Lewis County Coalition Master Program Update

Lewis County | Morton | Winlock

# Cumulative Impacts Analysis and No Net Loss Report

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# List of Abbreviations

| | |
|---|---|
| ADA – | Americans with Disabilities Act of 1990 |
| ARL – | Agricultural Resource Lands |
| BMP – | Best Management Practice |
| CAO – | Critical Areas Ordinance |
| CC – | Crossroads Commercial |
| CERCLA – | Comprehensive Environmental Response, Compensation, and Liability Act |
| CIA – | Cumulative Impacts Analysis |
| Cities – | Cities of Morton and Winlock |
| Coalition – | Lewis County Coalition: Lewis County, together with the cities of Morton and Winlock |
| County – | Lewis County |
| CMZ – | Channel Migration Zone |
| Ecology – | Washington State Department of Ecology |
| EPA – | United States Environmental Protection Agency |
| ESA – | Federal Endangered Species Act |
| FC – | Freeway Commercial |
| FEMA – | Federal Emergency Management Agency |
| FPA – | Washington State Forest Practices Act (Chapter 76.09 RCW) |
| FRL – | Forest Resource Lands |
| HCP – | Habitat Conservation Plans |
| LAMIRD – | Local Area of More Intensive Rural Development |
| LCC – | Lewis County Code |
| LWD – | Large Woody Debris |
| MA – | Management Area |
| MCAO – | Morton Critical Areas Ordinance |
| MMC – | Morton Municipal Code |
| NMFS – | National Marine Fisheries Service |
| OHWM – | Ordinary High Water Mark |

| | |
|---|---|
| PUD – | Public Utility District |
| RAI – | Rural Area Industrial |
| RCW – | Revised Code of Washington |
| RDD – | Rural Development District |
| RRC – | Rural Residential Center |
| 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 |
| STMU – | Small Towns Mixed Use |
| UGA – | Urban Growth Area |
| USACE – | United States Army Corps of Engineers |
| WAC – | Washington Administrative Code |
| WCAO – | Winlock Critical Areas Ordinance |
| WDC – | Winlock Development Code |
| WDFW – | Washington State Department of Fish and Wildlife |
| WDNR – | Washington State Department of Natural Resources |
| WRIA – | Watershed Resource Inventory Area |

# 1 Introduction

## 1.01 DEPARTMENT OF ECOLOGY DIRECTION AND GUIDANCE

The Shoreline Management Act (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 implementation of the SMPs 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 Lewis County and the cities of Morton and Winlock (the Coalition) updated SMPs contain 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 for Lewis County, and the Cities of Centralia, Chehalis, Winlock, and Morton* (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. In addition, the SMPs must address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities (WAC 173-26-186(8)(d)).

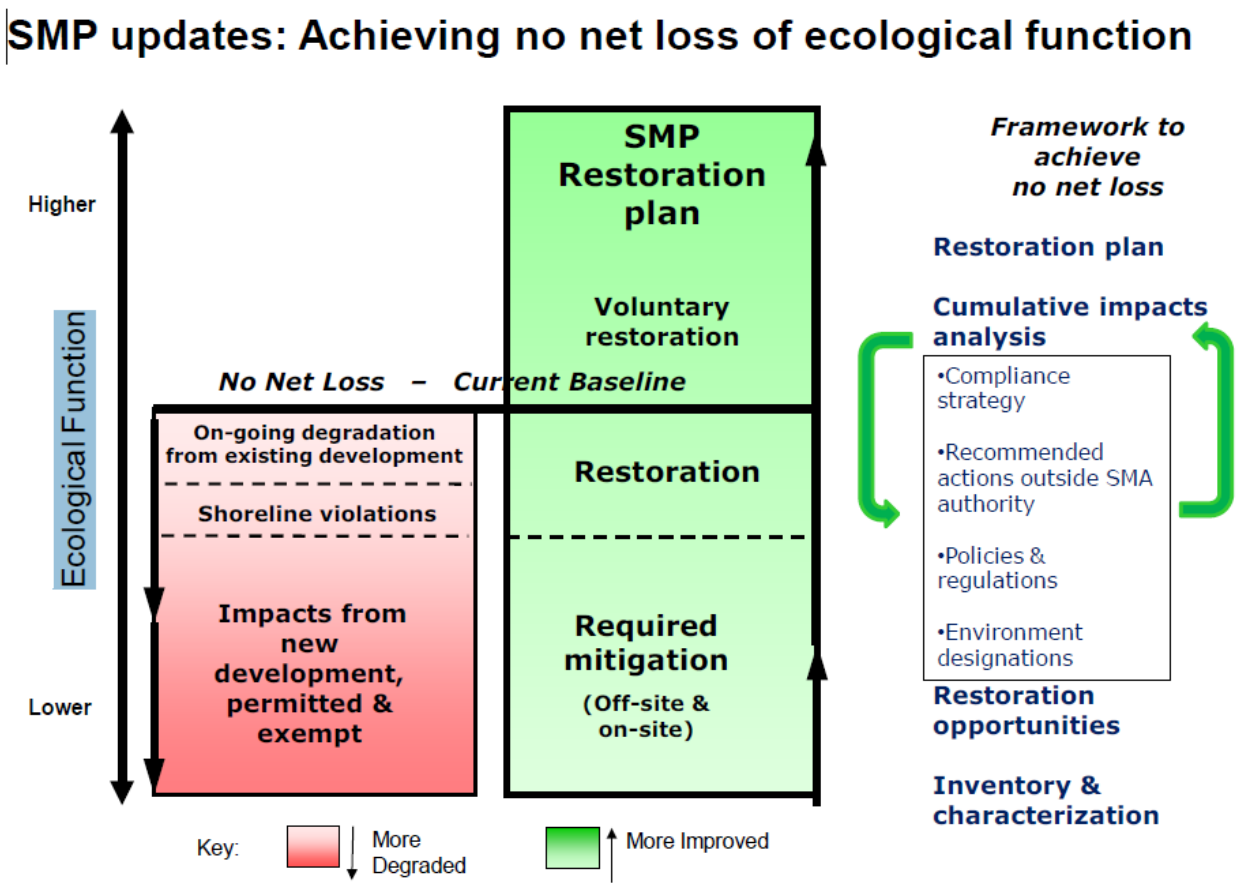


**Figure 1. Shoreline Master Program Process for Achieving the No-Net Loss Standard.**
*Source: Washington State Department of Ecology (Ecology) (2012)*

The purpose of this *Cumulative Impacts Analysis* (CIA) is to ensure that implementation of the SMP updates for the Coalition will not result in a net loss of shoreline ecological functions over the long term in the cities of Morton and Winlock, and in Lewis County[1]. Consistent with guidance from the Washington State Department of Ecology (Ecology), this CIA analyzes how the updated SMPs' policies, regulations and shoreline environment designations meets this requirement. This analysis includes only those impacts that would result from development and uses within the shoreline jurisdiction of the Coalition. 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 SMPs' policies, programs, and regulations, as well as:

- Existing conditions that affect the shorelines and relevant natural processes. The SIC provides the existing conditions, or baseline, information.

[1] The cities of Chehalis and Centralia have individual CIAs.

- 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 Coalition into 16 distinct management areas (MAs), and addresses all of the MAs, with the exception of the city of Chehalis and city of Centralia Management areas, which will be addressed in separate CIA documents. Coalition shorelines were divided into reaches and those reaches were grouped into MAs in order to inventory shorelines and analyze functions. MAs were grouped based on contributing watersheds, overall intensity, and type of land use patterns, and physical and biological conditions. Each participating city was defined as a single MA, and shorelines in unincorporated Lewis County (county) were grouped in MAs by watershed resource inventory area (WRIA).

## 1.02 RELATIONSHIP TO SEPA

The State Environmental Policy Act (SEPA) requires an assessment of environmental impacts. This 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.

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. Impacts are examined in the shoreline jurisdiction as identified in the draft SMP documents and 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 the existing conditions in 14 distinct MAs of the Coalition, including shoreline characteristics, land use, public access, shoreline modifications, and ecological functions. It summarizes the applicable policies and regulations in the SMPs 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. It identifies potential upland and in-water development opportunities within each MA.

Potential development opportunities were determined based on existing conditions, shoreline environment designations, zoning, and limiting environmental factors such as the presence of wetlands. 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 8. The tables describe the relationship between ecological function, potential alteration, resources at risk, and updated SMP regulations and non-regulatory measures designed to assure no net loss at a minimum.

# 2 Existing Conditions

This chapter summarizes information presented in the SIC. For each MA, 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 NISQUALLY MANAGEMENT AREA

The Nisqually watershed (WRIA 11) is approximately 761 square miles in area, of which approximately 180 square miles lie within the county. The Nisqually MA includes Mineral Lake, Little Nisqually River, Nisqually River, and its southern tributary streams from the upstream end of Alder Lake to near its source at the Nisqually Glacier on Mt. Rainier. Land cover is more than 70 percent forest, with most of the remaining 30 percent consisting of recently disturbed land. Seventy percent of the Nisqually MA is in public ownership, and most of the privately held land is owned by timber companies.

### *2.01.01 SHORELINE CHARACTERISTICS*

Hydrology in the Nisqually MA is dominated by fall and winter rains, rain-on-snow events, and glacial melt. Stream flow in the upper reaches of the Nisqually River is dominated by the runoff peaks from the upper basin, which occur in November and late spring. The influence of tributary streams increases further down toward Alder Lake. Tributary flows are dependent on precipitation and decline with the approach of summer. Low flow in the Nisqually River occurs in late summer. Peak flows are typically approximately ten times larger than average daily flows. The Nisqually River also experiences episodic glacial outburst floods and lahars.

The Nisqually River is a sediment-rich braided river, in which channel-forming sediment moves episodically downgrade until it reaches the local base level at Alder Lake. Because of its high sediment load, the river is prone to migration of the active channel within an unvegetated active corridor, to expansion of the active corridor through bank erosion without corresponding opposite-bank deposition, and to occasional avulsion, in which the active corridor switches to a new location, or reoccupies an old one. Riparian vegetation, large woody debris (LWD), and channel morphology of tributaries to the Nisqually are typical of streams in steep forested landscapes.

### *2.01.02 LAND USE*

The land use in the Nisqually MA is primarily vacant forestland. The zoning designations from the Lewis County Code (LCC) Title 17 Land Use and Development Regulations found in the Nisqually MA are provided in Table 2.1 below.

**Table 2-1. Current Zoning Designations in the Nisqually MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Forest Resource Lands | Forest | Commercial forestry operation | 78.41% |
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 14.38% |
| Forest Resource Lands Local Importance | FRL-LI | Commercial forestry operations, agricultural production | 2.16% |
| Rural Development District 10 | RDD-10 | Residential development compatible with rural character, one dwelling unit per ten acres | 1.58% |
| Mine | Mine | Mining industries, undeveloped resource land | 1.37% |
| Rural Development District 5 | RDD-5 | Residential development near population centers such as Urban Growth Areas (UGAs) and small towns, one dwelling unit per five acres | 1.10% |
| Rural Residential Center | RRC-R-2A | Rural residential development with density greater than one unit per two acres | 0.67% |
| Small Towns Mixed Use/Commercial | STMU | Commercial uses, retail uses, gateway communities | 0.27% |
| Small Towns Industrial | STI | Mills, forest products and agricultural industries | 0.07% |

### *2.01.03 EXISTING PUBLIC ACCESS*

The Nisqually MA has over 100 miles of shoreline. The MA contains limited public access in Mount Rainier National Park along south bank of the Nisqually River near the Paradise Road entry area. There is a camping area on the south bank of Alder Lake and there is trail access to creek shorelines within the Snoqualmie National Forest. There are no identified county, Tacoma Power, or Lewis County Public Utility District (PUD) facilities providing public access in the Nisqually MA.

On Big Creek:

- Big Creek Campground is a US Forest Service campground in the Gifford Pinchot National Forest. It is a single-loop campground located close to the west entrance of Mt. Rainier National Park with 29 campground camping sites and 27 RV sites. Some sites overlook Big Creek.

There are two boat launches on Mineral Lake:

- North from the town of Mineral on west side of lake there is a year-round, Americans with Disabilities Act of 1990 (ADA) accessible, concrete boat launch with restroom facilities.
- West of the town of Mineral on the south side of the lake, there is a year-round, non-ADA accessible boat launch.

### *2.01.04 SHORELINE MODIFICATIONS*

Table 2.3 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 MA.

**Table 2-2. Nisqually MA Shoreline Modifications**

| Reach Number | Sum of Dike and Levee Length (feet) (a) | Other Shoreline Modifications (b) |
|---|---|---|
| 01-02 | 413 | – |
| 01-06 | 1,186 | Moderate armoring present |
| 01-10 | 106 | – |
| 01-11 | 1,408 | – |
| 01-12 | 430 | Road adjacent to stream |
| 01-13 | 96 | – |
| 01-20 | – | Development along south and west shoreline, including moorage facilities |

**Notes:**

(a) Data Source: Lewis County Dikes and Levees shapefile

(b) Aerial Photography: Google Earth, May 2013

### *2.01.05 ECOLOGICAL FUNCTIONS*

The Nisqually management area has an average score of 26.8 (out of 36 possible points) for processes and functions of all reaches and across all assessment criteria (see Table 2.5). For the reaches in this management area, the total function scores (sum of the scores for all 12 assessment criteria) range between 21 and 33, indicating a moderate to high level of unimpaired processes and functional value. In general, shoreline processes and functions in the Nisqually River Basin have been adversely impacted through a variety of land use practices. In the upper part of the Nisqually watershed, which includes the Nisqually management area, commercial timber activities have increased sediment loads, reduced large woody debris input and recruitment potential, and altered precipitation run-off patterns (Kerwin 2000).

The range of scores in this management area is comparable to management areas with similar land use patterns, physical processes, and associated impairments. In general, the low scoring reaches and high scoring reaches also tend to exhibit comparable conditions, such as level of development or land use patterns, with similarly scored reaches throughout the county, even if the basis of the scores (i.e., causes of impairment) are different.

In this management area, the lowest scoring reaches (01-01 and 01-06) were characterized in part by agricultural use (East Creek) and development that has reduced forest cover compared to historical conditions, and by significant armoring (Nisqually River). Some undeveloped stream reaches have impaired water quality due to high temperatures. Reaches that are located in relatively high elevation forestlands typically provide limited functions for water and sediment transport due to relatively small watershed area, naturally steep terrain, timber harvest, associated roads, and potential for increased fine sediments in the streams. However, some reaches such as those affected by erosion hazards (Table

4.4) could contain important sources of sediment supply based on the potential for naturally occurring erosion or landslides.

These events are key processes to maintain channel structure and, over the long term, adequate spawning gravels for priority fish species. Reaches in this management area also had reduced function scores due to limited presence or complete absence of wetlands. The presence and condition of wetlands are an important factor in several shoreline functions and are therefore a consideration in several of the assessment criteria. In this management area, and in similar forested areas throughout the county, a low score does not necessarily indicate impairment due to anthropogenic causes. I t may indicate a limited functional value due to natural conditions (e.g., presence of steep slopes, or limited wetlands or backwater features) that also influence the score.

The highest scored reaches in the management area were 01-03 along the Nisqually River and the remote undeveloped lakes in the management area. Lakes tend to be scored higher than streams in the forested areas of the county, likely because different criteria are used for lake environments to address a different set of functions from streams. Mineral Lake (total score of 24 points) scored relatively low compared to other lakes in this management area, primarily due to few documented priority species and habitats, high phosphorous concerns, and development related impairments in the shoreline jurisdiction along the south and west shorelines.

## 2.02 DESCHUTES MANAGEMENT AREA

### *2.02.01 SHORELINE CHARACTERISTICS*

The Deschutes watershed (WRIA 13) is approximately 292 square miles in area, of which approximately 28 square miles lie within the county. The Deschutes River has the only jurisdictional shoreline in the Deschutes MA. Intact and recently disturbed forest and woodland are the dominant land cover types. Less than two percent of the land is in public ownership. Shoreline jurisdiction includes 237 acres along the Deschutes River.

### *2.02.02 LAND USE*

All of the land in this MA is zoned Forest Resource Land (Forest).

### *2.02.03 EXISTING PUBLIC ACCESS*

The Deschutes MA has 105 miles of shoreline; however, it is primarily private forestland with no existing formal, public access.

### *2.02.04 SHORELINE MODIFICATIONS*

No dikes or levees for reaches are recorded in the available data, nor were 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 MA.

### *2.02.05 ECOLOGICAL FUNCTIONS*

The reach in this management area has a total functional score of 26 points reflecting a moderately high functional value. The reduced score for this reach that contains relatively intact ecological conditions overall reflects the steep slopes, narrow adopted floodway or the 2010 flood channel study area, and natural lack of significant wetlands. Forest roads in the shoreline jurisdiction and in relatively close proximity to the stream may be a source of heightened supply of fine sediments.

## 2.03 UPPER CHEHALIS MANAGEMENT AREAS

### *2.03.01 UPPER CHEHALIS – COAST RANGE*

#### *A. Shoreline Characteristics*

The Upper Chehalis – Coast Range MA encompasses 150 square miles of steeply sloped mountains with high gradient, cascading streams, and rivers. Major water bodies include the Chehalis River, South Fork Chehalis River, Crim Creek, and Stillman Creek. Less than one percent of the land is developed; the remainder is intact or recently disturbed forest. Approximately ten percent is managed by the Washington State Department of Natural Resources (WDNR); the remainder is in private ownership. Shoreline jurisdiction includes 2,881 acres along four stream reaches.

#### *B. Land Use*

The current land use patterns found in the MA consist of undeveloped forestland.

#### *C. Existing Public Access*

The Upper Chehalis – Coast Range MA has no public access within its 59-mile shoreline jurisdiction, which is primarily private forestland.

#### *D. Shoreline Modifications*

No dikes or levees for reaches are recorded in the available data, nor were 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 MA.

#### *E. Ecological Functions*

The reaches in this management area have scores of either 24 points (three reaches) or 25 points (one reach), indicating a moderate to high level of functional value and relatively low impairments, which are primarily associated with forest practices and land use and not related to other types of development. For example, high levels of fine sediments in runoff may affect salmon egg survival and population success in this management area. Although much of the upper Chehalis basin is forestland used for timber production, key systems for forest management are in place to protect

priority habitat and species. These include the Washington Forests and Fish Rules (Forest Practice Rules) and several Habitat Conservation Plans (HCPs) approved by the National Marine Fisheries Service (NMFS) for forest landowners, such as WDNR and private timber companies. Removal of large areas of forest adjacent to shorelines may have a widespread effect on stream temperatures.

### *2.03.02 UPPER CHEHALIS – WILLAPA HILLS*

#### *A. Shoreline Characteristics*

The Upper Chehalis – Willapa Hills MA encompasses 265 square miles of low drainage density (meaning streams are relatively rare), rolling hills, and mountains, with medium gradient, sinuous streams, and rivers. Major water bodies include the Chehalis River, South Fork Chehalis River, Bunker Creek, Elk Creek, Lake Creek, Lincoln Creek, and Stillman Creek. Approximately 16 percent is state public land; the remainder is in private ownership. Shoreline jurisdiction includes 7,620 acres along 19 stream reaches and three lakes.

#### *B. Land Use*

Less than one percent of the land is developed, and approximately ten percent is agricultural or grassland; the remainder is intact or recently disturbed forest. The zoning designations from the Lewis County Code (LCC) Title 17 Land Use and Development Regulations found in the Upper Chehalis – Willapa Hills MA are provided in Table 2.3 below.

**Table 2-3. Current Zoning Designations in the Upper Chehalis – Willapa Hills MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Forest Resource Lands | Forest | Commercial forestry operation | 14.24% |
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 17.55% |
| Forest Resource Lands Local Importance | FRL-LI | Commercial forestry operations, agricultural production | 0.14% |
| Rural Development District 10 | RDD-10 | Residential development compatible with rural character, one dwelling unit per ten acres | 7.08% |
| Mine | Mine | Mining industries, undeveloped resource land | 0.20% |
| Rural Development District 5 | RDD-5 | Residential development near population centers such as UGAs and small towns, one dwelling unit per five acres | 4.34% |
| Rural Area Industrial | RAI | General purpose industrial, transportation, and forest resource activities in rural areas | 0.19% |
| Small Towns Mixed Use/Commercial | STMU | Commercial uses, retail uses, gateway communities | 0.16% |

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Crossroads Commercial | CC | Areas which have historically provided rural commercial services to residents in the rural areas | 0.05% |
| Agricultural Resource Lands | ARL | Commercial production of aquaculture, horticulture, grain, dairy, and other crops | 55.57% |
| Park | Park | Park or open space | 0.46% |
| Urban Growth Areas | UGA | UGAs associated with cities and other areas characterized by urban level development | 0.02% |

### *C. Existing Public Access*

The Upper Chehalis – Willapa Hills MA has 128 miles of shoreline jurisdiction, which includes stream and lakes. There are two primary public access points to the Chehalis River and its tributaries in the MA:

- Rainbow Falls State Park is a 139 acre camping park with 3,400 feet of shoreline on the Chehalis River. Situated in stands of old-growth forest, the park features a waterfall and a small fuchsia garden. The park is open year round for camping and day use.

- The Willapa Hills Trail is a 56 mile long trail system being developed between the city of Chehalis and the city of South Bend. On the way to Adna, it crosses two century-old trestles that span the Newaukum and Chehalis Rivers. The trestles at Spooner Road and Dryad, taken out during the 2007 catastrophic flood, are scheduled to be replaced with Federal Emergency Management Agency (FEMA) funds by 2014. The state, county, and local groups have been working on funding further improvements.

- In addition, on the South Fork of the Chehalis River, the Boistfort Tennis Courts located at Boistfort Elementary school provide water-enjoyment access to the river.

### *D. Shoreline Modifications*

Comprehensive information on shoreline modifications, other than approximately 2,050 feet of dikes and levees, is not available for this MA. In 1993, numerous sites of riprap were documented along the mainstem Chehalis River between the South Fork Chehalis confluence and Pe Ell, while low levels of riprap were noted in the tributaries in this area. Hope Creek had a single site of riprap, while Elk Creek had 13 sites, which affected 125 linear stream feet; however, no channelization was noted in that subbasin, or in Rock Creek where riprap was also documented (Wampler et al. 1993, cited in Smith and Wenger 2001).

