

# DRAFT CUMULATIVE IMPACTS ANALYSIS REPORT

## CITY OF RICHLAND SMP UPDATE

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City of Richland

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## LIST OF ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
City	City of Richland
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
HPA	hydraulic project approval
IAC	Inventory, Analysis and Characterization
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OHWM	ordinary high water mark
RCW	Revised Code of Washington
RR	regulatory reaches
SMA	Shoreline Management Act
SMP	Shoreline Master Program
UGA	urban growth area
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WQC	Water Quality Certification

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# 1 INTRODUCTION

## 1.1 Report Purpose

The City of Richland (City) received grant funding from the Washington State Department of Ecology (Ecology) to update the existing Shoreline Master Program (SMP). A primary purpose of this effort is to develop an SMP that complies with Chapter 90.58 of the Revised Code of Washington (RCW), the Shoreline Management Act (SMA), and Ecology's 2003 SMP Guidelines (Chapter 173-26 Washington Administrative Code [WAC]).

The guidelines require the City to demonstrate that the updated SMP will result in no net loss to shoreline ecological functions during implementation. Developing this conclusion requires an examination of projected future development, how this development may risk ecological function, and regulatory and non-regulatory actions, including restoration plans, which can influence this risk.

WAC 173-26-201(2)c provides this guidance for protection of ecological functions of shorelines:

*“Master programs shall contain policies and regulations that assure, at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources. To achieve this standard while accommodating appropriate and necessary shoreline uses and development, master programs should establish and apply:*

- *Environment designations with appropriate use and development standards; and*
- *Provisions to address the impacts of specific common shoreline uses, development activities and modification actions; and*
- *Provisions for the protection of critical areas within the shoreline; and*
- *Provisions for mitigation measures and methods to address unanticipated impacts.*

*When based on the inventory and analysis requirements and completed consistent with the specific provisions of these guidelines, the master program should ensure that development will be protective of ecological functions necessary to sustain existing shoreline natural resources and meet the standard. The concept of "net" as used herein, recognizes that any development has potential or actual, short-term or*

*long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.*

*Master programs shall also include policies that promote restoration of ecological functions, as provided in WAC 173-26-201 (2)(f), where such functions are found to have been impaired based on analysis described in WAC 173-26-201 (3)(d)(i). It is intended that local government, through the master program, along with other regulatory and nonregulatory programs, contribute to restoration by planning for and fostering restoration and that such restoration occur through a combination of public and private programs and actions. Local government should identify restoration opportunities through the shoreline inventory process and authorize, coordinate and facilitate appropriate publicly and privately initiated restoration projects within their master programs. The goal of this effort is master programs which include planning elements that, when implemented, serve to improve the overall condition of habitat and resources within the shoreline area of each city and county.”*

Combined with the Restoration Plan (Anchor QEA 2014), the Cumulative Impacts Analysis Report is the final analysis step for the City’s comprehensive SMP update. This report includes a brief introduction to the City; a more detailed discussion of the setting is available through the Inventory, Analysis and Characterization (IAC) Report (Anchor QEA 2013). Also included is a discussion of anticipated development within the next 20 years. This is based on the land capacity analysis presented in the IAC Report, which is further refined based on the foreseeable rate of development within each shoreline reach over the next 20 years. Potential impacts to ecological functions from this development are identified, along with provisions to address these impacts. Finally, based on all of these inputs, the anticipated future performance for each shoreline area is addressed. Overall, the report will serve to

demonstrate that future development under the proposed SMP will result in no net loss of shoreline ecological function in the City.

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## 2 EXISTING CONDITIONS

The City is located at the confluence of the Columbia and Yakima Rivers within Benton County in the southeastern portion of Washington State. The segments of the Yakima and Columbia rivers around the City are located in a wide valley comprised primarily of alluvial soils with relatively high infiltration rates. Within upland areas, particularly areas farther from the confluence of the river, outburst flood deposits of gravel occur as well.

