

City of Montesano Shoreline Master Program Update

# Cumulative Impacts Analysis and No Net Loss Report

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Ecology Grant No: G1400394



This report was funded in part through a grant  
from the Washington State Department of  
Ecology.

## REVISED DRAFT TO ECOLOGY

March 16, 2016

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# LIST OF ABBREVIATIONS

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BMPs –	Best Management Practices
CAO –	Critical Areas Ordinance
CERCLA –	Comprehensive Environmental Response, Compensation, and Liability Act
CIA –	Cumulative Impacts Analysis
City –	City of Montesano
CMZ –	Channel Migration Zone
Ecology –	Washington State Department of Ecology
EPA –	United States Environmental Protection Agency
ESA –	Federal Endangered Species Act
FPA –	Washington State Forest Practices Act (Chapter 76.09 RCW)
MA –	Management Area
MMC –	Montesano Municipal Code
NMFS –	National Marine Fisheries Service
NPDES –	National Pollutant Discharge Elimination System
OHWM –	Ordinary High Water Mark
RCW –	Revised Code of Washington
SEPA –	State Environmental Policy Act (Chapter 43.21C RCW)
SIC –	Shoreline Inventory and Characterization Report
SMA –	Shoreline Management Act (Chapter 90.58 RCW)
SMP –	Shoreline Master Program
State –	State of Washington

USACE –	United States Army Corps of Engineers
USFWS –	United States Fish and Wildlife Service
WAC –	Washington Administrative Code
WDFW –	Washington State Department of Fish and Wildlife
WDNR –	Washington State Department of Natural Resources
WDOH –	Washington State Department of Health
WRIA –	Water Resource Inventory Area
WSPRC –	Washington State Parks and Recreation Commission



# 1 INTRODUCTION

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## 1.01 DEPARTMENT OF ECOLOGY DIRECTION AND GUIDANCE

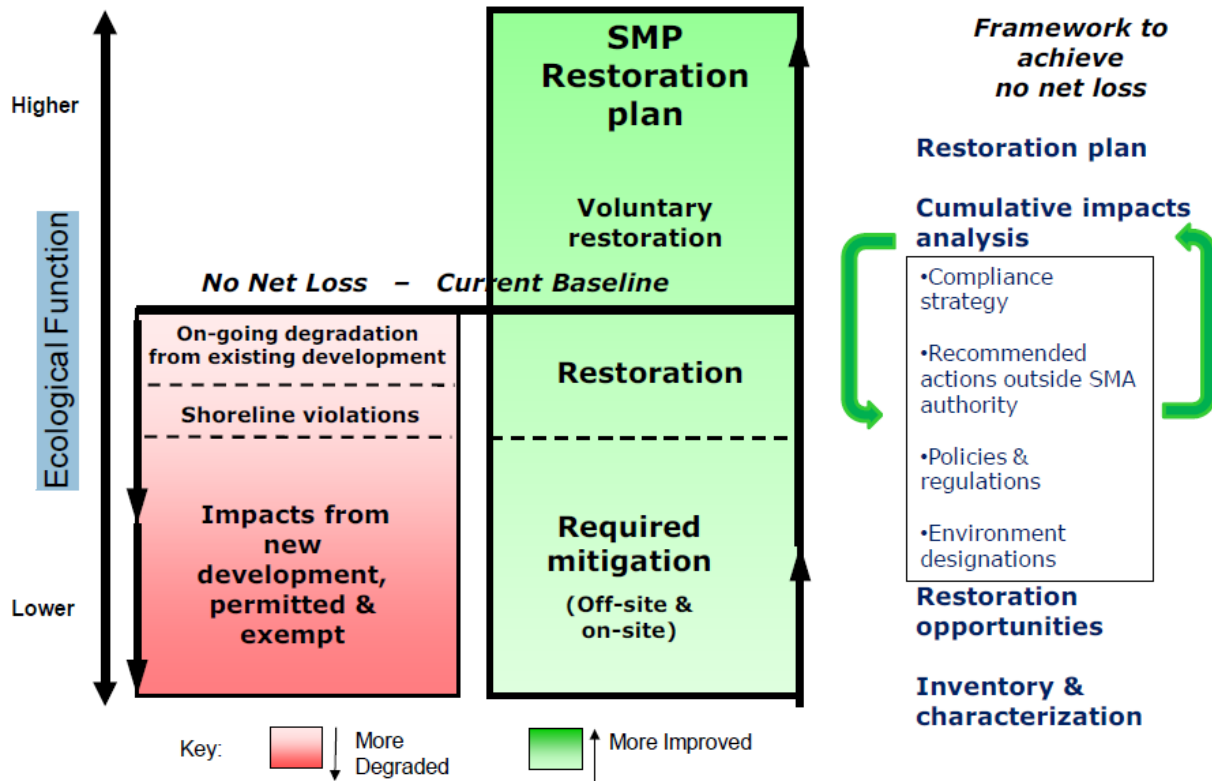
The Shoreline Management Act (Chapter 90.58 Revised Code of Washington (RCW)) (SMA) rules in Chapter 173-26 of the Washington Administrative Code (WAC) require local shoreline master programs (SMPs) to include goals, policies, and regulations to ensure that SMP implementation will “achieve no net loss of ecological function” over the long term. The SMP Guidelines (WAC 173-26-186(8)(d)) state that:

*“To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts.”*

The SMP Guidelines discuss the concept of net loss in more detail in WAC 173-26-201(2)(c). An SMP must contain goals, policies, and regulations designed to direct development activities and uses in a manner that will prevent degradation of ecological functions relative to the existing conditions.

The city of Montesano’s (city’s) updated SMP contains goals, policies, and regulations that prevent degradation of ecological functions relative to the existing conditions as documented in the *Shoreline Inventory and Characterization (SIC) Report* (Herrera and AHBL, 2014). For those projects that result in degradation of ecological functions, the required mitigation must return the resultant ecological function back to the baseline, as illustrated in Figure 1-1. In addition, the SMP must address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities (WAC 173-26-186(8)(d)).

# SMP updates: Achieving no net loss of ecological function



**Figure 1-1. Shoreline Master Program Process for Achieving the No-Net Loss Standard.**

Source: Washington State Department of Ecology (Ecology) (2012)

The purpose of this *Cumulative Impacts Analysis* (CIA) is to ensure that implementation of the SMP update for the city, prepared by AHBL (2015), will not result in a net loss of shoreline ecological functions over the long term. Consistent with guidance from the Washington State Department of Ecology (Ecology), this CIA analyzes how the proposed SMP policies, regulations and environment designations meets this requirement. This analysis includes only those impacts that would result from development and uses within the shoreline jurisdiction of the city, and subject to regulation under their SMP. Potential impacts of development outside the shoreline jurisdiction are not considered in this CIA.

The CIA forecasts the estimated impacts of development in shoreline areas, taking into account the SMP policies, programs, and regulations, as well as:

- Existing conditions that affect the shorelines and relevant natural processes. The SIC provides this existing condition, or baseline, information.
- Reasonably foreseeable future development and use of the shorelines that is likely to occur during the next 20 years or so, based on the proposed shoreline environment

designations, proposed land use density and bulk standards, and current shoreline development patterns.

- Beneficial effects of any established regulatory programs under other local, state, and federal laws, such as the federal Clean Water Act.

To be consistent with the SIC, this analysis organizes the shorelines of the city into six shoreline reaches. The city has approximately five miles of shoreline associated with streams and lakes: the Chehalis River, the Wynoochee River, Sylvia Creek, and Sylvia Lake, and 352 acres of water and shorelands in its shoreline jurisdiction.

In accordance with Ecology guidance, the shoreline assessed in the SIC may contain a nested system of management areas (MAs) and reaches. However, since all of the city's shorelines are associated with a single watershed, the lower Chehalis River, it is appropriate to consider the entire city as within or containing a single MA. The MA was broken down into reaches for the purposes of the SIC and CIA.

The city was divided into six shoreline reaches shown in Figure 1-2 and listed below, based on areas having similar physical and ecological characteristics, land use, and development patterns.

1. Sylvia Lake
2. Upper Sylvia Creek
3. Lower Sylvia Creek
4. Wetland Complex
5. Wynoochee River
6. Chehalis River

Figure 2: City of Montesano

Date: 9/12/2014

**Shoreline Reach**

- 1. Sylvia Lake
- 2. Upper Sylvia Creek
- 3. Lower Sylvia Creek
- 4. Wetland Complex
- 5. Wynoochee River
- 6. Chehalis River
- Montesano City Boundary
- SMA Lakes
- SMA Rivers
- Highways

0 0.25 0.5 Miles 1:21,000

Source: Grays Harbor County, USFWS NWI (2011), FEMA Preliminary DFIRM (2013), DNR, WSDOT, Ecology, NRCS NAIP (2013)  
Shoreline jurisdiction boundaries depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information shown on this map.

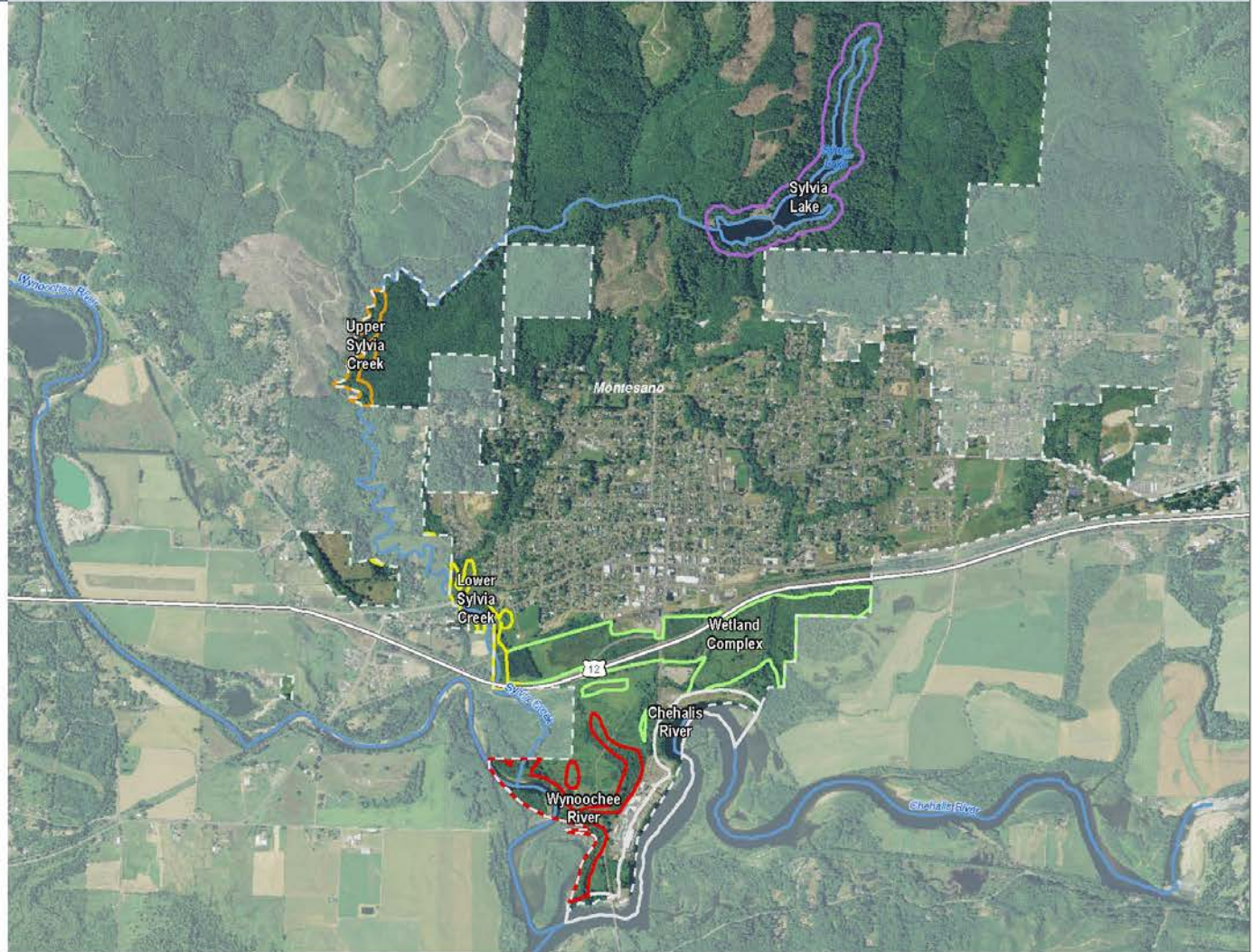


Figure 1-2. Shoreline Reaches within the Jurisdictional Boundaries of the City of Montesano.

## **1.02 RELATIONSHIP TO SEPA**

The State Environmental Policy Act (Chapter 43.21C RCW) (SEPA) requires an assessment of environmental impacts. The CIA is a supplement to the nonproject environmental review done under SEPA and is intended to address cumulative rather than isolated or individual impacts that might not be considered otherwise as part of the environmental checklist.

The SEPA review process is intended to provide a list of possible environmental impacts that may occur because of a project (SEPA project review) or change in policy (SEPA nonproject review). This helps identify potential impacts that may need to be mitigated, conditioned, or this may result in the denial of a project or proposal. This CIA is intended to look at impacts as a whole based on whether or not multiple similar projects collectively result in gradual, but significant impacts. While SEPA looks at impacts by topic and the effects they may have as a whole for the project area, the CIA examines impacts that may result from multiple projects over time.

## **1.03 ASSUMPTIONS**

The CIA considered foreseeable impacts over a 20-year planning horizon and examines how provisions of the revised SMP are likely to affect existing conditions documented in the SIC. In addition, site-specific impacts are expected to be addressed on a case-by-case basis during individual shoreline project reviews.