### *E. Ecological Functions*

Reaches in this management area have an average score of 25.0 points, ranging between 21 and 35 points. This indicates moderately low functional value to high functional value (or moderately high levels to low levels of impairment). The reaches scoring lowest (score of 21) were stream reaches including South Fork Chehalis, Stillman Creek, and Lost Creek. These reaches scored low primarily

due vegetation alterations from timber harvest and agricultural land use, which limit forest cover and reduce recruitable LWD that is important to channel forming processes and channel structure. Lack of LWD was noted during the review of aerial images in many of the stream reaches in this management area. The impaired reaches also scored low due to water quality concerns including high fecal coliform, high water temperatures, and low dissolved oxygen. To varying degrees, other reaches in the management area share similar impairments. Reaches with the highest scores (Miller Swamp and unnamed lakes) are high quality wetland environments with good hydrologic connectivity and low levels of disturbance. These undeveloped areas also directly and indirectly provide key habitat conditions for several priority species.

### *2.03.03 UPPER CHEHALIS – PUGET LOWLANDS*

#### *A. Shoreline Characteristics*

The Upper Chehalis – Puget Lowlands MA encompasses 152 square miles of rolling terraces and floodplains with meandering streams and oxbow lakes. Major water bodies include the Chehalis River, Berwick Creek, Kearney Creek, Lucas Creek, the Newaukum River, Salzer Creek, and Stearns Creek. Land cover is 43 percent forest and woodland, 24 percent recently disturbed, 30 percent agricultural, and two percent developed. Less than two percent of the land is public; the remaining 98.5 percent is in private ownership. Shoreline jurisdiction includes 11,123 acres along nineteen stream reaches and two lakes.

#### *B. Land Use*

Land use is 43 percent forest and woodland, 24 percent recently disturbed, 30 percent agricultural, and two percent developed. The zoning designations from the Lewis County Code (LCC) Title 17 Land Use and Development Regulations found in the Upper Chehalis – Puget Lowlands MA are provided in Table 2.4 below.

**Table 2-4. Current Zoning Designations in the Upper Chehalis – Puget Lowlands MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Forest Resource Lands | Forest | Commercial forestry operation | 0.16% |
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 16.72% |
| Forest Resource Lands Local Importance | FRL-LI | Commercial forestry operations, agricultural production | 0.26% |
| Rural Development District 10 | RDD-10 | Residential development compatible with rural character, one dwelling unit per ten acres | 14.52% |
| Mine | Mine | Mining industries, undeveloped resource land | 0.00% |

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 5 | RDD-5 | Residential development near population centers such as UGAs and small towns, one dwelling unit per five acres | 10.71% |
| Rural Residential Center | RRC-R-1A | Rural residential development with density greater than one unit per one acre | .003 |
| Small Towns Mixed Use/Commercial | STMU | Commercial uses, retail uses, gateway communities | 0.38% |
| Crossroads Commercial | CC | Areas which have historically provided rural commercial services to residents in the rural areas | 0.003% |
| Agricultural Resource Lands | ARL | Commercial production of aquaculture, horticulture, grain, dairy, and other crops | 57.21% |
| Park | Park | Park or open space | 0.02% |
| Urban Growth Areas | UGA | UGAs associated with cities and other areas characterized by urban level development | 0.01% |

### *C. Existing Public Access*

The Upper Chehalis – Puget Lowlands MA has 84 miles of shoreline. There is one primary public access point to the Chehalis River and its tributaries in the MA:

- Newaukum Valley Golf Course provides water-enjoyment use through visual access to the Newaukum River adjacent to the course.

In addition, the Chehalis River Basin Land Trust owns land next to the South Fork of the Newaukum River and an easement along the Chehalis River:

- South Fork Newaukum River - 1.3 acres at the junction of the South Fork Newaukum River and Kearney Creek, streams with high water quality and good fish habitat.

- Galvin Conservation Easement - An easement on 57 acres and 2.5 miles along the Chehalis River consists of mature native forest including the largest grove of mature cottonwoods remaining in the Chehalis basin. The area provides habitat for anadromous and resident fish and supports bald eagles, pileated woodpeckers, beavers, river otters, and a variety of native flora and fauna. The site provides a habitat corridor with open water, riparian zone, wetlands, and upland features. Mature black cottonwood trees are present.

### *D. Shoreline Modifications*

There are approximately 10,700 feet of dikes and levees in this MA. In addition, moderate armoring was noted in two reaches through aerial photographs in addition to straightening and possible armoring along Pigeon Springs Road noted in aerials.

### *E. Ecological Functions*

Reaches in this management area have an average score of 25.5 and scores range between 21 and 32 points. Impairments are mostly associated with agriculture, the dominant land use, and rural residential development. The reach that scored lowest (reach 3C-20) has a low score in part because of the small size of the reach (2.5 acres) and surrounding development within the management area. The reach is a small segment of a considerably larger wetland complex that is mostly located in the city of Chehalis. This reach scored low due to the highway and railroad that dominate the reach and associated lack of vegetation and functioning habitat, as well as a 303(d) listing. Dioxin levels in fish tissue exceeded National Toxic Rule criterion in a 5-fish composite of cutthroat trout fillets.

The highest-ranking reaches were along a segment of Kearney Creek (score of 32), and the Newaukum River. These areas are relatively undeveloped with good coverage by forest and wetlands. They are also known spawning areas for priority salmon species.

Throughout the management area, mass wasting, lack of riparian cover, and poor water quality are primary limiting factors for salmon. Based on modeling, the mainstem between Newaukum River and the Skookumchuck River exhibited 168 percent change between existing and historical shade due to tree canopy loss (Smith and Wenger 2001). That segment of stream, which includes several reaches in this management area, was ranked highest for most degraded stream with regard to altered shade from vegetation. Water quality limiting factors are related primarily to warm water temperatures and low dissolved oxygen. In addition to degraded vegetation cover, stream channel alterations and poor in-stream habitat complexity were noted in several of the reaches.

## *2.03.04 UPPER CHEHALIS –WESTERN FOOTHILLS*

### *A. Shoreline Characteristics*

The Upper Chehalis – Western Foothills MA encompasses 82 square miles of low, rolling to steeply sloping hills with medium to high gradient streams. Jurisdictional water bodies include the Skookumchuck River, Hanaford Creek, the Newaukum River, Salzer Creek, and Plummer Lake. Land cover is 45 percent forest and woodland, 43 percent recently disturbed, eleven percent agricultural and grassland, and one percent developed. Less than one percent of the land is public; the remaining 99.8 percent is in private ownership. Shoreline jurisdiction includes 4,512 acres along eight stream reaches and six lakes.

### *B. Land Use*

The current land use patterns found in the MA are provided in Table 2-5.

**Table 2-5. Current Land Use Patterns in Upper Chehalis – Western Foothills MA**

| Current Land Use Patterns | % of MA |
|---|---|
| Agriculture | 49.2% |
| Vacant/Undeveloped | 16.5% |

| Current Land Use Patterns | % of MA |
|---|---|
| Forest | 13.1% |
| Single-Family Residential | 8.4% |
| Mining Activities | 3.4% |
| Timber | 2.2% |
| Right-of-Way | 1.5% |
| Multi-Family Residential | 1.2% |
| Open Space | 1.1% |
| Railroad | 1.0% |
| Utilities | 0.9% |
| Water | 0.7% |
| Other | 0.5% |
| Cultural/Recreational | 0.3% |

The zoning designations from the LCC Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-6.

**Table 2-6. Current Zoning Designations in Upper Chehalis – Western Foothills MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 42.59% |
| Agricultural Resource Lands | ARL | Commercial production of aquaculture, horticulture, grain, dairy, and other crops | 13.88% |
| Mine | Mine | Mining industries, undeveloped resource land | 12.21% |
| Urban Growth Area County | UGA - County | County UGA | 10.54% |
| Forest Resource Lands | Forest | Commercial forestry operation | 9.71% |

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 10 | RDD-10 | Residential development compatible with rural character, one dwelling unit per ten acres | 4.26% |
| Rural Area Industrial | RAI | General purpose industrial, transportation, and forest resource activities in rural areas | 6.07% |
| Rural Development District 5 | RDD-5 | Residential development near population centers such as UGAs and small towns, one dwelling unit per five acres | 0.40% |
| Park | Park | Park or open space | 0.35% |

### *C. Existing Public Access*

The Upper Chehalis – Western Foothills MA has almost 40 miles of stream and lake shoreline jurisdiction. There is one primary public access point to the Skookumchuck River in the MA:

- Schaeffer County Park, a 17-acre park north of the city of Centralia, provides swimming and fishing on the Skookumchuck River as well as playgrounds, covered shelter, a picnic area, and hiking trails.

### *D. Shoreline Modifications*

There is only approximately 1,000 feet of dikes and levees indicated in the available data for this MA. Other shoreline modifications observed on aerial photographs include a ditch wetland in a small unnamed creek, the stream channel has been altered along portion of Hanaford Creek near TransAlta and channel modifications and riparian vegetation altered on the South Hanaford, which is heavily agricultural land.

### *E. Ecological Functions*

The reaches in this management area have scores ranging from 20 to 30 showing relatively low functional values ranging to high functional value. The average score across all reaches and assessment criteria was 25.8 points. The reaches with the highest scores are segments of Hanaford Creek containing relatively high levels of vegetation cover, wetlands, and habitat connectivity. The

lowest scored reach is a pond associated with the Centralia power plant. That reach scored low generally due to limited vegetation, roads, and lack of adequate habitat connectivity or priority habitat features and species.

### *2.03.05 UPPER CHEHALIS – CASCADE LOWLANDS*

#### *A. Shoreline Characteristics*

The Upper Chehalis – Cascade Lowlands MA encompasses 102 square miles of westerly trending ridges and valleys with medium gradient rivers and streams. Jurisdictional water bodies include the Skookumchuck River, the North and South Fork Newaukum River, and Newaukum Lake. Land cover is 55 percent forest and woodland, 45 percent recently disturbed, with less than one percent agricultural, grassland, or developed. Approximately one percent of the land is public; the remaining 99 percent is in private ownership. Shoreline jurisdiction includes 1,135 acres.

#### *B. Land Use*

The current land use is almost 98 percent timber and forest lands and two percent Rural Development District (RDD)-10 with little development.

#### *C. Existing Public Access*

The Upper Chehalis – Cascade Lowlands MA has 24 miles of stream and lake shoreline jurisdiction; however, it is primarily private forestland with no existing public access.

#### *D. Shoreline Modifications*

No dikes or levees for reaches are recorded in the available data, nor were other shoreline modifications observed on aerial photographs.

#### *E. Ecological Functions*

Stream reaches in this management area have scores of 24 (two reaches) and 25 (one reach). Newaukum Lake has a score of 31 points. These reaches share similar qualities as those in the Nisqually and Chehalis – Coast Range management areas, moderately steep slopes, high level of forest cover, and similar forestry land use patterns. Function scores across all 12 assessment criteria generally reflect the natural conditions of each reach, with some impairments likely resulting from timber harvest and forest roads throughout the landscape. Lower scores for the stream reaches reflect the steep slopes, narrow adopted floodways or the 2010 flood channel study area, and lack of significant wetlands or backwaters that are important to the movement of water and sediment, water quality, and riparian vegetation and habitat structure.

## 2.04 COWLITZ MANAGEMENT AREAS

### *2.04.01 COWLITZ – WILLAPA HILLS*

#### *A. Shoreline Characteristics*

The Cowlitz – Willapa Hills MA is a relatively small area west of Winlock. The terrain is similar to that of the Chehalis – Willapa Hills MA. Land cover is 60 percent forest and woodland, 32 percent recently disturbed, and eight percent agricultural, grassland, or developed. Shoreline jurisdiction includes 301 acres along three streams: Stillwater Creek, its tributary Brim Creek, and a small section of Campbell Creek.

#### *B. Land Use*

The current land use is mostly forestry. The zoning designations from the LCC Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-7.

**Table 2-7. Current Zoning Designations in Cowlitz – Willapa Hills MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 44.02% |
| Forest Resource Lands | Forest | Commercial forestry operation | 15.19% |
| Rural Development District 5 | RDD-5 | Residential development near population centers such as UGAs and small towns, one dwelling unit per five acres | 40.79% |

#### *C. Existing Public Access*

The Cowlitz – Willapa Hills MA has 6.4 miles of shoreline jurisdiction; however, it is primarily private forestland with no existing public access.

#### *D. Shoreline Modifications*

No dikes or levees for reaches are recorded in the available data, nor were other shoreline modifications observed on aerial photographs.

### *E. Ecological Functions*

All four reaches in this management area have a score of 22 points. This is due to the similar land use and development patterns between the reaches, and relatively small sizes of two of the reaches (2.7 and 6.6 acres), as well their close proximity to one another and similar ecological characteristics. Primary impairments are related to residential development and agriculture, which have resulted in reduced forest cover along the shoreline. Limited wetlands and narrow adopted floodway or the 2010 flood channel study area, in combination with the limited potential for recruitment and transport of LWD result in moderate degradation of habitat complexity from development and impacted forest vegetation.

## *2.04.02 COWLITZ – PUGET LOWLANDS*

### *A. Shoreline Characteristics*

The Cowlitz – Puget Lowlands MA encompasses 192 square miles of rolling terraces and floodplains with meandering streams and oxbow lakes. Streams in this MA are the Cowlitz River (including Mayfield reservoir downstream to the county boundary) and lower segments of tributary streams including the Tilton River and Cinebar Creek, Mill Creek, Salmon Creek, and Klickitat Creek. Other major streams are Olequa Creek (and the lower portion of its tributary, Stillwater Creek) and the entire length of Lacamas Creek. Shoreline jurisdiction includes 7,647 acres along 19 stream reaches and two lakes.

### *B. Land Use*

Land cover is 45 percent forest and woodland, 17 percent recently disturbed, 35 percent agricultural or grassland, and two percent developed. The zoning designations from the LCC Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-8.

**Table 2-8. Current Zoning Designations in Cowlitz – Puget Lowlands MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 22.67% |
| Agricultural Resource Lands | ARL | Commercial production of aquaculture, horticulture, grain, dairy, and other crops | 11.88% |
| Mine | Mine | Mining industries, undeveloped resource land | 2.64% |

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Urban Growth Area County | UGA - County | County UGA | 0.87% |
| Forest Resource Lands | Forest | Commercial forestry operation | 3.59% |
| Rural Development District 10 | RDD-10 | Residential development compatible with rural character, one dwelling unit per ten acres | 21.98% |
| Lake | Lake | Lake | 22.35% |
| Rural Development District 5 | RDD-5 | Residential development near population centers such as UGAs and small towns, one dwelling unit per five acres | 12.09% |
| Park | Park | Park or open space | 0.92% |
| Rural Residential Center | RRC-R10000 | Rural residential development with density greater than one unit per 10,000 square feet | 0.16% |
| Rural Residential Center | RRC-R-5.A | Rural residential development with density greater than two units per gross acre | 0.48% |
| Rural Residential Center | RRC-R-1A | Rural residential development with density greater than one unit per one acre | 0.27% |
| Small Towns Mixed Use/Commercial | STMU | Commercial uses, retail uses, gateway communities | 0.05% |
| Freeway Commercial | FC | Commercial uses and retail uses near freeways | 0.05% |

### *C. Existing Public Access*

The Upper Chehalis – Puget Lowlands MA has 119 miles of shoreline jurisdiction. There are a number of public access points in the MA. The Mayfield Lake area provides a recreational resource for the central county area, and resort and recreation opportunities are encouraged where adequate public facilities can be provided cost effectively and significant environmental consequences avoided.

On the Cowlitz River:

- South Lewis County Park covers 43 acres adjacent to the Cowlitz River in Toledo with access to the Cowlitz River and a 19-acre lake. A lake supporting wetland vegetation, wildlife, and birds has formed in an old gravel pit on the property. Amenities include camping, swimming, fishing, boating, and playground and picnic area.

- Cowlitz Trout Hatchery Unit is a 280 acre unit of the Washington Department of Fish and Wildlife's (WDFW) Cowlitz Wildlife Area and is located adjacent to the WDFW Cowlitz Trout Hatchery near Winlock. It is managed for black-tailed deer and riparian forest habitats. This unit has several large fields that are mowed and maintained as forage fields. Additionally, three fields totaling nine acres were planted with 3,700 trees and shrubs representative of a mixed deciduous forest. This area is along a riparian corridor that provides seasonal inundation to the surrounding floodplain that, when finished, will create a palustrine wetland environment.

- There are four boat launches on the Cowlitz River below Mayfield Lake:

    - Blue Creek – Next to the Cowlitz Trout Hatchery Unit there is a year-round, ADA-accessible, concrete boat launch for motorized boats with restroom facilities operated and maintained by Tacoma Power.

    - Interstate 5 – On the north bank of the Cowlitz River at the Interstate 5 Bridge, a year-round, ADA accessible, concrete boat launch for motorized boats with restroom facilities is accessible from State Route 506.

    - Massey Bar – From Buckley Road, there is a year-round, ADA-accessible, concrete boat launch for motorized boats with restroom facilities. There is also bank fishing.

    - Winters - On the south bank of where Interstate 5 crosses the Cowlitz River accessible from Mandy Road, there is a year-round, non-ADA accessible boat launch for non-motorized boats.

On Mayfield Lake:

- Ike Kinswa State Park is located on the northern shoreline of Mayfield Lake. It consists of 454 acres of forest with 46,000 feet of shoreline on Mayfield Lake. The Cowlitz Indians originally

inhabited the area around Ike Kinswa State Park. Their burial ground is located in the region. Many graves were relocated when the Mayfield Dam backed water up into the canyon. The area was originally named Mayfield Lake State Park, but the name was changed in 1971 to honor Ike Kinswa, a Cowlitz Indian who represented his people.

This State Park is open all year and offers a boat launch, campground and day-use facility. The park provides fishing, recreational boating, and swimming. There are two boat ramps and 52 unsheltered picnic tables. A few small trails meander around the park for a total of 1.5 miles.

- Mayfield Buffer Unit is a unit of the WDFW's Cowlitz Wildlife Area that was created as mitigation for the Cowlitz River hydroelectric projects. Tacoma Power purchased a 60 to 300 foot buffer along the entire shoreline of Mayfield Lake. The upland is mainly residential development with access to the buffer primarily by water. The buffer areas are accessed by boat almost exclusively. There are some areas where the lands can be access from shore but parking would be very limited.

- Mayfield Lake County Park is located on the south bank of the lake. It has 8,400 feet of beach front, a boat launch, picnic shelters, camping sites, and a beach on the lake. The park includes 54 individual camping sites and showering facilities for campers. Twenty-three acres of the park are designated as wildlife mitigation lands, which will remain in recreational use but will not be further developed.

- Two privately run recreational facilities on Mayfield Lake provide a variety of visitor services:
    - Harmony Lakeside RV Park
    - Lake Mayfield Resort and Marina

- In addition, Mayfield Lake Youth Camp is located on the south shore of the lake.

On Olequa Creek:

- McMurphy Park is located on Annonen Road on a bend of Olequa Creek. It has picnic sites and access to the creek. The park is owned by the city of Vader. The city is in the process of extending utilities to the park.

### *D. Shoreline Modifications*

There are approximately five miles of dikes and levees found in the MA. Other shoreline modifications observed on aerial photographs include significant development and armoring on the Cowlitz near the city of Toledo and west of Interstate 5 and dams at Mayfield Lake and downstream at the salmon hatchery.

### *E. Ecological Functions*

Reaches in this management area are rated between 20 and 35 for overall functions. The average score for all reaches combined is 26.2 points, indicating a moderate to high functional value overall with a few reaches scored moderately low. The reach with the lowest score is Mayfield Lake, a reservoir on the mainstem of Cowlitz River. Although most of the shoreline is well vegetated, there are areas of development, overwater structures, and other shoreline modification such as the Highway 12 bridge crossing. Probably the most significant feature characterizing this reach and affecting ecological functions is the Mayfield Dam. Altered processes that, in turn, affect functions in this reach are impaired water, sediment, and LWD transport. Functions are impaired by the altered conditions that reduce habitat complexity and suitability for salmon. Fish access is also limited by the Mayfield Dam and Barrier dam in reach 4B-12 immediately downstream. The highest scored reaches are wetlands, a headwater wetland of Olequa Creek (4B-20) and a relatively intact unnamed wetland (4B-21). These reaches are suitable for protection.

Much of the forested riparian area in the Tilton watershed has a reduced potential for LWD recruitment in the lower reaches compared to historical conditions. Lack of LWD was noted in the Cowlitz River, Salmon Creek, and Tilton River, and was one factor contributing to impaired functions and moderate functional scores (for example, a reach function score of 25 associated with the Tilton River). Historical channel cleaning and timber harvest have resulted in fewer logjams, and riparian forests composed of relatively young conifers or deciduous trees with poor large wood structure (Wade 2000). The mainstem Tilton River has limited spawning capacity due to lack of spawning gravel. Elevated peak flows and lack of LWD result in the transport of spawning gravels out of the river.

## *2.04.03 COWLITZ – WESTERN FOOTHILLS*

### *A. Shoreline Characteristics*

The Cowlitz – Western Foothills MA encompasses 54 square miles of low, rolling to steeply sloping hills with medium to high gradient streams. It is situated generally south of Mayfield reservoir on the Cowlitz River, east of the mainstem Cowlitz River, and west of the higher elevation Cascade lowlands. This MA includes three stream reaches. Two reaches are middle portions of Salmon Creek, upstream and downstream of the Cedar Creek confluence. The third is Cedar Creek. These streams eventually flow into the Cowlitz River downstream from Toledo. Land cover is 78 percent forest and woodland, 19 percent recently disturbed, two percent agricultural and grassland, and less than one percent developed land. Six percent of the land is public; the remaining 94 percent is in private ownership. Shoreline jurisdiction includes 1,186 acres along three stream reaches.