The City falls within the Central Basin region of Washington, which has the lowest precipitation rates within Washington State. High temperatures in January can range from 35 to 45 degrees Fahrenheit (1.6 to 7.2 degrees Celsius [ $^{\circ}\text{C}$ ]), with low temperatures between 20 to 30 degrees (-6.7 to -1.1  $^{\circ}\text{C}$ ). Summer high temperatures are usually in the high 80s to low 90s, with low temperatures in the high 50s (WRCC 2012).

The Yakima River is a major surface water resource for the planning area; the river's hydrology in the City is affected by the Yakima Project and other irrigation water withdrawals. The Yakima Project includes a reservoir system that stores natural flow in the upper Yakima River and Naches River basins for release during high demand periods. The storage-and-release cycle causes the Yakima River in the planning area to be regulated with flows higher than natural in the late summer and fall and lower than natural in the spring and early summer.

The Columbia River is the other major surface water resource in the City. The portion of the Columbia River within the City is part of the upstream portion of Lake Wallula. Lake Wallula was created from the impoundment of the Columbia River by McNary Dam. Because the planning area is within the Lake Wallula portion of the Columbia River, water levels are generally stable. Columbia River floodplain levels are also confined due to river regulation. The upper part of the City Urban Growth Area (UGA) is just below the Hanford Reach of the Columbia River, which is the last free-flowing stretch of the Columbia River.

The City is part of the Tri-Cities Metropolitan Area in southeast Washington State and includes 25,197 acres in the current incorporated limits and an additional 5,433 acres in the

UGA. The 5.8 square miles in the City and the associated UGA comprise about 5 percent of the 111 square miles designated UGA in the Benton County Comprehensive Plan.

Residential use comprises about 23 percent of the land area, industrial and business parks about 20 percent, commercial and retail about 5 percent, natural open space about 8 percent, and developed open space just more than 7 percent. The natural open space system includes most of the Yakima River and Columbia River shorelines, islands, greenways, and designated areas within residential developments.

### 3 REASONABLY FORESEEABLE FUTURE DEVELOPMENT AND POTENTIAL IMPACTS TO ECOLOGICAL FUNCTION

#### 3.1 Foreseeable Future Development

The City has a population of more than 51,150 as of 2012. From 2010 to 2013, the projected population growth is more than 6 percent for the City (OFM, 2012). With the positive population trends, additional development within the City is anticipated throughout the next 20 years and is summarized in Table 1. Table 1 presents a number of development indicators and details for each shoreline reach.

- **Land Capacity** – Presents the amount of developable acres and corresponding number of residential units, which are based on existing land use designations.
- **Anticipated Development** – Includes the anticipated residential, commercial, or recreational development in the next 20 years.
- **Environment Designations** – Identifies environment designations for each reach that are tied to the anticipated development.

**Table 1  
City Shorelines**

<b>Richland - Reaches 1 and 2 Regulatory Reaches (RR) A and B, Figure 1 (IAC Figure 1)</b>	
<b>Land Capacity: 0 Developable Acres</b>	
<b>Environment Designations</b>	<b>Anticipated Development</b>
Conservancy	None
<b>Richland - Reach 3 RR C through G, Figure 1 (IAC Figures 2-6)</b>	
Land Capacity: 20 to 35 Developable Acres (outside floodway)/5 Rural (residential) units and 10 single-family residential units	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Conservancy [Southern tip of Subreach 3a, majority of 3b and 3c; RR E, F, and G]	Limited development at W.E. Johnson Park, including restrooms and parking for the equestrian and archery areas, trail extensions, and equestrian corrals and covered areas (City of Richland 2012a).
Residential [Small upper slope segments of Subreach 3c; RR G]	Constrained by existing development, topography, and land ownership. Limited potential at southern edge of Reach at top of slope between existing residential and multi-family.