## **1.04 DOCUMENT ROADMAP**

This CIA summarizes existing conditions in the six shoreline reaches of the city, including shoreline characteristics, land use, public access, shoreline modifications, and ecological functions,. It summarizes the applicable policies and regulations in the SMP that will act together to ensure that no net loss of ecological function occurs in the shoreline jurisdiction. It identifies potential upland and in-water development opportunities within each reach.

Potential development opportunities were determined based on existing conditions, shoreline environment designations, zoning, and limiting environmental factors such as the presence of wetlands or channel migration zones (CMZs). This report details the potential impacts and risks to shoreline functions and processes, identifies anticipated development in each shoreline reach and how the SMP regulations would address this development, discusses how other local, state and federal regulations would address these potential impacts, and describes the net

effect on ecological functions and processes. Cumulative impacts tables are included in Chapter 7. The tables describe the relationship between ecological function, potential alteration, resources at risk, and proposed SMP regulations and non-regulatory measures designed to assure no net loss at a minimum.

## 2 EXISTING CONDITIONS

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This chapter summarizes information presented in the SIC. For each shoreline reach, this chapter presents a summary of shoreline characteristics and uses, and describes ecological functions (habitat, water quantity, water quality) considered to be at risk.

### **2.01 REACH 1 – SYLVIA LAKE**

The Sylvia Lake Reach (Water Resource Inventory Area (WRIA) 22 – the Lower Chehalis Watershed) is approximately 86 acres in area. Land cover is comprised of 66 percent evergreen forest, 13 percent open water, 11 percent developed open space, 6 percent woody wetlands, 3 percent shrub/scrub, and 1 percent medium intensity development. 64 percent (55 acres) of the Sylvia Lake Reach is in public ownership, with 62 percent (53 acres) of the public land owned by Washington State Parks (WSPRC) and 2 percent (2 acres) owned by the state.

#### **2.01.01 SHORELINE CHARACTERISTICS**

Sylvia Lake is a dammed reservoir in the forested foothills that extend from the interior of the Olympic Peninsula south toward the Chehalis River valley. The lake and its associated shoreline jurisdiction are used for recreational activities, while the surrounding forest area is zoned and reserved for city use. Although multiple shoreline modifications are present throughout the reach, the low intensity development that is oriented around recreational uses ensures that ecological functions are maintained and utilized for public use and enjoyment.

#### **2.01.02 LAND USE**

Sylvia Lake is currently undeveloped and consists primarily of evergreen forest and open water. Reach 1 – Sylvia Lake is zoned City Forest is considered suitable for commercial forest activities and it may serve as permanent open space. The Reach is utilized as a park and forest with little to no development in the vicinity.

#### **2.01.03 EXISTING PUBLIC ACCESS**

Lake Sylvia State Park, which is operated by the WSPRC, provides facilities to support activities such as tent and trailer camping, hiking, mountain biking, bird watching, fishing, and swimming as well as a public access structure for non-motorized boat access.

#### **2.01.04 SHORELINE MODIFICATIONS**

There are multiple shoreline modifications present within the Sylvania Lake Reach. The southwestern portion of the lake has multiple improvements along the bank, including the Lake Sylvania dam, a road access bridge that carries Sylvania Lake Road over the lake to campgrounds and walking trails, picnic areas, a fishing dock, boat ramp, and swimming beach.

Culverts existing within the reach may be partial barriers or restrict the movement and migration of sensitive fish species. The northern portion of the lake is unmodified, well vegetated, and holds plentiful large woody debris. Comprehensive information on shoreline modifications, such as dikes and levees is not available for this reach.

#### **2.01.05 ECOLOGICAL FUNCTIONS**

Sylvania Lake scored moderately high on the functional assessment primarily due to good coverage by conifer forest and other vegetation. Moderate shoreline development and modifications, and limited coverage by wetlands and herbaceous plants limit functions related to vegetation and groundwater and surface water exchange. Future development may be focused in areas already disturbed or impacted by development such as adjacent roads and infrastructure. Less disturbed areas may be considered for protection given the relatively high score.

##### **A. Geologically Hazardous Areas**

There are no known geologically hazardous areas in this reach.

##### **B. Flood Hazard Areas**

The Sylvania Lake Reach is mapped outside of the 100-year floodplain and not subject to the flood hazard overlay district.

##### **C. Wetlands**

No wetlands have been delineated within the Sylvania Lake Reach.

##### **D. Streams**

No river or stream features within the Sylvania Lake Reach qualify as instream habitat area. Sylvania Lake is considered a significant deep-water area the in shoreline jurisdiction. The lake has a surface area of approximately 30 acres and depths up to 45 feet.

##### **E. Other Fish and Wildlife Habitat Conservation Areas**

Sylvania Lake supports resident cutthroat trout presence and migration areas covering approximately one mile in the shoreline jurisdiction.



## **2.02 REACH 2 – UPPER SYLVIA CREEK**

The Upper Sylvania Creek Reach (WRIA 22 – the Lower Chehalis Watershed) is approximately 14 acres in area. Land cover is comprised of 72 percent woody wetlands, 14 percent evergreen forest, 11 percent shrub/scrub, and 3 percent mixed forest. There are no privately owned lands within Reach 2 – Upper Sylvania Creek.

### **2.02.01 SHORELINE CHARACTERISTICS**

Sylvia Creek within the city originates at Sylvia Lake, flows through forested hills, and meets the Wynoochee River near its confluence with the Chehalis River. The Upper Sylvania Creek reach is located within the City Forest zoning designation, which severely limits the development potential. Currently, the entire reach is undeveloped and used for recreational activities such as hiking, biking, and horseback riding on the trail routes that weave through the City Forest that connect the city to Lake Sylvia State Park.

### **2.02.02 LAND USE**

Upper Sylvania Creek is less developed than Reach 1 – Sylvia Lake, consisting of completely undeveloped lands dominated by woody wetlands, forest, and shrub/scrub. Reach 2 – Upper Sylvania Creek is zoned City Forest, which is considered suitable for commercial forest activities, or may also serve as permanent open space. The Reach is utilized as the City Forest.

### **2.02.03 EXISTING PUBLIC ACCESS**

Trails provide visual access to the shoreline within the Upper Sylvania Creek Reach as well as hiking, biking, and horseback riding opportunities along Sylvia Creek.

### **2.02.04 SHORELINE MODIFICATIONS**

There are no visible channel or bank modifications within the Upper Sylvania Creek Reach. The east bank of Sylvia Creek within the reach had been clear-cut down to a trees-width from the bank shortly prior to 1990. Comprehensive information on shoreline modifications such as dikes and levees is not available for this reach.

### **2.02.05 ECOLOGICAL FUNCTIONS**

Upper Sylvania Creek Reach scored moderately high on the functional assessment, due to good forest cover, stream structure including channel sinuosity and large wood debris, and connectivity with other habitats. A low level of development in this reach combined with good functional value indicates that protection would be appropriate for this reach.

**A. Geologically Hazardous Areas**

The reach lies within the mapped tsunami inundation zone, based on 25-foot topographic contour lines that approximate potential tsunami inundation.

**B. Flood Hazard Areas**

The Upper Sylvia Creek Reach has 65 percent of its total area within the 100-year floodplain.

**C. Wetlands**

No wetlands have been delineated within the Upper Sylvia Creek Reach.

**D. Streams**

Instream priority habitats exist within the Upper Sylvia Creek Reach, and serve as areas where a combination of physical, biological, and chemical processes and conditions interact to provide functional life history requirements for instream fish and wildlife resources.

**E. Other Fish and Wildlife Habitat Conservation Areas**

Sylvia Creek supports juvenile rearing areas for coho salmon and resident cutthroat trout presence and migration areas covering approximately 0.7 miles in the shoreline jurisdiction.

**2.03 REACH 3 – LOWER SYLVIA CREEK**

The Lower Sylvia Creek Reach (WRIA 22 – the Lower Chehalis Watershed) is approximately 17 acres in area. Land cover is comprised of 41 percent developed open space, 21 percent emergent herbaceous wetlands, 16 percent woody wetlands, 15 percent low intensity development, 6 percent medium intensity development, and 1 percent cultivated crops. There are no publically owned lands within Reach 3 – Lower Sylvia Creek.

**2.03.01 SHORELINE CHARACTERISTICS**

Sylvia Creek originates at Sylvia Lake, flows through the forested hills, and meets with the Wynoochee River near its confluence with the Chehalis River. Much of the reach is undeveloped and contains a number of identified wetlands that could be damaged by development.

### **2.03.02 LAND USE**

Lower Sylvania Creek includes five developed single-family residential parcels. The majority of development on these parcels appears to be located outside of the shoreline jurisdiction, although appurtenant structures may be located within the jurisdiction. Additionally, ten Unclassified Residential parcels in Reach 3 – Lower Sylvania Creek are undeveloped. Much of the reach is currently undeveloped with the exception of a few residential structures and four road and rail transportation corridors that bisect the reach.

The current land use patterns found in the Lower Sylvania Creek Reach are provided in Table 2-1 below.

**Table 2-1. Current Land Use Patterns for the Lower Sylvania Creek Reach.**

<b>Current Land Use Patterns</b>	<b>Percentage of Reach</b>
Vacant/Undeveloped	74%
Single-Family Residential	13%
Agriculture	11%
Public Services	2%

The zoning designations from the Montesano Municipal Code (MMC) found in the Lower Sylvania Creek Reach are provided in Table 2-2 below.

**Table 2-2. Current Zoning Designations for the Lower Sylvania Creek Reach.**

<b>Description</b>	<b>Symbol</b>	<b>Typical Uses</b>	<b>Percentage of Reach</b>
Low-Density Residential	R-1	Low Density Residential districts serve to provide suitable areas for family neighborhoods with adequate play areas and open space amenities.	97%
Moderate-Density Residential	R-2	The purpose of the Moderate Density Residential district is to provide suitable areas for housing types, which balance the provision of residential amenities with the need to provide economical housing opportunities.	2%
Major Public Use	MPU	Major Public Use districts serve to provide suitable areas that are committed to public use and are publicly owned.	1%

### **2.03.03 EXISTING PUBLIC ACCESS**

There is no existing public access to Sylvania Creek in Reach 3 – Lower Sylvania Creek.

#### **2.03.04 SHORELINE MODIFICATIONS**

The shoreline modifications present in the Lower Sylvania Creek Reach include a ditched tributary at Pioneer Avenue West, bridges located at Pioneer Avenue West, Wynoochee Avenue West, Puget Sound and Pacific Railroad, U.S. Highway 12, and a possible revetment between the rail line and U.S. Highway 12. Comprehensive information on shoreline modifications such as dikes and levees is not available for this reach.

#### **2.03.05 ECOLOGICAL FUNCTIONS**

Lower Sylvania Creek Reach scored relatively high on the functional assessment, although functions provided are somewhat different due to a different vegetative structure (emergent and shrub dominated), and presence of wetlands. Although most development appears outside of the mapped shoreline jurisdiction, the reach has complex hydrology and wetland conditions that add importance to field delineation if development is proposed. Impairments or altered conditions may be associated with ditches, road crossings, and potentially runoff to the extent that it enters the reach from adjacent development outside the shoreline jurisdiction. Restoration is likely an appropriate objective for this reach.

##### **A. Geologically Hazardous Areas**

The reach lies within the mapped tsunami inundation zone, based on 25-foot topographic contour lines that approximate potential tsunami inundation.

##### **B. Flood Hazard Areas**

The Lower Sylvania Creek Reach has 66 percent of its total area within the 100-year floodplain.

##### **C. Wetlands**

Approximately 2.7 acres of identified freshwater wetlands exist within the Lower Sylvania Creek Reach, comprising 15 percent of the reach's total area.

##### **D. Streams**

Instream priority habitats exist within the Lower Sylvania Creek Reach, and serve as areas where a combination of physical, biological, and chemical processes and conditions interact to provide functional life history requirements for instream fish and wildlife resources.

**E. Other Fish and Wildlife Habitat Conservation Areas**

Sylvia Creek supports juvenile rearing areas for coho salmon and resident cutthroat trout presence and migration areas covering approximately 0.2 miles in the shoreline jurisdiction.

**2.04 REACH 4 – WETLAND COMPLEX**

The Wetland Complex Reach (WRIA 22 – the Lower Chehalis Watershed) is approximately 125 acres in area. Land cover is comprised of 30 percent woody wetlands, 28 percent emergent herbaceous wetlands, 17 percent developed open space, 14 percent low intensity development, 7 percent medium intensity development, 2 percent shrub/scrub, and 2 percent herbaceous. Two percent of the Wetland Complex Reach is in public ownership, and is owned by the Washington State Department of Fish and Wildlife (WDFW).

**2.04.01 SHORELINE CHARACTERISTICS**

The Wetland Complex Reach is comprised primarily of wetlands associated with the Chehalis River floodplain. The wetlands present within the reach are considered a priority habitat in the state due to their overall functions and values. U.S. Highway 12 and its adjacent roads cut through the reach, limiting connectivity of ecological functions and creating the potential for future development.

**2.04.02 LAND USE**

The Wetland Complex Reach is zoned for Low Density Residential, Heavy Commercial, and Industrial Flood Hazard, however very little of this reach is developed land. The area is mostly comprised of wetlands and, as it lies within the floodplain, it is subject to the Chehalis River flooding in the winter and spring.

The zoning designations from the MMC found in the Wetland Complex Reach are provided in Table 2-3 below.