### *B. Land Use*

Land use is almost all forestry with some agricultural use and very little development. The zoning designations from the LCC Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-9.

**Table 2-9. Current Zoning Designations in Cowlitz – Western Foothills MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 2.78% |
| Mine | Mine | Mining industries, undeveloped resource land | 1.45% |
| Forest Resource Lands | Forest | Commercial forestry operation | 95.77% |

### *C. Existing Public Access*

The Cowlitz - Foothills MA has 35 miles of shoreline jurisdiction; however, it is primarily private forestland with no existing public access.

### *D. Shoreline Modifications*

There is less than 500 feet of dikes and levees in this MA. No other shoreline modifications were observed on aerial photographs.

### *E. Ecological Functions*

All three stream reaches in this management area received a score of 26 for overall functions. The streams scored similarly across functions, with minor variations between vegetation functions (forest cover for maintaining water temperatures) and hyporheic functions (support of vegetation). The stream channel within this hilly and forested landscape exhibits relatively good channel complexity in terms of sinuosity and riparian vegetation throughout most areas, particularly where recent timber harvest is not evident. LWD is present and observable in aerial photographs, but may be limited to the lower reach below the Cedar Creek confluence. Due to a low level of development, timber harvest and associated roads may be the most significant cause of shoreline impacts throughout the management area. However, as described for forested management areas in the Chehalis River basin, management areas containing a significant area of intensively managed forests in the Cowlitz River watershed, including this one, are managed under existing systems (forest practice rules and HCPs); and those systems should help to protect and conserve priority species and functions associated with shorelines.

## *2.04.04 COWLITZ – CASCADE LOWLANDS*

### *A. Shoreline Characteristics*

The Cowlitz – Cascade Lowlands MA includes much of the eastern half of the county from the upstream extent of Mayfield Reservoir to the Cascade highlands located to the east. It encompasses

809 square miles of westerly trending ridges and valleys with medium gradient rivers and streams. This MA includes 60 reaches; 54 stream reaches and six lake reaches (including two in Riffe Lake). Primary subbasins within the MA are the Cowlitz River mainstem (including Riffe Lake) upstream to the Muddy Fork Cowlitz River, Tilton River, Cispus River, Winston Creek, and Skate Creek.

This MA also includes the lower reaches of higher elevation streams that are mostly located in Cascade highlands including Butter Creek, Coal Creek, Lake Creek, Johnson Creek, and Smith Creek. Land cover is 68 percent forest and woodland, 27 percent recently disturbed, three percent agricultural, grassland, or developed, and two percent open water. Forty-eight percent of the land is public; the remaining 52 percent is in private ownership. Shoreline jurisdiction includes 35,995 acres along 55 stream reaches (including the reservoirs on the Cowlitz River) and five lakes.

### *B. Land Use*

The current land use patterns found in the MA are provided in Table 2-10. This MA is very large, mostly forest like the rest of the county but does include several population centers like Packwood, Randle, and Cispus, in addition to Riffe Lake.

**Table 2-10. Current Land Use Patterns in Cowlitz – Cascade Lowlands MA**

| Current Land Use Patterns | % of MA |
|---|---|
| Utilities | 28.6% |
| Forest | 25.1% |
| Vacant/Undeveloped | 15.9% |
| Agriculture | 11.4% |
| Unknown | 6.5% |
| Multi-Family Residential | 3.5% |
| Single-Family Residential | 1.8% |
| Cultural/Recreational | 1.8% |
| Service/Government | 1.6% |
| Timber | 1.3% |
| Water | 1.3% |
| Right-of-Way | 0.7% |
| Open Space | 0.3% |
| Industrial | 0.1% |
| Railroad | 0.1% |

The zoning designations from the LCC Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-11.

**Table 2-11. Current Zoning Designations in Cowlitz – Cascade Lowlands MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Development District 20 | RDD-20 | Development limitations warrant lower density, one dwelling unit per 20 acres | 20.35% |
| Agricultural Resource Lands | ARL | Commercial production of aquaculture, horticulture, grain, dairy, and other crops | 7.80% |
| Mine | Mine | Mining industries, undeveloped resource land | 0.12% |
| Urban Growth Area County | UGA - County | County UGA | 0.00% |
| Forest Resource Lands | Forest | Commercial forestry operation | 29.67% |
| Rural Development District 10 | RDD-10 | Residential development compatible with rural character, one dwelling unit per ten acres | 3.55% |
| Lake | Lake | Lake | 32.42% |
| Rural Development District 5 | RDD-5 | Residential development near population centers such as UGAs and small towns, one dwelling unit per five acres | 2.48% |
| Park | Park | Park or open space | 1.24% |
| Small Town Residential | STR-4 | Small towns which were historically exclusively residential in character | 0.03% |

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Rural Residential Center | RRC-R-2A | Rural residential development with density greater than one unit per two acres | 0.07% |
| Rural Residential Center | RRC-R-1A | Rural residential development with density greater than one unit per one acre | 0.60% |
| Small Towns Mixed Use/Commercial | STMU | Commercial uses, retail uses, gateway communities | 0.56% |
| Small Towns Industrial | STI | Mills, forest products and agricultural industries | 0.15% |
| Rural Area Industrial | RAI | General purpose industrial, transportation, and forest resource activities in rural areas | 0.001 |
| Tourist Service Area | TSA | Tourist and recreation facilities supporting the state and national park facilities | 0.27% |
| Wilderness | Wilderness | National wilderness areas | 0.70% |

### *C. Existing Public Access*

The Cowlitz - Cascade Lowlands MA has 399 miles of shoreline jurisdiction. There are a number of public access points in the MA. The Riffe Lake area provides a recreational resource for the central county area, and resort and recreation opportunities are encouraged where adequate public facilities can be provided cost effectively and significant environmental consequences avoided.

On Riffe Lake:

- Riffe Buffer Unit is a unit of the WDFW's Cowlitz Wildlife Area and was started as mitigation for the Cowlitz River hydroelectric projects. Tacoma Public Utilities has purchased a 60 to 300 foot buffer along the entire shoreline of Riffe Reservoir. The upland is mainly in private timber ownership and access to the buffer is primarily by water. Large wood within the reservoir precludes water sport activities but the reservoir is known for its trout and landlocked coho

fishery. The buffer zone is best accessed via boat though some locations may be accessible via logging road.

Unlike the buffer on Mayfield Lake, Riffe Lake's buffers are predominately bordered by private commercial timberlands. The buffer zone provides diversity of forage and cover not found in the adjacent clearcuts making this area a vital habitat component for local wildlife. Fishing for landlocked coho (silvers) is a favorite pastime of those visiting this area as well as hang gliding and windsurfing. There is also a bass fishing competition on this lake annually.

- Kosmos Unit is a 750 acre unit of the WDFW's Cowlitz Wildlife Area and is located on the east end of Riffe Lake. It is managed for black-tailed deer, bald eagles, and waterfowl, and riparian forest, riparian shrub and emergent wetland habitats in general. In addition to several large fields that are hayed by contractors to maintain forage values, there are ponds and forest/shrub corridors. Three perennial creeks that flow into this unit are managed for cavity-nesting species and salmonids. A proposed project to create a 40-acre impoundment will provide additional emergent wetland habitat to benefit dabbling ducks, amphibians, and other wildlife.

  There is a boat launch operated by Cowlitz Wildlife Area staff on Riffe Lake:

  - Kosmos – On the north bank of Riffe Lake accessible from Kosmos Road West there is a year-round, non-ADA accessible boat launch for non-motorized boats with non-ADA restroom facilities.

- Mossyrock Park is operated by Tacoma Power and is located at the east end of Riffe Lake. It provides year-round camping, day use area, and a boat launch. There are 152 individual campsites, two group camp areas, a 60 site group camp and a ten site primitive group camp with coin-operated showers, laundry facilities, a store and concession stand, and ADA accessible restrooms. Public access to the lake includes a boat launch, fish cleaning station, and swimming area. Swimming and boat launching are lake level permitting.

- Mossyrock Dam View Point from U.S. Route 12 provides water-enjoyment visual access to the lake.

- Taidnapam Park is operated by Tacoma Power and is located at the east end of Riffe Lake. It provides a fishing bridge on Riffe Lake. It provides a forested campground with 163 individual RV sites, 24 walk-in tent sites, a 60 site group camp, and a ten site primitive group camp with coin-operated showers, laundry facilities, and ADA accessible restrooms. The day-use area offers picnic tables, grills, horseshoes, swimming; outdoor showers and kids play equipment. Swimming and boat launching activities are available, depending on lake levels.

  There are two boat launches open mid-May through mid-September:

  - Taidnapam boat launch

- North Taidnapam boat launch

Near Mossyrock:

- Mossyrock Unit is a 750-acre unit of the WDFW's Cowlitz Wildlife Area and is located northeast of Mossyrock. It is managed for black-tailed deer, waterfowl, and riparian forest habitats. The unit has several large fields, several ponds, and several riparian forest corridors. The fields are hayed by contractors and maintained as forage fields.

- Swofford Unit is a 300-acre unit of the WDFW's Cowlitz Wildlife Area surrounding Swofford Pond southeast of Mossyrock and south of Riffe Lake. It is managed for elk, black-tailed deer, waterfowl, and riparian forest habitat. This unit has several large fields, a pond, and several riparian forest corridors. The fields are hayed by contractors and maintained as forage fields. The southern end borders industrial timberlands located on a steep slope. Formal public access is provided by a trail along the south shore of Swofford Pond that is accessed near an unimproved boat launch on the pond.

Near Morton:

- Peterman Ridge Unit is a 6,840-acre unit of the WDFW's Cowlitz Wildlife Area and is located south of Morton. It is the largest unit in the Cowlitz Wildlife Area. It is managed for the pileated woodpecker (a sensitive species), black-tailed deer, and Douglas squirrels. Its forested wetland areas on Peterman Ridge also provide habitat for beaver, amphibians and other wetland-dependent species. Wildlife use throughout the unit is diverse, including elk, black bear, cougar, grouse, and turkey. There is approximately ten miles of multi-use trail providing public access to the area. The trail is composed of single track trail connecting forest roads.

Near Randle:

- Spears Unit is a 418-acre unit of the WDFW's Cowlitz Wildlife Area and is located south of Randle. The unit is managed for black-tailed deer, dabbling ducks, emergent wetland, forested wetland, riparian forest, and riparian shrub habitat. A large pond was created by the installation of a dike to retain water for mill operations prior to WDFW management. Two creeks flow through the unit and converge near the western boundary before draining into the Cowlitz River. Siler Creek, which flows along the southeastern boundary of the unit, is diked to keep water out of adjacent agricultural fields.

- Maple Grove Golf Course south of Randle provides water-enjoyment use through visual access to the Cowlitz River adjacent to the course.

On the Cispus River:

- Iron Creek Campground is a U.S. Forest Service campground in the Gifford Pinchot National Forest next to the Cispus River. It has 98 campground camping sites and 98 RV sites. Fishing in the Cispus River is available.

- Tower Rock Campground is a U.S. Forest Service campground in the Gifford Pinchot National Forest next to the Cispus River. It has 21 campground camping sites and 21 RV sites.

- The Cispus Learning Center in Cispus Valley serves more than 16,000 students and adults each year. It is located in the Gifford Pinchot National Forest operating under a special use permit with the U.S. Forest Service.

On Davis Lake:

- Davis Lake Unit is a 243-acre unit of the WDFW's Cowlitz Wildlife Area and is located east of Morton. It is managed for black-tailed deer, waterfowl, salmonids, and riparian forest habitat. In addition to several large fields that are mowed to maintain forage values, there is a large pond, wetlands and forested/shrub corridors.

On Kiona Creek:

- Kiona Creek Unit is a 243-acre unit of the WDFW's Cowlitz Wildlife Area and is located off Savio Road west of Randle. It is managed for black-tailed deer, dabbling ducks, and other riparian forest and forested wetland habitat species. Three perennial creeks (Squaw, Kiona, and Oliver) have been largely altered to drain water from the agricultural fields that comprise the western portion of the unit. Squaw and Oliver creeks supply water to the large wetland area that comprises the eastern portion of the unit. In 2004, a wetland restoration plan was completed to optimize the habitat value and restore hydrology to more natural conditions.

On Lake Scanewa:

- The Lewis County Public Utility District operates Cowlitz Falls Park. The day-use park located at the east end of Lake Scanewa where the Cispus and Cowlitz Rivers meet. The falls are now buried beneath the Scanewa Reservoir after the Cowlitz Falls Dam was built in 1994. The park has picnic tables, a boat ramp with dock, a swimming area, and a restroom facility. There are several locations to fish.

- The Lewis County Public Utility District near Cowlitz Falls Park operates Cowlitz Falls Campground. It provides over 100 campsites, 40 with water and electric hookups. There is a picnic area with tables and barbecue units, a boat launch, a few nature trails and a kid's play area.

Chapman:

- West of the city of Morton, accessible from Chapman Road, there is a year-round, non-ADA accessible boat launch for non-motorized boats.

### *D. Shoreline Modifications*

Table 2-12 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. Comprehensive information on shoreline modifications other than dikes and levees is not available for this MA.

**Table 2-12. Cowlitz – Cascade Lowlands MA Shoreline Modifications**

| Reach Number | Sum of Dike and Levee Length (feet) a | Other Shoreline Modifications b |
|---|---|---|
| 4D-02 | 3,303 | Limited bank armoring near Hwy 508 |
| 4D-03 | 3,093 | Limited bank armoring near Hwy 508 |
| 4D-08 | Unknown | Heavy armoring exists throughout the range of salmon habitat use on the East Fork Tilton (Murray Pacific 1993, as cited in Wade 2000). |
| 4D-13 | 184 | |
| 4D-18 | - | Bulkheads or armoring associated with residences/ docks along Lake Road |
| 4D-19 | - | Mossyrock Dam |
| 4D-22 | 231 | Low intensity development and vegetation removal along right bank |
| 4D-29 | 1,781 | |
| 4D-30 | 8,687 | Extensive armoring near confluence with Cowlitz River |
| 4D-31 | 5,744 | Limited armoring |
| 4D-32 | 131 | |
| 4D-33 | 114 | |
| 4D-35 | 1,305 | |
| 4D-37 | 12,285 | |
| 4D-38 | 2,966 | |
| 4D-39 | 3,778 | Most of reach is armored and has straightened channel |
| 4D-40 | 3,850 | |

| Reach Number | Sum of Dike and Levee Length (feet) a | Other Shoreline Modifications b |
|---|---|---|
| 4D-46 | 73 | |
| 4D-47 | 1,879 | Limited armoring in portion of reach |
| 4D-55 | 3,342 | Extensive armoring confines channel |
| [a]Data Source: Lewis County Dikes and Levees shapefile, unless noted otherwise.<br>[b]Aerial Photography: Google Earth, May 2013 | | |

### *E. Ecological Functions*

Reaches in this management area scored between 19 and 34 in the functions assessment, indicating a wide range of functional values and impairments. The highest scoring reaches were lakes with significant associated wetlands, although several stream reaches scored between 29 and 31 points. This management area has an average score of 26 points, exhibiting moderate functional values and impairments similar to other management areas throughout the county with primarily rural shoreline jurisdictions. Impairments noted in the shoreline jurisdiction during the functions assessment included logging roads, armoring, lack of LWD, and water quality impairments, primarily high temperatures. Currently, the system of dams blocks all natural upstream passage and downstream migration. Downstream migrants are captured at the Cowlitz Falls Dam and transported below the dams. Lake Scanewa inundated the once productive reaches of the upper Cowlitz increasing predation and reducing key habitat for spawning, incubation, and fry colonization (Wade 2000).

A coniferous, old-growth stand exists in much of the riparian zone in the East Fork Tilton. Most of the smaller streams such as the tributaries of the Tilton River are naturally confined and have little, if any, floodplain habitat. The mainstem Tilton, below the West Fork confluence, is naturally unconfined and meanders. It becomes braided during times of high sediment supply. Above the confluence, the river is naturally confined.

Past management practices on private and public lands, especially road construction and timber harvests have contributed to increased peak flows, excessive sediment delivery to streams, bank instability, increased frequency of debris flows, and reduced riparian function and instream LWD. A number of roads adjacent to streams have also channelized the river and isolated already limited off-channel rearing habitat. For example, side channel and off channel habitat is generally limited within the Tilton watershed, thus juveniles have minimal refuge from high flows that often flush them out of the river (Wade 2000). Side channel habitat below the town of Morton provides some critical areas with refuge from high flows. Despite these common impairments, some areas within the subbasin have relatively functioning habitat and recent forest management practices may eventually address many of the remaining problems related to forestry practices.

### *2.04.05 COWLITZ – CASCADE HIGHLANDS*

#### *A. Shoreline Characteristics*

The Cowlitz – Cascade Highlands MA is located along the eastern-most portion of the county. It encompasses 356 square miles of steep, glaciated, dissected mountains and ridges with high to medium gradient streams and glacial rock-basin lakes. This MA include the upper Cowlitz River and tributaries, the majority of the Johnson Creek and Smith Creek drainages, and the high elevation headwater tributaries of the Cispus River before they flow into Skamania County. Ninety-nine percent of the land is in public ownership. Shoreline jurisdiction includes 7,594 acres.

#### *B. Land Use*

This MA is entirely encompassed by the Gifford Pinchot National Forest and other state and federal managed forestlands, some of which is permanently protected as wilderness. Land cover is 89 percent forest and woodland, seven percent recently disturbed, and two percent grassland, or developed.

#### *C. Existing Public Access*

The Cowlitz - Cascade Highlands MA has 156 miles of shoreline jurisdiction. There are a number of public access points in the MA. Public access is provided in the Gifford Pinchot National Forest through camping sites and hiking trails in the warm months and trails for cross-country skiing, snowshoeing, and snowmobiling during the winter. The William O. Douglas, Tatoosh, and Goat Rocks Wilderness areas lie within the forest.

#### *D. Shoreline Modifications*

No dikes or levees for reaches are recorded in the available data, nor were other shoreline modifications observed on aerial photographs. Given the remote location of most of the reaches in this MA, extensive shoreline modification is unlikely to be present.

#### *E. Ecological Functions*

Reaches in this management area have functions assessment scores ranging between 23 and 33. The average score for the management area overall and across all functions was relatively high at 27.4 points, indicating good functional values and relatively low impairments from anthropogenic causes. This is consistent with the dominate land use and zoning designations for the management area. The lowest scored reach is Goat Lake, an isolated, high elevation, alpine lake with steep and mostly unvegetated slopes. The natural characteristics of this lake limit the functions score. Like many of the relatively small, high elevation isolated lakes in this management area, there is also limited potential for habitat use by priority species, which are more commonly associated with shorelines in lower elevations that provide more suitable and diverse habitats, opportunities for foraging and breeding, and are more accessible. Most of the functions in this management area overall are limited by steep slopes and general lack of wetlands and off channel or backwater

habitats. LWD may be limited in the Cispus River. Many of the reaches had reduced scores due to high temperature, and some for low dissolved oxygen, affecting water quality.

## 2.05 CITY OF MORTON MANAGEMENT AREA

### *2.05.01 SHORELINE CHARACTERISTICS*

The city of Morton MA is defined primarily by the city's municipal boundary including its UGA, and by the relative difference in development and land use compared to the more rural areas in the county. The city's MA is surrounded the Cowlitz – Cascade Lowlands MA. The city's MA contains three reaches. Two of the reaches cover the Tilton River (reaches MO-01 and MO-02), and one reach covers Johnson Creek, which flows from Davis Lake (reach MO-03). Shoreline jurisdiction includes 268 acres.

### *2.05.02 LAND USE*

*Reach MO-01 – Morton – Tilton River*

Current Land Use: The reach is characterized by undeveloped open space. The reach is located in the western portion of Morton along the Tilton River. Much of the land is undeveloped due to floodway, floodplain, and wetland constraints. Development within the reach is primarily low-density residential. Washington State Fish Hatcheries own a portion of the reach although there is no active hatchery on the site.

*Reach MO-02 – Morton – Tilton River*

Current Land Use: The reach is characterized by open space and high intensity industrial uses. The western portion of the reach is undeveloped. The northeastern portion of the reach is intensely developed and it includes TMI Forest Products and Hampton Lumber Mills. Gus Backstrom City Park is located near the center of the reach and included a boat ramp. The majority of residential land within the reach is undivided and undeveloped.

*Reach MO-03 – Morton – Johnson Creek*

Current Land Use: The reach follows Johnson Creek along Highway 12 and includes wetlands east of the city boundary within the UGA. Land use is characterized by transportation and utilities, which includes Highway 12, as well as undivided residential and agricultural uses. Undeveloped land in the eastern part of the reach is owned by the Morton School District and is adjacent to the Morton Junior-Senior High School. The zoning designations from the Morton Municipal Code (MMC) Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-13.

**Table 2-13. Current Zoning Designations in the City of Morton MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Commercial | C-1 | Commercial and retail | 3.57% |

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Community Service | CS | Special uses such as schools, churches and other public and semipublic uses | 21.26% |
| Industrial | I-1 | Manufacturing and warehousing | 17.70% |
| Single Family Residential | R-1 | Low density residential | 43.81% |
| Multiple Residential | R-M | High density residential | 13.67% |

### *2.05.03 EXISTING PUBLIC ACCESS*

The city of Morton MA has 43.2 miles of shoreline jurisdiction and a number of public access points.

The floodplain, wetlands, and fish and wildlife habitats along the Tilton River and its tributaries are considered by the city as green belt areas that serve as corridors for wildlife through the city. Gus Backstrom Park is situated on the western edge of Morton along the Tilton River. It serves as a buffer between the city's urban core and the Tilton River, protecting the floodplain and providing recreation and public access opportunities. Riverside access is available for fishing and splashing. The park has a playground, covered picnic area, baseball field, campfire pits, restrooms, a boat ramp, and an RV park with 24-hour on-site caretakers.

### *2.05.04 SHORELINE MODIFICATIONS*

No significant dikes or levees for reaches are recorded in the available data, nor were other shoreline modifications observed on aerial photographs. Given the remote location of most of the reaches in the city's MA, extensive shoreline modification is unlikely to be present.