Reasonably Foreseeable Future Development and Potential Impacts to Ecological Function

Rural (Subreaches 3a and a portion of 3b; RR C & D)	Constrained by extensive floodway area and existing development. Limited additional rural residential/small-acreage farm or livestock development possible.
<b>Richland - Reach 4</b> <b>RR H through southern half of N, Figure 1</b> (IAC Figures 7-8)	
Land Capacity: 0 Developable Acres	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Natural [Southern portion of Subreach 4c; RR J]	None
Conservancy [Subreach 4a, 4b and northern portion of Subreach 4c; RR H, I and southern half of N]	None
<b>Richland - Reach 5</b> <b>Western portion of RR K, Figure 1</b> (IAC Figure 6)	
Land Capacity: 0 Developable Acres	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Natural	None
Conservancy	None
<b>Richland - Reach 6</b> <b>Eastern portion of RR K and RR L and M, Figure 1</b> (IAC Figures 7-8)	
Land Capacity: 10 Developable Acres	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Natural [Majority of Subreach 6a; RR K]	None
Conservancy [Subreach 6b, lower slope and Bateman island portions of 6c; RR K (bridge portion) and slope of RR L and Bateman Island portion of RR M]	None
Residential [Small portion of Subreach 6a; RR K]	None (located within right of way of canal)
Recreation (Eastern portion of Subreach 6c; and RR M)	Limited recreation development associated with Columbia Park West Master Plan including marina overflow parking lot, and small stage near a proposed water access and pocket beach (City of Richland 2010).
<b>Richland - Reach 7</b> <b>RR U, Figure 1</b> (IAC Figure 9)	
Land Capacity: 0 Developable Acres	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Natural	None
<b>Richland - Reach 8</b> <b>RR R through T, Figure 1</b> (IAC Figure 10)	
Land Capacity: 3 to 5 Developable Acres	

<b>Environment Designation</b>	<b>Anticipated Development</b>
Industrial Conservancy [Subreach 8a; RR T]	Port of Benton related industrial development at and adjacent to existing development. Rest of area to remain as open space.
Natural [Portions of Subreaches 8b, 8c and entire 8f; Portions of RR S]	None
Conservancy [Small lower bank portions of Subreaches 8b and 8c; small portions of RR S and T]	None
Recreation [Portion of Subreach 8c and entire Subreach 8d; portion of RR S]	Limited recreation-related development associated with the WSU Tri Cities campus, this will include one boat launch (hand launch) (WSU 2008).
Residential [Small upper bank portions of Subreaches 8b and 8c, entire Subreach 8e; small portions of RR S and T]	Up to eight additional single-family residential units along trail and south of existing residential development (Subreach 8b). Additions and other improvements on existing residential development in Subreach 8e (and 9a for below), including some new docks and access to these docks. The McNary Shoreline Management Plan Environmental Assessment notes that 27 new docks will be allowed for the McNary pool (including, Richland, Pasco, Kennewick, and portions of Benton and Franklin County). Additionally the existing 49 docks within the region will also need to be upgraded in the future. Within the City, this reach will likely include the majority of new over-water structures; for this analysis we have assumed eight new docks (USACE 2011).
<b>Richland - Reach 9 RR P and Q, Figure 1</b> (IAC Figure 11)	
Land Capacity: 41 Developable Acres	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Recreation [Subreaches 9b, 9c, lower bank of 9d, and 10a; RR P]	Limited recreation-related development, such as additional benches installed and other minor improvements made in previously disturbed areas.
Residential [Upper bank of Subreach 9d; RR P]	None (completely built out)
Natural [Subreaches 9a, 9e, and 9f; RR Q and island portions of P]	None
<b>Richland - Reach 10 RR O and P, Figure 1</b> (IAC Figure 12)	
Land Capacity: 2 Developable Acres	
<b>Environment Designation</b>	<b>Anticipated Development</b>
Conservancy [Small portion of Subreach 10b; small portion of RR O]	None
Recreation [Subreach 10a and northern third of Subreach 10c; RR P, and northern half of RR N]	Limited recreation-related development, including updates to tennis courts (outside of shoreline jurisdiction), lighting, parking, and improvements to Amon Park Drive, a portion of which falls within shoreline jurisdiction (City of Richland 2012).
Waterfront [Subreach 10b; RR O]	Limited commercial development. Development of the 2-acre

