

## Centralia Shoreline Master Program Update

# Cumulative Impact Analysis and No Net Loss Report

Prepared by:

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Community Development Department

Ecology Grant #G1200468

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## **LIST OF ABBREVIATIONS**

The abbreviations for this document are listed in the Centralia Shoreline Master Plan Policies and Regulations, Chapter 9.

## **DEFINITIONS**

The definitions for this document are listed in the Centralia Shoreline Master Program, Chapter 9.

# CHAPTER 1

## Introduction

The Washington Administrative Code (WAC) Chapter 173-26 State Master Program Approval/Amendment Procedures and Master Program Guidelines, directs local governments to develop and administer local Shoreline Master Programs (SMPs) for regulation of uses on shorelines of the state. Such local programs should be integrated with other local government systems for administration and enforcement of land use regulations. RCW 36.70A.480 provides that the goals and policies contained in a local Shoreline Master Program (SMP) shall be considered an element of the local comprehensive plan required by the Growth Management Act (GMA). All other portions of the local Shoreline Master Program, including the use regulations, are considered a part of the local development regulations required by the Growth Management Act.

The City of Centralia has created an SMP containing goals, policies, and regulations to avoid or mitigate adverse impacts to shoreline management areas. The Shoreline Inventory and Characterization Report, along with site specific conditions documented at the time a permit or use approval is applied for, identify existing baseline conditions that will be used in the administration of the SMP.

The Cumulative Impact Analysis (CIA) is intended to examine the potential impact on shoreline ecological functions that would result from foreseeable future shoreline developments and uses. The CIA will consider impacts of all future potential developments, not just short-term individual projects in a particular area. The function of the CIA is to ensure no net loss of ecological function over the long-term. The CIA will identify the potential impacts to the shoreline areas from potential future development and indicate the SMP and Centralia Municipal Code (CMC) regulations that will protect the shoreline and mitigate those impacts, if needed. The CIA will ensure that commonly occurring and foreseeable cumulative impacts do not cause a net loss of ecological functions of the shoreline, and may supplement the SEPA review process for future similar projects in shoreline areas over time.

With the adequate administration of the SMP, CMC, SEPA, Critical Areas Ordinance (CAO), etc., the City of Centralia will be able to ensure the protection and resiliency of the shoreline management areas which will result in continued public access, enjoyment and no net loss of shoreline ecological functions.

## CHAPTER 2

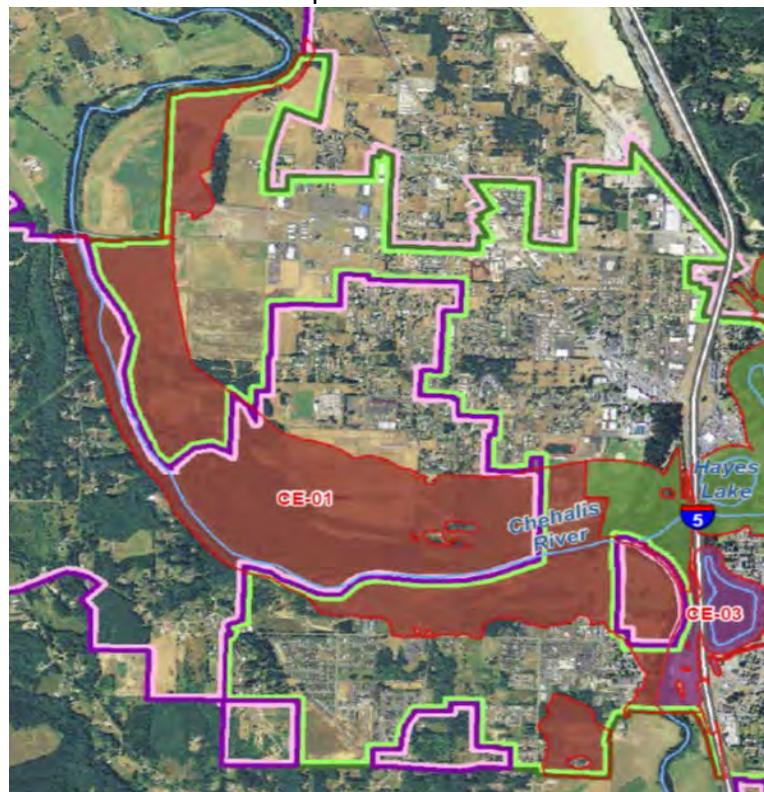
### CITY OF CENTRALIA MANAGEMENT AREA – Existing Conditions

The city of Centralia is located near the northern border of Lewis County, surrounded by the Upper Chehalis – Puget Lowlands MA. It encompasses 16.3 square miles of developed floodplain and low hills. The city's SMP jurisdiction, plus areas within the UGA that are not currently under the city's jurisdiction but we have opted to preplan for to prepare for future annexation, consists of approximately 2,400 acres covering six stream reaches and the Lakeside Industries Gravel Pit. The primary SMP streams within the city are the Chehalis River (covered by reaches CE-01, CE-03, and CE-04), the Skookumchuck River (covered by reaches CE-02 and CE-06), and Salzer Creek (reach CE-05). Plummer Lake is a shoreline of the state (covered by reach CE-03) as well as the Lakeside Industries Gravel Pit (Reach CE-07) .

#### 2.1 Existing Conditions by Reach Area

##### A. Chehalis River - Reach CE-01

This reach area is located in the southern portion of the city, largely in the UGA. The existing development within Reach CE-01 is predominantly residential. There are small areas of commercial, recreational and industrial developments as the Port of Centralia and Health District areas are located within this reach. The majority landholders are the Port of Centralia, Washington State Department of Fish & Wildlife, as well as Providence Hospital and other medical related services.



### **1. Hydrology**

Approximately 459 acres of the 1001 acres in this reach area are designated floodway. 98% of the reach is located within the 100-year floodplain. A few wetland areas located south of the river and north of Cooks Hill Road have been slightly disturbed and include previous mitigation efforts. The remaining wetland areas remain in their natural, undisturbed state. Almost the entire shoreline area of this reach is located within the SMP Flood course. Only a small portion along the outer edge of the entire SED is outside of the SMP Flood course designation.

### **2. Habitat**

The Chehalis River in this reach area provides habitat for Chinook salmon, Coho salmon, Cutthroat trout, Steelhead trout, and Largemouth bass.

Priority/protected species include Roosevelt elk, waterfowl, oak woodland, and eagle (the eagle is no longer listed as protected but if a management plan is currently in place it must be adhered to). Previous mitigation efforts incorporate areas for a variety of wetland habitats and birds in this reach area; however, past mitigation efforts have not been monitored closely. A large portion of the reach area is agricultural, grass or forested land. These areas will provide habitat for elk and fowl. The wetland and floodway areas provide waterfowl habitat. The vast majority of the reach area is undeveloped, open-space located within the floodplain. There are approximately 11 existing developments within the 175' habitat buffer of the Chehalis River. 10 of those being residential and 9 of those 10 being located in the River Heights Road area; which has an approximately 150' elevation change between the development sites and the river bank.