**Table 2-3. Current Zoning Designations for the Wetland Complex Reach.**

Description	Symbol	Typical Uses	Percentage of Reach
Industrial Flood Hazard	IFH	The purpose of the flood hazard overlay district is to regulate development located within areas subject to potential flood damage. This district is applied to areas that	63%

Description	Symbol	Typical Uses	Percentage of Reach
		have at least a one percent chance of being inundated in any year.	
Low-Density Residential	R-1	Low Density Residential districts serve to provide suitable areas for family neighborhoods with adequate play areas and open space amenities.	21%
Heavy Commercial/Light Industrial	C-2	Heavy Commercial/Light Industrial districts serve to provide suitable area for commercial uses, which might detract from the character of general commercial activities, particularly in the downtown areas.	16%

**2.04.03 EXISTING PUBLIC ACCESS**

There is no existing public access to the wetlands in Reach 4 – Wetland Complex.

**2.04.04 SHORELINE MODIFICATIONS**

The wetlands present in the Wetland Complex Reach are crossed by the railroad, U.S. Highway 12 and its ramps, and Main Street. There are also gravel roads and adjacent ditches between U.S. Highway 12 and the Chehalis River. A tree farm appears to be operating along the western boundary of the reach that abuts the Lower Sylvia Creek Reach. Culverts existing within the reach may be partial barriers or restrict the movement and migration of sensitive fish species. Comprehensive information on shoreline modifications such as dikes and levees is not available for this reach.

**2.04.05 ECOLOGICAL FUNCTIONS**

The Wetland Complex Reach scored moderately high on the functional assessment, primarily because wetlands perform important functions for water quality, water storage, and habitat, particularly when located in the floodplain and connected with other bodies of water such as the Chehalis River. The reach functions are limited primarily by lack of significant forest cover and a diverse stream and floodplain structure that would be expected with better connectivity to the river and absence of development. This reach was ranked moderate for habitat functions due to the presence of the highway and adjacent roads that interrupt the connection with other habitats. Protection and restoration are likely to be appropriate objectives for this reach.

**A. *Geologically Hazardous Areas***

The reach lies within the mapped tsunami inundation zone, based on 25-foot topographic contour lines that approximate potential tsunami inundation.

**B. *Flood Hazard Areas***

The Wetland Complex Reach has 98 percent of its total area within the 100-year floodplain. The reach is within the Chehalis River floodplain and subject to the flood hazard overlay district, which regulates development within areas subject to potential flood damage. The code includes design and construction requirements to minimize flood damage and reduce exposure to flood hazards (MMC 17.40.027).

**C. *Wetlands***

Approximately 93 acres of identified freshwater wetlands exist within the Wetland Complex Reach, comprising 75 percent of the reach's total area. The wetlands throughout the reach are in the floodplain and are significantly influenced by, and associated with, the Chehalis River.

**D. *Streams***

No river or stream features within the Wetland Complex Reach qualify as an instream habitat area.

**E. *Other Fish and Wildlife Habitat Conservation Areas***

The Wetland Complex Reach is considered a priority habitat in the state due to the heavy presence of wetlands within the reach. Olympic mudminnows have been documented near the reach and may be present throughout the wetland. Olympic mudminnow are usually found in slow-moving streams, wetlands, ponds, ditches, or sloughs with muddy substrate, still or slow moving water, and abundant aquatic vegetation. Additionally, the reach contains habitat for bald eagles and waterfowl concentrations.

**F. *Critical Aquifer Recharge Areas***

This reach overlies a wellhead protection area identified by the Washington State Department of Health (WDOH).

## 2.05 REACH 5 – WYNOOCHEE RIVER

The Wynoochee River Reach (WRIA 22 – the Lower Chehalis Watershed) is approximately 43 acres in area. Land cover is comprised of 35 percent developed open space, 30 percent woody wetlands, 14 percent emergent herbaceous wetlands, 7 percent low density development, 6 percent shrub/scrub, 4 percent deciduous forest, 3 percent open water, and 1 percent medium intensity development. Less than one percent of the Wynoochee River Reach is in public ownership, and is owned by the WDFW.

### 2.05.01 SHORELINE CHARACTERISTICS

The Wynoochee River flows 63.5 miles from its headwaters in the Olympic Mountains to its confluence with the Chehalis River. The lower 20 miles, including most downstream segments adjacent to the city, flows through a wide, flat, floodplain valley that is comprised primarily of agricultural uses. The shoreline reach within the city falls completely within the 100-year floodplain, which limits development potential.

### 2.05.02 LAND USE

The Wynoochee River Reach is zoned Heavy Commercial and Industrial Flood Hazard. Aside from the Montesano Waste Treatment Plant, the area is comprised of wetlands and open space.

The zoning designations from the MMC found in the Wynoochee River Reach are provided in Table 2-4 below.

**Table 2-4. Current Zoning Designations for the Wynoochee River Reach.**

Description	Symbol	Typical Uses	Percentage of Reach
Heavy Commercial/Light Industrial	C-2	Heavy Commercial/Light Industrial districts serve to provide suitable area for commercial uses, which might detract from the character of general commercial activities, particularly in the downtown areas.	84%
Industrial Flood Hazard	IFH	The purpose of the flood hazard overlay district is to regulate development located within areas subject to potential flood damage. This district is applied to areas that have at least a one percent chance of being inundated in any year.	16%



**2.05.03 EXISTING PUBLIC ACCESS**

There is no existing public access to the Wynoochee River in Reach 5 – Wynoochee River.

**2.05.04 SHORELINE MODIFICATIONS**

The shoreline modifications present in the Wynoochee River Reach includes an exposed rock embankment and sheet pile wall at the western corner of the wastewater treatment plant pond that has been in place to mitigate erosion from the Wynoochee River.

Table 2-5 lists the total length of dikes and levees for reaches where they are found in the available data, along with other shoreline modifications observed on aerial photographs in the course of doing reach functional assessments. Comprehensive information on shoreline modifications other than dikes and levees is not available for this reach.

**Table 2-5. Wynoochee River Reach Shoreline Modifications.**

Sum of Dike and Levee Length (feet)	Other Shoreline Modifications
630	Armored shoreline (sheet pile wall) along the Wynoochee River at the Montesano Municipal Wastewater Treatment Facility

**2.05.05 ECOLOGICAL FUNCTIONS**

The Wynoochee River Reach scored the highest on the functional assessment, but ranked closely with most other reaches in the city. Functional impairments are primarily related to vegetation. Although much of the vegetation appears intact, extensive forest cover and herbaceous plants are lacking, resulting in moderate scores for some functions. Development is limited but bank protection associated with the water treatment facility also affects the functions of this reach.

**A. Geologically Hazardous Areas**

The reach lies within the mapped tsunami inundation zone, based on 25-foot topographic contour lines that approximate potential tsunami inundation.

**B. Flood Hazard Areas**

The Wynoochee River Reach has 100 percent of its total area within the 100-year floodplain. A key flooding concern within the reach is the protection of the municipal wastewater treatment facility. Analysis of historical and current channel migration trends near the Mary’s River lumberyard and the adjacent meander in the Chehalis River was conducted in 2013 to evaluate alternatives for protecting the lumber mill and

Montesano's wastewater treatment facility from flooding. The area evaluated represents a majority of the Chehalis River Reach. The CMZ for streams in the city's shoreline jurisdiction has not been comprehensively analyzed or mapped, but it presents a hazard to future development.

**C. Wetlands**

Approximately 26 acres of identified freshwater wetlands exist within the Wynoochee River Reach, comprising 60 percent of the reach's total area.

**D. Streams**

Instream priority habitats exist within the Wynoochee River Reach, and serve as areas where a combination of physical, biological, and chemical processes and conditions interact to provide functional life history requirements for instream fish and wildlife resources.

**E. Other Fish and Wildlife Habitat Conservation Areas**

The Wynoochee River supports juvenile rearing areas for coho salmon, fall chinook, and winter steelhead covering approximately 0.2 miles; known spawning areas for fall chum covering approximately 0.2 miles; and bull trout, largemouth bass, cutthroat trout, and summer steelhead presence and migration areas covering approximately 0.2 miles in the shoreline jurisdiction. The Wynoochee River is designated as critical habitat for bull trout. Additionally, the reach contains habitat for bald eagles and waterfowl concentrations.

**F. Critical Aquifer Recharge Areas**

This reach overlies a wellhead protection area identified by WDOH.

## **2.06 REACH 6 – CHEHALIS RIVER**

The Chehalis River Reach (WRIA 22 – the Lower Chehalis Watershed) is approximately 67 acres in area. Land cover is comprised of 47 percent open water, 16 percent emergent herbaceous wetlands, 11 percent developed open space, 9 percent low intensity development, 6 percent medium intensity development, 5 percent barren land, 3 percent woody wetlands, 2 percent high intensity development, and 1 percent herbaceous. Six percent of the Chehalis River Reach is owned by WDFW.

**2.06.01 SHORELINE CHARACTERISTICS**

The Chehalis River originates from headwaters in steep sided valleys in southeastern Lewis County before transitioning into the broad farming valley that characterizes the lower watershed in Grays Harbor County and the city’s vicinity. The shoreline reach falls within the meandering river’s CMZ, which causes development along the shoreline to be heavily armored and reinforced to mitigate erosion concerns.

**2.06.02 LAND USE**

The Chehalis River Reach is zoned Heavy Commercial and Industrial Flood Hazard. Mary’s River lumberyard is the largest industrial use within the reach, which is mostly open water and wetlands. There is a commercial building and a construction-staging site in the reach. In addition, a WDFW boat launch is located in the reach, and it provides public access to the shoreline.

The zoning designations from the MMC found in the Chehalis River Reach are provided in Table 2-6 below.

**Table 2-6. Current Zoning Designations for the Chehalis River Reach.**

<b>Description</b>	<b>Symbol</b>	<b>Typical Uses</b>	<b>Percentage of Reach</b>
Industrial Flood Hazard	IFH	The purpose of the flood hazard overlay district is to regulate development located within areas subject to potential flood damage. This district is applied to areas that have at least a one percent chance of being inundated in any year.	74%
Heavy Commercial/Light Industrial	C-2	Heavy Commercial/Light Industrial districts serve to provide suitable area for commercial uses, which might detract from the character of general commercial activities, particularly in the downtown areas.	26%

**2.06.03 EXISTING PUBLIC ACCESS**

There is a concrete plank boat ramp into the Chehalis River at the most southern point of Montesano. Administered by WDFW, this boat launch provides access to the Chehalis River within one mile of downtown Montesano. A restroom facility and large parking area are also provided at this site. The site is prone to floods when the river level is high.

**2.06.04 SHORELINE MODIFICATIONS**

Multiple shoreline modifications are present throughout the Chehalis River Reach due to the presence of Mary’s River Lumber Co., Bowers Construction Inc., and the WDFW boat ramp within the reach. Also existing in the reach are the SR 107 Bridge and a 100-foot power line corridor adjacent to the east of the bridge. The power lines appear to be on fill and have piles in place to protect the bank.

The entire length of the lumberyard embankment contains a revetment comprised of sheet pile and rock armoring. The south end of the building platform is fill with rock revetment. An overwater structure exists within the lumberyard across from the east entrance, which has a line of piles 50 feet from the bank and spaced approximately 120 feet apart. This line of piles extends approximately 600 feet downstream and 200 feet upstream of the overwater structure. For protection of the lumber mill, a sheet pile wall was constructed along the Chehalis River shoreline. Bowers Construction has a fill pad and likely has a rock revetment along the bank of the river. There is also a possible revetment along the road prism along the bank upstream of building.

Table 2-7 lists the total length of dikes and levees for reaches where they are found in the available data, along with other shoreline modifications observed on aerial photographs in the course of doing reach functional assessments. Comprehensive information on shoreline modifications other than dikes and levees is not available for this reach.

**Table 2-7. Chehalis River Reach Shoreline Modifications.**

<b>Sum of Dike and Levee Length (feet)</b>	<b>Other Shoreline Modifications</b>
1,400	Armored shoreline (sheet pile wall) along the Chehalis River at Mary’s River lumberyard.

**2.06.05 ECOLOGICAL FUNCTIONS**

The Chehalis River Reach scored the lowest in the functional assessment, primarily due to shoreline modifications and development, altered vegetation, and impaired water quality. Although the Chehalis River Reach scored moderately low relative to the other reaches, some of the functional benefits of this reach are reflected in the score for the Wetland Complex Reach located in the Chehalis River floodplain.

**A. Geologically Hazardous Areas**

Soils along the bank of the Chehalis River are susceptible to sloughing or caving during shallow excavation, including udorthent soils that are susceptible to bank erosion. The

reach lies within the mapped tsunami inundation zone, based on 25-foot topographic contour lines that approximate potential tsunami inundation.

**B. Flood Hazard Areas**

The Chehalis River Reach has 100 percent of its total area within the 100-year floodplain. A key flooding concern within the reach is the protection of Mary's River lumberyard. Analysis of historical and current channel migration trends near the Mary's River lumberyard and the adjacent meander in the Chehalis River was conducted in 2013 to evaluate alternatives for protecting the lumber mill and Montesano's wastewater treatment facility from flooding. The area evaluated represents a majority of the Chehalis River Reach. The CMZ for streams in the city's shoreline jurisdiction has not been comprehensively analyzed or mapped, but it presents a hazard to future development.

**C. Wetlands**

Approximately 0.8 acres of identified freshwater wetlands exist within the Chehalis River Reach, comprising one percent of the reach's total area.

**D. Streams**

Instream priority habitats exist within the Chehalis River Reach, and serve as areas where a combination of physical, biological, and chemical processes and conditions interact to provide functional life history requirements for instream fish and wildlife resources.