### *2.05.05 ECOLOGICAL FUNCTIONS*

In the city's shoreline management area, one stream reach, Johnson Creek, has a score of 25 while the two reaches for Tilton River have scores of 29 and 26 points for overall functions. Johnson Creek flows into the city from a large headwater wetland in the adjacent Cowlitz - Cascade Lowlands management area. The stream is straight and confined along the Strom Field landing strip and along Highway 12 before passing under the Highway and converging with the Tilton River. The stream exhibits impairments related to lack of woody vegetation and simplified channel structure. This reduced the functions including the stream's ability to maintain cool water temperature, stabilize sediments, attenuate flows, and provide organic material into the system.

The reaches in the Tilton River have limited LWD and encroaching development on the left bank (MO-02) reduces the potential for LWD recruitment, channel migration, and habitat forming processes, and may increase the desire for bank armoring to protect existing structures. Armoring at State Route 508 Bridge may impair natural streambed and bank forming process. Vegetation and recruitable LWD is limited due to the railroad, Highway 7, and log yard upstream of Highway 508, and residential

development downstream of State Route 508. Reach MO-01 exhibits slightly better conditions than the upstream reach of the Tilton River due primarily to a higher level of tree cover along the shoreline.

## 2.06 CITY OF WINLOCK MANAGEMENT AREA

### *2.06.01 SHORELINE CHARACTERISTICS*

The city of Winlock MA is defined primarily by the city's municipal boundary including its UGA, and by the relative difference in development and land use compared to the more rural areas in the county. The city's MA is surrounded by the Cowlitz - Puget Lowlands MA. The city's MA contains three stream reaches comprised of Olequa Creek (reaches WI-02 and WI-03) and King Creek (reach WI-01). The two reaches in Olequa Creek are separated by the confluence of King Creek. Shoreline jurisdiction includes 108 acres.

### *2.06.02 LAND USE*

*Reach WI-01 – Winlock – King Creek*

Current Land Use: The reach is characterized by low-density residential uses and open space. The reach follows King Creek from Olequa Creek to Winlock's western UGA boundary. There is low-density residential development and agricultural land throughout the reach as well as a small portion of land classified as timber.

*Reach WI-02 – Winlock – Olequa River*

Current Land Use: The reach is characterized by manufacturing, which includes a lumber mill in the southeastern portion of the reach. The reach is characterized by parks, low density residential, and timber uses in the western and northern portions. While land uses surrounding the reach are high intensity, the majority of the reach is undeveloped.

*Reach WI-03 – Winlock – Olequa River*

Current Land Use: This reach follows Olequa Creek through the southern boundary of the Winlock UGA to the confluence of Olequa Creek and King Creek. The reach is characterized by residential, commercial, and industrial development. The majority of land use is established residential. The reach includes developed portions of Winlock and includes a portion of Winlock Miller Elementary School. The zoning designations from the Winlock Development Code (WDC) Title 17 Land Use and Development Regulations found in the MA are provided in Table 2-14.

**Table 2-14. Current Zoning Designations in the City of Winlock MA**

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|

| Description | Symbol | Typical Uses | % of MA |
|---|---|---|---|
| Commercial District | C1 | Less intensity commercial areas with typical allowed uses include convenience food markets, beauty and barber shops, bakeries and limited service industries | 5.92% |
| Low Density Residential District | LDR 10 | Low density residential development on lots averaging 10,000 square feet | 14.87% |
| Low Density Residential District | LDR 6 | Low density residential development on lots averaging 6,000 square feet | 15.41% |
| Medium Density Residential District | MDR | Medium density residential development with minimum density of eight units per net acre | 40.28% |
| Light Industrial District | LI | Manufacturing, wholesale trade, and distribution activities | 15.59% |
| Urban Public District | UP | Public facilities, public parks, playgrounds, open spaces, natural resource preservation or enhancement | 7.94% |

### *2.06.03 EXISTING PUBLIC ACCESS*

The city's MA has 2.3 miles of shoreline jurisdiction. Winolequa Park provides access to the shoreline. The park is located on Rhoades Road North. Amenities include a covered kitchen and picnic area, elevated stage, open air picnic areas with barbeques, playground, and softball fields. Overnight camping is also available for recreational vehicles and tents. Olequa Creek flows through the center of the park, which is surrounded by evergreen and deciduous forest.

### *2.06.04 SHORELINE MODIFICATIONS*

No dikes or levees are found in the MA. Other shoreline modifications observed on aerial photographs include roads, residential and other developments.

### *2.06.05 ECOLOGICAL FUNCTIONS*

Reaches in the city's shoreline management area have scores of 21, 22, and 26 points, indicating a moderate level of functional values and impairments primarily associated with residential development and road impacts on vegetation structure in the shoreline jurisdiction. The stream segment between Northwest Firs Street and Southwest Canyon Loop is confined by development, and it exhibits a low level of channel complexity. Due to the existing development, this area is unlikely to benefit from protection or restoration actions, although future shoreline modifications such as bank armoring to protect existing structures may be desired in the future but should be avoided. In other areas within the shoreline jurisdiction, impervious surfaces and disturbed areas may be considered for restoration. Protection or conservation to preserve existing functions should be considered for the wetland and forested area occupying much of the northern portion of the city. This could include prohibiting development, building setbacks, or provisions that require low impact development practices to be used in future development.

# 3 Reasonably Foreseeable Development

## 3.01 LEWIS COUNTY COALITION MASTER PROGRAMS

This chapter provides a brief overview of the SMPs developed for the Coalition members and addresses the protection of ecological functions and processes from cumulative impacts. The general format and content of the SMPs are similar for all three jurisdictions and only varied in minor ways where needed to reflect different shoreline conditions and critical areas regulations.

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

- Prohibit 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.
- Require buffers and setbacks. Vegetated buffers and building setbacks from those buffers reduce the impacts of development in the shoreline environment.
- Establish appropriate shoreline environment designations. The shoreline environment designations must reflect the inventory and characterization. A shoreline landscape that is relatively unaltered should be designated Natural shoreline environment designation and protected from any use that would degrade the natural character of the shoreline.
- 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.
- 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.

Measures described in Section 4.01.01, which details the general goals, policies, and regulations of the SMPs, and Section 4.01.02, which details the Shoreline Restoration Plan, would implement the above recommendations, helping the Coalition achieve no net loss of shoreline ecological functions.

### *3.01.01 SHORELINE ENVIRONMENT DESIGNATIONS*

The first level of protection provided by the SMPs is the recognition of six different shoreline environment designation types in the Coalition: Aquatic, High Intensity, Natural, Rural Conservancy, Shoreline Residential, and Urban Conservancy. These shoreline 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.

The six shoreline environment designations include either the upland property from the Ordinary High Water Mark (OHWM) or water areas lying waterward of the OHWM. The county SMP used five of the six shoreline environment designations, but did not include the Urban Conservancy shoreline environment designation. The cities' SMPs used four of the six shoreline environment designations, but did not include the Rural Conservancy or Natural shoreline environment designations.

### *A. Aquatic*

The Aquatic shoreline environment designation consists of all lands waterward of OHWM of the waterways of the Coalition. 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 Coalition 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 non-water water-oriented uses. The purpose of the High Intensity shoreline environment designation is to provide for high intensity non-water-oriented commercial 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 areas within the shoreline jurisdiction 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 county 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 environment 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 forested areas in Gifford Pinchot National Forest.

### *D. Rural Conservancy*

The Rural Conservancy shoreline environment designation consists of shoreline areas outside of incorporated cities and urban growth areas that most closely match the following characteristics:

1. They currently support lesser-intensity resource based uses;
2. They currently contain residential uses outside of incorporated cities or town;
3. They are subject to environmental limitations, such as properties that contain critical areas;
4. They are of high recreational, historical, or cultural value; or
5. They are currently supporting low-intensity water-dependent uses.

The purpose of the Rural Conservancy shoreline environment designation is to protect ecological functions, conserve existing natural, historic, and cultural resources in order to provide for sustained resource use, achieve natural flood plain processes, and provide recreational opportunities. The Rural Conservancy shoreline environment designation is assigned to the majority of the shoreline area within the county's shoreline jurisdiction.

### *E. 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 shoreline areas that are predominantly residential or are planned and platted for residential development.

### *F. 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 areas within the shoreline jurisdiction that:

1. Are appropriate and planned for low-intensity agricultural, recreational, and residential development that is compatible with maintaining or restoring the ecological functions of the area in the shoreline jurisdiction and that are not generally suitable for water-dependent uses;
2. Are suitable for water-related or water-enjoyment uses;
3. Possess development limitations, due to the presence of critical environmental features including:
    a. Erosion hazard areas;
    b. Habitat areas;
    c. Wetlands; or
    d. Flood hazard areas;
4. Have the potential for development that is compatible with ecological restoration;
5. Retain important ecological functions, even though partially developed; or
6. Are undesignated areas.

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

The updated SMPs contain numerous policies, with supporting regulations intended to protect the ecological functions of the shoreline and maintain, at a minimum, the current level of function. Major sections of the updated SMPs summarized below.

Draft shoreline management policies and regulations were designed to improve protection of shoreline ecological functions and management of the resources identified in the SIC. The proposed regulations strengthen protection of natural resources within the Coalitions' shoreline jurisdiction in the following ways:

- SMP Chapter 3: Shoreline Environment Designations defined five new shoreline environment designations discussed above for the county and four new shoreline environment designations discussed above for the cities. Based on the findings of the SIC, these shoreline environment

designations closely reflect current and proposed natural and developed conditions of the jurisdiction's shorelines.

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

- SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation. Provisions of the Coalition's Critical Areas Ordinances not consistent with the SMA, RCW Chapter 90.85, and supporting WAC chapters, do not apply in the shoreline jurisdiction. Critical area provisions in the shoreline jurisdiction included in the SMP Appendix 2: Critical Areas Regulations of the updated SMPs meet current Ecology standards for critical area protection.

  Vegetation conservation is now required in the shoreline jurisdiction. In all shoreline areas, land clearing, grading, filling and alteration of natural drainage features and landforms is limited to the minimum necessary for development. Within all shoreline areas, tree removal is limited to the minimum necessary to accommodate proposed buildings, structures, and uses or to mitigate a hazard to life or property. Removal of trees in the shoreline jurisdiction is limited.

- SMP Section 4.04.02(B): Shoreline Buffers establishes buffers and building setbacks. Shoreline buffers are naturally vegetated areas located upland from the OHWM that protect the ecological functions of the shoreline and help to ensure no net loss of ecological function occurs. The section:

  - Limits the removal of vegetation in the shoreline buffer;

  - Requires all uses and developments implement the mitigation sequence found in SMP Section 4.03: Environmental Impacts and Mitigation;

  - Establishes shoreline buffer widths and shoreline structural setbacks based on use, shoreline environment designation, and waterbody; and

  - Contains provisions for shoreline buffer reduction provided certain qualifications are met.

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

- SMP Section 4.08: Water Quality prevents impacts to water quality and stormwater quantity that would result in a loss of ecological functions, a significant impact to aesthetic qualities, or recreational opportunities.

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

The specific policies and regulations in SMP Chapter 5: Specific Shoreline Use Policies & Regulations 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 Table 5-1: Permitted, Conditional, and Prohibited Uses establishes the uses and development allowed within the shoreline environment designations.

- SMP Section 5.06: Aquaculture includes detailed regulations for aquaculture in the shoreline jurisdiction.

- SMP Section 5.07: Boating and Water Access Facilities regulates boat launches and marinas. 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, breakwater, dredged basin, 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 cargo terminal (industrial use) or dredging (shoreline modification) to allow for a marina (boating facility use). Protective policies and regulations in SMP Chapter 6: Shoreline Modification Policies and Regulations are as follows:

- SMP Section 6.01: Introduction establishes allowable shoreline modification activities within each of the shoreline environment designations.

- SMP Section 6.03: Clearing, Grading, and Fill establish provisions to regulate clearing and grading and fill, require mitigation, and regulate these activities within wetlands, among other protective provisions. The clearing and grading regulations in this section apply to activities landward of the OHWM and fill activity applies both waterward and landward of the OHWM.

- SMP Section 6.04: Dredging and Dredge Material Disposal requires that these activities are conducted using mitigation sequencing and limits dredging to navigation channels, moorage facilities, agricultural uses, restoration or enhancement of the shoreline, flood hazard reduction and utilities. Dredge material disposal in shoreline jurisdiction must preserve, restore, or enhance shoreline ecological functions and processes.

- SMP Section 6.05: In-Water Structures encourages natural in-water features such as snags, uprooted trees, or stumps and discourages the use of motor vehicles, appliances, or other solid waste.

- SMP Section 6.08: Shoreline Stabilization contains numerous protective regulations including requirements that new development on eroding shorelines shall be designed to avoid shoreline stabilization during the life of the building or structure. If shoreline stabilization measures are necessary, prioritize using "soft" structural shoreline stabilization measures such as anchored logs, limited rock placement in conjunction with other components, and beach enhancement instead of "hard" structural shoreline stabilization measures such as concrete or boulder bulkheads.

### *3.01.05 SHORELINE RESTORATION PLAN*

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

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

| Restoration Opportunities | Description |
|---|---|
| Stormwater Management and Planning | As part of the new NPDES Municipal Stormwater Permit, the Coalition members are required to bring their stormwater regulations up to date. This will support restoration efforts within the Coalition's shoreline jurisdiction and the implementation of stormwater and agricultural runoff treatment and control strategies throughout the watershed. |
| Restore Riparian Buffers | The Coalition 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 Coalition's shoreline jurisdiction. |
| Volunteer Opportunities | The Coalition should work with existing volunteer groups. |

## 3.02 NISQUALLY MANAGEMENT AREA

The MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at the campground south of the Nisqually River and the boat launches on Mineral Lake.

The MA zoning consists largely of Forest with a few pockets of RDD-5, RDD-10, and RDD-20 in addition to Local Areas of More Intensive Rural Development (LAMIRDs): Small Towns Mixed Use (STMU), and STI, on the south end of Mineral Lake. In addition, one parcel measuring 82 acres in size is zoned Mine.

### *3.02.01 PATTERNS OF SHORELINE ACTIVITY*

The Nisqually MA contains 779 parcels, as shown in Table 3-2. Of these parcels, 55, or 66 percent are vacant. Vacant parcels total 5,481 acres. Over 200 parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms and are not considered in this analysis.

**Table 3-2. Vacant and Developed Parcels in Nisqually MA**

| Nisqually | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 515 | 5,481 |
| Developed | 264 | 502 |
| **Total** | **779** | **5,983** |

The land with the potential to have the greatest impact on ecological functions because of the range of potential land uses and their intensity appears to be Small Town Mixed Use designated lands, which accounted for less than 0.1 percent of the total MA.

There were 28 shoreline permit exemptions and two substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-3. Based on the ten-year permit history trend, 56 shoreline permit exemptions and four substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-3. Previously Permitted and Projected Development in Nisqually MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 28 | 56 |
| Substantial Development Permit | 2 | 4 |

### *3.02.02 RESIDENTIAL DEVELOPMENT*

There are 212 vacant parcels and 887 acres in residential zones, RDD-5, RDD-10, RDD-20, and Rural Residential Center (RRC)-R-2A, as shown in Table 3-4. Residential zoning designations account for fifteen percent of the total vacant acreage.

**Table 3-4. Vacant Residential Parcels by Zone in Nisqually MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 5 | 16 |
| RDD-10 | 16 | 39 |
| RDD-20 | 184 | 708 |
| RRC-R-2A | 35 | 16 |
| **Total** | **240** | **783** |

Although approximately 17 percent of the residential development capacity in the MA occurs on lots too small to be subdivided under the current LCC, some larger subdivision opportunities exist, particularly on the Nisqually River.

### *3.02.03 COMMERCIAL AND INDUSTRIAL DEVELOPMENT*

Table 3-5 shows that land zoned for commercial and industrial development is minimal. There is a single 4-acre parcel zoned for Small Town Industrial, which allows industrial priority uses within the MA. Overall, commercial and industrial development potential is limited in the Nisqually MA.

**Table 3-5. Vacant Commercial and Industrial Parcels by Zone in Nisqually MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| STI | 3 | 4 |
| STMU | 12 | 3 |
| **Total** | **13** | **7** |

### *3.02.04 RESOURCE DEVELOPMENT*

There are over 4,500 acres of land zoned Forest in the Nisqually MA that either are currently used for commercial timber or have the potential to be used for commercial timber production in the future, as shown below in Table 3-6.

**Table 3-6. Vacant Resource Development Parcels in Nisqually MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 232 | 4,479 |
| FRL-LI | 3 | 129 |

All commercial timber operations are regulated by the Forest Practice Act (FPA) (Chapter 76.09 Revised Code of Washington (RCW)). Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Nisqually River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

### *3.02.05 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION*

There are 515 vacant parcels totaling 5,481 acres intersecting the shoreline jurisdiction, as shown in Table 3-7. The majority of vacant acreage, or 91.26 percent, is within the Rural Conservancy shoreline environment designation.

**Table 3-7. Development Potential by Shoreline Environment Designation in Nisqually MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| High Intensity | 2 | 4 |
| Rural Conservancy | 470 | 5,456 |
| Shoreline Residential | 43 | 21 |
| **Total** | **515** | **5,481** |

## 3.03 DESCHUTES MANAGEMENT AREA

The Deschutes MA contains seven parcels. All seven parcels are vacant and are owned by the Weyerhaeuser Company.

The area is designated entirely for rural land uses and is classified completely as Forest. The county land use designation in the MA is exclusively Forest Parks. The designation supports the use of this land for commercial forestry purposes. There is no new residential development capacity within the MA. There is no measurable commercial or industrial development capacity in the MA.

The existing zoning of Forest does not allow the opportunity for non-priority uses in the MA.

### *3.03.01 PATTERNS OF SHORELINE ACTIVITY*

The Deschutes MA contains seven parcels, as shown in Table 3-8. Of these parcels, all are vacant. Vacant parcels total 237 acres. None of the parcels are protected from development by public or conservation group ownership. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-8. Vacant and Developed Parcels in Deschutes MA**

| Deschutes | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 7 | 237 |
| Developed | 0 | 0 |
| **Total** | **7** | **237** |

There were no shoreline permit exemptions or substantial development permits issued by the county within the Deschutes MA. No shoreline permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

### *3.03.02 RESIDENTIAL DEVELOPMENT*

There are no vacant parcels in residential zones in the Deschutes MA.

### *3.03.03 COMMERCIAL AND INDUSTRIAL DEVELOPMENT*

There are no vacant parcels in commercial or industrial zones in the Deschutes MA.

### *3.03.04 RESOURCE DEVELOPMENT*

There are 237 acres of land zoned Forest in the Deschutes MA that either are currently used for commercial timber or have the potential to be used for commercial timber production in the future, as shown in Table 3-9. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

**Table 3-9. Vacant Resource Development in Deschutes MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 7 | 237 |

### *3.03.05 RECREATIONAL DEVELOPMENT*

None anticipated.

### *3.03.06 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION*

There are seven vacant parcels totaling 237 acres intersecting the shoreline jurisdiction, as shown in Table 3-10. All of the vacant parcels are within the Rural Conservancy shoreline environment designation.

**Table 3-10. Development Potential by Shoreline Environment Designation in Deschutes MA**

| Deschutes | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Rural Conservancy | 7 | 237 |

## 3.04 UPPER CHEHALIS MANAGEMENT AREAS

### *3.04.01 UPPER CHEHALIS – COAST RANGE*

The Upper Chehalis – Coast Range MA contains 70 parcels. All of these parcels are vacant and it appears that there are no parcels protected from development by public or conservation group ownership, conservation easements, or similar mechanisms. The existing zoning of Forest does not allow the opportunity for non-priority uses in the MA.

#### *A. Patterns of Shoreline Activity*

The Upper Chehalis Coast Range MA contains 67 parcels, as shown in Table 3-11. All of these parcels are vacant. Vacant parcels total 2,881 acres. No parcels are protected from development by public or conservation group ownership.

**Table 3-11. Vacant and Developed Parcels in Upper Chehalis Coast Range MA**

| Upper Chehalis - Coast Range | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 70 | 2,881 |
| Developed | 0 | 0 |

The MA is designated entirely for rural land uses and is classified completely as Forest Land. The county land use designation in the MA is exclusively Forest and Parks. The designation supports the use of this land for commercial forestry purposes.

There were 11 shoreline permit exemptions and no substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-12. Based on the ten-year permit history trend, 22 shoreline permit exemptions and no substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-12. Previously Permitted and Projected Development in Upper Chehalis Coast Range MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 11 | 22 |
| Substantial Development Permit | 0 | 0 |

### *B. Residential Development*

There is no new residential development capacity within the MA.

### *C. Commercial, Industrial, and Utility Development*

There is no measurable commercial or industrial development capacity in the MA.

### *D. Resource Development*

There are 2,881 acres of land zoned Forest in the Upper Chehalis Coast Range MA that either are currently used for commercial timber or have the potential to be used for commercial timber production in the future, as shown below in Table 3-13. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Chehalis River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

**Table 3-13. Vacant Resource Development Parcels by Zone in in Upper Chehalis Coast Range MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 70 | 2,881 |

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 70 vacant parcels totaling 2,881 acres intersecting the shoreline jurisdiction, as shown in Table 3-14. All of the vacant parcels are within the Rural Conservancy shoreline environment designation.

**Table 3-14. Development Potential by Shoreline Environment Designation in Upper Chehalis Coast Range MA**

| Shoreline Environment Designation | Number of Parcels | Area in Acres |
|---|---|---|
| Rural Conservancy | 70 | 2,881 |

## *3.04.02 UPPER CHEHALIS – WILLAPA HILLS*

Although a small amount of Rural Industrial land exists in the MA, these accounted for less than 0.2 percent of the total MA. There is no measurable additional commercial or industrial development capacity in the MA.

The existing zoning allows some opportunity for non-priority uses in the MA, particularly in the Rural Area Industrial (RAI) and the Mine zoning districts. These zones allow a wide variety of uses, providing potential for future use conflicts. However, when considering the existing shoreline regulations the county applies in the MA, it appears that future use conflicts would be unlikely.

The MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at the state park and other public lands. A small amount of Industrial land, approximately two developable acres on the south side of the MA allows industrial priority uses, though the area is developed currently with little or no additional development capacity.

### *A. Patterns of Shoreline Activity*

The Upper Chehalis - Willapa Hills MA contains 1,553 parcels, as shown in Table 3-15. Of these parcels, 843, or 54 percent are vacant. Vacant parcels total 4,397 acres. Approximately 80 parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms and are not considered in this analysis. There are ten vacant parcels, 15 acres in total, that are zoned Mine, but mining activities appear to be outside the shoreline jurisdiction.

**Table 3-15. Vacant and Developed Parcels in Upper Chehalis - Willapa Hills MA**

| Upper Chehalis - Willapa Hills | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 843 | 4,397 |

| Upper Chehalis - Willapa Hills | Number of Parcels | Area in Acres |
|---|---|---|
| Developed | 710 | 3,223 |
| **Total** | **1,553** | **7,620** |

The MA is designated entirely for rural land uses. County land use designations in the MA include RDD-5, RDD-10, and RDD-20, and LAMIRDs, Agricultural Resource Lands (ARL), Forest, Parks, and Mineral Resource Lands. Based on these designations, the most intense use of property appears to be within the ARL and RDD designated lands found in most of the MA. The majority of new residential development capacity in the MA exists in these designations.

There were 49 shoreline permit exemptions and no substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-16. Based on the ten-year permit history trend, 98 shoreline permit exemptions and no substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-16. Previously Permitted and Projected Development in Upper Chehalis - Willapa Hills MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 49 | 98 |
| Substantial Development Permit | 0 | 0 |

### *B. Residential Development*

There are 317 vacant parcels and 1,221 acres in residential zones, RDD-5, RDD-10, and RDD-20 as shown in Table 3-17. Residential zoning designations account for 28 percent of the total vacant acreage.

**Table 3-17. Vacant Residential Parcels by Zone in Upper Chehalis - Willapa Hills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 62 | 197 |
| RDD-10 | 104 | 257 |
| RDD-20 | 151 | 767 |
| **Total** | **317** | **1,221** |

Although approximately 92 percent of the residential development capacity in the MA occurs on lots too small to be subdivided under the current LCC, some larger subdivision opportunities exist in the MA.

### *C. Commercial and Industrial Development*

The majority of vacant land in the Upper Chehalis Willapa Hills MA has minimal commercial and industrial development potential, as shown in Table 3-18. Similarly, one is vacant parcel zoned RAI, but earth disturbing activities appears to be outside the shoreline jurisdiction.

**Table 3-18. Vacant Commercial and Industrial Parcels by Zone in Upper Chehalis - Willapa Hills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RAI | 1 | 1 |
| STMU | 5 | 9 |
| Park | 3 | 5 |
| UGA | 3 | 0.1 |
| **Total** | **12** | **15** |

### *D. Resource Development*

The majority of vacant land in the Upper Chehalis Willapa Hills MA is zoned ARL and Forest, as shown in Table 3-19.

**Table 3-19. Vacant Resource Development Parcels by Zone in Upper Chehalis - Willapa Hills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| ARL | 409 | 2,137 |
| Forest | 90 | 999 |
| FRL-LI | 2 | 10 |
| **Total** | **501** | **3,146** |

There are nearly 1,000 acres of land zoned Forest in the Upper Chehalis Willapa Hills MA that either are currently used for commercial timber or have the potential to be used for commercial timber production in the future, as shown above in Table 3-19. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Chehalis River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 843 vacant parcels totaling 4,398 acres intersecting the shoreline jurisdiction, as shown in Table 3-20. The majority of vacant acreage, or 99.75 percent, is within the Rural Conservancy shoreline environment designation. There are two parcels and 11 acres of vacant land located within the High Intensity shoreline environment designation.

**Table 3-20. Development Potential by Shoreline Environment Designation in Upper Chehalis - Willapa Hills MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| High Intensity | 2 | 11 |
| Shoreline Residential | 1 | 0 |
| Rural Conservancy | 840 | 4386 |
| **Total** | **843** | **4,397** |

## *3.04.03 UPPER CHEHALIS – PUGET LOWLANDS*

The MA is designated entirely for rural land uses. County land use designations in the MA include RRC-R-1A, RDD-5, RRD-10, and RDD-20, STMU, CC, and UGAs, and ARL, Forest, Parks, and Mineral Resource Lands. Based on these designations, the most intense use of property appears to be the RDD designated lands found in most of the MA. The majority of new residential development capacity in the MA exists in these designations.

Although approximately 87 percent of the residential development capacity in the MA occurs on lots too small to be subdivided under the current LCC, some larger subdivision opportunities exist. The existing zoning allows some opportunity for non-priority uses in the MA, particularly in the Mining and Small Town Mixed Use zoning districts. These zones allow a wide variety of uses, providing potential for future use conflicts. However, when considering the existing shoreline regulations that the county applies in the MA, it appears that future use conflicts would be unlikely.

The MA contains land for residential shoreline uses, water-enjoyment uses associated with recreation at state and county parks and other public lands. There are approximately 42 acres of Small Town Mixed Use and Crossroad Commercial with development or redevelopment potential.

### *A. Patterns of Shoreline Activity*

The Upper Chehalis - Puget Lowlands MA contains 1,361 parcels, as shown in Table 3-21. Of these parcels, 760, or 53 percent are vacant. Vacant parcels total 6,408 acres. Over 50 parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms and are not considered in this analysis.

**Table 3-21. Vacant and Developed Parcels in Upper Chehalis - Puget Lowlands MA**

| Upper Chehalis - Puget Lowlands | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 861 | 6,408 |

| Upper Chehalis - Puget Lowlands | Number of Parcels | Area in Acres |
|---|---|---|
| Developed | 759 | 4,714 |
| **Total** | **1,620** | **11,122** |

There were 35 shoreline permit exemptions and three substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-22 Based on the ten-year permit history trend, 70 shoreline permit exemptions and six substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-22. Previously Permitted and Projected Development in Upper Chehalis - Puget Lowlands MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 35 | 70 |
| Substantial Development Permit | 3 | 6 |

### *B. Residential Development*

There are 481 vacant parcels and 2,780 vacant acres in residential zones, RDD-5, RDD-10, RDD-20, and RRC-R-1A, as shown in Table 3-23. Residential zoning designations account for 43 percent of the total vacant acreage in the MA.

**Table 3-23. Vacant Residential Parcels by Zone in Upper Chehalis - Puget Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 135 | 754 |
| RDD-10 | 165 | 757 |
| RDD-20 | 180 | 1,269 |
| RRC-R-1A | 1 | 0.2 |
| **Total** | **481** | **2,780** |

### *C. Commercial and Industrial Development*

Commercial and industrial development in the Upper Chehalis – Puget Lowlands is minimal. There are nine vacant parcels totaling nine acres in the STMU, CC, and UGA zones. Overall, commercial and industrial development potential is limited in the Upper Chehalis – Puget Lowlands MA as many parcels only have a small area in the shoreline jurisdiction as shown in Table 3-24.

**Table 3-24. Vacant Commercial and Industrial Parcels by Zone in Upper Chehalis - Puget Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| STMU | 5 | 8 |
| CC | 1 | 0.1 |
| UGA | 4 | 1 |

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| **Total** | **10** | **9** |

### *D. Resource Development*

The majority of vacant land in the Upper Chehalis – Puget Lowlands MA is zoned ARL or 3,573 acres, as shown in Table 3-25.

**Table 3-25. Vacant Resource Development Parcels by Zone in Upper Chehalis - Puget Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| ARL | 362 | 3,573 |
| Forest | 6 | 18 |
| FRL-LI | 2 | 27 |
| **Total** | **370** | **3,618** |

There are eight parcels zone Forest and Forest Resource Lands – Local Importance (FRL-LI) in the Upper Chehalis – Puget Lowlands MA, as shown above in Table 3-25. Combined, these parcels are 45 acres in size. These parcels are either currently used for commercial timber or have the potential to be used for commercial timber production in the future. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Chehalis River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 860 vacant parcels totaling 6,386 acres intersecting the shoreline jurisdiction, as shown in Table 3-26. One hundred percent of vacant acreage is within the Rural Conservancy shoreline environment designation.

**Table 3-26. Development Potential by Shoreline Environment Designation in Upper Chehalis - Puget Lowlands MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Rural Conservancy | 860 | 6,386 |
| **Total** | **860** | **6,386** |

### *3.04.04 UPPER CHEHALIS – WESTERN FOOTHILLS*

The existing zoning allows some opportunity for non-priority uses in the MA, particularly in the RAI and Mine zoning districts. These zones allow a wide variety of uses, providing potential for future use conflicts. However, when considering the existing shoreline regulations that the county applies in the MA, it appears that future use conflicts would be unlikely.

The MA contains land for residential shoreline uses and associated water-dependent uses, and water-enjoyment uses associated with recreation at Shaffer Park. There is significant development capacity along Hanaford Creek in the northern portion of the MA. Approximately 230 acres of vacant land is zoned RAI and Mine.

#### *A. Patterns of Shoreline Activity*

The Upper Chehalis – Western Foothills MA contains 425 parcels, as shown in Table 3-27. Of these parcels, 234, or 2,275 acres are vacant. Approximately 45 parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms and are not considered in this analysis.

**Table 3-27. Vacant and Developed Parcels in Upper Chehalis Western Foothills MA**

| Upper Chehalis - Western Foothills | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 234 | 2,275 |
| Developed | 191 | 2,237 |
| **Total** | **425** | **4,512** |

The MA is designated entirely for rural land uses. County land use designations in the MA include RDD-5, RDD-10, and RDD-20, UGAs and LAMIRDs, ARL, Forest, Parks, and Mine. Based on these designations, the most intense use of property appears to be the RDD designated lands found in most of the MA. The majority of new residential development capacity in the MA exists in these designations.

There were nine shoreline permit exemptions and two substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-28. Based on the ten-year permit history trend, 18 shoreline permit exemptions and four substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-28. Vacant Residential Parcels by Zone in in Upper Chehalis – Western Foothills MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 9 | 18 |
| Substantial Development Permit | 2 | 4 |

### *B. Residential Development*

There are 142 vacant parcels and 933 acres in residential zones, RDD-5, RDD-10, and RDD-20, as shown in Table 3-29. Residential zoning designations account for 41 percent of the total vacant acreage.

**Table 3-29. Vacant Residential Parcels by Zone in in Upper Chehalis – Western Foothills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 2 | 16 |
| RDD-10 | 29 | 71 |
| RDD-20 | 111 | 846 |
| **Total** | **142** | **933** |

All of the residential development capacity occurs on lots too small to be subdivided under the current LCC.

### *C. Commercial and Industrial Development*

The majority of vacant commercial and industrial land in the Upper Chehalis – Western Foothills MA is associated with the TransAlta Centralia Coal Plan and Mining area. Land is zoned UGA – County, RAI, and Mine, as shown in Table 3-30. It is expected that future industrial development will be dependent on how TransAlta moves forward with either restarting the original use or redeveloping the property, it will be reflected in the amount of industrial development within the MA. According to the Lewis County Comprehensive Plan, a large portion of TransAlta Centralia Mining is designated LAMIRD-RAI zoning.

**Table 3-30. Vacant Commercial and Industrial Parcels by Zone in Upper Chehalis – Western Foothills MA**

| Zone | Number of Parcels | Area in Acres |
|---|---|---|
| RAI | 5 | 105 |
| UGA - County | 27 | 244 |
| **Total** | **22** | **349** |

### *D. Resource Development*

There are over 436 acres of land zoned Forest in the Upper Chehalis – Western Foothills MA that either are currently used for commercial timber or have the potential to be used for commercial

timber production in the future, as shown above in Table 3-31. In addition, nearly an equal amount of vacant land in the MA is zoned ARL, as shown in Table 3-31.

**Table 3-31. Vacant Resource Development Parcels by Zone in Upper Chehalis – Western Foothills MA**

| Zone | Number of Parcels | Area in Acres |
|---|---|---|
| ARL | 24 | 431 |
| Forest | 28 | 437 |
| **Total** | **52** | **868** |

All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Chehalis River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 234 vacant parcels totaling nearly 2,274 acres intersecting the shoreline jurisdiction, as shown in Table 3-32. The majority of vacant parcels and vacant acreage are within the Rural Conservancy shoreline environment designation, 191 and 1,701 respectively. There are 43 parcels and 573 acres of vacant land located within the High Intensity shoreline environment designation.

**Table 3-32. Development Potential by Shoreline Environment Designation in Upper Chehalis – Western Foothills MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| High Intensity | 43 | 573 |
| Rural Conservancy | 191 | 1,701 |
| **Total** | **234** | **2,274** |

## *3.04.05 UPPER CHEHALIS – CASCADE LOWLANDS*

The MA is designated entirely for rural land uses. County land use designations in the MA include RDD-10 and Forest. Based on these designations, the most intense use of property appears to be the RDD-10 designation and its capacity for residential development.

### *A. Patterns of Shoreline Activity*

The Upper Chehalis - Cascade Lowlands MA contains 62 parcels, as shown in Table 3-33. Of these parcels, 43, or 1,000 acres, are vacant. Three parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms and are not considered in this analysis.

**Table 3-33. Vacant and Developed Parcels in Upper Chehalis – Cascade Lowlands MA**

| Upper Chehalis - Cascade Lowlands | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 43 | 1,062 |
| Developed | 20 | 73 |
| **Total** | **63** | **1,135** |

The MA is designated entirely for rural land uses. County land use designations in the MA include RDD-10 and Forest. Based on these designations, the most intense use of property occurs with RDD-10 designated lands in the MA. The entirety of new residential development capacity in the MA exists in these designations.

There were ten shoreline permit exemptions and no substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-34. Based on the ten-year permit history trend, 20 shoreline permit exemptions and no substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-34. Previously Permitted and Projected Development in Upper Chehalis – Cascade Lowlands MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 10 | 20 |
| Substantial Development Permit | 0 | 0 |

### *B. Residential Development*

There are nine vacant parcels and 31 acres in the RDD-10 residential zone, as shown in Table 3-35. Residential zoning designations account for three percent of the total vacant acreage in the MA.

**Table 3-35. Vacant Residential Parcels by Zone in Upper Chehalis – Cascade Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-10 | 9 | 31 |

All of the residential development capacity in the MA occurs on lots too small to be subdivided under the current LCC.

### *C. Commercial, Industrial, and Utility Development*

There is no rural commercial or industrial land in the MA, and therefore there is no measurable additional commercial or industrial development capacity.

### *D. Resource Development*

There are 1,030 acres of land zoned Forest in the Upper Chehalis – Cascade Lowlands MA that either are currently used for commercial timber or have the potential to be used for commercial timber production in the future, as shown in Table 3-36. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Chehalis River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

The existing zoning of Forest zoning districts does not allow the opportunity for non-priority uses in the MA.

**Table 3-36. Vacant Resource Development Parcels by Zone in Upper Chehalis – Cascade Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 34 | 1,030 |

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 42 vacant parcels totaling over 1,045 acres intersecting the shoreline jurisdiction, as shown in Table 3-37. All of the vacant parcels are within the Rural Conservancy shoreline environment designation.

**Table 3-37. Development Potential by Shoreline Environment Designation in Upper Chehalis – Cascade Lowlands MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Rural Conservancy | 42 | 1,044 |

## 3.05 COWLITZ MANAGEMENT AREAS

### *3.05.01 COWLITZ – WILLAPA HILLS*

Existing zoning does not allow opportunity for non-priority uses in the MA. The MA contains land for shoreline uses such as single-family residential and associated water-dependent uses, which is expected to allow for the future development of water-enjoyment uses associated with recreation at state parks and other public lands.

#### *A. Patterns of Shoreline Activity*

The Cowlitz - Willapa Hills MA contains 97 parcels as shown in Table 3-38. Of these parcels, 41 are vacant. Vacant parcels total 139 acres. No parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms.

**Table 3-38. Vacant and Developed Parcels in Cowlitz - Willapa Hills MA**

| Cowlitz - Willapa Hills | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 41 | 139 |
| Developed | 56 | 162 |
| **Total** | **97** | **301** |

The MA is designated entirely for rural land uses. County land use designations in the MA include RDD-5, RDD-20, and Forest. Based on these designations, the most intense use of property appears to be residential uses associated with the RDD designated lands in the MA. The majority of new residential development capacity exists in these designations.

There were four shoreline permit exemptions and no substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-39. Based on the ten-year permit history trend, eight shoreline permit exemptions and no substantial development permits are projected to be issued over the 20-year planning period.

**Table 3-39. Previously Permitted and Projected Development in Cowlitz – Willapa Hills MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 4 | 8 |
| Substantial Development Permit | 0 | 0 |

#### *B. Residential Development*

There are 34 vacant parcels and 118 acres in residential zones, RDD-5 and RDD-20, as shown in Table 3-40. Residential zoning designations account for 85 percent of the total vacant acreage.

**Table 3-40. Vacant Residential Parcels by Zone in in Cowlitz – Willapa Hills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 20 | 62 |
| RDD-20 | 14 | 56 |
| **Total** | **34** | **118** |

Four vacant parcels in the RDD-5 zone have the potential to be subdivided under the current LCC.

### *C. Commercial, Industrial, and Utility Development*

There is no rural commercial or industrial land in the MA. As a result, there is no measurable additional commercial or industrial development capacity.

### *D. Resource Development*

There are 20 acres of land zoned Forest in the Cowlitz – Willapa Hills MA that have the potential to be used for commercial timber production in the future, as shown above in Table 3-41. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Cowlitz River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

**Table 3-41. Vacant Resource Development Parcels by Zone in in Cowlitz – Willapa Hills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 7 | 20 |

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 41 vacant parcels totaling 139 acres intersecting the shoreline jurisdiction, as shown in Table 3-42. All of the parcels are within the Rural Conservancy shoreline environment designation.

**Table 3-42. Development Potential by Shoreline Environment Designation in Cowlitz - Willapa Hills MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Rural Conservancy | 41 | 139 |

### *3.05.02 COWLITZ – PUGET LOWLANDS*

Existing zoning districts allow some opportunity for non-priority uses in the MA, particularly in the Small Town Mixed Use, and Mine zoning districts. These zones allow a wide variety of uses, providing potential for future use conflicts. However, when considering the existing shoreline regulations that the county applies in the MA, it appears that future use conflicts would be unlikely.

The MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at Lewis and Clark State Park, Ike Kinswa State Park, and other public lands.

#### *A. Patterns of Shoreline Activity*

The Cowlitz - Puget Lowlands MA contains 1,511 parcels. Of these parcels, 60 percent are vacant and a large percentage is protected from development by public or conservation group ownership, conservation easements, or similar mechanisms.

The MA is designated entirely for rural and small town land uses. County land use designations in the MA include RDD-5, RDD-10, and RDD-20, RRC-R-.5A, RRC-R-1A, RRC-10000, Small Town Mixed Use, Freeway Commercial, Lake, UGAs and LAMIRDs, Forest, Parks, ARL, and Mine. Based on these designations, the most intense use of property in the MA appears to be the RDD designated lands.

**Table 3-43. Vacant and Developed Parcels in Cowlitz – Puget Lowlands MA**

| Cowlitz - Puget Lowlands | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 901 | 5,224 |
| Developed | 610 | 2,423 |
| **Total** | **1,511** | **7,647** |

The following zoning classifications are included in the inventory of vacant land, but are not summarized in the tables, below related to potential residential, commercial / industrial or resource land inventories: Lake (27 parcels, 1,324 acres), Park (6 parcels, 41 acres) and Mine (22 parcels, 128 acres).

There were 63 shoreline permit exemptions and six substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-44. Based on the ten-year permit history trend, 126 shoreline permit exemptions and twelve substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-44. Previously Permitted and Projected Development in Cowlitz – Puget Lowlands MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 63 | 126 |
| Substantial Development Permit | 6 | 12 |

### *B. Residential Development*

There are 716 vacant parcels and 3,022 acres in residential zones, RDD-5, RDD-10, RDD-20, and RRC-R-.5A, RRC-R-1A, and R10000, as shown in Table 3-45. Residential zoning designations account for 58 percent of the total vacant acreage. Although approximately 95 percent of the residential development capacity in this the MA occurs on lots too small to be subdivided under the current LCC, some larger subdivision opportunities exist.

**Table 3-45. Vacant Residential Parcels by Zone in Cowlitz – Puget Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 185 | 505 |
| RDD-10 | 238 | 1,234 |
| RDD-20 | 227 | 1,225 |
| RRC-R-.5A | 40 | 34 |
| RRC-R-1A | 15 | 19 |
| RRC-R10000 | 11 | 5 |
| **Total** | **716** | **3,022** |

### *C. Commercial and Industrial Development*

There is limited vacant commercial and industrial land in the Cowlitz – Puget Lowlands MA as shown in Table 3-46. There is one vacant half-acre parcel in the STMU.

**Table 3-46. Vacant Commercial and Industrial Parcels by Zone in in Cowlitz – Puget Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| STMU | 1 | 0.5 |
| UGA | 22 | 25 |
| **Total** | **23** | **26** |

### *D. Resource Development*

The majority of vacant land in the Cowlitz – Puget Lowlands MA is zoned ARL or 84 parcels totaling 410 acres, as shown in Table 3-47. There are 22 parcels zoned Forest and 22 vacant parcels zoned Mine. Combined these parcels are over 813 acres in size. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline

resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Cowlitz River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

**Table 3-47. Vacant Resource Parcels by Zone in in Cowlitz – Puget Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| ARL | 84 | 410 |
| Forest | 22 | 274 |
| Mine | 22 | 128 |
| **Total** | **128** | **813** |

### *E. Recreational Development*

It is expected that the existing recreational development opportunities will continue with a small amount of redevelopment as funding allows.