### **3. Water Quality**

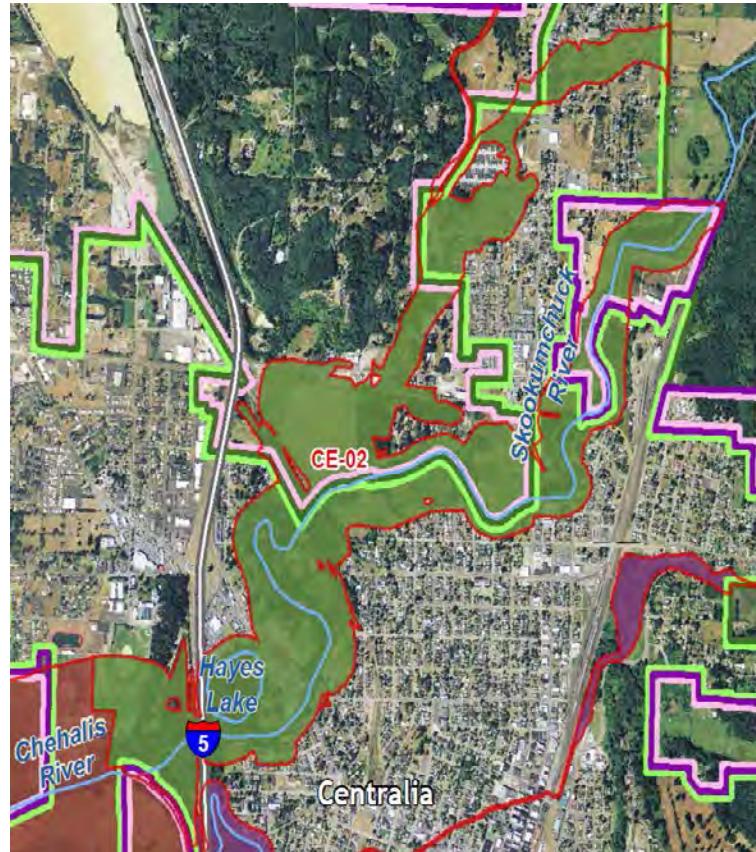
The Chehalis River is on the Category 5 303(d) list of impaired water bodies for dioxin in the area north of Cooks Hill Road and for PCB in the same area as well as in the Borst Park and H-1 district areas. It is also on the Category 4 list for temperature, dissolved oxygen and bacteria. Approximately 6% of the reach area are developed impervious surfaces with human uses and disturbances.

## B. Skookumchuck River/Hayes Lake – Reach CE-02

Reach CE-02 existing developed areas are a mixture of commercial, residential and educational uses. Approximately 19% of the reach area is owned by governmental agencies (12% owned by the City), with the remaining acreage under private ownership.

### 1. Hydrology

A small portion of the reach contains NWI mapped wetlands that are not within the vicinity of the Skookumchuck River. The vast majority of the reach is located within the floodplain. There are approximately 3,880' of levees in this reach area. The levees are located along the banks of the Skookumchuck River from 6<sup>th</sup> St. to north of Central Blvd. The main purpose of the levees are to protect the



residential and commercial areas on the north side of the city. Other wetland areas exist along the banks of the Skookumchuck River, Coffee Creek and Hayes Lake. The wetland areas follow the banks along the entire stretch of each water body. The majority of these areas are also located within the designated floodway. The banks along Hayes Lake are primarily developed as commercial land with the exception of the City owned Bridge Street Park.

### 2. Habitat

The Skookumchuck River provides habitat for Chinook salmon, Coho salmon, Cutthroat trout and Steelhead trout. Hayes Lake provides limited habitat for Largemouth Bass and wildlife. Due to the proximity to I-5 and commercial areas, wildlife and fish stock is limited. Fort Borst Lake is not within shoreline jurisdiction, but is immediately adjacent and provides habitat for Rainbow trout and various birds and wildlife. The lakes are stocked with fish each year. In the northern portion of this reach (Northeast of Harrison Ave. & I-5) the 150' habitat

buffer area is primarily clear. There are approximately 9 existing residential developments within the habitat buffer area with 2 of those being located within the regulatory floodway. There are also 4 commercial developments within the buffer area with 1 existing development located behind the levee.

### 3. Water Quality

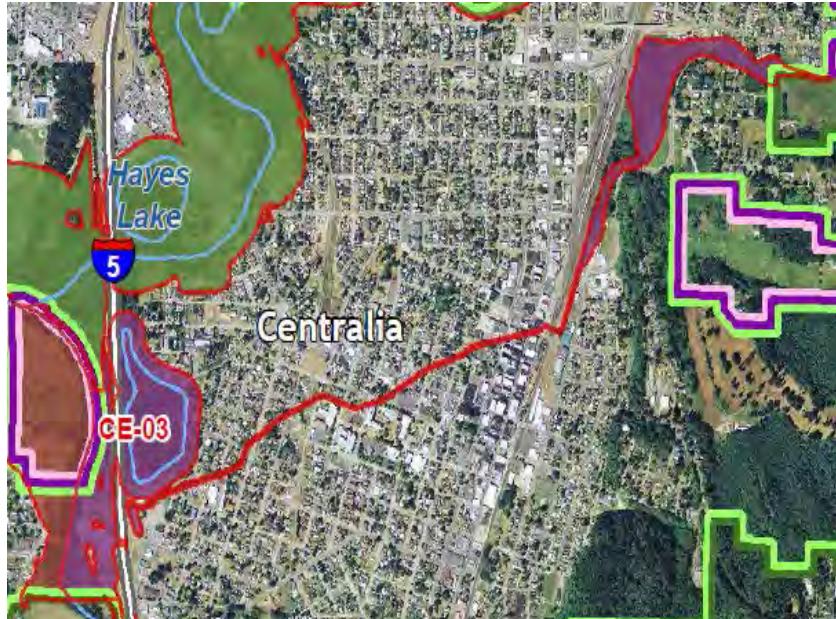
The Skookumchuck River is not listed on the Category 5 303(d) list. Runoff into Hayes Lake is occasionally an issue due to the high intensity of existing commercial development along the banks. Recent restoration and vegetation buffer work associated with the I-5 construction project may help mitigate these issues. Approximately 25% of the reach area are developed impervious surfaces with human uses and disturbances.

## C. Plummer Lake – Reach CE-03

Reach CE-03 is bisected by I-5. The east side is significantly developed with residential uses and a small commercial area along the south edge of Plummer Lake. A municipal facility (old wastewater treatment plant/offices) and WSDOT parking lot occupy the north area on the west side of I-5. Approximately 28% of this reach is owned by governmental agencies (22.5% is city owned) with the remainder being private ownership.

### 1. Hydrology

Property in the southwest corner of the reach is owned by the City and WSDOT and is located within the designated floodway and/or SMP Flood course. Approximately half of the reach area contains NWI mapped wetlands and/or is located within the floodplain.



### 2. Habitat

Plummer Lake provides habitat for Largemouth Bass and Rainbow trout. The lake is stocked with trout each year prior to opening day. Wildlife habitat is limited due to the proximity to I-5, the existing residential developments and the commercial development (hotel) south of the lake. The southwest portion of the

reach area, south of the Mellen Street bridge, had two existing residential structures that were removed in preparation for the Airport Road/Mellen Street interchange revisions. The property is now owned by WSDOT, is within the SMP Flood course and is slowly returning to natural vegetation. There is a pedestrian path that separates these properties from Airport Road. As the natural vegetation returns, waterfowl habitat previously degraded by the residential uses should be restored. The lots surrounding Plummer Lake are almost at complete build out, with only 2 vacant lots remaining. Several lots contain areas that appear to be bank stabilization efforts with benched fill/rock areas. With the exception of the northwest corner and the area along I-5, the entire lake shore has been disturbed and contains very few trees. Vegetation consists mostly of grasses with portions of the shoreline being dirt, gravel or rocks.

### 3. Water Quality

Plummer Lake is not included on the Category 5 303(d) listing. Approximately 34% of this reach area are developed impervious surfaces.

## D. Chehalis River – Reach CE-04

Reach CE-04 is predominantly vacant land with very few residential developments. 73% of this reach area is owned by government/public entities. All but the eastern edge of this reach area is located within the UGA. The far edge of the existing Lewis County Transfer Station encroaches into this reach area, however, that area is used for monitoring only and no longer active

### 1. Hydrology

A vast majority of the reach area contains NWI mapped wetland areas (approximately 92%) and is located within the floodplain. A large portion of the area is property owned by the Lewis County Flood Control District #2 and provides flood storage capacity.