**E. Other Fish and Wildlife Habitat Conservation Areas**

The Chehalis River supports juvenile rearing areas for coho salmon, fall chinook, and spring chinook covering approximately 1.3 miles; known spawning areas for fall chum covering approximately 1.3 miles; and bull trout, largemouth bass, cutthroat trout, summer chinook, and winter steelhead presence and migration areas covering approximately 1.3 miles in the shoreline jurisdiction. The Chehalis River is designated as critical habitat for bull trout. Additionally, the reach contains habitat for bald eagles and waterfowl concentrations.

**F. Critical Aquifer Recharge Areas**

This reach overlies a wellhead protection area identified by WDOH.

# 3 REASONABLY FORESEEABLE DEVELOPMENT

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## 3.01 CITY OF MONTESANO SHORELINE MASTER PROGRAM

This section provides a brief overview of the entire SMP and addresses how it protects ecological functions and processes from cumulative impacts. Revisions to the shoreline management policies and regulations were designed to improve protection of shoreline ecological functions and management of the resources identified in the SIC.

The SMP Guidelines include the following recommendations to help achieve no net loss of ecological functions:

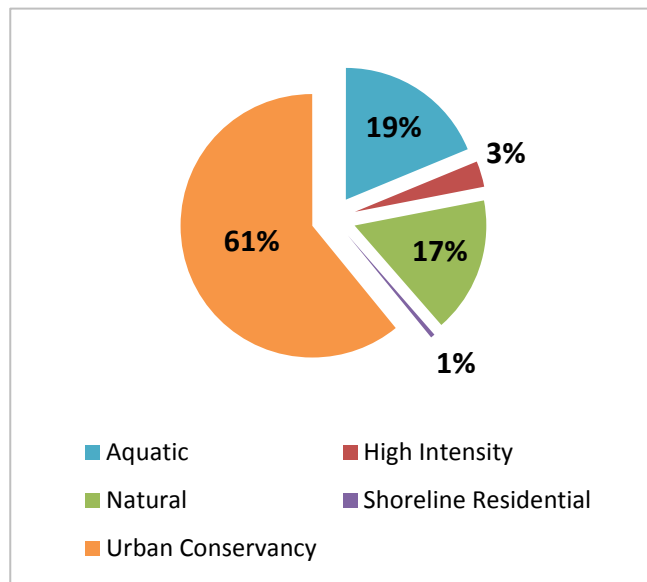
- Restrict uses that are not water-dependent or preferred shoreline uses.
- Require that all future shoreline development, including water-dependent and preferred uses, be carried out in a manner that limits further degradation of the shoreline environment.
- Establish appropriate shoreline environment designations. The environment designations must reflect the findings of the SIC. A shoreline landscape that is relatively unaltered should be designated Natural and protected from any use that would degrade the natural character of the shoreline
- Require buffers and setbacks. Vegetated buffers and building setbacks from those buffers reduce the impacts of development on the shoreline environment.
- In all cases, require mitigation sequencing. The SMP must include regulations that require developers to follow mitigation sequencing: avoid impacts, minimize impacts, rectify impacts, reduce impacts over time, compensate for impacts, monitor impacts, and take corrective measures.

Establish strong policies and regulations. Policies and regulations will define what type of development can occur in each shoreline environment designation, determine the level of review required through the type of shoreline permit, and set up mitigation measures and restoration requirements. Measures described in Sections 3.01.01 and 3.01.05 below will implement the above recommendations, helping the city achieve no net loss of shoreline ecological functions.

### 3.01.01 ENVIRONMENT DESIGNATIONS

The first level of protection provided by the SMP is the recognition of five different shoreline environment designation types in the city: Aquatic, High Intensity, Natural, Shoreline Residential, and Urban Conservancy. These environment designations were assigned based primarily on existing and proposed land uses, which implicitly encompasses differing levels of ecological functions and different probabilities and potentials for improvements of ecological functions, as well as the location of critical areas and their buffers. The designated area for each shoreline environment designation is outlined below.

New environment designations were developed based on a review of existing development patterns, biological and physical characteristics of the shoreline, and goals and aspirations of the community as expressed through the city's Comprehensive Plan, and associated plans and regulations, and the SMP Guidelines (WAC 173-26-211). The five environment designations include either the upland property from the Ordinary High Water Mark (OHWM) or water areas lying waterward of the OHWM. The percent of the shoreline jurisdiction that is within each of the five shoreline environment designations is displayed in Figure 3-1.



**Figure 3-1. Shoreline Environment Designation Distribution**

#### A. Aquatic

The Aquatic shoreline environment designation consists of all lands waterward of the OHWM in the city. The Aquatic shoreline environment designation is assigned to protect, restore, and manage the unique characteristics and resources of the areas waterward of the OHWM. All lands waterward of the OHWM in the city is in the Aquatic shoreline environment designation.

#### B. High Intensity

The High Intensity shoreline environment designation consists of shoreline areas that currently support high intensity uses related to commerce or are suitable for high intensity water-oriented commercial and transportation uses. The purpose of the High Intensity shoreline environment designation is to provide for high intensity water-

oriented commercial and transportation uses while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded.

The High Intensity shoreline environment designation is assigned to portions of Reach 5 – Wynoochee River and Reach 6 – Chehalis River that currently support high intensity uses related to commerce, industry, public facilities, or transportation, or are suitable for high intensity water-oriented uses.

**C. *Natural***

The Natural shoreline environment designation consists of shoreline areas where any of the following applies:

1. The shoreline area is ecologically intact and performing an important ecological function that would be damaged by human activity;
2. The shoreline area is of particular scientific and educational interest; or
3. The shoreline area is unable to support new development without significant negative impacts to ecological functions or human safety.

The purpose of the Natural shoreline environment designation is to protect shoreline areas that are relatively free of human influence or provide shoreline functions that are intolerant of human use. The Natural shoreline environment designation is assigned to portions of Reach 4 – Wetland Complex.

**D. *Shoreline Residential***

The Shoreline Residential shoreline environment designation consists of shoreline areas that are predominantly single-family residential development or are planned and platted for residential development. The Shoreline Residential shoreline environment designation is designed to provide for residential uses where necessary facilities for development can be provided. An additional purpose is to provide public access and recreational uses.

The Shoreline Residential shoreline environment designation is assigned to portions of Reach 3 – Lower Sylvia Creek.

**E. *Urban Conservancy***

The Urban Conservancy shoreline environment designation consists of those shorelines and shoreland areas that most closely match the following characteristics:



1. They are suitable for water-related or water-enjoyment uses;
2. Areas containing extensive forested and recreational uses;
3. They are open space, flood plain, wetland or wetland buffer, stream buffer or other sensitive areas that should not be more intensively developed;
4. They have the potential for development that is compatible with ecological restoration;
5. Areas with existing non-water dependent shoreline development that will not be expanded;
6. They have potential for ecological restoration;
7. Areas that retain important ecological functions, even though partially developed; or
8. Newly annexed areas where there is no designation.

The purpose of the Urban Conservancy shoreline environment designation is to protect and restore ecological functions of open space and other sensitive lands where they exist in urban and developed settings, while allowing a variety of water-oriented uses and uses consistent with effective environmental management. The designation will provide for ecological protection and rehabilitation in relatively undeveloped shoreline areas anticipated for or containing existing agricultural, recreation, and open space uses and limited development suitable to lands characterized by ecological and flood hazard constraints.

The Urban Conservancy shoreline environment designation is assigned to Reach 1 – Sylvia Lake, Reach 2 – Upper Sylvia Creek, and portions of Reach 4 – Wetland Complex, Reach 5 – Wynoochee River and Reach 6 – Chehalis River.

### **3.01.02 GENERAL GOALS, POLICIES, AND REGULATIONS**

General goals, policies, and regulations are included in SMP Chapter 4. There are numerous policies, with supporting regulations intended to protect the ecological functions of the shoreline and maintain, at a minimum, the current level of function. Sections of the proposed SMP that provide protection to ecological functions and ensure no net loss are referenced and summarized below.

- SMP Section 4.03: Environmental Impacts contains the mitigation sequence that applies to all development in the shoreline jurisdiction. This component of the SMP is critical to ensuring that no net loss of ecological function is achieved.

- SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation protects and restores the ecological functions and ecosystem-wide processes performed by critical areas, buffers, and vegetation in shoreline jurisdiction. Critical area protections, which are detailed in SMP Appendix 2: Critical Areas Regulations apply to the management of critical areas in shoreline jurisdiction in the city, including wetlands, critical aquifer recharge areas, frequently flooded areas, landslide hazard areas, erosion hazard areas, seismic hazard areas, and fish and wildlife habitat conservation areas. Within the SMP, buffers for rivers, lakes, and streams that are shorelines of the state are considered “shoreline buffers” while the buffers for all other critical areas regulated under SMP Appendix 2: Critical Areas Regulations are called “critical areas buffers.”

Provisions for shoreline vegetation conservation within this section include regulations regarding natural plant clearing, vegetation restoration, and the control of invasive weeds and non-native species. These provisions apply to any activity, development, or use in shoreline jurisdiction unless otherwise stated, whether or not that activity requires a shoreline permit. Such activities include clearing, grading, grubbing, and trimming of vegetation. Provisions also apply to vegetation protection and enhancement activities, but exclude agricultural activities and activities covered under the Washington State Forest Practices Act (FPA), unless otherwise stated.

- SMP Section 4.05: Flood Hazard Management limits development within the floodway, floodplain, and CMZ.

### **3.01.03 SPECIFIC SHORELINE USE POLICIES AND REGULATIONS**

The general policies and regulations in SMP Chapter 5 apply to all developments, uses, or activities in any shoreline environment designation in the shoreline jurisdiction.

- SMP Section 5.03: Allowed Shoreline Uses dictates what uses are allowed in the shoreline jurisdiction based on shoreline environment designation. Uses are prohibited that would harm ecologically sensitive areas.
- SMP Section 5.07: Boating and Water Access Facilities regulates piers, docks, and boat launches. Regulations are designed to protect aquatic resources.

### **3.01.04 SHORELINE MODIFICATION POLICIES AND REGULATIONS**

Shoreline modifications are generally related to construction of a physical element such as a dike, weir, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal. Shoreline modifications usually are undertaken in

support of or in preparation for a shoreline use; for example, fill (shoreline modification) required for a barge landing (industrial use) or dredging (shoreline modification) to allow for a boat launch (boating facility use). See Table 6-1 of the Montesano SMP for allowable shoreline modification activities within each of the shoreline environment designations.

- New development requiring bulkheads or similar hard shoreline stabilization is discouraged. All new shoreline development are required to be located and designed to prevent or minimize the need for shoreline modification activities.
- New development on steep or unstable slopes shall be set back sufficiently to ensure that shoreline stabilization will not be needed during the life of the building or structure.

**3.01.05 RESTORATION PLAN**

The city has identified several potential restoration opportunities that would assist in restoring shoreline processes and functions along the shorelines of the city. Some of these opportunities are listed in Table 3-1. Detailed descriptions of the projects identified by the city are included in the Restoration Plan.

**Table 3-1: General Restoration Opportunities.**

Restoration Opportunities	Description
Plant Riparian Vegetation	Loss of riparian vegetation along the Chehalis and Wynoochee Rivers has reduced near-bank shade. Climate change impacts are expected to raise water temperatures, so efforts to enhance near-bank shade through planting of native vegetation are recommended.
Enhance Access to Off-Channel Habitat	Channel connectivity is degraded near Montesano due to stream diking. The city should enhance access to off-channel habitat.
Railroad Grade Improvements	Convert the railroad grade along the northwest side of State Route 107 to a bicycle and pedestrian trail and restore native vegetation in the floodplain.
Restore Riparian Buffers	The city should encourage private landowners to restore native riparian buffers and to manage streamside grazing. This may be completed through regulations or incentives that limit livestock grazing and vegetation disturbance in the city's

Restoration Opportunities	Description
	shoreline jurisdiction.

### 3.02 REACH 1 – SYLVIA LAKE

According to the SMP Guidelines, the CIA should evaluate the reasonably foreseeable future development and use of the shoreline that is likely to occur based upon the proposed shoreline environment designations within the planning period. The planning period for the SMP is 20 years. Information in this section is drawn primarily from the SIC prepared for the city.

The zoning in the Sylvania Lake Reach consists of City Forest. Forest uses are limited to city-owned forestland suitable for forest activities or may serve as open space. Areas within this reach are largely undeveloped and they will continue to be parks and open space unless changes in the adopted zoning are made.

The previously permitted and projected permitted actions within the reach are listed in Table 3-2 below. Projected permitted actions will be associated with Lake Sylvania State Park and are based on the Lake Sylvania and Schafer State Parks Management Plan (2010).

**Table 3-2. Previously Permitted and Projected Development in the Sylvania Lake Reach.**

Environment Designation	Potential Permitted Actions	Number of Permitted Actions in Previous 10 Years (2002-2012)	Projected Number of Permitted Actions in Next 20 Years
Urban Conservancy	<ul style="list-style-type: none"> <li>• Water-oriented recreational development</li> <li>• Boating facilities</li> <li>• Cabins and camping facilities</li> <li>• Recreational trails</li> <li>• Signage</li> <li>• New roads</li> <li>• Parking</li> <li>• Dam maintenance</li> </ul>	0	2

#### 3.02.01 PATTERNS OF SHORELINE ACTIVITY

The Sylvania Lake Reach contains six parcels, as shown in Table 3-3. Of these parcels, five are vacant. All six parcels are protected from private development by public ownership.

**Table 3-3. Vacant and Developed Parcels in the Sylvia Lake Reach.**

<b>Sylvia Lake</b>	<b>Number of Parcels</b>	<b>Area in Acres</b>
Vacant	5	46
Developed	1	164
<b>Total</b>	<b>6</b>	<b>210</b>

**3.02.02 RESIDENTIAL DEVELOPMENT**

The Sylvia Lake Reach contains no residentially zoned parcels.