### *F. Development by Shoreline Environment Designation*

There are 901 vacant parcels totaling 5,224 acres intersecting the shoreline jurisdiction, as shown in Table 3-48. The majority of vacant acreage, or 90 percent, is within the Rural Conservancy shoreline environment designation. There are 72 parcels and 47 acres of vacant land located within the Shoreline Residential shoreline environment designation. Thirteen parcels and 93 acres, are within the High Intensity shoreline environment designation.

**Table 3-48. Development Potential by Shoreline Environment Designation in Cowlitz - Puget Lowlands MA**

| Shoreline Environment Designation | Number of Parcels | Area in Acres |
|---|---|---|
| Aquatic | 47 | 1,427 |
| High Intensity | 13 | 93 |
| Rural Conservancy | 768 | 3,657 |
| Shoreline Residential | 73 | 47 |
| **Total** | **901** | **5,224** |

## *3.05.03 COWLITZ – WESTERN FOOTHILLS*

The existing zoning allows some opportunity for non-priority uses in the MA, particularly in the Mine zoning district. This zone allows a wide range of mining and extraction uses, providing the potential for future use conflicts. However, when considering the existing shoreline regulations that the county applies in the MA, it appears that future use conflicts would be unlikely.

The MA contains very little land for residential shoreline uses and water-enjoyment uses associated with recreation at state parks and other public lands, as all of the land is privately owned.

### *A. Patterns of Shoreline Activity*

The Cowlitz – Western Foothills MA contains 108 parcels, as shown in Table 3-49. Of these parcels, 72 percent are vacant and all are privately owned.

**Table 3-49. Vacant and Developed Parcels in Cowlitz – Western Foothills MA**

| Cowlitz – Western Foothills | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 78 | 1,035 |
| Developed | 30 | 151 |
| **Total** | **108** | **1,186** |

The MA is designated entirely for rural land uses. County land use designations in the MA include RDD-20, Forest, and Mine. Based on these designations, the most intense use of property appears to be the Forest designated lands where there are non-conforming residential and agricultural land uses.

There were nine shoreline permit exemptions and two substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-50. Based on the ten-year permit history trend, 18 shoreline permit exemptions and four substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-50. Previously Permitted and Projected Development in Cowlitz – Western Foothills MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 9 | 18 |
| Substantial Development Permit | 2 | 4 |

### *B. Residential Development*

There are seven vacant parcels and 27 acres in residential zone RDD-20, as shown in Table 3-51. Residential zoning designations account for three percent of the total vacant acreage.

**Table 3-51. Vacant Residential Parcels by Zone in Cowlitz – Western Foothills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-20 | 7 | 27 |

### *C. Commercial, Industrial, and Utility Development*

There is no Rural Industrial or Commercial land in the MA.

### *D. Resource Development*

There are 62 parcels zoned Forest, as shown in Table 3-52.

**Table 3-52. Vacant Resource Development Parcels by Zone in Cowlitz – Western Foothills MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 71 | 1,008 |

The majority of vacant land in the Cowlitz – Western Foothills MA is zoned Forest or 71 parcels and 1,008 acres, as shown in Table 3-52. These parcels are either currently used for commercial timber or have the potential to be used for commercial timber production in the future. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Cowlitz River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

### *E. Recreational Development*

None anticipated.

### *F. Development by Shoreline Environment Designation*

There are 78 vacant parcels totaling over 1,035 acres intersecting the shoreline jurisdiction, as shown in Table 3-53. All of the parcels are within the Rural Conservancy shoreline environment designation.

**Table 3-53. Development Potential by Shoreline Environment Designation in Cowlitz – Western Foothills MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Rural Conservancy | 78 | 1,035 |

## *3.05.04 COWLITZ – CASCADE LOWLANDS*

A small amount of Rural Industrial land exists in the central portion of the MA surrounding Johnson Creek. There is approximately 99 acres of vacant and under-utilized commercial or industrial development capacity in the MA.

The existing zoning allows some opportunity for non-priority uses in the MA, particularly in the Mine and Industrial zoning districts. These zones allow a wide variety of uses, providing the potential for future use conflicts. However, when considering the existing shoreline regulations that the county applies in the MA, it appears that future use conflicts would be unlikely.

The MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at Winston Creek Campground, Mossyrock Park, and other state parks and

campgrounds and other public lands. A small amount of RAI and Small Town Industrial land east of Morton in the MA allows industrial priority uses. The area is underdeveloped and provides potential development capacity.

### *A. Patterns of Shoreline Activity*

The Cowlitz – Cascade Lowlands MA contains 3,000 parcels, as shown in Table 3-54. Of these parcels, 1,868 are vacant. Vacant parcels total 30,652 acres. Over 240 parcels are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms and are not considered in this analysis.

**Table 3-54. Vacant and Developed Parcels in Cowlitz - Cascade Lowlands MA**

| Cowlitz – Cascade Lowlands | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 1,868 | 30,652 |
| Developed | 1,132 | 5,345 |
| **Total** | **3,000** | **35,997** |

The MA is designated entirely for rural and small town land uses. County land use designations in the MA include RDD-5, RDD-10, and RDD-20, LAMIRDs, (RRC-R-1A and RRC-R-2A, Small Town Mixed Use, and Small Town Industrial), RAI, UGAs, Forest, Park, ARL, Mine, Tourist Service Area (TSA), Lake, and Wilderness.

Of the 1,868 vacant parcels, there are 69 parcels (10,913 acres ) which are classified as Lake, eight parcels (30 acres) classified as Mine, and seven parcels (251 acres) classified as Wilderness, which comprise the remaining vacant parcels, and are not included in the tables showing zoning classifications, below.

The largest number of parcels available for development appears to be the RDDs and RRC designated lands based on the number of vacant parcels that are zoned as such, as shown in Table 3-56.

There were 111 shoreline permit exemptions and seven substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-55. Based on the ten-year permit history trend, 222 shoreline permit exemptions and 14 substantial development permits are projected to be issued over the 20-year planning period. See Appendix A for the methodology used to analyze permits in this MA.

**Table 3-55. Previously Permitted and Projected Development in Cowlitz - Cascade Lowlands MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 111 | 222 |
| Substantial Development Permit | 7 | 14 |

### *B. Residential Development*

The majority of new residential development capacity in MA exists in the relatively under developed LAMIRDs, where allowable density is high compared to rural residential designations. Although approximately 75 percent of the residential development capacity in the MA occurs on lots too small to be subdivided under the current LCC, some subdivision opportunities exist.

There are 1,135 vacant parcels and 7,131 acres in residential zones, as shown in Table 3-56. Residential zoning designations account for 23 percent of the total vacant acreage.

**Table 3-56. Vacant Residential Parcels by Zone in Cowlitz - Cascade Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RDD-5 | 177 | 617 |
| RDD-10 | 130 | 959 |
| RDD-20 | 666 | 5,422 |
| RRC-R-1A | 141 | 107 |
| RRC-R-2A | 2 | 20 |
| STR-4 | 19 | 5 |
| **Total** | **1,135** | **7,131** |

### *C. Commercial, Industrial, and Utility Development*

There are 87 parcels totaling over 95 acres of vacant commercial and industrial land, as shown in Table 3-57. The majority of new commercial development capacity in MA exists in the relatively undeveloped Small Town Mixed Use designations, where allowable density is high compared to rural designations. The commercial and industrial parcels in this MA, excluding those in the Small Town Mixed Use, are large, and much of the development activity will likely occur outside of the shoreline jurisdiction.

**Table 3-57. Vacant Commercial and Industrial Parcels by Zone in Cowlitz - Cascade Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| RAI | 1 | 0.5 |
| STI | 4 | 16 |
| STMU | 82 | 78 |
| **Total** | **87** | **95** |

### *D. Resource Development*

The majority of vacant land, or 440 parcels and 10,429 acres, in the Cowlitz – Cascade Lowlands MA is zoned Forest, as shown in Table 3-58. These parcels are either currently used for commercial timber or have the potential to be used for commercial timber production in the future. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Cowlitz River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

Additionally, there are 100 parcels zoned ARL totaling 1,626 acres in the MA.

**Table 3-58. Vacant Resource Parcels by Zone in Cowlitz - Cascade Lowlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| ARL | 100 | 1,626 |
| Forest | 440 | 10,429 |
| **Total** | **540** | **12,055** |

### *E. Recreational Development*

Six parcels are zoned TSA located on Riffe Lake. Over two thirds of those parcels, approximately 2,000 of 3,090 acres, are located in the lake. The parcels are owned by Tacoma Power, which also owns the lake. The four areas zoned TSA are approximately 951 acres. Only a small portion of the combined 951 acres is within the shoreline jurisdiction. While the county would like to see further development based on the current zoning designation, it is unlikely that these portions of the TSA zoned parcels will see future development as Tacoma Power has said they have no plans to add to the four existing recreational parks they already maintain on Riffe, Mayfield, and Alder Lakes. Additionally, there are eleven parcels included as Park zoning which comprise 80 acres.

### *F. Development by Shoreline Environment Designation*

There are 1,868 vacant parcels totaling nearly 30,652 acres intersecting the shoreline jurisdiction, as shown in Table 3-59. The majority of vacant acreage, or 86 percent, is within the Rural Conservancy shoreline environment designation. There are 199 parcels and 95 acres of vacant land located within the Shoreline Residential shoreline environment designation. There are 34 parcels and 36 acres of vacant land located within the High Intensity shoreline environment designation.

**Table 3-59. Development Potential by Shoreline Environment Designation in Cowlitz - Cascade Lowlands MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| High Intensity | 34 | 36 |
| Rural Conservancy | 1522 | 19,082 |
| Shoreline Residential | 199 | 95 |
| Natural | 9 | 267 |
| **Total** | **1,764** | **19,480** |

### *3.05.05 COWLITZ – CASCADE HIGHLANDS*

The existing zoning of Forest does not allow the opportunity for non-priority uses in the MA. Water-enjoyment uses, such as campgrounds and trails associated with recreation in the Gifford Pinchot National Forest, Rainier National Park, and Wilderness areas are found within the MA.

#### *A. Patterns of Shoreline Activity*

The MA is designated primarily for forest and wilderness use. The county land use designation in the MA is mostly Forest and Park with one parcel of RDD-10. The designation supports the conservation of this land as National Forest. There is no new commercial or industrial development capacity within the MA.

The Cowlitz - Cascade Highlands MA contains two parcels that are not protected from development. The majority of the MA is within Mount Rainier National Park and Gifford Pinchot National Forest, and development is prohibited. The parcels protected from development by public or conservation group ownership, conservation easements, or similar mechanisms were not considered in this analysis.

**Table 3-60. Vacant and Developed Parcels in Cowlitz – Cascade Highlands MA**

| Cowlitz – Cascade Lowlands | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 130 | 7,556 |
| Developed | 4 | 38 |
| **Total** | **134** | **7,594** |

There were no shoreline permit exemptions or substantial development permits issued by the county between 2003 and 2013, as shown in Table 3-61. No permits are projected to be issued over the 20-year planning period. Of the 46 parcels shown to be vacant in Table 3-61, 50 are forest lands, for a total of 4,820 acres.

**Table 3-61. Previously Permitted and Projected Development in Cowlitz – Cascade Highlands MA**

| Permitted Actions | Number of Permits Issued, 2003-2013 | Projected Number of Permitted Actions in Next 20 Years |
|---|---|---|
| Shoreline Permit Exemption | 0 | 0 |
| Substantial Development Permit | 0 | 0 |

### *B. Residential Development*

There is one vacant parcel in RDD-10 that is eight acres in size in the Cowlitz – Cascade Highlands MA.

### *C. Commercial, Industrial, and Utility Development*

There are no vacant parcels in commercial or industrial zones in the Cowlitz – Cascade Highlands MA.

### *D. Resource Development*

Eighty-nine parcels, comprising 4,820 acres in the Cowlitz – Cascade Highlands MA are zoned Forest, as shown in Table 3-62. It is unknown if the parcels are currently part of a commercial timber operation or has the potential to be used for commercial timber production in the future. All commercial timber operations are regulated by the FPA. The majority of timber harvesting activity may occur outside the shoreline jurisdiction, therefore it is difficult to assess the impact on the shoreline environment. Inside the shoreline jurisdiction, cutting timber generally relies on the FPA for protections of shoreline resources. Within shoreline jurisdiction along Shorelines of Statewide Significance, such as the Cowlitz River, according to SMP Section 5.09.02(C) only selective commercial timber cutting may be permitted so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period. The other elements of forestry in the shoreline jurisdiction are considered development and are regulated by SMPs, including constructing roads, trails, or bridges.

**Table 3-62. Vacant Resource Parcels by Zone Cowlitz – Cascade Highlands MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Forest | 50 | 4,820 |

### *E. Recreational Development*

None anticipated.

### *F. Development by Management Designation*

There are 119 parcels intersecting the shoreline jurisdiction, as shown in Table 3-63. The parcels are designated as Rural Conservancy or Natural.

**Table 3-63. Development Potential by Shoreline Environment Designation in Cowlitz – Cascade Highlands MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Natural | 60 | 3,485 |
| Rural Conservancy | 59 | 3,068 |
| **Total** | **119** | **6,552** |

## 3.06 CITY OF MORTON MANAGEMENT AREA

The city of Morton MA contains 121 parcels. Of these parcels, 54 percent are vacant and approximately 14 percent are protected from development by public or conservation group ownership, conservation easements, or similar mechanisms.

The city's MA is designated entirely for urban land uses. The city's land use districts in the MA include Residential Single Family (R-1), Residential Multi-Family (R-M), Industrial (I-1), Commercial (C-1), and Community Services (CS). Based on these designations, the most intense use of property is in the two Residential designations. The majority of new residential development capacity in the city's MA exists in the R1 and RM designations.

The existing zoning allows some opportunity for non-priority uses in the city's MA, particularly in the C-1 and I-1 zones. These zones allow a wide variety of uses, providing potential for future use conflicts. However, when considering existing shoreline regulations that the city applies in the MA, it appears that future use conflicts would be unlikely.

The city's MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at Gus Backstrom Park.

### *3.06.01 PATTERNS OF SHORELINE ACTIVITY*

The Morton MA contains 121 parcels, as shown in Table 3-64. Of these parcels, 65 are vacant. Vacant parcels total 180 acres. Twelve parcels in the Morton MA are owned by the state or the city. These include Gus Backstrom Park, Strom field, and other parcels that are not anticipated to develop over the 20-year planning period; therefore, they are not considered in this analysis.

**Table 3-64. Vacant and Developed Parcels in Morton MA**

| Morton | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 65 | 180 |
| Developed | 56 | 87 |
| **Total** | **121** | **267** |

A ten- year aggregate number of shoreline permits was not available for the Morton MA.

### *3.06.02 RESIDENTIAL DEVELOPMENT*

Thirty-seven vacant developable residential parcels total 57 acres in the Morton MA, as shown in Table 3-65. Residential zoning designations account for 54 percent of total vacant acreage in the MA. Although a small percentage of the residential development capacity in the MA occurs on lots too small to be subdivided under the city code, some larger subdivision opportunities exist, particularly along undeveloped, forested land on the Tilton River.

**Table 3-65. Vacant Residential Parcels by Zone in Morton MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| R-1 | 24 | 71 |
| R-M | 13 | 26 |
| **Total** | **37** | **97** |

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

Commercial and industrial land is found in the city's MA. There are 30 parcels and 84 acres of developable commercial and industrial land, as shown in Table 3-66. The majority of commercial land is within the Community Service zoning designation located north of Strom Field. This area is covered by wetlands that are not considered as part of this analysis. Industrial land is within the I-1 zoning designation.

**Table 3-66. Vacant Commercial and Industrial Parcels by Zone in Morton MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| C-1 | 3 | 2 |
| CS | 3 | 52 |
| I-1 | 22 | 30 |
| **Total** | **30** | **84** |

### *3.06.04 RESOURCE DEVELOPMENT*

There is no available vacant land in the Morton MA for resource development.

### *3.06.05 RECREATIONAL DEVELOPMENT*

Recreation development is limited to Gus Backstrom Park. Future development plans for the park are unknown at this time, however it is unlikely to develop much further as it is within a 100-year floodplain.

### *3.06.06 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION*

There are 65 vacant parcels totaling 180 acres intersecting the shoreline jurisdiction, as shown in Table 3-67. The majority of vacant acreage, or 73 percent, is within the Urban Conservancy shoreline environment designation. The Urban Conservancy shoreline designation is consistent with the existing development pattern, zoning designations, and habitat scores. There are 24 parcels and 32 acres of

vacant land located within the High Intensity shoreline environment designation. The Shoreline Residential shoreline environment designation includes 29 parcels for a total of 16 acres.

**Table 3-67. Development Potential by Shoreline Environment Designation in Morton MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| High Intensity | 24 | 32 |
| Shoreline Residential | 29 | 16 |
| Urban Conservancy | 12 | 133 |
| **Total** | **65** | **181** |

## 3.07 CITY OF WINLOCK MANAGEMENT AREA

The city's MA is designated entirely for urban land uses. The city's land use districts in its MA include Low Density Residential, Medium Density Residential, Commercial, Industrial, and Other. Based on these designations, the most intense use of property appears to be the Moderate Density Residential designated lands found in most of the city's MA.

The existing zoning allows some opportunity for non-priority uses in the city's MA, particularly in the Commercial zoning districts. These zones allow a wide variety of uses, providing potential for future use conflicts. However, when considering existing shoreline regulations that the city applies in the MA, it appears that future use conflicts would be unlikely.

The city's MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at Winolequa Park. A small amount of Mixed Use and Light Industrial land on the west side of the city allows industrial priority uses, however this land lies outside of the city's shoreline jurisdiction.

### *3.07.01 PATTERNS OF SHORELINE ACTIVITY*

The city of Winlock MA contains 196 parcels, as shown in Table 3-68. Of these parcels, 62 are vacant and 134 are developed. Ten parcels in the Winlock MA are owned by the city of Winlock or the county. These parcels are not considered developable in this analysis.

**Table 3-68. Previously Permitted and Projected Development in Winlock MA**

| Winlock | Number of Parcels | Area in Acres |
|---|---|---|
| Vacant | 62 | 21 |
| Developed | 134 | 88 |
| **Total** | **196** | **109** |

A ten- year aggregate number of shoreline permits was not available for the Winlock MA.

### *3.07.02 RESIDENTIAL DEVELOPMENT*

Forty-nine vacant developable residential parcels total 19 acres, as shown in Table 3-69. Residential zoning accounts for 91 percent of vacant acreage in the Winlock MA. There is the opportunity for subdivision of residential parcels, particularly at the confluence of King Creek and Olequa Creek.

**Table 3-69. Vacant Residential Parcels by Zone in Winlock MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Low Density Residential (LDR 6) | 18 | 10 |
| Low Density Residential (LDR 10) | 5 | 2 |
| Moderate Density Residential (MDR) | 26 | 7 |
| **Total** | **49** | **19** |

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

Although a small amount of commercial and industrial land exists in MA in the city, the majority is developed. There is approximately two acres of measurable additional commercial or industrial development capacity in the C-1 zoning designation, as shown in Table 3-70.

**Table 3-70. Vacant Commercial and Industrial Parcels by Zone in Winlock MA**

| Zone | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| Commercial (C-1) | 13 | 2 |

### *3.07.04 RESOURCE DEVELOPMENT*

There is no available vacant land in the Winlock MA for resource development.

### *3.07.05 RECREATIONAL DEVELOPMENT*

Ongoing maintenance and minor development associated with existing parks can be expected throughout the 20-year planning period.

### *3.07.06 DEVELOPMENT BY SHORELINE ENVIRONMENT DESIGNATION*

There are 62 vacant parcels totaling over 21 acres intersecting the shoreline jurisdiction, as shown in Table 3-71. The majority of vacant acreage, or 42 percent, is within the Shoreline Residential shoreline environment designation. There are 14 parcels and four acres of vacant land located within the High Intensity shoreline environment designation. There are eight parcels and eight acres of vacant land located within the Urban Conservancy shoreline environment designation.

**Table 3-71. Development Potential by Shoreline Environment Designation in Winlock MA**

| Shoreline Environment Designation | Number of Vacant Parcels | Area in Acres |
|---|---|---|
| High Intensity | 14 | 4 |
| Shoreline Residential | 40 | 9 |
| Urban Conservancy | 8 | 8 |
| **Total** | **62** | **21** |

# 4 State, Local, and Federal Regulations

## 4.01 OTHER LOCAL PLANS AND REGULATIONS

Besides the SMPs, other local plans and regulations that influence development activity in the shoreline are listed below.

### *4.01.01 LEWIS COUNTY*

A. Comprehensive Plan

The county's Comprehensive Plan is a statement of policies and goals that guides growth and development throughout the county. It was adopted in 1999 and amended most recently in 2010. All other development ordinances, including land use, subdivision, environmental, and shoreline regulations must be consistent with the Comprehensive Plan. In addition, the SMP has been formally adopted by the county commissioners as an element of the county Comprehensive Plan. The Comprehensive Plan provides the policy basis for both land use and natural resource planning, which in turn has informed the development of policies and regulations in the SMP update.

B. Zoning Ordinance

LCC Title 17 – Land Use and Development Regulations contains zoning regulations that apply throughout the county. The purpose of the zoning ordinance is to further the goals and policies of the county's comprehensive plan by providing the authority and the framework by which to regulate development in the county. Urban zones are regulated in LCC 17.15 through 17.20F. Rural zones are regulated in LCC 17.42 through 17.102. LCC Title 17 establishes zoning districts that formed an important part of the determination of the kind and location of the shoreline environment designations in SMP Chapter 3 – Shoreline Environment Designations. In addition, the allowed uses by zoning districts in LCC Title 17 were used to determine allowable uses in the shoreline environment designations found in SMP Section 5.03 – Allowed Shoreline Uses.

C. Critical Areas Ordinance

The county adopted critical areas regulations in 1996 with amendments in 1998, 2000, and 2008. LCC Chapter 17.35 (the critical areas regulations through the 2000 amendments) is still in effect and applies only to agriculture lands. In LCC 17.35, the county specifies stream buffers ranging from ten to 100 feet depending on the type of the stream, intensity of use, and whether it is in a rural or urban area, with Type 1 water bodies (i.e., shorelines of the state) having a 50- to 100-foot buffer. The regulations require wetland buffers between 50 and 100 feet based on wetland classification and the intensity of the proposed land use. These buffers can increase depending on the level of habitat functions.