### 2. Habitat

One large parcel owned by the Lewis County Flood Control District #2 provides a seasonal area for waterfowl habitat and wildlife and is used for flood storage capacity. Two parcels are owned by the city. One parcel is vacant and one contains a storage building. The reach area also contains 1,463 feet of dikes.

The dikes are located in the southern boundary of the reach and in the UGA. The dikes are intended to provide protection to the residential areas to the north of this reach area

### 3. Water Quality

The Chehalis River in this reach area is included in the Category 5 303(d) list for PCB. Approximately 15% of the area are development impervious surfaces with human disturbances.

## E. Salzer Creek – Reach CE-05

Reach CE-05 is located along Salzer Creek in the south end of the City.

Approximately 50% of the reach is owned by governmental agencies (Fairgrounds and Transfer Station).

### 1. Hydrology

Approximately 91% of the reach area is located within the floodplain and 52% includes mapped NWI wetland areas. For the southern portion of this reach area Salzer Creek runs either within a confined channel or outside city limits into the jurisdiction of the City of Chehalis. The entire west side of the reach area, and a large portion of the east side, is located within the SMP Flood course.



### 2. Habitat

Salzer Creek provides habitat for Coho salmon and waterfowl; however, there are several fish passage barriers. The west side of the reach area is heavily developed with commercial buildings and the SW Washington Fairgrounds complex. The east side is primarily open space with wetlands. Waterfowl and wildlife occupy this area; however, due to the proximity of the commercial developments, the occupancies are scattered and limited. Previous development practices and the lack of upgrades have contributed to the creation of fish barriers.

### 3. Water Quality

This reach area contains extensive existing outdated commercial development and impervious surfaces. Salzer Creek is not included in the Category 5 303(d) listing; however, it is listed as a Category 4 for dissolved oxygen and bacteria. Stormwater runoff and previous development practices have contributed to the water quality issues.

## F. Skookumchuck River – CE-06

Reach CE-06 is located along the Skookumchuck River at the northern limits of the city Urban Growth Area. Only 8% of the reach area is located within city limits. The city has chosen to preplan and designate the entire reach area in case the area is annexed into city limits in the future.

### 1. Hydrology

The entire reach area is located within the floodplain and approximately 30 of the 50 acres within the reach are located within the designated floodway and/or potential wetland areas.

### 2. Habitat

The Skookumchuck River provides habitat for Chinook salmon, Cutthroat trout, Coho salmon and Steelhead trout. There are also concentrations of waterfowl. Approximately 93% of this reach area is agricultural, grass or forested land. There are two single family residential developments with the remainder being vacant, naturally vegetated lands.



### 3. Water Quality

This reach area is not included in the Category 5 303(d) listing for impaired water bodies. Approximately 7% of this reach are developed impervious areas with single family residences and associated driveways, outbuilding, etc.

F. Lakeside Industries Gravel Pit – CE-07

The Lakeside Industries Gravel Pit area is surrounded by active industrial developments, I-5 and railroad transportation facilities. The site is currently operating under a DNR Reclamation Permit #70010327. The reach is located in the Urban Grown Area and was not originally assigned a specific reach area number but is commonly referred to as reach CE-07. Approximately 6.73 of the 12 acres have been reclaimed with 5.27 acres remaining in Phase I. Eventually, the entire site will be reclaimed.

1. Hydrology

The reach area is not located within the floodplain; however, there is a wetland mitigation area to the south of the site that is maintained and monitored by Lakeside Industries. The Centralia Outwash Gravel Aquifer (COGA) is located in the vicinity.

2. Habitat

The wetland area to the south of the pond provides some waterfowl and wildlife habitat. This is the only area that is not already developed with heavy industrial uses. Due to the proximity to I-5, railroad tracks, and the area being predominately active heavy industrial developments, wildlife is limited and no threatened or endangered species are in the vicinity.

3. Water Quality

The pond is currently operating under a DNR Reclamation Permit. Annual monitoring reports on fill activity, clean fill sampling, water quality and water level are submitted for review and approval. The report compiles the results of twice yearly testing and water level monitoring efforts. The ground water monitoring report results indicate no ground water quality or water level impacts have occurred as a result of the reclamation activities.

H. See Chapter 5 and Tables 5-1 through 5-13 for further details and foreseeable future development data.

## **2.2 Existing Public Access**

The city of Centralia MA has 11 miles of shoreline jurisdiction and there are a number of public access points to the shoreline. In addition, the city is planning to continue to improve the trail system in Borst Park along the Skookumchuck and Chehalis Rivers and in Riverside Park along the Skookumchuck River. The city, along with the Lewis County Community Trails group and the county, is working to connect the Borst Park trails system with the Airport Road trail coming from Chehalis. There are currently no public access points in reaches CE-04, CE-05 and CE-06, or in the Lakeside Industries Gravel Pit area.

### **A. Reach CE-01 – Centralia – Chehalis River**

1. Fort Borst Park is a 101-acre park located at the confluence of the Chehalis and Skookumchuck Rivers. The western portion of the park is within this reach. Fort Borst Park water access includes adjacent river frontages. The park has extensive athletic facilities and includes gardens, an arboretum, trails, picnicking facilities and shelters.

### **B. Reach CE-02 – Centralia – Skookumchuck River**

1. Public access opportunities in the reach include the majority of Fort Borst Park with water access that includes adjacent river frontages and Fort Borst Lake. The park has extensive athletic facilities, gardens, an arboretum, trails, picnicking facilities and shelters. There is a year-round, non-ADA accessible primitive boat launch to the Chehalis River at the south end of the park behind the maintenance shed near the Borst Home.
2. Bridge Street Park is a 2.7-acre undeveloped waterfront property providing water access to Hayes Lake and the Skookumchuck River. There are fishing, water access, and natural areas.
3. Riverside Rotary Park is a 14-acre waterfront community park located along the banks of the Skookumchuck River between downtown Centralia and Interstate 5. The park has group picnic facilities, restrooms, shelters, play equipment, sports fields, and paved and soft-surface walking paths. A 0.40-mile trail loop borders the park along the Skookumchuck River.
4. Wilbur Parkins Park is a 5-acre park at the end of Meridian Avenue at the Skookumchuck River. Informal rustic improvements over the years provide fishing, gravel beaches, and water access to some secluded stretches of the river.
5. Plummer Lake – From Lewis Street, there is a non-ADA accessible concrete boat launch operated and maintained by the city of Centralia and the WDFW.

C. Reach CE-03 – Centralia – Plummer Lake

1. Gold Street Mill Pond is a nearly one-acre park located on the west side of Gold Street between Marion Street and Yakima Avenue and consists of undeveloped wetland open space.
2. Brick Wagner Park is a less than half-acre park at end of Tilley Street right-of-way at Plummer Lake. This small waterfront park provides access to Plummer Lake. There are fishing and water access, picnic tables and benches, and natural areas. The north side has very primitive boat access.

### 2.3 Shoreline Modifications

Table 2-1 lists the total length of dikes and levees for the reaches in Centralia and its UGA where 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 the city SMP jurisdiction.

**Table 2-1 Centralia MA (City of Centralia) Shoreline Modifications**

Reach Number	Total of Dike and Levee Length (feet) <sup>a</sup>	Other Shoreline Modifications <sup>b</sup>
CE-01	160	–
CE-02	3,883	Significant bank armoring and development, railroad tracks
CE-03	–	Simplified stream channel, 6 private docks and 3 fill areas along Plummer Lake that appear to be a bank stabilization efforts.
CE-04	1,463	Railroad dike, impervious surface, and altered vegetation
CE-05	–	Heavily altered by commercial development, impervious surfaces & roads, fill in Salzer Creek area north of Fair St.
CE-06	–	Only one structure (storage building) within 75' of the OHWM, remaining disturbances are agricultural.
CE-07 Lakeside Industries Gravel Pit	–	Heavily altered by industrial mining development

<sup>a</sup> Data Source: Lewis County Dikes and Levees shapefile  
<sup>b</sup> Aerial Photography: Google Earth, May 2013, and aerial photography Pictometry, March 2016.