**3.02.03 COMMERCIAL, INDUSTRIAL, AND UTILITY DEVELOPMENT**

Due to the environmental designation of Urban Conservancy and current use of the areas as a state park, commercial and industrial uses would not be permitted actions within the Sylvia Lake Reach. Any future utility development would be related to recreational development, which is limited to water-oriented uses on the lake and new minor trails near the current recreational activities provided at the lake.

**3.02.04 RESOURCE DEVELOPMENT**

The entirety of the Upper Sylvia Creek Reach is zoned as City Forest, and as such is likely to be managed under existing state forest practice rules. This reduces the potential for impacts on ecological functions of the shoreline.

**3.02.05 RECREATIONAL DEVELOPMENT**

Future development within the shoreline jurisdiction is likely to support water-oriented recreational uses, which is considered a preferred use under the SMA in reaches designated Urban Conservancy. Development may occur within the state park, including new spaces for camping or cabins, trail development, and updated signage

**3.02.06 SHORELINE MODIFICATIONS**

New shoreline modifications are not expected in the Sylvia Lake Reach. Maintenance of existing shoreline modifications, including the bridge and existing dam in Lake Sylvia State Park, is possible over the 20-year planning horizon.

**3.02.07 BOATING FACILITIES**

New boating facilities are not planned in this reach. Improvement of the existing boat launch is identified in the Lake Sylvia and Schaefer State Parks Management Plan and is likely to occur within the 20-year planning horizon.

### **3.02.08 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION**

There are five vacant parcels totaling 46 acres intersecting the shoreline jurisdiction. All the vacant parcels in this reach are in the Urban Conservancy shoreline environment designation, minimizing possible development. Development in the Aquatic shoreline environment is limited to modification or maintenance of existing in-water structures located in the State Park.

### **3.03 REACH 2 – UPPER SYLVIA CREEK**

The Upper Sylvania Creek Reach consists of undeveloped land that is zoned City Forest. Reach 2 – Upper Sylvania Creek lies within the floodplain of Sylvania Creek and as such will likely remain undeveloped land, unless changes are made to the adopted zoning code. The proposed environmental designation of Urban Conservancy will limit future permitted actions within the Upper Sylvania Creek Reach.

There were no permitted actions between 2002 and 2012 in the Upper Sylvania Creek Reach. Any permitted actions over the 20-year planning horizon will be associated with the city's forest practice activities.

#### **3.03.01 PATTERNS OF SHORELINE ACTIVITY**

The Upper Sylvania Creek Reach contains two parcels totaling 111 acres. Both of the parcels are vacant and owned by the city as part of the City Forest.

#### **3.03.02 RESIDENTIAL DEVELOPMENT**

The Upper Sylvania Creek Reach contains no residentially zoned parcels.

#### **3.03.03 COMMERCIAL, INDUSTRIAL, AND UTILITY DEVELOPMENT**

The Upper Sylvania Creek Reach contains no commercially and industrially zoned parcels.

#### **3.03.04 RESOURCE DEVELOPMENT**

The entirety of the Upper Sylvania Creek Reach is zoned as City Forest, and as such is likely to be managed under existing state forest practice rules. This reduces the potential for impacts on ecological functions of the shoreline.

#### **3.03.05 RECREATIONAL DEVELOPMENT**

Future development within the shoreline jurisdiction not associated with forestry activities is likely to support water-oriented recreational uses, which is considered a preferred use under the SMA in reaches designated Urban Conservancy.

### **3.03.06 SHORELINE MODIFICATIONS**

No new shoreline modification measures are expected in the Upper Sylvania Creek Reach.

### **3.03.07 BOATING FACILITIES**

New boating facilities are not planned in this reach. Piers and docks are allowed by a conditional use permit approval in the Upper Sylvania Creek reach, but are not likely to be built in this location given topological restraints in the reach.

### **3.03.08 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION**

As stated above, there are two vacant parcels totaling 111 acres within the Urban Conservancy shoreline environment. Development within this reach is limited and will be associated with the City Forest. Development in the Aquatic shoreline environment is not expected over the 20-year planning horizon. Piers and docks are prohibited in Sylvania Creek, and shoreline modifications are unlikely as the entire reach is within the City Forest.

## **3.04 REACH 3 – LOWER SYLVIA CREEK**

The zoning in the Lower Sylvania Creek Reach consists largely of low-density residential. However, a small amount of moderate density residential and major public use district exists within the shoreline jurisdiction. Only a small fraction of the parcels is located in the shoreline jurisdiction. Existing development in this reach consists of single-family residences. While lots that intersect the shoreline jurisdiction are developed, the majority of the single-family homes are located outside of the shoreline jurisdiction boundary. There are 6.5 acres remaining that could be developed as single-family residential within this reach.

The previously permitted and projected actions within the reach are listed in Table 3-4 below.

**Table 3-4. Previously Permitted and Projected Development in Lower Sylvania Creek Reach.**

<b>Environment Designation</b>	<b>Potential Permitted Actions</b>	<b>Number of Permitted Actions in Previous 10 Years (2002-2012)</b>	<b>Projected Number of Permitted Actions in Next 20 Years</b>
Shoreline Residential	<ul style="list-style-type: none"><li>• Water-oriented recreational development</li><li>• Single family residential development</li><li>• Minor trail</li></ul>	1 Single Family Dwelling	2

Environment Designation	Potential Permitted Actions	Number of Permitted Actions in Previous 10 Years (2002-2012)	Projected Number of Permitted Actions in Next 20 Years
	development <ul style="list-style-type: none"> <li>• Parking</li> <li>• New roads related to permitted shoreline uses</li> </ul>		

**3.04.01 PATTERNS OF SHORELINE ACTIVITY**

The Lower Sylvania Creek Reach contains 17 parcels, as shown in Table 3-5. Of these parcels, nine are vacant. No parcels in the reach are protected from development.

**Table 3-5. Vacant and Developed Parcels in the Lower Sylvania Creek Reach.**

Lower Sylvania Creek	Number of Parcels	Area in Acres
Vacant	9	11
Developed	8	44
<b>Total</b>	<b>17</b>	<b>55</b>

**3.04.02 RESIDENTIAL DEVELOPMENT**

The Lower Sylvania Creek Reach contains 16 parcels zoned either R-1 or R-2 (Low-Density Residential and Moderate-Density Residential). Of these parcels, nine are vacant. Future development within this reach will likely include residential development on vacant lots and redevelopment of existing lots.

**3.04.03 COMMERCIAL, INDUSTRIAL, AND UTILITY DEVELOPMENT**

Due to the environmental designation of Shoreline Residential, commercial and industrial uses would not be permitted actions within the Lower Sylvania Creek Reach.

**3.04.04 RESOURCE DEVELOPMENT**

The Lower Sylvania Reach contains no parcels zoned for resource uses.

**3.04.05 RECREATIONAL DEVELOPMENT**

Future development within the shoreline jurisdiction is likely to support recreational uses, which is considered a preferred use under the SMA in reaches designated Urban Conservancy.



### **3.04.06 SHORELINE MODIFICATIONS**

No new shoreline modifications are expected in the Lower Sylvia Creek Reach. Ongoing maintenance of existing shoreline modifications should be anticipated.

### **3.04.07 BOATING FACILITIES**

No new boating facilities are expected in the Lower Sylvia Creek Reach. Piers and docks are allowed by a conditional use permit approval in the Lower Sylvia Creek Reach, but are not likely to be built in this location given topological restraints in the reach.

### **3.04.08 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION**

There are nine vacant parcels totaling 11 acres intersecting the shoreline jurisdiction. All the vacant parcels in this reach are within Urban Conservancy shoreline environment designation, minimizing possible development. Development in the Aquatic shoreline environment is not expected over the 20-year planning horizon. Piers and docks are prohibited in Sylvia Creek, and shoreline stabilization measures are unlikely due to the size of the creek, the abundance of wetland areas, and the existing development pattern.

## **3.05 REACH 4 – WETLAND COMPLEX**

The zoning in the Wetland Complex Reach consists of Industrial Flood Hazard, Low Density Residential, and Heavy Commercial. While this area has been zoned for Low Density Residential, it is not particularly suited for development because over 60 percent of the land is covered by wetlands and is within the Chehalis River floodplain.

The proposed environmental designations of Natural and Urban Conservancy would limit future permitted actions within the Wetland Complex Reach. The previously permitted and projected actions within the reach are listed in Table 3-6 below.

**Table 3-6. Previously Permitted and Projected Development in the Wetland Complex Reach.**

<b>Environment Designation</b>	<b>Potential Permitted Actions</b>	<b>Number of Permitted Actions in Previous 10 Years (2002-2012)</b>	<b>Projected Number of Permitted Actions in Next 20 Years</b>
Natural	<ul style="list-style-type: none"><li>Limited by wetlands and floodplain</li></ul>	None	None
Urban Conservancy	<ul style="list-style-type: none"><li>Agriculture</li><li>Forest Practices</li></ul>	<ul style="list-style-type: none"><li>1 Pending Application for an</li></ul>	1

Environment Designation	Potential Permitted Actions	Number of Permitted Actions in Previous 10 Years (2002-2012)	Projected Number of Permitted Actions in Next 20 Years
	<ul style="list-style-type: none"> <li>• Parking</li> <li>• Water-oriented recreational development</li> <li>• Minor trail development</li> <li>• Signage</li> <li>• New roads related to permitted shoreline activities</li> <li>• Public utilities</li> <li>• U.S. Highway 12 modifications</li> </ul>	RV Park	

**3.05.01 PATTERNS OF SHORELINE ACTIVITY**

The Wetland Complex Reach contains 16 parcels, as shown in Table 3-7. Of these parcels, 15 are vacant. One parcel is protected from development by public or conservation group ownership, conservation easements, or similar mechanisms.

**Table 3-7. Vacant and Developed Parcels in the Wetland Complex Reach.**

Wetland Complex	Number of Parcels	Area in Acres
Vacant	15	128
Developed	1	8
<b>Total</b>	<b>16</b>	<b>136</b>

**3.05.02 RESIDENTIAL DEVELOPMENT**

The Wetland Complex Reach has no residentially zoned parcels.

**3.05.03 COMMERCIAL, INDUSTRIAL, AND UTILITY DEVELOPMENT**

The city has identified the Wetland Complex Reach as one of the most appropriate areas for heavy industrial and commercial development, but due to the existing environmental constraints and proposed designations of Natural and Urban Conservancy, these uses are not likely to locate in the reach.

#### **3.05.04 RESOURCE DEVELOPMENT**

It should be anticipated that the existing tree farm located in the Wetland Complex Reach would continue operations.

#### **3.05.05 RECREATIONAL DEVELOPMENT**

Future development within the shoreline jurisdiction is likely to support water-oriented recreational uses in parcels designated Urban Conservancy, where it is considered a preferred use. In parcels designated as Natural shorelines, recreational development would be considered a conditional use.

#### **3.05.06 SHORELINE MODIFICATIONS**

New shoreline modifications are not expected in the Wetland Complex Reach. This reach is comprised of wetlands.

#### **3.05.07 BOATING FACILITIES**

Boating facilities will not be located in this reach as it contains wetland areas that do not have direct access to open water.

#### **3.05.08 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION**

There are 15 vacant parcels totaling 128 acres intersecting the shoreline jurisdiction, as shown in Table 3-8. All the vacant parcels in this reach are within Natural or Urban Conservancy shoreline environment designations, minimizing possible development. The presence of wetlands further limits development potential in this reach.

**Table 3-8. Development Potential by Shoreline Environment Designation in the Wetland Complex Reach.**

<b>Shoreline Environment Designation</b>	<b>Number of Vacant Parcels</b>	<b>Area in Acres</b>
Natural	9	72
Urban Conservancy	6	56
<b>Total</b>	<b>15</b>	<b>128</b>

### **3.06 REACH 5 – WYNOOCHEE RIVER**

The Wynoochee River Reach zoning consists mostly of Heavy Commercial and Industrial Flood Hazard. This reach lies within the floodplain of the Wynoochee and Chehalis Rivers. While the

city has indicated that the most appropriate areas for industrial development lie in this reach south of U.S. Highway 12, growth and development within this area must consider the requirements and limitations that are imposed by flood hazards.

The proposed environmental designations of High Intensity and Urban Conservancy dictate the permitted actions within the Wynoochee River Reach. The previously permitted and projected permitted actions within the reach are listed in Table 3-9 below.

**Table 3-9. Previously Permitted and Projected Development in Wynoochee River Reach.**

Environment Designation	Potential Permitted Actions	Number of Permitted Actions in Previous 10 Years (2002-2012)	Projected Number of Permitted Actions in Next 20 Years
High Intensity	<ul style="list-style-type: none"> <li>• Boating facilities</li> <li>• Water-oriented recreational development</li> <li>• Nonwater-oriented recreational development</li> <li>• Minor trail development</li> <li>• Signage</li> <li>• New roads related to permitted shoreline activities</li> <li>• Public utilities</li> </ul>	None	None
Urban Conservancy	<ul style="list-style-type: none"> <li>• Water-oriented recreational development</li> <li>• Minor trail development</li> <li>• Signage</li> <li>• New roads related to permitted shoreline activities</li> <li>• Public utilities</li> </ul>	None	1

**3.06.01 PATTERNS OF SHORELINE ACTIVITY**

The Wynoochee River Reach contains six parcels, as shown in Table 3-10. Of these parcels, three are vacant. One of the developed parcels contains the city’s wastewater treatment plant.