Everywhere else in the county, LLC Chapter 17.35A (the critical areas regulations through the 2008 amendments) is still in effect and applies to all other land uses. Stream buffers are 75 to 150 feet depending on the type of stream, with streams that are shorelines of the state being 150 feet. Wetland buffers range from 25 to 300 feet, depending on the type of wetland. These buffers can increase depending on the level of habitat functions.

As part of the SMP update, the county will adopt critical areas regulations that apply only to areas within the shoreline jurisdiction. LCC 17.35 and LCC 17.35A – Critical Areas were the basis for the shoreline buffers established in the SMP, as well as the amended critical areas regulations that were adopted with the SMP in SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation as well as the mitigation sequence adopted in SMP Section 4.03: Environmental Impacts and Mitigation.

D. Stormwater Regulations

The county's stormwater management regulations found in LCC 15.45 were adopted in 1998. The purpose of the regulations is to address inadequate drainage control that has led to stormwater runoff problems that have negatively affected lives and properties. The stormwater management regulations in LCC 15.45 are a part of SMP 4.07 – Water Quality.

### *4.01.02 CITY OF MORTON*

A. Comprehensive Plan

The city adopted its Comprehensive Plan in 1997 and amended it in 2005. The goals of the Comprehensive Plan are directed toward preserving existing community character, diversify the local economy and work force, provide for housing demand, and ensure that city services have the capacity for growth. The Comprehensive Plan provides the policy basis for both land use and natural resource planning, which in turn has informed the development of policies and regulations in the SMP update.

B. Zoning Ordinance

The zoning ordinance for the city of Morton is found in MMC Chapter 17. The zoning ordinance is intended to help implement the Comprehensive Plan. The zoning ordinance classifies land within the city into zoning districts that contain regulations that limits land use, building height, size, and location of structures. It also provides administrative procedures and enforcement regulations. MCC Title 17 establishes zoning districts that formed an important part of the determination of the kind and location of the shoreline environment designations in SMP Chapter 3 – Shoreline Environment Designations. In addition, the allowed uses by zoning districts in MCC Title 17 were used to determine allowable uses in the shoreline environment designations found in SMP Section 5.03 – Allowed Shoreline Uses.

C. Critical Areas Ordinance

The city updated its critical areas regulations in 2006. In Section 6.040.6 of the Morton Critical Areas Ordinance (MCAO), riparian habit area buffers range from 150 to 250 feet depending on the type of the stream, with Types 1 and 2 water bodies (i.e., shorelines of the state) having a 250-foot buffer. In MCAO Section 6.035.4, minimum wetland buffers range from 25 to 300 feet, depending on category, intensity of use, water quality, and habitat function.

As part of the SMP update, the city will adopt critical areas regulations that apply only to areas within the shoreline jurisdiction. MCC 17.32 – Special Districts were the basis for the shoreline buffers established in the SMP, as well as the amended critical areas regulations that were adopted with the SMP in SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation as well as the mitigation sequence adopted in SMP Section 4.03: Environmental Impacts and Mitigation.

D. Stormwater Regulations

There are no adopted stormwater regulations in the Morton Municipal Code. SMP 4.07 – Water Quality provides regulations and policies for ensuing water quality management in the shoreline jurisdiction.

### *4.01.03 CITY OF WINLOCK*

A. Comprehensive Plan

The city adopted its Comprehensive Plan in 2005. The goals of the Comprehensive Plan are directed toward ensuring a strong local economy. The Comprehensive Plan provides the policy basis for both land use and natural resource planning, which in turn has informed the development of policies and regulations in the SMP update.

B. Zoning Ordinance

WDC, Section 2: Zoning contains the city's zoning ordinance. The zoning ordinance divides the city into zoning districts and provides the administrative and enforcement framework required to regulate development within the city. WDC Section 2 - Zoning establishes zoning districts that formed an important part of the determination of the kind and location of the shoreline environment designations in SMP Chapter 3 – Shoreline Environment Designations. In addition, the allowed uses by zoning districts in WDC Section 2 - Zoning were used to determined allowable uses in the shoreline environment designations found in SMP Section 5.03 – Allowed Shoreline Uses.

C. Critical Areas Ordinance

The city updated its critical areas regulations in 2008. In Section 4.010.120.B of the Winlock Critical Areas Ordinance (WCAO), riparian ecosystem area buffers range from 75 to 250 feet depending on the type of the stream and their characteristics, with Type S riparian areas (i.e., shorelines of the state) having a 250-foot buffer. In WCAO Section 4.010.120.E, minimum

wetland buffers range from 25 to 300 feet, depending on category, intensity of use, hydrologic function, and habitat function.

As part of the SMP update, the city will adopt critical areas regulations that apply only to areas within the shoreline jurisdiction. WDC Section 4 – Critical Lands were the basis for the shoreline buffers established in the SMP, as well as the amended critical areas regulations that were adopted with the SMP in SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation as well as the mitigation sequence adopted in SMP Section 4.03:Environmental Impacts and Mitigation.

D. Stormwater Regulations

There are no adopted stormwater regulations in the Winlock Development Code. SMP 4.07 – Water Quality provides regulations and policies for ensuing water quality management in the shoreline jurisdiction.

## 4.02 STATE REGULATIONS

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

A number of state agencies (e.g., Ecology, WDFW, and WDNR) are involved in implementing these regulations. Ecology reviews 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 State Legislature passed what is commonly referred to as the Aquatic Lands Act (Chapter 79.105 through 79.135 RCW) and delegated to the WDNR the responsibility to manage state-owned aquatic lands. The aquatic lands statutes (RCW 79.100 through 79.145) direct the 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 the WDNR and enter into a lease agreement. The WDNR

recommends that all proponents of a project waterward of the OHWM contact the 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 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.

Along shorelines of statewide significance, SMA (RCW 90.58.150) requirements regarding selective timber cutting continue to apply to forest practices. In the Lewis County SMP there is only selective commercial timber cutting allowed on shorelines of statewide significance, so that no more than thirty percent of the merchantable trees may be harvested in any ten year period. The SMA provides for other timber harvesting methods "…in those limited instances where the topography, soil conditions or silviculture practices necessary for regeneration render selective logging ecologically detrimental." Clear cutting timber for land clearing purposes to prepare the land for other uses may be permitted. In this case, the SMA and the SMP may also apply.

The following Forest practices are regulated under the SMA: building roads, trails, bridges, or culverts in association with the practice, converting land to a use besides growing trees, or commercial harvesting within 200 feet of a shoreline of statewide significance that 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 the 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*

The 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. It recognized 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.

Cowlitz, Lewis, Skamania, and Wahkiakum Counties formed a watershed planning unit to develop a long-range management plan for the Grays, Elochoman, and Cowlitz watersheds (WRIA 25 and 26). The Watershed Management Plan was adopted by the watershed planning unit in 2006. Revisions to the management plan were approved by the watershed planning unit in November 2013.

The board of commissioners from Grays Harbor, Lewis, Mason, and Thurston counties adopted the Chehalis Watershed Plan in May 2004. The Chehalis Watershed Plan develops a long-range management plan for the Lower Chehalis and Upper Chehalis River watersheds (WRIA 22 and 23) and plans to implement the development of a water data management system, increased compliance for illegal water users, and added incentives for water conservation and reclamation.

## 4.03 FEDERAL REGULATIONS

Federal regulations most pertinent to development in the shorelines within the county 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 (e.g., US Army Corps of Engineers (USACE), National Marine Fisheries Service, and US Fish and Wildlife Service) 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*

Three sections of the federal Clean Water Act are particularly relevant to regulating activity in shoreline areas: Section 401, Section 402, and Section 404.

Section 401 regulates that no federal permits may be issued that will result in discharge to waters of the United States unless it is certified that the discharge is consistent with water quality standards and goals

set forth by the agency having jurisdiction over the navigable waters at the point of discharge and Sections 301, 302, 303, 306, and 307 of the Clean Water Act.

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 the state, Ecology has been delegated the responsibility by the 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 fills 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 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 Coalition that results in a take of listed fish or wildlife would be a violation of the ESA and expose the Coalition to risk of lawsuit. Per Section 7 of the ESA, USACE must consult with the National Marine Fisheries Service and the US Fish and Wildlife Service 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 Endangered Species Act. 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 and/or are currently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Within the county, the Chehalis River is included in the list of federally designated navigable waters. 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, and bulkheads), 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 the EPA's National Priorities List.

# 5 Net Effect on Ecological Functions

As described in the previous chapters, the updated SMPs provide a substantially increased level of protection to shoreline ecological functions. Implementation of the updated SMPs is expected to protect shorelines within the Coalition, resulting in no net loss of shoreline ecological function. In addition, the application of the SMPs may improve ecological functions over time through restoration efforts.

State and federal regulations, acting in concert with these SMPs, will provide further assurances of no net loss of shoreline ecological functions over time. Together with the implementation of the *Shoreline Restoration Plan*, the SMPs are 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 in the near future, it is an overall goal of the SMPs and the SMP update process to ensure no net loss, as well as the long-term enhancement of unique shoreline features, natural resources, and fish and wildlife habitat. It is a specific objective of the SMPs to provide for no net loss of shoreline ecological function on both a project-by-project basis as well as throughout the shoreline jurisdictions

Tables 6-1 through 6-6 in Chapter 6 provide a summary of potential cumulative impacts to shoreline ecological function categories that are associated with reasonably foreseeable future development, and the elements that are included in the SMPs, which act as countermeasures toward ensuring no net loss of ecological function. Table 6-7 provides a summary of the SMPs' provisions, goals, policies, and regulations that support no net loss of ecological functions in the Coalition's shoreline jurisdiction. It also summarizes the effects of cumulative impacts on shoreline functions.

## 5.02 NET EFFECT

As described above, the updated SMPs provides a substantial level of protection for shoreline ecological functions through strategies such as development setbacks 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 the *Shoreline Restoration Plan* and other federal, state, and local laws and policies. Together, with implementation of the *Shoreline Restoration Plan*, the updated SMPs have 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 SMPs 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 Coalition'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 SMPs.

Mitigation sequencing will be applied during permit review as required by SMP Section 4.03: Environmental Impacts and Mitigation to avoid new incremental impacts to shoreline ecological functions. The Coalition's critical areas regulations, which regulate wetlands, streams, fish and wildlife habitat areas, and other critical areas, were modified to reflect the requirements of the SMA by SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and included as SMP Appendix 2: Critical Areas Regulations in the SMPs.

Additionally, minimum criteria for review and approval of conditional use permits have been incorporated into the SMPs' 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 Coalition'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 SMPs' provisions, goals, policies, and regulations; *Shoreline Restoration Plan*; and other existing laws, policies, and regulations beyond the SMPs 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 updated SMPs include policies and regulations that will achieve no net loss of ecological functions as the SMPs are implemented over time.

# 6 Cumulative Impact Analysis Tables

**Table 6-1. 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 |
|---|---|---|
| Current Condition:<br>Existing impervious surfaces increase delivery of nutrients to waterways.<br><br>Ditching, draining, and filling of wetlands and clearing of riparian has occurred previously within the county and the cities.<br><br>Degree of future cumulative impact:<br>New development may result in additional impervious surfaces and may result in further impacts to existing aquatic resources at risk including associated wetlands.<br><br>Potential development of residential lots adjacent to the shoreline is limited, so future impacts should be low.<br><br>Nutrient/pollutant processes and water quality functions within the county and the cities' shorelines may be impacted by existing roadways, septic systems, and potential expansions. | Proposed Overall Measures:<br>Protect existing waterway resources and associated wetlands (including buffers) (Section 4.03: Environmental Impacts and Mitigation, SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 2: Critical Areas Regulations*)*.<br><br>If there is a conflict between the provisions of SMPs and critical areas regulations in the shoreline jurisdiction, the provisions most protective of the shoreline jurisdiction shall apply, as determined by the county and the cities (SMP Section 1.07: Relationship to Other Codes, Ordinances, and Plans*)*.<br><br>SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 2: Critical Areas Regulations regulates critical areas such as critical aquifer recharge areas within the shoreline jurisdiction.<br><br>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 4.07: Water Quality and SMP Chapter 6: Shoreline Modification Policies & Regulations*)*.<br><br>The SMPs specifically addresses water quality in SMP Section 4.07: Water Quality. | Restore degraded wetlands.<br><br>Restore degraded riparian areas through replanting with native species.<br><br>The *Shoreline Restoration Plan* outlines the non-regulatory measures that will be available to the county and the cities to help address these issues. |

| Shoreline Alterations Impacting Processes and Functions | Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations | Non-Regulatory Measures |
|---|---|---|
| | The county and the cities' Comprehensive Plans address cooperation with the Lewis County Health District to ensure pollutants from septic systems do not enter groundwater. | |

**Table 6-2. 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 |
|---|---|---|
| Current Condition:<br>Impervious areas and clearing decrease infiltration recharge, subsurface storage, and groundwater discharge to water bodies and wetlands.<br><br>Wetland fill, development in floodplain (including shoreline protective structures) reduces surface storage, overbank flooding and increased flooding frequency and duration.<br><br>Degree of future cumulative impact:<br>New development will remove vegetated areas and increase impervious cover. Additional impacts to surface storage functions may occur from shoreline fill and encroachment.<br><br>Potential development of residential lots adjacent to the shoreline is small, so future impacts should be low. In addition, highly permeable soils throughout the county and the cities reduce the potential for nutrient-related impacts.<br><br>Residential development is allowed in the High Intensity, Shoreline Residential, Urban Conservancy, and Natural shoreline designation areas adjacent to the waterways. | Proposed Overall Measures:<br>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.<br><br>If there is a conflict between the provisions of SMP sand critical areas regulations in the shoreline jurisdiction, the provisions most protective of the shoreline jurisdiction shall apply, as determined by the county and the cities (SMP Section 1.07: Relationship to Other Codes, Ordinances, and Plans).<br><br>SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation, SMP Section 4.05: Flood Hazard Management, and SMP Appendix 2: Critical Areas Regulations regulate frequently flooded areas.<br><br>The SMPs specifically addresses flood hazard reduction in SMP Section 4.05: Flood Hazard Management. | Restore degraded wetlands.<br><br>Restore degraded floodplain and riparian areas through replanting with native species.<br><br>The *Shoreline Restoration Plan* outlines the non-regulatory measures that will be available to the county and the cities to help address these issues. |

**Table 6-3. 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 |
|---|---|---|
| Current Condition:<br>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.<br><br>Future Cumulative Impact:<br>Potential for further sediment delivery into water systems without protective vegetation due to land clearing and development on uplands throughout the county and the cities.<br><br>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.<br><br>Future armoring may also disrupt sediment transport processes. | Proposed Overall Measures:<br>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 6.03: Clearing, Grading, and Fill.<br><br>SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 6: Critical Areas Regulations regulates geologically hazardous areas in the shoreline jurisdiction.<br><br>The SMPs specifically addresses water quality in SMP Section 4.07: Water Quality.<br><br>SMP Section 6.07: Shoreline Stabilization prefers nonstructural to structural measures to stabilize banks.<br><br>In SMP Section 6.03: Clearing, Grading, and Fill, land clearing, grading, and filling must be limited to the minimum necessary for | Create incentive programs to conserve and retain native vegetation and restore native vegetation where none is present.<br><br>Programs such as on-site density transfers and conservation easements could help protect these areas.<br><br>The *Shoreline Restoration Plan* outlines the non-regulatory measures that will be available to the county and the cities to help address these issues. |

| Shoreline Alterations Impacting Processes and Functions | Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations | Non-Regulatory Measures |
|---|---|---|
| | development. | |

**Table 6-4. Cumulative Impacts to the Shoreline Environment – Habitat Biodiversity**

**Function:** Fish and wildlife habitat, food production and delivery
**Resources at Risk:** 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 |
|---|---|---|
| Current Condition:<br>Important aquatic and riparian habitat is present in waterways throughout the Coalition.<br><br>Habitat functions are altered with development, shoreline armoring, loss of riparian cover, and shoreline modification.<br><br>Alteration of scrubland habitat, loss of wetlands, reduce the overall habitat for wildlife species, including mammals, amphibians, reptiles, waterfowl, birds and other wildlife species.<br><br>Habitat connectivity is diminished as riparian cover is removed and bulkheads, riprap, filling, and dredging interrupt aquatic systems.<br><br>Loss of habitat features such as banks with scrubland vegetation decreases wildlife cover, denning, perching, and nesting habitat.<br><br>Future cumulative impacts: | Proposed Overall Measures:<br>Protect and restore riparian habitat, aquatic habitat, and wetlands (SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 2: Critical Areas Regulations.<br><br>If there is a conflict between the provisions of SMPs and shoreline jurisdiction critical areas regulations in the shoreline jurisdiction in SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 2, the provisions most directly implementing the objectives of the SMA shall apply. This is determined by the county and the cities (SMP Section 1.07: Relationship to Other Codes, Ordinances, and Plans).<br><br>SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 2: Critical Areas Regulations regulate critical fish and wildlife conservation areas within the shoreline jurisdiction.<br><br>The SMPs specifically addresses water quality in SMP Section 4.07: Water Quality.<br><br>The SMPs specifically address protection and restoration of native vegetation within the shoreline jurisdiction. In SMP Section 4.04 Critical Areas and Shoreline Vegetation Conservation 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 | Restore degraded wetlands and the aquatic system.<br><br>This includes restoring degraded riparian and aquatic habitat by planting with native species where possible and the addition of habitat features.<br><br>The *Shoreline Restoration Plan* will outline the non-regulatory measures that will be available to the county and the cities to help address these issues. |

| Shoreline Alterations Impacting Processes and Functions | Proposed Restoration/ Protection Measures and Draft SMP Policies and Regulations | Non-Regulatory Measures |
|---|---|---|
| Future impacts should be low if provisions of the SMP are followed.<br><br>Any future development may affect habitat and water quality functions within the county and the cities' shoreline. | weeds and non-native species.<br><br>SMP Section 4.04 Critical Areas and Shoreline Vegetation Conservation calls for the county and the cities to protect and restore diversity of vegetation and habitat associated with shoreline areas.<br><br>SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation and SMP Appendix 2: Critical Areas Regulations calls for 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. | |

**Table 6-5. Shoreline Function Impacts Associated with Residential or Commercial Development and SMP Counter Measures**

| Function Category | Potential Cumulative Impacts to Shoreline Functions | SMP Countermeasures |
|---|---|---|
| Hydrologic | • Altered flows and water quality associated with increased impervious surface. | • In SMP Chapter 3: Shoreline Environment Designations, shoreline environment designations concentrate development in least sensitive areas.<br>• SMP Section 5-12: Parking limits type and location of parking facilities.<br>• SMP Section 4.07: Water Quality requires development to follow the applicable local jurisdiction stormwater management programs and regulations. |
| Vegetation | • Reduced water quality from increase in pesticide and fertilizer.<br>• Increased risk of bank instability, increased erosion, and increased turbidity associated with vegetation clearing. | • SMP Section 4.04.02: Regulations requires increased setbacks if necessary to protect functions and provides for minimum building and agriculture activity setbacks.<br>• SMP Section 4.07: Water Quality requires BMPs and compliance with county and the cities' stormwater management program for clearing and grading .<br>• SMP Section 4.03: Environmental Impacts and Mitigation establish mitigation standards for vegetation clearing.<br>• SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation regulated clearing of vegetation clearing. |
| Hyporheic | • 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. | • SMP Section 5.05: Agriculture prohibits high impact utilities and agriculture facilities, manure lagoons, confinement lots, and feeding operations.<br>• SMP Section 5.04: Development Standards requires building setbacks .<br>• SMP Section 6.07: Shoreline Stabilization limits shoreline stabilization and encourages non-structural treatments . |

| Function Category | Potential Cumulative Impacts to Shoreline Functions | SMP Countermeasures |
|---|---|---|
| Habitat | • Reduced habitat area or suitability for specific species.<br>• Reduced habitat complexity and habitat connectivity. | • SMP Section 5.03: Allowed Shoreline Uses limits non-water oriented uses.<br>• SMP Section 6.06: Restoration provides standards for restoration activities and consistency with the *Shoreline Restoration Plan*. |

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

| Function Category | Potential Cumulative Impacts to Shoreline Functions | SMP Countermeasures |
|---|---|---|
| Hydrologic | • Altered hydraulics that affects habitat conditions or reduce potential for habitat formation.<br>• Altered movement of sediments. | • SMP Chapter 6: Shoreline Modification Policies & Regulations establish limitations and standards for shoreline modifications including dredging, fill, and shoreline stabilization. |
| Vegetation | • Reduced riparian vegetation resulting in increased erosion, bank instability, and altered habitat. | • SMP Section 4.07: Water Quality requires BMPs and compliance with county and the cities' stormwater management program for clearing and grading .<br>• SMP Section 4.04: Critical Areas and Vegetation Conservation includes provisions for vegetation conservation. |
| Hyporheic | • Water quality impacts resulting from structures interfering with hyporheic flows. | • SMP Section 6.07: Shoreline Stabilization limits shoreline stabilization and encourages non-structural treatments. |
| Habitat | • Altered substrate composition due to hydrologic and wave energy impacts.<br>• Reduced habitat complexity and connectivity between terrestrial and aquatic environments.<br>• Increased shading or substrate alteration affecting plant growth, benthic community, and behavior of aquatic organisms.<br>• Altered ecological interactions. | • SMP Section 5.07: Boating and Water Access Facilities provide provisions for boating facility design, including location, size, number, and operation standards.<br>• SMP Section 5.06: Aquaculture places limitations on aquaculture facilities.<br>• SMP Section 4.04: Critical Areas and Shoreline Vegetation Conservation, SMP Section 4.03: Environmental Impacts and Mitigation includes provisions for habitat enhancement, vegetation conservation, and mitigation standards . |

**Table 6-7. 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 [1] |
|---|---|---|
| SMP Chapter 2: *Shoreline Management Goals* | • Establishes a framework upon which the more detailed SMP shoreline use environments, policies, regulations, and administrative procedures are based.<br>• Specifically, includes a conservation element to preserve natural resources and provide for no net loss of ecological function. | • Serves to protect all functions potentially affected by the SMPs, future development, and shoreline restoration or enhancement activities. |
| SMP Chapter 3: *Shoreline Environment Designations* | • Defines and maps the shoreline jurisdiction and shoreline environment designations of all the shorelines in the county and the cities. Policies and regulations specific to the six designated shoreline environment designations (High Intensity, Shoreline Residential, Urban Conservancy, Rural Conservancy, Natural, and Aquatic) are detailed in this chapter.<br>• The shoreline environment designations are the key to providing specific management policies and regulations to ensure no net loss in both developed and undeveloped areas with high functions. | • Protects all functions, with focus on preserving and enhancing existing shoreline ecological functions. |
| SMP Chapter 4: *General Policies & Regulations* | • Sets forth the policies and regulations that apply to uses, developments, and activities in all shoreline areas of the county and the cities.<br>• Specifically, it contains the requirement that all development and uses meet no net loss, and include measures to mitigate environmental impacts.<br>• Provides specific standards for critical areas, environmental impacts, flood hazard reduction, restoration, shoreline modifications, vegetation conservation, and water quality to achieve no net loss.<br>• Requires periodic review of shoreline conditions to determine whether other actions are necessary to ensure no net loss. | • Protects all functions with focus on critical areas, riparian vegetation, and water quality and quantity.<br>• Provides standards for environmental impacts review and mitigation |

| 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 [1] |
|---|---|---|
| SMP Chapter 5:<br>*Specific Shoreline Use Policies & Regulations* | • Sets forth policies and regulations governing specific categories of uses and activities typically found in shoreline areas.<br>• For example, establishes minimum shoreline buffers and/or setbacks, and limits in-water structures. | • Protects all functions, with specific focus on the unique aspects of uses that require specific and unique requirements to assure no net loss. |
| SMP Chapter 6:<br>*Shoreline Modification Policies & Regulations* | • Sets forth policies and regulations that apply to shoreline modifications.<br>• Specifically regulates in-water structures, and clearing and grading. | • Protects all functions with focus on in-water uses and modifications. |
| SMP Appendix 2:<br>*Critical Areas Regulations* | • Sets forth policies and regulations that apply to critical areas within the shoreline jurisdiction.<br>• Critical areas regulations will apply to the shoreline jurisdiction associated with the county and the cities' streams and lakes. | • Protects critical areas within the shoreline jurisdiction to assure no net loss. |

1 Key functions are described in the SIC for the shoreline jurisdiction and specific reaches.

# 7 References

AHBL, Inc. 2015. *Shoreline Master Plan update.*

Ecology. 2010. SMP Handbook. Washington State Department of Ecology.