## CHAPTER 3

### CITY OF CENTRALIA MANAGEMENT AREA REASONABLY FORESEEABLE DEVELOPMENT

The city of Centralia Management Area (MA) is designated entirely for urban land uses. The city's Comprehensive Plan land use designations in the MA include Very Low, Low and Moderate Density Residential, Public Facilities, Parks and Open Space, Commercial, Heavy and Light Industrial, and Medical/Health Care. Based on these designations, the most intense use of property appears to be in the Industrial designations found adjacent to Lakeside Industries Gravel Pit and the Skookumchuck River. In addition, the city's MA contains land for shoreline uses such as single-family residential and water-enjoyment uses associated with recreation at the Fort Borst Park and other city parks.

#### 3.1 Patterns of Shoreline Activity

The city of Centralia MA contains 2,395 acres as shown in Table 3-1. Of those, 1,325 acres are located outside of the SMP Flood Course and potentially open to new or re-development.

<b>Table 3-1 Vacant and Developed Parcels in Centralia MA</b>			
<b>Reach Number</b>	<b>UGA</b>	<b>City Limits</b>	<b>Total acres within the shoreline jurisdiction</b>
CE-01	583	418	1001
CE-02	289	381	670
CE-03	18	71	89
CE-04	95	20	115
CE-05	127	106	233
CE-06	46	4	50
CE-07 Lakeside Industries Gravel Pit	235	2	237
<b>TOTAL:</b>	<b>1393</b>	<b>1002</b>	<b>2395</b>

There were 18 shoreline substantial development permits and 2 shoreline exemptions issued by the city between 2005 and 2015, as shown in Table 3-2. Based on the ten-year permit history trend, 36 substantial development permits and 4 exemptions are projected to be issued over the 20-year planning period.

<b>Table 3-2 Previously Permitted and Projected Development in Centralia MA</b>		
<b>Permitted Actions</b>	<b>Number of Permits Issued, 2005-2015</b>	<b>Projected Number of Permitted Actions in Next 20 Years</b>
Substantial Development Permit	18	45
Exemptions	2	5

### **3.2 Residential Development**

There are approximately 902 acres in the Urban Conservancy and Shoreline Residential SED's which could allow for residential uses. However, of those 902 acres, almost 78% are located within the SMP Flood Course and approximately 54% are zoned for uses other than residential. The potential number of new residential units is outlined in table 3-3.

<b>Table 3-3 Number of potential new residential developments in the management area</b>			
<b>Reach</b>	<b>Low Density</b>	<b>Medium - High Density</b>	<b>Approximate Number of Potential New Residential Developments at Maximum Build-Out</b>
CE-01	17	0	17
CE-02	178	57	235
CE-03	0	3	3
CE-04	0	60	60
CE-06	40	0	40
<b>*Total</b>	<b>235</b>	<b>120</b>	<b>355</b>

\* Reach CE-07 is zoned entirely M-2, Heavy Industrial, and does not allow for residential uses.

### **3.3 Commercial, Industrial, and Utility Development**

Commercial and industrial land uses are found in the city's MA that includes the city and the UGA. The existing zoning allows some opportunity for non-priority uses (uses that are not water oriented) in the city's MA, particularly in the General Commercial and Highway Commercial zoning districts. These zones allow a wide variety of uses, providing the potential for future use conflicts.

There are 33 vacant parcels and 219 acres of developable commercial and industrial land in the Centralia MA, as shown in Table 3-4.

**Table 3-4 Vacant Commercial and Industrial Parcels by Zone in Centralia MA**

Zone	Number of Vacant Parcels	Area in Acres
General Commercial District (C1)	2	2
Highway Commercial District (C2)	5	4
Health Service District (H1)	2	14
Limited Business District (LBD)	3	14
Light Industrial District (M1)	1	5
Industrial District (M2)	1	38
Open Space/Public Facilities District (OSPF)	17	67
Port Master Plan District (PMP)	2	75
<b>Total</b>	<b>33</b>	<b>219</b>

All but 3 of the parcels zoned OSPF are owned by the City of Centralia for the purpose of retaining as parks, open space and flood storage capacity. The three parcels not owned by the city are owned by either Lewis County Flood Control District #2 or WSDOT. Development of these parcels is extremely unlikely; however, the Port of Centralia has expressed interest in using one large parcel for compensatory flood storage capacity.

The vast majority of the 75 acres in the PMP zone are within the SMP flood course and/or contain wetland areas.

### **3.4 Resource Development**

The opportunity for resource development occurs in the M2 Industrial zoning district. There is an active gravel mining operation adjacent to the Lakeside Industries Gravel Pit located in Centralia's Urban Growth Area. The Lakeside Industries Gravel Pit is currently under a reclamation permit issued by DNR to fill in the existing gravel pit over an approximately 30-year period. New mining operations in new locations will be prohibited by the updated SMP. It is likely this site will be redeveloped with industrial and commercial uses.

### **3.5 Recreational Development**

There are 17 parcels and 67 acres of land zoned Open Space Public Facilities District (OSPF) intersecting the shoreline jurisdiction. Ongoing maintenance and minor development associated with existing parks can be expected throughout the 20-year planning period. There is an 88 acre parcel owned by the City of Centralia that is associated with the Transfer Station and not open to public access.

## CHAPTER 4

### LOCAL, STATE, AND FEDERAL REGULATIONS

#### 4.1 LOCAL REGULATIONS - City of Centralia

##### A. Comprehensive Plan

The city adopted its Comprehensive Plan in 2007 and it was last amended in 2016. The goals of the Comprehensive Plan are directed toward ensuring superior public service, a strong and diverse local economy, diverse housing types, extensive recreational opportunities that support interconnections to regional and statewide trails, and protection of the natural environment. The Comprehensive Plan will be updated again in 2017.

##### B. Zoning Ordinance

The City of Centralia's zoning ordinance is found in CMC Chapter 20. The intent of the zoning ordinance is to facilitate orderly growth and development consistent with the Comprehensive Plan, protect the health and welfare of residents, promote sound economic development while protecting property values, preserve and protect the natural environment, designate land use districts and ensure compatibility between these districts, provide flexible regulations and controls, and provide the administrative structure and means of enforcement for the zoning ordinance.

##### C. Critical Areas Ordinance

The city updated its critical areas regulations in 2009. In CMC Section 16.20.080, stream buffers range from 35 to 175 feet depending on the type of the stream, with Type S (1) water bodies (i.e., shorelines of the state) having a 175-foot buffer. In CMC Section 16.17.050, minimum wetland buffers range from 25 to 300 feet, depending on wetland 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 and will adopt the 2014 Wetland Rating System.

In CMC Section 16.21 – Floodplain Management, development within the floodplain is regulated for protection of structures and environment. Section 16.21.170 contains provisions for compensatory flood storage requirements.

##### D. Stormwater Regulations

Storm and surface water management regulations are found in CMC Chapter 15.35 and CMC Chapter 18.10 City of Centralia Design and Development Guidelines. The purpose of the stormwater regulations is to protect, maintain, and enhance public health, safety, and welfare by establishing stormwater standards to control negative

impacts associated with storm and surface water runoff. Stormwater regulations include Low Impact Development requirements that greatly encourage rain gardens, rooftop gardens, pervious surfaces and, in most cases, will require treatment of runoff through an engineered system.

#### E. Building Codes

Title 18 of the CMC adopts the current version of the International Building, Residential, Mechanical, etc. codes as well as the Uniform Plumbing Code. The purpose of the building codes is to ensure public safety and promote environmentally responsible construction.