**Table 3-10. Vacant and Developed Parcels in the Wynoochee River Reach.**

<b>Wynoochee River</b>	<b>Number of Parcels</b>	<b>Area in Acres</b>
Vacant	3	66
Developed	3	8
<b>Total</b>	<b>6</b>	<b>74</b>

**3.06.02 RESIDENTIAL DEVELOPMENT**

The Wynoochee River Reach contains no residentially zoned parcels.

**3.06.03 COMMERCIAL, INDUSTRIAL, AND UTILITY DEVELOPMENT**

The Wynoochee River Reach contains six parcels zoned C-2 or IFH (Heavy Commercial/Light Industrial or Industrial Flood Hazard). However, commercial and industrial uses are not permitted in the Urban Conservancy shoreline environment. Development of this type would be associated with the existing wastewater treatment plant.

**3.06.04 RESOURCE DEVELOPMENT**

The Wynoochee River Reach contains no parcels zoned for resource uses.

**3.06.05 RECREATIONAL DEVELOPMENT**

Future development within the shoreline jurisdiction is likely to support water-oriented recreational uses, which is considered a preferred use under the SMA in reaches designated Urban Conservancy. No recreational development is planned at this time.

**3.06.06 SHORELINE MODIFICATIONS**

There is an approximately 640 linear foot sheet pile wall protecting the city's wastewater treatment plant. Ongoing maintenance of existing shoreline stabilization measures is expected in the Wynoochee River Reach. New shoreline modifications may be required due to migration of the Wynoochee River channel.

**3.06.07 BOATING FACILITIES**

New boating facilities are not anticipated within the 20-year planning horizon.

**3.06.08 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION**

There are three vacant parcels totaling 66 acres intersecting the shoreline jurisdiction. All the vacant parcels in this reach are under in the Urban Conservancy shoreline environment designation, minimizing possible development.

In the aquatic shoreline environment designation, further shoreline modification may be constructed if the existing sheet pile wall does not provide sufficient protection for the city’s wastewater treatment plant. Pier, docks, and other in-water structures are not anticipated in the 20-year planning horizon.

### 3.07 REACH 6 – CHEHALIS RIVER

The Chehalis River Reach zoning consists of Industrial Flood Hazard and Heavy Commercial. This reach also lies within the floodplain of the Chehalis River; however, there is some heavy commercial development located within this reach. Any future development will need to consider the requirements and limitations in place due to flooding hazards.

The previously permitted and projected permitted actions within the reach are listed in Table 3-11 below.

**Table 3-11. Previously Permitted and Projected Development in the Chehalis River Reach.**

Environment Designation	Potential Permitted Actions	Number of Permitted Actions in Previous 10 Years (2002-2012)	Projected Number of Permitted Actions in Next 20 Years
High Intensity	<ul style="list-style-type: none"> <li>• Boating facilities</li> <li>• Commercial development</li> <li>• Industrial development</li> <li>• Parking</li> <li>• Water-oriented recreational development</li> <li>• Nonwater-oriented recreational development</li> <li>• Minor trail development</li> <li>• Signage</li> <li>• New roads related to permitted shoreline activities</li> <li>• Public utilities</li> </ul>	<ul style="list-style-type: none"> <li>• 1 Commercial Office</li> <li>• 1 Warehouse</li> </ul>	2
Urban Conservancy	<ul style="list-style-type: none"> <li>• Parking</li> <li>• Water-oriented recreational development</li> <li>• Minor trail development</li> <li>• Residential development</li> <li>• Signage</li> <li>• New roads related to</li> </ul>	None	None

<b>Environment Designation</b>	<b>Potential Permitted Actions</b>	<b>Number of Permitted Actions in Previous 10 Years (2002-2012)</b>	<b>Projected Number of Permitted Actions in Next 20 Years</b>
	permitted shoreline activities • Public utilities		

**3.07.01 PATTERNS OF SHORELINE ACTIVITY**

The Chehalis River Reach contains 19 parcels, as shown in Table 3-12. Of these parcels, 16 are vacant. One parcel is protected from development by public or conservation group ownership, conservation easements, or similar mechanisms.

**Table 3-12. Vacant and Developed Parcels in the Chehalis River Reach.**

<b>Chehalis River</b>	<b>Number of Parcels</b>	<b>Area in Acres</b>
Vacant	16	30
Developed	3	3
<b>Total</b>	<b>19</b>	<b>33</b>

**3.07.02 RESIDENTIAL DEVELOPMENT**

The Chehalis River Reach contains no residentially zoned parcels.

**3.07.03 COMMERCIAL, INDUSTRIAL, AND UTILITY DEVELOPMENT**

The Chehalis River Reach contains 19 parcels available for commercial, industrial, or utility development. Of these parcels, 16 totaling 30 acres, are vacant. New development within this reach is limited by channel migration, the 100-year floodplain, and the presence of wetlands.

**3.07.04 RESOURCE DEVELOPMENT**

The Chehalis River Reach contains no parcels zoned for resource uses.

**3.07.05 RECREATIONAL DEVELOPMENT**

Future development within the reach may support recreational uses, which is considered a preferred use under the SMA in reaches designated High Intensity and Urban Conservancy.

**3.07.06 SHORELINE MODIFICATIONS**

There is currently 1,400 linear feet of sheet pile wall protecting Mary’s River Lumber. Ongoing maintenance of existing shoreline stabilization measures is expected in the Chehalis River

Reach. New shoreline modification may be required depending on channel migration of the Chehalis River.

**3.07.07 BOATING FACILITIES**

No new boating facilities are planned for the Chehalis River Reach. Modification of the existing WDFW boat launch should be anticipated within the 20-year planning horizon.

**3.07.08 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION**

There are 16 vacant parcels totaling 30 acres intersecting the shoreline jurisdiction, as shown in Table 3-13. The vacant parcels in this reach are designated either High Intensity or Urban Conservancy.

**Table 3-13. Development Potential by Shoreline Environment Designation in the Chehalis River Reach.**

<b>Shoreline Environment Designation</b>	<b>Number of Vacant Parcels</b>	<b>Area in Acres</b>
High Intensity	4	18
Urban Conservancy	12	12
<b>Total</b>	<b>16</b>	<b>30</b>

The aquatic shoreline environment designation includes the Chehalis River. The river is heavily modified along the Mary’s River Lumber site. Further modification will likely be associated with maintenance of existing shoreline armoring and modification of the existing WDFW boat launch.



# 4 STATE, LOCAL, AND FEDERAL REGULATIONS

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## 4.01 LOCAL PLANS AND REGULATIONS

Local plans and regulations other than the SMP that influence development activity in the shoreline are listed below.

### 4.01.01 *COMPREHENSIVE PLAN*

The city's Comprehensive Plan, last updated in 2008, contains Land Use and Zoning elements, which include goals and policies to guide development of residential, commercial, industrial, and recreational lands, as well as goals and policies to protect sensitive environmental resources and shoreline areas. Additionally, the Comprehensive Plan addresses economic, utility, and transportation goals and policies that will guide development in respective sectors.

### 4.01.02 *MUNICIPAL REGULATIONS*

The city provides development guidelines and public works standards that would be applicable to development in the shoreline jurisdiction in MMC Title 15 – Building Construction and Fire Prevention. The city's storm drainage regulations are found in MMC 12.32 (Ordinance 1419, 1999). The city regulates fill and grade activities through clearing and grading and clearing and excavation permits. Landfill or excavation exceeding 100 cubic yards is regulated through SEPA.

The zoning regulations applicable throughout the city are found in MMC Title 17 – Zoning, and were adopted as a means of implementing the goals, objectives, and policies of the Montesano Comprehensive Plan, which serves the public health, safety, and general welfare and encourages the most appropriate use of land. Included in the adopted zoning regulations is the flood hazard overlay district (MMC 17.40), which regulates development located within areas subject to potential flood damage. It is intended that this district be applied to those areas where the best available information indicated that the land has at least one percent chance of being inundated in any year.

### 4.01.03 *CRITICAL AREAS REGULATIONS*

The city adopted its Critical Areas Ordinance (CAO) in 2010, which has been codified in Chapter 14.30 of the MMC. The CAO states that

*“...flood, erosion, landslide and seismic hazard areas, slopes greater than forty percent and steeper, streams, wetlands and their buffers as defined by the city’s wetlands protection ordinance together constitute sensitive areas that are of special concern to the city.”*

The purposes of the code include protecting public health, safety, and welfare by “preventing any adverse impacts to water quality, wetlands, and streams (MMC 14.30.010). MMC 14.30.070 requires stream buffers that range from 25 feet to 100 feet depending on the Washington State Department of Natural Resources (WDNR) water type. No buffer guidance or wetlands protection provisions are provided for wetlands although wetlands are present within the city. The city will be updating its critical area buffer requirements in conjunction with this SMP update.

## **4.02 STATE REGULATIONS**

Aside from the SMA, Washington state regulations most relevant to development in shorelines include the Aquatic Lands Act, Forest Practices Act (Chapter 76.09 RCW) (FPA), Hydraulic Code, SEPA, and Watershed Planning Act. Those regulations are summarized below.

A number of state agencies, such as Ecology, the WDFW, and the WDNR are involved in implementing these regulations. Ecology can review all shoreline projects that require a shoreline permit, but has specific regulatory authority over shoreline conditional use permits and shoreline variances. Other agency reviews of shoreline developments are typically triggered by in-water or over-water work, discharges of fill or pollutants into the water, or substantial land clearing.

Depending on the nature of the proposed development, state regulations can play an important role in the design and implementation of a shoreline project, ensuring that impacts on shoreline functions and values are avoided, minimized, and/or mitigated.

### **4.02.01 AQUATIC LANDS ACT**

In 1984, the Washington State Legislature passed what is commonly referred to as the Aquatic Lands Act (Chapter 79.105 through 79.135 RCW) and delegated to WDNR the responsibility to manage state-owned aquatic lands. The aquatic lands statutes ( RCW 79.100 through 79.145) direct WDNR to manage aquatic lands to achieve a balance of public benefits, including public access, navigation and commerce, environmental protection, renewable resource use, and revenue generation when consistent with the other mandates. In addition, it also identifies water-dependent uses as priority uses for the transport of useful commerce.

If a proposed project requires the use of state-owned aquatic lands, the project may be required to obtain an Aquatic Use Authorization from WDNR and enter into a lease agreement. WDNR recommends that all proponents of a project waterward of the OHWM contact WDNR to determine whether the project will be located on state-owned aquatic lands, and, if so, to determine whether the land is available, whether the proposed use is appropriate, and how the project can be constructed to avoid or minimize impacts to aquatic resources.

#### **4.02.02 FOREST PRACTICES ACT**

The FPA regulates activities related to growing, harvesting, or processing timber. The FPA is implemented by the Forest Practices Rules, which are administered by the WDNR. The Forest Practices Rules establish standards for forest practices such as timber harvest, pre-commercial thinning, road construction, fertilization, and forest chemical application. The rules are designed to protect public resources such as water quality and fish habitat while maintaining a viable timber industry.

Forest practices are not regulated under the SMA unless the land is being converted to a use besides growing trees, or the commercial harvest is within 200 feet of a shoreline of statewide significance and exceeds the harvest limits established in the SMA. Conversions must comply with the provisions in the SMP for the new use.

#### **4.02.03 HYDRAULIC CODE**

Chapter 77.55 RCW, the Hydraulic Code, gives the WDFW the authority to review, condition, and approve or deny any construction activity that will use, divert, obstruct, or change the bed or flow of state waters. These activities include projects such as the installation or modification of piers, shoreline stabilization measures, culverts, and bridges. These types of projects must obtain a Hydraulic Project Approval from WDFW, which will contain conditions intended to prevent damage to fish and other aquatic life, and their habitats. In some cases, the project may be denied if significant impacts would occur that could not be adequately mitigated.

#### **4.02.04 STATE ENVIRONMENTAL POLICY ACT**

SEPA provides a way to identify possible environmental impacts that may result from governmental decisions. These decisions may be related to issuing permits for private projects, constructing public facilities, or adopting regulations, policies or plans. Information provided during the SEPA review process helps agency decision-makers, applicants, and the public understand how a proposal will affect the environment. This information can be used to change a proposal to reduce likely impacts, or to condition or deny a proposal when adverse environmental impacts are identified.

#### **4.02.05 WATERSHED PLANNING ACT**

The Watershed Planning Act of 1998 (Chapter 90.82 RCW) was passed to encourage local planning of local water resources, recognizing that there are citizens and entities in each watershed that have the greatest knowledge of both the resources and the aspirations of those who live and work in the watershed; and who have the greatest stake in the proper, long-term management of the resources.

### **4.03 FEDERAL REGULATIONS**

Federal regulations most pertinent to development in the shorelines within the city include the Clean Water Act, the Endangered Species Act (ESA), the Rivers and Harbors Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Those regulations are summarized below. Other relevant federal regulations include the National Environmental Policy Act, Anadromous Fish Conservation Act, Clean Air Act, and Migratory Bird Treaty Act.

A variety of agencies, such as the US Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), and US Fish and Wildlife Service (USFWS), are involved in implementing these regulations, with review of shoreline development typically triggered by in-water or over-water work, or discharges of fill or pollutants into the water. Depending on the nature of the proposed development, federal regulations can play an important role in the design and implementation of a shoreline project, ensuring that impacts to shoreline functions and values are avoided, minimized, and/or mitigated.

#### **4.03.01 CLEAN WATER ACT**

Two sections of the federal Clean Water Act are particularly relevant to regulating activity in shoreline areas: Section 402 and Section 404.

Section 402 required the United States Environmental Protection Agency (EPA) to develop and implement the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Municipal, industrial, and other facilities must obtain permits if their discharges go directly to surface waters. In Washington State, Ecology has been delegated the responsibility by EPA for managing implementation of this program.

