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan, the Salmon and Steelhead Limiting Factors Reports, Habitat Work Schedule; as well as input from County and City staff and restoration partners. The plan lists

restoration and protection strategies, including opportunities for specific projects, for each of the County's six assessment units.

The plan provides an implementation framework by identifying existing and ongoing plans and programs as well as potential restoration partners at the federal, state, regional, and local levels. The framework builds on local and regional planning coordination among these programs and partners, identifying mechanisms for implementation including development incentives for restoration; landowner outreach and engagement; maximizing mitigation outcomes; and monitoring the effectiveness of restoration actions.

6 CUMULATIVE IMPACTS

The Cumulative Impacts Analysis evaluated the effects of foreseeable development under the proposed SMP and demonstrated that the goals, policies and regulations in the proposed SMP, combined with recommendations in the Shoreline Restoration Plan, will prevent degradation of ecological functions relative to the existing conditions, as documented in the County's Shoreline Analysis Report.

The Cumulative Impacts Analysis determined that the proposed SMP provides a high level of protection to shoreline ecological functions. The report indicated that on its own, the proposed SMP, which includes the Shoreline Restoration Plan, is expected to protect and improve shorelines within Cowlitz County while accommodating a limited amount of reasonably foreseeable future shoreline development, resulting in no net loss of shoreline ecological function.

Emphasis is placed on achieving no net loss of ecological function throughout the SMP, with all uses and modifications subject to general and/or specific standards addressing the preservation of water quality, water quantity, and habitat function in the shoreline, as well as basin-wide ecological processes. The following are some of the key features identified in the Cumulative Impacts Analysis that protect and enhance shoreline ecological functions to ensure that the no net loss standard is met.

- Shoreline environment designations were informed by the results of the Shoreline Analysis Report, and shoreline uses and modifications individually determined to be permitted or prohibited in each designation. Environment designations considered existing and planned land uses as well as existing ecological conditions.
- General requirements of all shoreline uses and developments, including impact avoidance and minimization; criteria for locating

structures and utilities; mitigation requirements; vegetation conservation standards; and critical areas regulations in the SMP are designed to achieve no net loss.

- Shoreline use and modification regulations emphasize minimization of structure size, and selection of location and materials that do not degrade and may even enhance shoreline functions.
- Shoreline uses were individually determined to be permitted, conditionally permitted, or prohibited in each environment designation. The most uses are allowed in areas with the highest level of existing disturbance, and uses incompatible with existing land use or ecological conditions are prohibited.

7 CONCLUSIONS REGARDING NO NET LOSS

The SMP update process has provided the opportunity to identify existing environmental conditions, anticipate future impacts to shoreline functions, and identify restoration opportunities within the County's shoreline jurisdiction. The Shoreline Analysis Report enabled the SMP update process to rely on current, comprehensive information on the shoreline environment. The Cumulative Impacts Analysis evaluated the effects of reasonably foreseeable development that may occur under the draft SMP. The Shoreline Restoration Plan identified planned actions and other opportunities to improve impaired ecological function in the County's shorelines. These elements facilitated the development of regulations that directly and fully consider the preservation of ecological functions in order to achieve no net loss.

Major elements of the SMP that ensure no net loss of ecological functions include: 1) shoreline designations; 2) general provisions; 3) shoreline use and modification provisions; and 4) the Shoreline Restoration Plan. Each of these elements were subject to an analysis of potential ecological impacts and developed with the goal of achieving no net loss of function and improving shoreline function where the opportunity exists.

Given the above, implementation of the proposed SMP is anticipated to achieve no net loss of shoreline ecological functions in Cowlitz County.