### **4.2 State Regulations – Washington State**

#### A. Water Pollution Control Act

The intent of RCW 90.48 is to maintain the highest possible purity standards of all waters of the state, consistent with public health and enjoyment, and to protect wildlife. Commercial and industrial developments are required to prevent and control the pollution of waters of the state via permitting by the Dept. of Ecology.

#### B. Aquatic Lands Act

The purpose of RCW 79.105.060, 79.105.230, 79.105.280, and 79.105.010 through 79.105.040 is to articulate a management philosophy to guide the exercise of the state's ownership interest and the exercise of the department's management authority, and to establish standards for determining equitable and predictable lease rates for users of state-owned aquatic lands. If a development proposal requires the use of or impact to state-owned aquatic lands, the proponent is required to contact the WDNR for further information and potential permitting and/or lease requirements.

#### C. Hydraulic Code

RCW 77.55 CONSTRUCTION PROJECTS IN STATE WATERS, some developments may require a Hydraulic Project Approval (HPA) permit from the Dept. of Fish & Wildlife. Any work within state waters, or work that may impact the bed or flow of state waters, must be reviewed for compliance and potential permit requirements prior to commencing work.

#### D. State Environmental Policy Act (SEPA)

WAC 197-11 SEPA RULES, along with local CMC's, requires jurisdictions to identify, evaluate, and require or implement, where required by the act and these rules, reasonable alternatives that would mitigate adverse effects of proposed actions and future similar actions on the environment. Compliance with SEPA rules is required prior to the issuance of any local permits for development.

## E. Water Rights – Environment

Various sections of RCW 90 WATER RIGHTS – ENVIRONMENT, may be applicable to development proposals. Particularly, section 90.58 – Shoreline Management Act of 1971 and section 90.82 – Watershed Planning. Administration of these applicable sections will enable and help facilitate the long-term restoration and viability of the shoreline management areas.

### **4.3 Federal regulations – United states**

#### A. Clean Water Act.

Section 401, 402 and 404 permits. The most commonly required permits at the federal level. A section 401 permit regulates discharges to waters of the United States. A section 402 permit regulates the discharge of pollutants to waters of the United States via an NPDES permit. A Section 404 permit regulates discharges or impacts to waters of the United States including wetlands.

#### B. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

More commonly referred to as Superfund, this act establishes liabilities for hazardous waste sites and means for cleanup of such sites. There is currently one site in Centralia listed on the National Priorities List. The Centralia Municipal Landfill site identification number is WAD980836662. The former landfill operated from 1958 until 1994. The National Priorities List status of the site is listed as FINAL.

#### C. Endangered Species Act (ESA).

This act recognizes that our rich natural heritage is of ecological, educational, recreational, and scientific value to the public. It further expressed concern that many of our nation's native plants and animals were in danger of becoming extinct. Under the ESA, species may be listed as either endangered or threatened.

“Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend on.

#### D. Rivers and Harbors Act.

Section 10 of the Rivers and Harbors Act of 1899 provides the U.S. Army Corps of Engineers (USACE) with the authority to regulate activities that may affect the navigable waters of the United States. Although uncommon in the Centralia management area, there are some areas and projects this regulation may be applicable to. Under the act, 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 the waters are required to be reviewed and approved by USACE.

## Chapter 5

### **POTENTIAL IMPACT OF DEVELOPMENT AND THE EFFECTS OF THE SMP**

#### **5.1 Impacts by Reach Area**

##### **A. Chehalis River – Reach CE-01**

The majority of this reach area is located within the SMP Flood course (approximately 78%). Which means approximately 782 of the 1001 acres in this reach area are subject to the restrictions of SMP section 5.5.B(7) related to flood hazard management. Approximately 459 of the 1001 acres are located within the designated floodway. The northern portion of the reach is the most likely to be developed. This area contains wetlands and will be restricted to compensatory flood storage, stormwater facilities, etc. and only if no other alternative is feasible. The vast majority of the reach is in the Urban Conservancy SED and only a small portion of the outer edge of this SED is open to standard development. Commercial and industrial uses will require a Conditional Use Permit.

##### **B. Skookumchuck River/Hayes Lake/Fort Borst Lake – Reach CE-02**

The existing commercial developments along Hayes Lake contribute to the hydrology, habitat and water quality issues of this reach area. However, the area is predominantly commercial with direct access to I-5 and vital to commercial growth in Centralia. Therefore, the High-Intensity shoreline environment designation was given to this area to allow the continuation of commercial uses and developments. As the existing developments are significantly remodeled, expanded, etc., the entire development site will be required to meet current stormwater management, critical area ordinance and other requirements. Per SMP section 5.7.B.14(c), a plan for restoration and/or enhancement of ecological functions must be documented and approved prior to allowing any alteration to existing development in this area will be required. This section also prohibits redevelopments and additions from encroaching any further on the OHWM. Any required restoration and/or enhancement work must be completed prior to final approval of the development.

A proposed trail system along Fort Borst Lake and Hayes Lake will create mitigation opportunities as well as guide and restrict pedestrian access to certain areas. Those areas not designated for public access will be utilized for habitat and wetland enhancement.

The remaining portions of the reach area are designated as Shoreline Residential (SR) and Urban Conservancy (UC). The UC area near Harrison Avenue is

Riverside Park and owned by the City. Future development is unlikely but maintenance of the park will occur and public access is provided via a trail. The other UC area is zoned industrial and would require a Conditional Use Permit. The SR area underlying zoning is R:4 low-density residential, which allows single-family residences on larger lots. These areas have the highest potential for future development. The R:4 zone restricts development to 50% of the lot with the remaining 50% being open space/landscaping. The SMP will require a vegetation buffer of 75'; however, CMC Title 16.17.080 will require a buffer of 175' along the river. This buffer must be vegetated and remain natural open space.

C. Plummer Lake – Reach CE-03

There are very few vacant parcels not under state or city ownership in this reach area. As those government owned parcels are highly likely to remain undeveloped and in a natural state, impacts by future development are limited. However, the areas that are under private ownership are primarily residential developments with extensive lawn areas and access along Plummer Lake. There are several areas along the bank that appear to be previous stabilization efforts. Future efforts will be subject to the SMP Chapter 6 and potentially a Conditional Use Permit. There is a small hotel along the south edge of the lake immediately adjacent to I-5. These developments contribute to the runoff and temperature issues at the lake. The public has access to the lake via a boat launch on the north side of the lake and Brick Wagner Park is a small, unmaintained park with picnic tables, access to the water, and other natural areas.

D. Chehalis River – Reach CE-04

The majority of this reach area is vacant land owned by the Lewis County Flood Control District #2 and the City. However, the Port of Centralia and the proposed Centralia Station development is located to the north of the reach area. Baseline levels should be maintained as the parcels with the highest chance of impact are owned by the Flood Control District and the City. Enforcement of the SMP and current floodplain regulations will help ensure no net loss of ecological functions, despite the potential for large commercial developments to the north of this reach area.

E. Salzer Creek – Reach CE-05

This reach area contains both extensive existing commercial development and open space areas. The majority of the existing open space areas are located within the Urban Conservancy shoreline designation and within the SMP flood course. Future development will be limited in those areas and regulated by the SMP, specifically the restrictions of Chapter 5.5.B(7). The existing commercial

development contains extensive impervious surface areas built to outdated standards. Future development will be subject to the SMP and the City is in the process of updating the stormwater standards to include Low Impact Development requirements. The new stormwater standards will be effective in June 2017. Baseline levels should be maintained via the existing vegetation buffers on the vacant land in the SMP Flood Course and development restrictions; however, the existing developments will continue to impact the water quality and habitat areas in this reach until such time as new/substantial improvement developments are subject to the new standards.