Section 404 of the Clean Water Act provides the USACE, under oversight by the EPA, with the authority to regulate the discharge of dredged or fill material into waters of the United States,

including wetlands. Under Section 404, the extent of USACE jurisdiction extends to mean high water line. USACE must review and approve many activities in the shoreline, including, but not limited to, depositing fill, dredged, or excavated material in waters and/or adjacent wetlands; shoreline and wetland restoration projects; and culvert installation or replacement.

#### **4.03.02 ENDANGERED SPECIES ACT**

Section 9 of the ESA prohibits the “take” of listed species. “Take” has been defined in Section 3 of the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The take prohibitions of the ESA apply to everyone, so any action of the city that results in a take of listed fish or wildlife would be a violation of the ESA and expose the city to risk of lawsuit. Per Section 7 of the ESA, USACE must consult with the NMFS and the USFWS on any projects that fall within USACE jurisdiction (e.g., Clean Water Act Section 404 or Rivers and Harbors Act Section 10 permits) that could affect species listed under the ESA. These agencies ensure that the project includes impact minimization and compensation measures for protection of listed species and their habitats.

#### **4.03.03 RIVERS AND HARBORS ACT**

Section 10 of the Rivers and Harbors Act of 1899 provides USACE with the authority to regulate activities that may affect navigable waters of the United States. These waters are subject to the ebb and flow of the tide. They also be currently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The Chehalis River is included in the list of federally designated navigable waters up to river mile 68.0. Under Section 10, the extent of USACE jurisdiction in navigable waterways extends to the mean high water line. Proposals to construct new or modify existing in-water structures (including, but not limited to, piers, marinas, bulkheads, and breakwaters), to excavate or dredge, or to alter or modify the course, location, condition, or capacity of navigable waters must be reviewed and approved by USACE.

#### **4.03.04 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT**

CERCLA, commonly known as Superfund, established requirements for closed and abandoned hazardous waste sites, established liability for releases of hazardous waste at such sites, and established a fund to provide for cleanup when no responsible party could be identified. The law authorizes two kinds of response actions:

- Short-term removals, for which actions may be taken to address releases or threatened releases requiring prompt response

- Long-term remedial response actions, which permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. Such actions can be conducted only at sites listed on EPA's National Priorities List.

# 5 NET EFFECT ON ECOLOGICAL FUNCTIONS

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As described in the previous chapters, the proposed SMP provides a substantially increased level of protection to shoreline ecological functions. Implementation of the proposed SMP is expected to protect shorelines within the city, resulting in no net loss of shoreline ecological function. In addition, the application of the SMP may improve ecological functions over time through restoration efforts in targeted areas, such as in the Natural and Urban Conservancy environment designations.

State and federal regulations, acting in concert with this SMP, will provide further assurances of improved shoreline ecological functions over time. Together with the implementation of the Shoreline Restoration Plan, the SMP is expected to begin to address the enhancement and restoration of shoreline functions in those areas where they are currently impaired.

## 5.01 EFFECTS OF SMP PROVISIONS

Despite a relatively limited potential or likelihood for significant development to occur over the 20 year planning period, it is an overall goal of the SMP and SMP update process to ensure no net loss of shoreline ecological function, as well as the long-term enhancement, of unique shoreline features, natural resources, and fish and wildlife habitat. The SIC identified four ecologic function categories including hydrologic, vegetation, hyporheic, and habitat.

Table 7-5 and Table 7-6 provide a summary of potential cumulative impacts to shoreline ecological function categories associated with reasonably foreseeable future development, and the elements included in the SMP that act as countermeasures toward ensuring no net loss of ecological function. Table 7-7 provides a summary of the SMP provisions, goals, policies, and regulations that support no net loss of ecological functions in the city's shoreline jurisdiction. It also summarizes the effects of cumulative impacts on shoreline functions.

## 5.02 NET EFFECT

As describe above, the proposed SMP provides a substantial level of protection for shoreline ecological functions through strategies such as shoreline buffers and mitigation requirements where impacts are not otherwise avoided, resulting in no net loss of ecological function. Additional protection and potential for enhancement of ecological functions is provided

through consistency with other federal, state, and local laws and policies. Together, with implementation of the Shoreline Restoration Plan, the proposed SMP has high potential for improving ecological functions in areas of the shoreline jurisdiction where they are currently impaired. Therefore, the cumulative impacts of development in the shoreline jurisdiction are expected to result in no net loss of shoreline ecological functions.

### **5.03 UNANTICIPATED CUMULATIVE IMPACTS**

In accordance with (WAC 173-26-201(3)(d)(iii)), the SMP has been developed to avoid or mitigate unanticipated or uncommon impacts that cannot be reasonably identified at this time. Impact avoidance and mitigation will occur during the city's permit review process for future development in the shoreline jurisdiction. Conditional use permits will be required for development proposals or shoreline uses that are not classified or set forth in the SMP.

Mitigation sequencing will be applied to all development during permit review under SMP Section 4.04: Environmental Impacts to avoid new incremental impacts to shoreline ecological functions. To ensure mitigation sequencing is applied, the city's critical areas regulations, which regulate wetlands, streams, fish and wildlife habitat areas, and other critical areas, was modified to reflect the requirements of the SMA and included as SMP Appendix 2: Critical Areas Regulations.

Additionally, minimum criteria for review and approval of conditional use permits have been incorporated into the SMP administration provisions pursuant to WAC 173-27-210 and WAC 173-27-160. The criteria include the provision that

*"...the proposed use will cause no unreasonably adverse effects to the city's shoreline jurisdiction, will not result in a net loss of ecological functions, and will not be incompatible with the environment designation or zoning classification in which it is to be located."*

Additionally, it includes the criteria that

*"...consideration of cumulative impacts resultant from the proposed use has occurred and has demonstrated that no substantial cumulative impacts are anticipated, consistent with WAC 173-27-160(2)."*



## **5.04 CONCLUSION**

The reasonable foreseeable future development and associated impacts on shoreline ecological functions, in conjunction with the city's SMP provisions, goals, policies, and regulations; Shoreline Restoration Plan; and other existing laws, policies, and regulations beyond the SMP were reviewed and compared for this CIA. Together, they provide the basis for evaluating the net effect of both anticipated and unanticipated cumulative impacts of development on shoreline functions. Based on this CIA, the proposed SMP includes policies and regulations that will achieve no net loss of ecological functions as the SMP is implemented over time.

## 6 CONCLUSIONS REGARDING NO NET LOSS

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The SMP update process has provided the opportunity to identify baseline environmental conditions, anticipate future impacts to shoreline resources, and provide restoration opportunities within the city's shoreline jurisdiction. Changes to the SMP were informed by the best technical information gathered during the update process. The proposed SMP provides a new system of shoreline environment designations that establishes more uniform management of the city's shorelines.

The system of shoreline environment designations and use regulations in the proposed SMP is consistent with current conditions established in the SIC, the existing land use pattern, as well as the land use vision planned for in the city's comprehensive plan, zoning, and other long-range planning documents. Based on this consistency, it is unlikely that substantial changes in the type of shoreline land uses will occur in the future. Furthermore, the use of aquatic designations will provide a means for protecting and managing the resources that are unique to the aquatic environments.

The updated development standards and regulation of shoreline modifications provides more protection for shoreline processes. The updated standards and regulations are more restrictive of activities that would result in adverse impacts to the shoreline environment. In addition, the *Restoration Plan* developed as part of the SMP Update provides the city with opportunities to improve or restore ecological functions that have been impaired because of past development activities. Furthermore, the proposed SMP is meant to compliment city, state, and federal efforts to protect shoreline functions and values.

The city is required to monitor development under the proposed SMP to ensure no net loss. The *Restoration Plan* recommends that city staff track all land use and development activity, including exemptions, within shoreline jurisdiction, and incorporate actions and programs of individual departments as well. It is suggested that city staff assemble a report to coincide with eight-year periodic review of the SMP required by RCW 90.58.080. Following the goals and objectives of the proposed SMP, the report could be used to determine whether implementation of the SMP is meeting the basic goal of no net loss of ecological functions relative to the baseline condition established in the SIC.

Based on assessment of these factors, the cumulative actions taken over time in accordance with the provisions outlined in the proposed SMP are not likely to result in a net loss of overall ecological functions from the existing baseline conditions within the city's shoreline jurisdiction. An overall improvement in ecologic functions is expected in the city's shoreline due to

restoration efforts proposed along the shoreline with redevelopment and shoreline enhancement.

# **7 CUMULATIVE IMPACT ANALYSIS TABLES**

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**Table 7-1. Cumulative Impacts to the Shoreline Environment – Nutrient/Pollutant Delivery and Removal**

**Function:** Water Quality

**Resources at Risk:** Waterways and their floodplains, riparian corridors and potential, undelineated wetlands

Shoreline Alterations Impacting Processes and Functions	Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations	Non-Regulatory Measures
<p><u>Current Condition:</u> Existing impervious surfaces increase delivery of nutrients to waterways.</p> <p>Ditching, draining, and filling of wetlands and clearing of riparian has occurred previously within the city.</p> <p><u>Degree of future cumulative impact:</u> New development may result in additional impervious surfaces and may result in further impacts to existing aquatic resources at risk including associated wetlands.</p> <p>Potential development of residential lots adjacent to the shoreline is small, so future impacts should be low.</p> <p>Nutrient/pollutant processes and water quality functions within the</p>	<p><u>Proposed Overall Measures:</u> Protect existing waterway resources and associated wetlands, including buffers (SMP Section 4.03: Environmental Impacts, 4.04: Critical Areas, SMP Section SMP Section 4.04.02(B), (C) &amp; (D): Shoreline Buffer Regulations, and SMP Appendix 2: Critical Areas Regulations), and restore riparian areas (SMP Section 4.04.02(E), (F) &amp; (G): Vegetation Conservation Regulations).</p> <p>SMP Section 4.03: Environmental Impacts, SMP Section 4.04: Critical Areas, and SMP Appendix 2: Critical Areas Regulations regulate critical areas such as critical aquifer recharge areas within the shoreline jurisdiction.</p> <p>SMP Chapter 3: Shoreline Environment Designations and SMP Section 5.03: Allowed Shoreline Uses regulate the type of development that is permitted by shoreline environment designation.</p> <p>All shoreline uses and activities shall utilize best management practices (BMPs) to minimize any increase in surface runoff and to control, treat and release surface water runoff so that receiving water quality is not adversely affected during both construction and operation (SMP Section 4.08: Water Quality and SMP Chapter 6: Shoreline Modification Policies &amp; Regulations).</p>	<p>Restore degraded wetlands.</p> <p>Restore degraded riparian areas through replanting with native species.</p> <p>The <i>Shoreline Restoration Plan</i> outlines the non-regulatory measures that will be available to the city to help address these issues.</p>

<b>Shoreline Alterations Impacting Processes and Functions</b>	<b>Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations</b>	<b>Non-Regulatory Measures</b>
city's shorelines may be impacted by existing roadways, septic systems, and potential expansions.	<p>The SMP specifically addresses water quality in SMP Section 4.08: Water Quality.</p> <p>The city's Comprehensive Plans addresses cooperation with the Grays Harbor County Health District to ensure pollutants from septic systems do not enter groundwater.</p>	

**Table 7-2. Cumulative Impacts to the Shoreline Environment – Surface and Groundwater Flow**

**Function:** Reducing downstream flooding and erosion (surface storage), aquifer recharge and storage

**Resources at Risk:** Waterways and their floodplains, riparian corridors and potential, undelineated wetlands

Shoreline Alterations Impacting Processes and Functions	Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations	Non-Regulatory Measures
<p><u>Current Condition:</u> Impervious areas and clearing decrease infiltration recharge, subsurface storage, and groundwater discharge to water bodies and wetlands.</p> <p>Wetland fill, development in floodplain (including shoreline protective structures) reduces surface storage, overbank flooding and increased flooding frequency and duration.</p> <p><u>Degree of future cumulative impact:</u> New development will remove vegetated areas and increase impervious cover. Additional impacts to surface storage functions may occur from shoreline fill and encroachment.</p> <p>Potential development of residential lots adjacent to the shoreline is small, so future impacts should be low.</p> <p>Residential development is allowed in the High Intensity, Shoreline Residential, Urban Conservancy, and Natural shoreline designation areas adjacent to the waterways.</p>	<p><u>Proposed Overall Measures:</u> Minimize impacts to surface and groundwater processes by employing nonstructural approach to reducing downstream flooding and erosion. This would include protecting and restoring wetlands. Reference found in SMP Section 4.05: Flood Hazard Management, SMP Section 4.03: Environmental Impacts, SMP Section 4.04.02(B), (C) &amp; (D): Shoreline Buffers Regulations, and SMP Chapter 6: Shoreline Modification Policies &amp; Regulations</p> <p>SMP Section 4.04: Critical Areas, SMP Section 4.05: Flood Hazard Management, and SMP Appendix 2: Critical Areas Regulations regulate frequently flooded areas and riparian corridors.</p> <p>SMP Chapter 3: Shoreline Environment Designations and SMP Section 5.03: Allowed Shoreline Uses regulated the type of development that is permitted by shoreline environment designation.</p> <p>The SMP specifically addresses flood hazard reduction in SMP Section 4.05: Flood Hazard Management.</p>	<p>Restore degraded wetlands.</p> <p>Restore degraded floodplain and riparian areas through replanting with native species.</p> <p>The <i>Shoreline Restoration Plan</i> outlines the non-regulatory measures that will be available to the city to help address these issues.</p>