GeoEngineers, Inc. 2007. *Channel Migration and Avulsion Potential Analyses, Upper Nisqually River, Pierce County, Washington*. Pierce County Public Works and Utilities, Public Works Division. As cited in Herrera et al. 2013.

Herrera, AHBL, AHBL, Inc., and CORE GIS. 2013. *Shoreline Inventory and Characterization Report for Lewis County and the Cities of Centralia, Chehalis, Morton, and Winlock*. Prepared for Lewis County Community Development by Herrera Environmental Consultants, Inc., AHBL, and CORE GIS. October 17, 2013.

# 8 Appendix A: Analysis of Recent Shoreline Development

To understand the likelihood of future development activities, county staff reviewed recent permit activity within the shoreline jurisdiction. This analysis is explained below.

## 8.01 SHORELINE EXEMPTIONS

The location of 150 Shoreline Exemptions that were issued between January 1, 2011 and December 31, 2015 are shown on Map A-1. Groupings of shoreline exemption activity are noted in seven areas on the map (see also Table A-1).

**Area 1** includes the Upper Chehalis River mainstem and Elk Creek. Within the area, 16 parcels had shoreline exemptions issued, with the majority of activities including the construction of accessory structures, the construction of new residences, timber harvest activities, and permits associated with historic flooding in the area (such as the repair or replacement of bridges and the construction of critter pads).

**Area 2** includes the South Fork of the Chehalis River, Stillman Creek, and Lake Creek. Within the area, ten parcels had permit activity, with the majority of exempted projects intended to address the impacts of flooding in the area. Projects included the replacement of water lines, the addition of new fill to create critter or equipment pads for farmlands, road rehabilitation and repair, and bridge scour projects.

**Area 3** includes the South Fork of the Newaukum River. Within the shoreline jurisdiction, seven parcels had permit activity. Projects included the installation of above ground utilities, the construction of new residences, and bank stabilization efforts.

**Area 4** includes a portion of the Lower Cowlitz River. Within the area, 11 parcels had projects receive exemptions, though four of the parcels associated with Cowlitz Timber Trails contained the bulk of the total shoreline exemptions issued in the county. Permit activity in Cowlitz Timber Trails is explained further below. The vast majority of projects in the area included the construction of accessory structures or additions to residential buildings.

**Area 5** shows shorelines surrounding Mayfield Lake. Within the area, nine parcels received shoreline exemptions, with six receiving an exemption for a dock. Two of the parcels sought to add an accessory structure within the shoreline jurisdiction.

**Area 6** includes lands near the Nisqually River. Within the area, the county issued shoreline exemptions for eight parcels, and four of the exemptions were for new homes. Two exemptions were issued for accessory structures, and one was issued for the conversion of an accessory structure to a residence.

**Area 7** includes lands around Packwood on the Upper Cowlitz. In this location, six parcels received shoreline exemptions, with the majority used to construct accessory structures.

### *8.01.01 LIMITATIONS OF SHORELINE EXEMPTION MAP*

While Map A-1 displays the location of 150 permits within the county, it should be noted that 247 Shoreline Exemptions were issued over the period from January 1, 2011 to December 31, 2015.

This discrepancy can be understood by recognizing that the map does not:

- Show parcels that had multiple projects – 92 exemptions;
- Display four unmapped road projects that are not affiliated with a particular parcel; or
- Account for a project that was given an incorrect number in the Lewis County permitting system.

This discrepancy is even further clarified when understanding that 80 of the 92 parcels with multiple projects were located on just four parcels – associated with the Cowlitz Timber Trails Development.

### *8.01.02 WHY SO MUCH ACTIVITIES AT COWLITZ TIMBER TRAILS*

Of the 92 parcels with multiple projects, 80 were located at the Cowlitz Timber Trails development. Please note Area 4 on the map. This abundance of permitting activity within the area is likely a result of a lawsuit that involved the development, which included a requirement to permit any unpermitted structures by 2011. The total amount of development is not associated with new construction alone.

In 2011, 65 projects were permitted for Cowlitz Timber Trails, while the years 2012 through 2015 saw only 19 projects permitted. Using the last four years as the baseline, it is conceivable that around five projects that required a shoreline exemption were constructed in Cowlitz Timber Trails in 2011 – indicating that as many as 60 previously unpermitted projects were approved in 2011.

Regardless of the amount of activity, the types of development that receive shoreline exemptions in Cowlitz Timber Trails have largely remained consistent over time, with the majority of projects involving the construction of a new accessory structures or deck. A small sample of the activity in Cowlitz Timber Trails (taken from the permitting database) is provided below:

- Holding Tank Only
- Install 20 x 40 Pre-Fab RV Cover
- 14 x 30 RV/Boat Cover
- Tank Only
- 9 X 8 Gazebo
- 6 x 16 Deck
- 20 X 40 RV Cover
- 24 X 40 Pre-Fab RV Cover
- 9 X 7 Storage Shed
- 10 X 20 Tent Cover, 6 X 11 Shed
- Construct 18 x 40 RV Cover, 8 x 12 Storage Shed and 5' diameter Gazebo

### *8.01.03 SHORELINE SUBSTANTIAL DEVELOPMENT AND CONDITIONAL USE*

Beyond these Shoreline Exemptions, the location of all Shoreline Substantial Development and Conditional Use Permits issued between January 1, 2008 and the March 1, 2016 are shown on Map A-2, and Table A-2. Over that period, a total of 13 Shoreline Exemptions or Conditional Use Permits were issued within the county. Of the permits:

- Three permits were issued for road projects
- Three permits were issued for bridge repair or replacement
- Two permits were issued for recreational cabins on Mayfield Lake
- One permit was issued for a Mayfield Lake group campground
- One was issued for a fishing ramp on Mayfield Lake
- One was for a private project

## 8.02 CONCLUSION

In reviewing these shoreline exemptions, shoreline substantial development, and conditional use permits, Lewis County expects many of the trends seen to continue:

- Flood projects will continue to be emphasized in the Upper Chehalis River, though the projects will hopefully get less frequent as likely flood impacts are mitigated;
- Docks and recreational projects will continue to occur around Mayfield Lake, as well as other lakes such as Mineral Lake;
- Accessory structures, gazebos or decks will continue to be constructed along the shorelines, especially in areas of smaller lots or leasehold areas, such as High Valley (outside of Packwood) or Cowlitz Timber Trails;
- Bridge and road projects will continue to occur along many of the area's roads; and
- Homes will continue to be built along shorelines, though new dwellings will likely not be built at a significant rate, and will likely cluster in certain desirable locations, such in Mineral, Packwood, or in areas surrounding Mayfield Lake.

# LEWIS COUNTY
# CUMULATIVE IMPACT ANALYSIS

Map A-1: Exemptions Issued between
January 2011 and December 2015

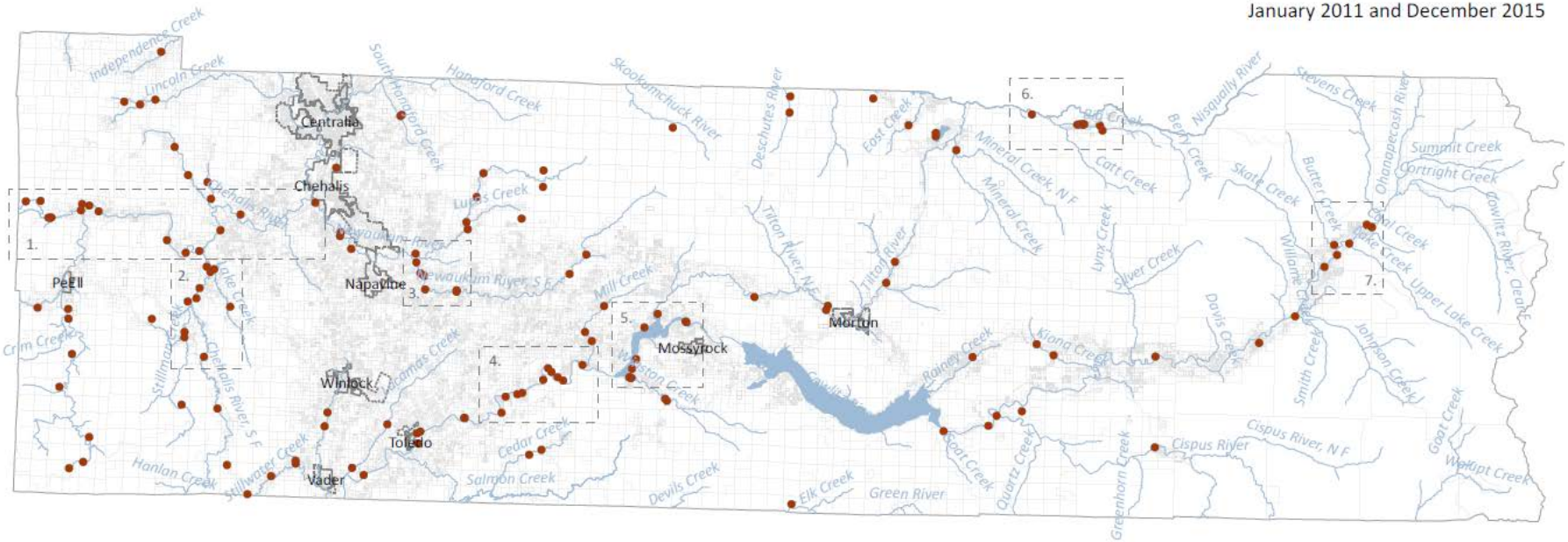

TABLE A-1: CLUSTERED AREAS OF SHORELINE EXEMPTIONS

Shoreline Permits Issued between January 1, 2011 to December 31, 2015

AREA 1: Upper Chehalis Mainstem/Elk Creek

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21819000000 | SHE12-0035 | | | | | | 1 | | | | | | | | | | | |
| 19752001000 | SHE13-0002 | | | | | | | 1 | | | | | | | | | | |
| 18665001000 | SHE13-0003 | | | | | | | 1 | | | | | | | | | | |
| 19931003000 | SHE13-0009 | | | | | | | | | | 1 | | | | | | | |
| 19478005000 | SHE13-0015 | | | | | | | | | | | | 1 | | | | | |
| 22367002001 | SHE13-0030 | 1 | | | | | | | | | | | | | | | | |
| 19937003000 | SHE13-0036 | | | | | | | | | | 1 | | | | | | | |
| 19780000000 | SHE13-0050 | | | | 1 | | | | | | | | | | | | | |
| 19765000000 | SHE14-0005 | | | | 1 | | | | | | | | | | | | | |
| 19977001003 | SHE14-0011 | 1 | | | | | | | | | | | | | | | | |
| 19363002000 | SHE14-0026 | 1 | | | | | | | | | | | | | | | | |
| 18634000000 | SHE14-0028 | | | | | | | | | | | | 1 | | | | | |
| 19977001001 | SHE14-0031 | | | | | | | | | | | | | 1 | | | | |
| 19916001002 | SHE15-0007 | | | | 1 | | | | | | | | | | | | | |
| 19454001029 | SHE15-0011 | | | | | | | | | | | 1 | | | | | | |
| 19977001002 | SHE15-0023 | | | | 1 | | | | | | | | | | | | | |
| Total | | 3 | 0 | 0 | 4 | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0 |
| Proportion of Total | | 19% | 0% | 0% | 25% | 0% | 6% | 13% | 0% | 0% | 13% | 6% | 13% | 6% | 0% | 0% | 0% | 0% |
| Count | 16 | | | | | | | | | | | | | | | | | |

AREA 2: South Fork Chehalis River, Stillman Creek, Lake Creek

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19081000000 | SHE11-0050 | | | | | | | | | | | | | | | | | 1 |
| 19666055001 | SHE11-0108 | | | | | | | | | | | | | | 1 | | | |
| 16182000000 | SHE11-0112 | | | | | | | | | | 1 | | | | | | | |
| 16017005000 | SHE12-0018 | | | | | 1 | | | | | | | | | | | | |
| 15701000000 | SHE13-0008 | | | | | | | | | 1 | | | | | | | | |
| 19492002000 | SHE13-0057 | | | | | 1 | | | | | | | | | | | | |
| 16269004000 | SHE14-0004 | | | | | | | | | | | | 1 | | | | | |
| 19091002000 | SHE14-0030 | | | | | | | | | | | | 1 | | | | | |
| 16176001000 | SHE15-0002 | | | | | | | | 1 | | | | | | | | | |
| 16022002001 | SHE15-0012 | | | | | | | | | 1 | | | | | | | | |
| Total | | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 |
| Proportion of Total | | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 10% | 20% | 10% | 0% | 20% | 0% | 10% | 0% | 0% | 10% |
| Count | 10 | | | | | | | | | | | | | | | | | |

AREA 3: South Fork Newaukum River

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17293001000 | SHE12-0027 | | | | | | | | | | | 1 | | | | | | |
| 17059004002 | SHE13-0010 | | | | | | 1 | | | | | | | | | | | |
| 17030007000 | SHE13-0011 | | | | | | 1 | | | | | | | | | | | |
| 17251001016 | SHE14-0012 | | | | | | 1 | | | | | | | | | | | |
| 17192002001 | SHE14-0014 | 1 | | | | | | | | | | | | | | | | |
| 17361008000 | SHE15-0014 | | | | | | | | | | | 1 | | | | | | |
| 17361007000 | SHE15-0016 | 1 | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proportion of Total | | 29% | 0% | 0% | 0% | 0% | 43% | 0% | 0% | 0% | 0% | 29% | 0% | 0% | 0% | 0% | 0% | 0% |
| Count | 7 | | | | | | | | | | | | | | | | | |

AREA 4: Lower Cowlitz River

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24642012000 | SHE13-0014 | 1 | | | | | | | | | | | | | | | | |
| 28157001000 | SHE14-0020 | | | | 1 | | | | | | | | | | | | | |
| 28210005000 | SHE14-0027 | | 1 | | | | | | | | | | | | | | | |
| 28228041000 | SHE14-0033 | | 1 | | | | | | | | | | | | | | | |
| 28099001001 | SHE15-0004 | | | | | | | | | | | | | | | | 1 | |
| 28763003116 | SHE15-0019 | | 1 | | | | | | | | | | | | | | | |
| 28228016000 | SHE15-0020 | | | | 1 | | | | | | | | | | | | | |
| 28128000000 | Cowlitz Timber Trails | | | | Multiple | | | | | | | | | | | | | |
| 28072000000 | Cowlitz Timber Trails | | | | Multiple | | | | | | | | | | | | | |
| 28071001000 | Cowlitz Timber Trails | | | | Multiple | | | | | | | | | | | | | |
| 28140000000 | Cowlitz Timber Trails | | | | Multiple | | | | | | | | | | | | | |
| Total (Counted Only) | | 1 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Proportion of Total (Counted Only) | | 14% | 43% | 0% | 29% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 14% | 0% |
| Count | 7 | | | | | | | | | | | | | | | | | |

AREA 5: Mayfield Lake

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10572018000 | SHE11-0083 | | | | | | | | | | | | | | | 1 | | |
| 10572015000 | SHE11-0084 | | | | | | | | | | | | | | | 1 | | |
| 28607019001 | SHE12-0001 | | | | | | | | | | | | | | | | | |
| 9797041000 | SHE12-0026 | | | | 1 | | | | | | | | | | | | | |
| 28341001000 | SHE12-0045 | | | | 1 | | | | | | | | | | | | | |
| 9797037002 | SHE13-0001 | | | | | | | | | | | | | | | 1 | | |
| 10572012000 | SHE13-0025 | | | | | | | | | | | | | | | 1 | | |
| 10572008000 | SHE13-0047 | | | | | | | | | | | | | | | 1 | | |
| 28328000000 | SHE13-0056 | | | | | | | | | | | | | | | 1 | | |
| Total | | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 |
| Proportion of Total | | 0% | 0% | 0% | 22% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 67% | 0% | 0% |
| Count | 9 | | | | | | | | | | | | | | | | | |

AREA 6: Nisqually River

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11030063000 | SHE11-0082 | | | | 1 | | | | | | | | | | | | | |
| 37959002000 | SHE12-0024 | 1 | | | | | | | | | | | | | | | | |
| 11216022000 | SHE13-0013 | 1 | | | | | | | | | | | | | | | | |
| 10568004000 | SHE13-0017 | 1 | | | | | | | | | | | | | | | | |
| 11030022000 | SHE13-0028 | 1 | | | | | | | | | | | | | | | | |
| 39001001000 | SHE13-0053 | | | | | | | 1 | | | | | | | | | | |
| 11030014000 | SHE14-0013 | | | 1 | | | | | | | | | | | | | | |
| 10567007000 | SHE15-0015 | | | | 1 | | | | | | | | | | | | | |
| Total | | 4 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proportion of Total | | 50% | 0% | 13% | 25% | 0% | 0% | 13% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Count | 8 | | | | | | | | | | | | | | | | | |

AREA 7: Upper Cowlitz

| Parcel | Permit | New Residence | Addition to Residence | Conversion of Accessory Structure to Residence | Accessory Structure | Underground Utility | Above Ground Utility | New/ Replacement Bridge | Bridge Repair | Road Rehab/ Repair/ Movement | Timber Harvest | Bank Stabilization | Critter/ Equipment Pad | Inspection for Shared Well | Gravel Removal | Dock | Other | Unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10571038000 | SHE11-0022 | | | | 1 | | | | | | | | | | | | | |
| 10125184000 | SHE12-0038 | | | | 1 | | | | | | | | | | | | | |
| 10492000000 | SHE13-0048 | | | | | | | | 1 | | | | | | | | | |
| 10596072000 | SHE14-0008 | | | | 1 | | | | | | | | | | | | | |
| 10125044001 | SHE15-0008 | | | | 1 | | | | | | | | | | | | | |
| 35091001000 | SHE15-0033 | | | 1 | | | | | | | | | | | | | | |
| Total | | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proportion of Total | | 0% | 0% | 17% | 67% | 0% | 0% | 0% | 17% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Count | 6 | | | | | | | | | | | | | | | | | |

# 9 Appendix B: Conclusions Regarding No Net Loss

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

The system of shoreline environment designations and use regulations in the updated SMPs are consistent with the established land use pattern, as well as the land use vision planned for in the Coalitions' comprehensive plans, 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 *Shoreline Restoration Plan* developed as part of the SMP Update provides the Coalition with opportunities to improve or restore ecological functions that have been impaired because of past development activities. Furthermore, the updated SMPs are meant to compliment Coalition, state and federal efforts to protect shoreline functions and values.

The Coalition is required to monitor development under the updated SMPs to ensure no net loss. The *Shoreline Restoration Plan* requires, as outlined in WAC 173-26-191(2)(a)(iii)(D), that the Coalition staffs 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 Coalition's staffs assemble a report to coincide with the eight-year periodic review of the SMPs required by RCW 90.58.080. Following the goals and objectives of the updated SMPs, the report could be used to determine whether implementation of the SMPs is meeting the basic goal of no net loss of ecological functions relative to the baseline condition established in the SIC (Herrera and AHBL, 2014).

Based on assessment of these factors, the cumulative actions taken over time in accordance with the provisions outlined in the updated SMPs are not likely to result in a net loss of overall ecological functions from the existing baseline conditions within the MAs of the Coalition. An overall improvement in ecologic functions is expected in the Coalition's shoreline due to the combination of restoration efforts proposed along the shoreline concurrently with stricter development regulations on new development.