**F. Skookumchuck River – Reach CE-06**

This reach area is mainly single family residences on large agricultural lots. Given this, the shoreline environment designation was assigned as Shoreline Residential. There are approximately 50 acres in this reach area. Approximately 13 acres is restricted by the habitat buffer regulations of CMC Chapter 16.20. Contained within those 13 acres are approximately 11 acres of designated floodway and the protections of SMP Chapter 5.5 and CMC Chapter 16.21 will be applicable. The underlying zoning in this reach area is R:2, very low-density residential and development will be limited to 25% of each individual lot with the remaining 75% being open space. Subdivisions are possible to lots of not less than 21,780 sq. ft. Meaning 37 acres could potentially be subdivided allowing for up to 74 new units in this reach area. New subdivision criteria would be regulated by SMP Chapters 5.5, 6.3 and 7.3; and would require the appropriate studies and layout to ensure no net loss of ecological function.

**G. Lakeside Industries Gravel Pit – Reach CE-07**

The Lakeside Industries Gravel Pit is an active mining operation permitted under DNR Reclamation Permit #70010327. The reclamation plan should be complete over a 30-year period beginning in 2010 and includes approximately 6 million cubic yards of clean fill material in three phases. Annual water quality and other reports are submitted for review and approval. The ponds currently provide no recreation or habitat as it is an active mining site. A small wetland mitigation area to the south is monitored yearly and will remain in perpetuity.

## **5.2 Tables on Cumulative Impact**

The following tables detail the applicable regulations that will provide protection measures due to the impacts of the foreseeable future development outlined in Chapter 3.

## TABLES ON CUMULATIVE IMPACT:

<b>Table 5-1 Agricultural Use Cumulative Impacts on Shoreline Environments</b> <b>Applicable Reaches: CE-01, CE-02, CE-04, CE-05, CE-06</b>				
General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
New agricultural uses are not allowed in the SMP Flood course per section 5.5.B(7).  No agricultural activities currently exist inside city limits.	The outer edge of the SED in Reach CE-01 is located outside of the SMP Flood course but new agricultural development is highly unlikely per the Special Use Permit application process for Limited Agricultural Uses per CMC 20.66.065. Agricultural use in CE-06 may be permitted due to the large lot size and surrounding uses; however, the Special Use Permit requirement is applicable.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Altered sediment transport and vegetation reestablishment patterns, and ultimately changing flow patterns.</li> <li>Removal of native vegetation and buffers that provide habitat and filtration.</li> <li>Altered substrate due to increased erosion.</li> <li>Floodplain functions and flows impacted by existing agricultural practices.</li> </ul> <u>Water Quality/Quantity:</u> <ul style="list-style-type: none"> <li>Increased impervious surfaces.</li> <li>Shoreline modifications to protect new or existing structures.</li> </ul>	<ul style="list-style-type: none"> <li>New and/or expanded agricultural activities must be in compliance with the underlying zoning requirements per SMP section 7.3.1.B(4).</li> <li>New agricultural uses are not allowed in the SMP Flood course per SMP section 5.5.B(7).</li> <li>The vast majority of reach CE-01 is Urban Conservancy and SMP Flood Course.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>BMP's will regulate existing agricultural activities to maintain the current shoreline functions.</li> <li>New agricultural activities, per CMC 20.66.065, would require a Special Use Permit and must identify specific procedures for ensuring no net loss of ecological functions.</li> <li>Setback, breach or remove artificial confinement structures. Reduce shoreline armoring and investigate areas for dike removal and reconnection to the floodplain.</li> <li>Improve degraded water quality with emphasis on temperature impairments by increasing riparian shading in tributaries and decreasing width-to-depth ratios.</li> <li>Restore and create off-channel and side-channel habitats.</li> </ul>

<b>Table 5-2 Aquaculture Cumulative Impacts on Shoreline Environments</b>				
<b>Applicable Reaches: All</b>				
<b>Existing Conditions:</b> There are currently no existing aquaculture activities within the shoreline management area.				
General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
There are currently no existing aquaculture activities within the City of Centralia Shoreline Management Area.	Although development is not anticipated or likely, there could potentially be small scale operations permitted.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Altered sediment transport and vegetation reestablishment patterns, and ultimately changing flow patterns.</li> <li>Removal of native vegetation and buffers that provide habitat and filtration.</li> <li>Altered substrate due to increased erosion and cultivation activities.</li> </ul>	<ul style="list-style-type: none"> <li>Per SMP section 7.3.2, studies, documentation, etc. must be provided that ensure no net loss of ecological function. Must also ensure no interference with views, navigational access, recreational uses, etc.</li> <li>Compliance with the mitigation sequence of SMP section 5.4</li> <li>Approval would be regulated by the Conditional Use Permit process which requires review and action on the City permit by the Dept. of Ecology.</li> <li>CMC Title 16 will provide protection and/or mitigation requirements for critical areas and habitat to maintain base levels.</li> </ul>	<ul style="list-style-type: none"> <li>Develop education programs and assist with funding of private projects.</li> </ul>

**Table 5-3 Boating Facilities, Docks & Piers Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: CE-01, CE-02, CE-03, CE-06**

**Existing Conditions:**

A primitive boat launch exists in Reach CE-02 along the Chehalis River at Fort Borst Park.

6 private docks and one boat launch facility currently exist on Plummer Lake in reach CE-03.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Marinas are prohibited in the City of Centralia. Future development would be limited to public and private docks, recreational floats and boat launches.	There are two residential lots along Plummer Lake that could potentially construct their own docks.  Other areas along the Chehalis River and Skookumchuck River may be open to private docks.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Loss or alteration of wetland areas.</li> <li>Alteration/impact to physical conditions of the shoreline.</li> <li>Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>Floodplain functions and flows impacted by fill and developments.</li> <li>Increased use of the shoreline via additional public access areas.</li> </ul> <u>Water Quality/Quantity:</u> <ul style="list-style-type: none"> <li>Increased impervious surfaces and runoff quantity and flow.</li> <li>Shoreline modifications.</li> <li>Increased navigation and public access that</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>Dock size is limited per SMP section 6.9.B(10).</li> <li>Per SMP Table 6-1, docks in any SED other than High Intensity, and all boating facilities, would require review and action by the Dept. of Ecology on a Conditional Use Permit.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Development would require Hydraulic Permit Approval from the Washington Dept. of Fish and Wildlife and will contain provisions for fish and fish habitat protection.</li> </ul> <u>Water Quality/Quantity</u> <ul style="list-style-type: none"> <li>CMC 18.10, Stormwater regulations, for parking and access facilities includes implementation of Low Impact Development (LID) regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> </ul>