**Table 7-3. Cumulative Impacts to the Shoreline Environment – Sediment Transport**

**Function:** Sediment delivery and removal from area water systems

**Resources at Risk:** Waterways and their floodplains, riparian corridors and potential, undelineated wetlands

Shoreline Alterations Impacting Processes and Functions	Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations	Non-Regulatory Measures
<p><u>Current Condition:</u> Sediment delivery and removal processes have been affected by both natural and man-made factors. Man-made factors are primarily from the construction and maintenance of dams.</p> <p><u>Future Cumulative Impact:</u> Potential for further sediment delivery into water systems without protective vegetation because of land clearing and development on uplands throughout the city.</p> <p>Development may affect storage of surface waters in wetlands in this basin, which in turn could affect flooding, and erosion functions within downstream shoreline areas along waterways.</p> <p>Future armoring may also disrupt nearshore sediment transport processes.</p>	<p><u>Proposed Overall Measures:</u> Minimize the delivery of sediment from land alterations through retention of natural vegetation, protection of riparian corridors, application of a comprehensive erosion and sedimentation control program and measures and proper siting of development. References found in SMP Section 4.04.02(E), (F) &amp; (G) Vegetation Regulations, SMP Section 4.04.02(B), (C) &amp; (D): Shoreline Buffer Regulations, and SMP Section 6.03: Clearing, Grading, and Fill.</p> <p>SMP Section 4.04: Critical Areas and SMP Appendix 2: Critical Areas Regulations regulates geologically hazardous areas and riparian corridors in the shoreline jurisdiction.</p> <p>The SMP specifically addresses water quality in SMP Section 4.08: Water Quality.</p> <p>In SMP Section 6.03: Clearing, Grading, and Fill, land clearing, grading, and filling must be limited to the minimum necessary for development.</p> <p>SMP Section 6.06: Shoreline Stabilization prefers nonstructural to structural measures to stabilize banks.</p>	<p>Create incentive programs to conserve and retain native vegetation and restore native vegetation where none is present.</p> <p>Programs such as on-site density transfers and conservation easements could help protect these areas.</p> <p>The <i>Shoreline Restoration Plan</i> outlines the non-regulatory measures that will be available to the city to help address these issues.</p>

**Table 7-4. Cumulative Impacts to the Shoreline Environment – Habitat Biodiversity**

**Function:** Fish and wildlife habitat, food production and delivery

**Resources at Risk:** Waterways and their floodplains, riparian corridors and potential, undelineated wetlands

Shoreline Alterations Impacting Processes and Functions	Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations	Non-Regulatory Measures
<p><u>Current Condition:</u>                      Important aquatic and riparian habitat is present in waterways throughout the city.</p> <p>Habitat functions are altered with development, shoreline armoring, loss of riparian cover, and shoreline modification.</p> <p>Alteration of scrubland habitat, loss of wetlands, reduce the overall habitat for wildlife species, including mammals, amphibians, reptiles, waterfowl, birds and other wildlife species.</p> <p>Habitat connectivity is diminished as riparian cover is removed and bulkheads, riprap, filling, and dredging interrupt aquatic systems.</p> <p>Loss of habitat features such as banks with scrubland vegetation decreases wildlife cover, denning, perching, and nesting habitat.</p>	<p><u>Proposed Overall Measures:</u>                      Protect and restore riparian habitat, aquatic habitat, and wetlands (SMP Section 4.04: Critical Areas and SMP Appendix 2: Critical Areas Regulations).</p> <p>The SMP specifically addresses water quality in SMP Section 4.08: Water Quality.</p> <p>The SMP specifically addresses protection and restoration of native vegetation within the shoreline jurisdiction. In SMP Section 4.04.02(E), (F) &amp; (G): Vegetation Conservation Regulations, SMP Section 4.04.02(B), (C) &amp; (D): Shoreline Buffer Regulations, and SMP Section 6.03: Clearing, Grading, and Fill, the purpose is to conserve vegetation in the shoreline jurisdiction, restrict clearing and grading to the minimum amount necessary, and control invasive weeds and non-native species.</p> <p>SMP Section 4.04.02(E), (F) &amp; (G): Vegetation Conservation Regulations calls for the city to protect and restore diversity of vegetation and habitat associated with shoreline areas.</p>	<p>Restore degraded wetlands and the aquatic system.</p> <p>This includes restoring degraded riparian and aquatic habitat by planting with native species where possible and the addition of habitat features.</p> <p>The <i>Shoreline Restoration Plan</i> will outline the non-regulatory measures that will be available to the city to help address these issues.</p>

Shoreline Alterations Impacting Processes and Functions	Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations	Non-Regulatory Measures
<p><u>Future cumulative impacts:</u> Future impacts should be low if provisions of the SMP are followed.</p> <p>Any future development may affect habitat and water quality functions within the city's shoreline.</p>	<p>SMP Section 4.04: Critical Areas and SMP Appendix 2: Critical Areas Regulations regulate critical fish and wildlife conservation areas within the shoreline jurisdiction. These sections require all shoreline development to be located, designed, constructed, and managed to avoid disturbance of and minimize adverse impacts to wildlife resources, including spawning, nesting, rearing and habitat areas and migratory routes.</p>	

**Table 7-5. Shoreline Function Impacts Associated with Development and SMP Counter Measures**

<b>Function Category</b>	<b>Potential Cumulative Impacts to Shoreline Functions</b>	<b>SMP Countermeasures</b>
Hydrologic	<ul style="list-style-type: none"> <li>• Altered flows and water quality associated with increased impervious surface.</li> </ul>	<ul style="list-style-type: none"> <li>• In SMP Chapter 3: Shoreline Environment Designations, environment designations concentrate development in least sensitive areas.</li> <li>• SMP Section 5-12: Parking limits type and location of parking facilities.</li> <li>• SMP Section 4.08: Water Quality requires development to follow the applicable local jurisdiction stormwater management programs and regulations.</li> </ul>
Vegetation	<ul style="list-style-type: none"> <li>• Reduced water quality from increase in pesticide and fertilizer.</li> <li>• Increased risk of bank instability, increased erosion, and increased turbidity associated with vegetation clearing.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Section 4.04.02(B), (C) &amp; (D): Shoreline Buffer Regulations requires increased buffers if necessary to protect functions and provides for minimum building setbacks</li> <li>• SMP Section 4.08: Water Quality requires BMPs and compliance with the city’s stormwater management program for clearing and grading.</li> <li>• SMP Section 4.03: Environmental Impacts establish mitigation standards for vegetation clearing.</li> <li>• SMP Section 4.04.02(E), (F) &amp; (G): Vegetation Conservation Regulations regulates clearing of vegetation clearing.</li> </ul>

<b>Function Category</b>	<b>Potential Cumulative Impacts to Shoreline Functions</b>	<b>SMP Countermeasures</b>
Hyporheic	<ul style="list-style-type: none"> <li>• Increased need for bank stabilization or protection structures could result in direct disturbance and alteration of the hyporheic zone, reducing the potential for water or sediments storage, and removal of nutrients or toxins, altered water temperatures, or other water quality conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Section 4.04.02(B), (C) &amp; (D): Shoreline Buffer Regulations requires shoreline buffers and structural setbacks.</li> <li>• SMP Section 6.08: Shoreline Stabilization limits shoreline stabilization and encourages non-structural treatments.</li> </ul>
Habitat	<ul style="list-style-type: none"> <li>• Reduced habitat area or suitability for specific species.</li> <li>• Reduced habitat complexity and habitat connectivity.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Section 5.03: Allowed Shoreline Uses limits non-water oriented uses.</li> <li>• SMP Section 4.07: Restoration provides standards for restoration activities and consistency with the <i>Shoreline Restoration Plan</i>.</li> </ul>

**Table 7-6. Shoreline Function Impacts Associated with In-water and Overwater Structures or Shoreline Modifications and SMP Counter Measures**

<b>Function Category</b>	<b>Potential Cumulative Impacts to Shoreline Functions</b>	<b>SMP Countermeasures</b>
Hydrologic	<ul style="list-style-type: none"> <li>• Altered hydraulics that affects habitat conditions or reduce potential for habitat formation.</li> <li>• Altered movement of sediments.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Chapter 6: Shoreline Modification Policies &amp; Regulations establish limitations and standards for shoreline modifications including dredging, fill, and shoreline stabilization.</li> </ul>
Vegetation	<ul style="list-style-type: none"> <li>• Reduced riparian vegetation resulting in increased erosion, bank instability, and altered habitat.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Section 4.04.02(E), (F) &amp; (G): Vegetation Conservation Regulations includes provisions for vegetation conservation.</li> <li>• SMP Section 4.08: Water Quality requires BMPs and compliance with city’s stormwater management program for clearing and grading.</li> </ul>
Hyporheic	<ul style="list-style-type: none"> <li>• Water quality impacts resulting from structures interfering with hyporheic flows.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Section 6.08: Shoreline Stabilization limits shoreline stabilization and encourages non-structural treatments.</li> </ul>
Habitat	<ul style="list-style-type: none"> <li>• Altered substrate composition due to hydrologic and wave energy impacts.</li> <li>• Reduced habitat complexity and connectivity between terrestrial and aquatic environments.</li> <li>• Increased shading or substrate alteration affecting plant growth, benthic community, and behavior of aquatic organisms.</li> <li>• Altered ecological interactions.</li> </ul>	<ul style="list-style-type: none"> <li>• SMP Section 5.07: Boating and Water Access Facilities and SMP Section 6.07: Overwater Structures and Launching Facilities provide provisions for boating facility design, including location, size, number, and operation standards.</li> <li>• SMP Section 5.06: Aquaculture prohibits aquaculture facilities.</li> <li>• SMP Section 4.03: Environmental Impacts, SMP Section 4.04: Critical Areas, and SMP Section 4.04.02(E), (F) &amp; (G): Vegetation Conservation Regulations include provisions for habitat enhancement, vegetation conservation, and</li> </ul>

<b>Function Category</b>	<b>Potential Cumulative Impacts to Shoreline Functions</b>	<b>SMP Countermeasures</b>
		mitigation standards.

**Table 7-7. Summary of Shoreline Master Program and Effects of Cumulative Impacts on Shoreline Functions**

SMP Chapter containing goals, policies, or regulations, to protect ecological functions	Purpose of SMP Provision, Goals, Policy or Regulation	Summary of Cumulative Impacts Effects on Key Shoreline Functions
SMP Chapter 2: <i>Shoreline Management Goals</i>	<ul style="list-style-type: none"> <li>• Establishes a framework upon which the more detailed SMP shoreline use environments, policies, regulations, and administrative procedures are based.</li> <li>• Specifically, includes a conservation element to preserve natural resources and provide for no net loss of ecological function.</li> </ul>	<ul style="list-style-type: none"> <li>• Serves to protect all functions potentially affected by the SMP, future development, and shoreline restoration or enhancement activities.</li> </ul>
SMP Chapter 3: <i>Shoreline Environment Designations</i>	<ul style="list-style-type: none"> <li>• Defines and maps the shoreline jurisdiction and environment designations of all the shorelines in the city. Policies and regulations specific to the five shoreline environment designations (High Intensity, Shoreline Residential, Urban Conservancy, Natural, and Aquatic) are detailed in this chapter.</li> <li>• The shoreline environments are the key to providing specific management policies and regulations to ensure no net loss in both developed and undeveloped areas with high functions.</li> </ul>	<ul style="list-style-type: none"> <li>• Protects all functions, with focus on preserving and enhancing existing shoreline ecological functions.</li> </ul>
SMP Chapter 4: <i>General Policies &amp; Regulations</i>	<ul style="list-style-type: none"> <li>• Sets forth the policies and regulations that apply to uses, developments, and activities in all shoreline areas of the city.</li> <li>• Specifically, it contains the requirement that all development and uses meet no net loss, and include measures to mitigate environmental impacts.</li> <li>• Provides specific standards for critical areas, environmental impacts, flood hazard reduction, restoration, shoreline modifications, vegetation conservation, and water quality to achieve no net loss.</li> <li>• Requires periodic review of shoreline conditions to determine</li> </ul>	<ul style="list-style-type: none"> <li>• Protects all functions with focus on critical areas, riparian vegetation, and water quality and quantity.</li> <li>• Provides standards for environmental impacts review and mitigation</li> </ul>



SMP Chapter containing goals, policies, or regulations, to protect ecological functions	Purpose of SMP Provision, Goals, Policy or Regulation	Summary of Cumulative Impacts Effects on Key Shoreline Functions
	whether other actions are necessary to ensure no net loss.	
SMP Chapter 5: <i>Specific Shoreline Use Policies &amp; Regulations</i>	<ul style="list-style-type: none"> <li>• Sets forth policies and regulations governing specific categories of uses and activities typically found in shoreline areas.</li> <li>• For example, establishes minimum shoreline buffers and/or setbacks, and limits in-water structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Protects all functions, with specific focus on the unique aspects of uses that require specific and unique requirements to assure no net loss.</li> </ul>
SMP Chapter 6: <i>Shoreline Modification Policies &amp; Regulations</i>	<ul style="list-style-type: none"> <li>• Sets forth policies and regulations that apply to shoreline modifications.</li> <li>• Specifically regulates in-water structures and clearing and grading.</li> </ul>	<ul style="list-style-type: none"> <li>• Protects all functions with focus on in-water uses and modifications.</li> </ul>
SMP Appendix 2: <i>Critical Areas Regulations</i>	<ul style="list-style-type: none"> <li>• Sets forth policies and regulations that apply to critical areas within the shoreline jurisdiction.</li> <li>• Critical areas regulations will apply to the shoreline jurisdiction associated with the city's streams and lakes.</li> </ul>	<ul style="list-style-type: none"> <li>• Protects critical areas within the shoreline jurisdiction to assure no net loss.</li> </ul>

## 8 REFERENCES

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