		<p>could impact turbidity, etc.</p>	<p><u>Critical Areas:</u></p> <ul style="list-style-type: none"> <li>• Critical areas regulations of CMC Title 16, as adopted in Appendix C of the SMP, protect shoreline functions through mitigation, landscaping and other measures.</li> </ul> <p><u>Shoreline Stabilization:</u></p> <ul style="list-style-type: none"> <li>• Shoreline stabilization requirements of SMP section 6.3 limits new development in areas that will or likely will require stabilization measures.</li> <li>• New development must be located and designed to avoid the need for structural stabilization and limits stabilization methods to the minimum necessary.</li> <li>• Re-development or expansion of non-conforming structures is limited by SMP Chapter 8.</li> <li>• The Shoreline Administrator may require studies, analysis, etc. to ensure no net loss of ecological function for new and/or expansion developments.</li> </ul>	
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**Table 5-4 Commercial Developments Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:** Centralia Outlet Mall along Hayes Lake, medical offices along Chehalis River, hotel at Plummer Lake, commercial uses along the Skookumchuck River, Fairway Shopping Center near Salzer Creek.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Approximately 9% of the entire management area is zoned to allow for commercial uses.	<p>Of that 9%, the vast majority is already developed.</p> <p>Future new commercial development would be limited to Reaches CE-07 and CE-02 in the Reynolds Avenue and Central Blvd. /B Street areas.</p> <p>Reach CE-01 has a very small section of High Intensity SED that is outside of the SMP Flood course. This area is approximately 8 acres but contains potential wetland areas.</p>	<p><u>Habitat/Vegetation Conservation:</u></p> <ul style="list-style-type: none"> <li>Impact to wetland areas and the physical conditions of the shoreline.</li> <li>Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>Floodplain functions and flows impacted by fill and developments.</li> </ul> <p><u>Water Quality/Quantity</u></p> <ul style="list-style-type: none"> <li>Increased runoff and impervious surfaces.</li> </ul>	<p><u>Habitat/Vegetation Conservation:</u></p> <ul style="list-style-type: none"> <li>Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>Per Table 7-1, any commercial use outside of the High Intensity SED would require review and action by Dept. of Ecology on a Conditional Use Permit, and must be water-oriented uses.</li> <li>The expansion and/or remodel of non-conforming structures is limited by the SMP Chapter 8.</li> <li>Redevelopment of existing sites would require compliance with current codes.</li> </ul> <p><u>Critical Areas:</u></p> <ul style="list-style-type: none"> <li>Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> </ul>	<p><u>Habitat/Vegetation Conservation:</u></p> <ul style="list-style-type: none"> <li>Encourages the removal of several fish barriers, particularly along Salzer Creek, as documented by the 2004 Lewis County Conservation District study.</li> </ul> <p><u>Water Quality/Quantity:</u></p> <ul style="list-style-type: none"> <li>CMC 18.10, Stormwater regulations, includes implementation of Low Impact Development (LID) regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> <li>Extension or enlargement of non-conforming uses and structures is prohibited by CMC 20.93.</li> </ul>

**Table 5-5 Filling, Grading and Excavation Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:** Active mining operation at the Lakeside Industries Gravel Pit

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Activity must be associated with an allowed development or use.	The Lakeside operation will continue until reclamation is complete.  Compensatory flood storage developments are highly likely within reaches CE-01 and CE-04 where properties are owned by the Port of Centralia.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Alteration of wetland areas.</li> <li>Alteration/impact to physical conditions of the shoreline.</li> <li>Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>Floodplain functions and flows impacted by fill and developments.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>Per SMP Table 6-1, compensatory storage sites that exceed 500 cubic yards of material will require review and action on a Conditional Use Permit by the Dept. of Ecology.</li> </ul> <u>Critical Areas:</u> <ul style="list-style-type: none"> <li>Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Continued regulation and monitoring of the wetland mitigation area on the south end of the site.</li> </ul> <p>Water Quality/Quantity:</p> <ul style="list-style-type: none"> <li>CMC 18.10, Stormwater regulations, include implementation of Low Impact Development (LID) regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> </ul>

**Table 5-6 Forest Practices Cumulative Impacts on Shoreline Environments****Applicable Reaches: All****Existing Conditions:**

The city is mostly urban type developments; however, forested areas do exist along the Chehalis River in Reach CE-01 and small areas along the Skookumchuck River in CE-02.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Forest Practice applications would be deferred to DNR for permitting. If construction of roads, etc. triggers the requirement to obtain a shoreline substantial development permit, all provisions of the SMP will apply.	There are limited areas where forest practices could potentially impact the shoreline due to the majority of the MA containing mostly urban characteristics; with the exception of reach CE-01. Reach CE-01 contains areas of forested land.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Loss or alteration of wetland areas.</li> <li>Alteration/impact to physical conditions of the shoreline.</li> <li>Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>Impact to floodplain functions and flows.</li> </ul> <u>Water Quality/Quantity:</u> <ul style="list-style-type: none"> <li>Increased impervious surfaces and runoff quantity and flow.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>7.3.5 B.1 limits forest practices, not related to land conversion, to areas outside buffers and conservation areas.</li> <li>Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> </ul> <u>Critical Areas:</u> <ul style="list-style-type: none"> <li>Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> </ul> <p>CMC 16.20.080 requires a minimum 150'-175' buffer from the OHWM for habitat protection.</p>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>CMC 16.17 will protect the wetland and floodway areas contained within reach CE-01.</li> <li>If the project is not a forest practices conversion, FPA regulations under DNR jurisdiction will apply.</li> </ul>

**Table 5-7 Industrial Developments Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: CE-01, CE-02, CE-05, CE-07**

**Existing Conditions:** Active mining operation at the Lakeside Industries Gravel Pit , industrial sites in the Port of Centralia.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Industrial development is limited to the High Intensity SED and a Conditional Use Permit is required in the Urban Conservancy SED. Use must be compatible with the underlying zoning.	The Lakeside operation will continue until reclamation is complete. Development within the Port of Centralia is highly likely.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Alteration of wetland areas.</li> <li>• Alteration/impact to physical conditions of the shoreline.</li> <li>• Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>• Floodplain functions and flows impacted by fill and developments.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>• Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing and grading are limited to the minimum extent necessary.</li> <li>• Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>• Per SMP Table 7-1, sites outside of the High Intensity SED will require review and action on the Conditional Use Permit by the Dept. of Ecology.</li> <li>• Redevelopment of non-conforming uses is limited by SMP Chapter 8.</li> </ul> <u>Critical Areas:</u> <ul style="list-style-type: none"> <li>• Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Zoning regulations of CMC Title 20 is extremely limiting for industrial development outside of the M zones. Only 14% of the management area is located within the M zones.</li> <li>• CMC 18.10, Stormwater regulations, include Low Impact Development (LID) regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> </ul>

			<p>Water Quality:</p> <ul style="list-style-type: none"><li>• 7.3.6 B.7 requires an emergency plan be in place to control/eliminate potential water pollution impacts from spills/leaks.</li></ul>	
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**Table 5-8 Mining Developments Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: CE-07 Lakeside Industries Gravel Pit**

**Existing Conditions:** Active mining operation at the Lakeside Ponds

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
The Lakeside Industries Gravel Pit is the only active mining site in the Centralia MA.	The Lakeside operation will continue until reclamation is complete. The area is designated as Aquatic and High Intensity. The DNR Reclamation Permit plans for filling of the ponds in three phases. Reclamation is planned to be complete within 30 years of commencing filling in 2011.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Alteration of wetland areas.</li> <li>• Alteration/impact to physical conditions of the shoreline.</li> <li>• Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>• Floodplain functions and flows impacted by fill and developments.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Per SMP Table 7-1, mining sites are prohibited except in locations where mining activity had previously taken place. Re-occupancy as an active mine once reclamation is complete will require review and action on a Conditional Use Permit by the Dept. of Ecology.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• The site contains a wetland mitigation site that is regularly monitored and reported on by Lakeside Industries. CMC Title 16.17 will require continued preservation.</li> </ul>

**Table 5-9 Parking Developments Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:** Commercial uses along Hayes Lake, Plummer Lake, Medical/commercial uses along the Chehalis River, Commercial uses along the Skookumchuck River. Residential areas along the Skookumchuck River.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Any new parking area must be associated with an approved use.	Most likely to be associated with residential uses in reach CE-02 and CE-06, or commercial uses in CE-02 and CE-05	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Alteration of wetland areas.</li> <li>Alteration/impact to physical conditions of the shoreline.</li> <li>Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>Floodplain functions and flows impacted by fill and developments.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>Per SMP Table 7-1, parking lots must be associated with an approved use. Stand-alone parking lots are prohibited.</li> </ul> <u>Critical Areas:</u> <ul style="list-style-type: none"> <li>Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>CMC 18.10, Stormwater regulations, include regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> </ul>

**Table 5-10 Recreational Developments Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:** Picnic, sports fields and access areas in Fort Borst Park and Riverside Rotary Park. Picnic and access areas at Brick Wagner Park, Bridge Street Park, Hayes Lake and Wilbur Parkins Park.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Appropriate recreational uses will be encouraged.	There is a conceptual plan for a bike/walk path along the Skookumchuck River and Hayes Lake that will connect to the existing Airport Road bike/walk path that will eventually connect the cities of Centralia and Chehalis. SMP Chapter 5.6 generally requires the creation of public access opportunities for all commercial, industrial and publicly funded projects. The likelihood for future development is high.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Alteration of wetland areas.</li> <li>• Alteration/impact to physical conditions of the shoreline.</li> <li>• Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>• Floodplain functions and flows impacted by fill and developments.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>• Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>• Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>• SMP section 5.6 allows the waiver of public access if damage may occur that can't be mitigated.</li> </ul> <u>Critical Areas:</u> <ul style="list-style-type: none"> <li>• Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> <li>• 7.3.9 B contains minimization measures for pedestrian paths and bridges</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• CMC Title 16.16, 16.17 and 16.20 will require maintenance of existing critical areas and enhancement of existing areas for new projects. Some remodel/addition projects may also trigger enhancement and/or creation of public access areas that meet current code requirements for environment protection.</li> <li>• The China Creek Restoration project proposes to create stream meanders, fish and wildlife habitat, wetlands and flood storage ponds. The project is located in Lewis County, but will enhance the quality and quantity of waters downstream and will reduce flooding along China Creek inside city limits.</li> </ul>

**Table 5-11 Residential Developments Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:** Scattered developments in all reach areas, larger concentrations in reach CE-02.

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
Approximately 46% of the shoreline jurisdiction is zoned for residential use.	The largest number of parcels available for development occur in reaches CE-02 and CE-06. Development is highly likely in these 2 reach areas as residentially zoned land, not in the SMP Flood course, is very limited in all other reaches.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Alteration of wetland areas.</li> <li>• Alteration/impact to physical conditions of the shoreline.</li> <li>• Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>• Floodplain functions and flows impacted by fill and developments.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>• Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>• Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>• Per SMP Table 7-3, sites must be a minimum of 75' from the OHWM.</li> <li>• 7.3.10 B limits the creation of lots that would require structural stabilization or increase flood hazard or erosion; habitat areas, such as wetlands and streams, are to be protected in a separate tract.</li> </ul> <u>Critical Areas:</u> <ul style="list-style-type: none"> <li>• Critical areas regulations contained in Appendix C</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Zoning regulations of CMC Title 20 limit the land area of each lot that may be disturbed by development. The average being 54% of the lot with 46% remaining open landscaped space.</li> <li>• CMC Title 16.20 requires a 150' – 175' setback from the OHWM for habitat protection.</li> <li>• CMC 18.10, Stormwater regulations, include regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> </ul>

			protect shoreline functions through mitigation, landscaping and other measures.	
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**Table 5-12 Transportation Facilities Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:**

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
New transportation facilities must be associated with an approved structure/use and would be subject to all SMP requirements.	New and/or expanded facilities are likely in the High Intensity SEDs.	<p><u>Habitat/Vegetation Conservation:</u></p> <ul style="list-style-type: none"> <li>• Alteration of wetland areas.</li> <li>• Alteration/impact to physical conditions of the shoreline.</li> <li>• Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> <li>• Floodplain functions and flows impacted by fill and developments.</li> </ul>	<p><u>Habitat/Vegetation Conservation:</u></p> <ul style="list-style-type: none"> <li>• Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>• Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>• Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>• SMP section 7.3.12 required least invasive, most direct route feasible.</li> </ul> <p><u>Critical Areas:</u></p> <ul style="list-style-type: none"> <li>• Critical areas regulations contained in Appendix C protect shoreline functions through mitigation, landscaping and other measures.</li> </ul>	<p><u>Habitat/Vegetation Conservation:</u></p> <ul style="list-style-type: none"> <li>• CMC 18.10, Stormwater regulations, include regulations that greatly encourage pervious surfaces and require treatment of runoff through an engineered system.</li> </ul>

**Table 5-13 Utilities Cumulative Impacts on Shoreline Environments**

**Applicable Reaches: All**

**Existing Conditions:**

General	Likelihood of Foreseeable Future Development	Potential Cumulative Impacts	Effect of Provisions	
			Protection via the SMP regulations	Beneficial Effects of Restoration Plan and other regulatory programs
	Development in the northern portion of reach CE-01, and along Reynolds Avenue in reach CE-02, in the High Intensity SED, are likely to disturb the shoreline jurisdiction.	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Alteration of wetland areas.</li> <li>• Alteration/impact to physical conditions of the shoreline.</li> <li>• Loss of native vegetation buffers, trees, etc. that provide habitat, shade, etc.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• Type and amount of vegetation removal in the shoreline jurisdiction are regulated under SMP section 5.7: Vegetation and Critical Areas Conservation,</li> <li>• Chapter 6: Modifications Policies and Regulations and Section 6.8: Clearing, Grading, and Fill. Clearing and grading are limited to the minimum extent necessary.</li> <li>• Mitigation sequencing of Section 5.4 provides methods for avoidance, replacement and/or enhancement of adversely impacted functions.</li> <li>• Per SMP section 7.3.13, Utility facilities and transmission lines shall design safeguards to ensure no long-term damage to adjacent or downstream environments in the event of an accident, failure, etc.</li> </ul>	<u>Habitat/Vegetation Conservation:</u> <ul style="list-style-type: none"> <li>• CMC Title 16 will provide protection and/or mitigation requirements for critical areas and habitat to maintain base levels.</li> </ul>

## CHAPTER 6

### NET EFFECT ON ECOLOGICAL FUNCTIONS AND CONCLUSIONS REGARDING NO NET LOSS

Based on the combination of all applicable local, state and federal regulations, it is highly likely that the implementation of the SMP will be sufficient to ensure no net loss of shoreline ecological functions given the reasonably foreseeable development in the shorelines of the Centralia management areas. The SMP provides a level of protection for shoreline ecological functions through strategies including the shoreline environment designations, development requirements and restrictions, vegetated buffers, and mitigation sequencing beginning with avoidance and minimization of impacts and mitigation where impacts are unavoidable.

The SMP update process has afforded the City of Centralia the opportunity to develop a new system of goals, policies, regulations, environment designations and the creation of the SMP Flood Course designation, which will ultimately protect, and potentially enhance the shoreline areas. With the creation of the SMP Flood course designation, the jurisdiction of the SMP is expanded beyond it's previous boundaries. This new Program is consistent with other regulations, such as the Comprehensive Plan, Zoning Ordinance, and Critical Areas Ordinance. Paired with the SEPA process and CMC regulations, this new Program will ensure no net loss of ecological function and will hopefully result in the enhancement of current baseline functions.

In addition to these regulations, the City of Centralia is currently participating in a Mitigation Opportunities Plan in conjunction with the Chehalis River Basin Flood Authority and FEMA, to further flood mitigation and open space conservation efforts by retrofitting existing construction and pursuing acquisition of flood prone properties. The City is also actively pursuing two phases of a China Creek Meander Restoration and Flood Storage project. The Shoreline Restoration Plan has identified the most beneficial opportunities for the City, public and private agencies/person(s) to pursue further restoration efforts through the removal of fish barriers, enhancement of vegetation, etc. to restore and/or improve ecological functions.

The updated SMP regulations are more restrictive than past regulations and provide the backbone for mitigation and enhancement success when development may result in an adverse impact. The SMP provides means for enforcement, monitoring and reporting on mitigation projects to ensure their success over the long term.

Based on the requirements of existing regulations, coupled with the new SMP and creation of the SMP Flood Course designation, the cumulative impacts of development over time should not result in a net loss of ecological functions and values within the City of Centralia management area. Should unanticipated impacts occur the SMP has provisions for mitigation of those adverse issues. An improvement of overall function and value is anticipated and the City will work diligently to ensure no net loss.

## CHAPTER 7

### REFERENCES

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## APPENDIX A – REACH MAP