	<p>vacant site south of the existing Courtyard by Marriott Hotel is likely to take place in accordance with previously approved plans for a mixed use development. The 5-acre Shilo Rivershore Hotel is one of the older developments along the shoreline and is most likely to be redeveloped in the future.</p>
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Notes:

IAC – Inventory, Analysis, and Characterization Report

RR – Regulatory Reaches

WSU – Washington State University

### 3.2 Potential Impacts to Ecological Function from Development

Conventional development can lead to negative impacts to the ecological function of shorelines. The degree of impacts can be tied to the intensity of development, the intensity of human use, the buffer distance between upland development and the shoreline, whether shoreline features such as over-water structures and bank hardening are included, and the maintenance operation procedures and materials used. Potential impacts are described below based on the categories of Hydrology, Sediment, Water Quality, and Habitat.

**Hydrology:** Impervious surfaces affect subsurface storage and flows; shoreline hardening can affect subsurface water supply cycle impacting hyporheic exchange. Overwater structures can affect surface flow dynamics (creating eddies, which are localized changes in water velocity).

**Sediment:** Sheet flow from impervious surfaces can increase soil erosion and impact the natural nutrient cycles. Vegetation removal also increases soil erosion. Shoreline hardening can affect the sediment supply cycle impacting hyporheic exchange; it can also increase wave energy and thus soil/sediment erosion at the toe of slope and transfer energy downstream/down current of the hardened area. Wakes from recreation vessels can further exacerbate soil and sediment erosion issues.

**Water Quality:** Impervious surfaces affect nutrient cycling and run-off from these surfaces may include toxins or pathogens affecting water quality. Vegetation alterations have similar impacts and may also increase water temperatures due to the loss of overhanging canopies. Landscaped areas where fertilizers, herbicides, and/or pesticides are used, contribute to harmful toxin inputs into the aquatic environment. At boat ramps, gasoline and other

chemicals associated with vessel and truck operations and maintenance can potentially enter the aquatic environment.

**Habitat:** Development, including shoreline infrastructure, can replace habitat patches and fragment patches and/or corridors. Disturbance may increase invasive wildlife and plant species limiting resources for native species. Over-water structures alter sediment, organic material pathways, and the photic zone. Aquatic fill can affect spawning habitat, and shoreline hardening may replace variable sized nearshore sediment materials with large homogenous substrates less conducive to threatened and endangered aquatic species. Artificial light and increased noise can disturb native wildlife species.

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## **4 PROTECTION PROVISIONS OF THE PROPOSED SMP AND ESTABLISHED REGULATION**

The City's SMP will work in conjunction with other city, state, and federal regulations and programs, which aim to protect ecological resources and protect the health and well-being of citizens. The following section summarizes the critical area, state and federal regulations, restoration plans, and also describes activities that will be exempt from shoreline development permits that are administered through the SMP.

### **4.1 Critical Area Protection and Mitigation**

The City has sensitive areas regulations for wetlands, geologically hazardous areas, and fish and wildlife habitat conservation areas. Existing regulations provide provisions for the protection and mitigation of environmentally sensitive areas within the City's shoreline jurisdiction. The Sensitive Areas Code also describes general mitigation requirements, including avoiding, minimizing, rectifying, or compensating for adverse impacts to these areas or their buffers.

### **4.2 Beneficial Effects of Established Regulation and Recreational Land Management Agreement**

Certain state and federal agencies have jurisdiction over areas within the City's shoreline jurisdiction. Development thresholds that commonly lead to agency consultation include proposals that may: impact federally listed fish or wildlife, wetlands, streams; affect the floodplain or floodway; or include clearing and grading of land. Additionally, the City leases and manages land owned by the U.S. Army Corps of Engineers (USACE) and complies with provisions to protect and manage resources on these lands.

The updated SMP regulations are meant to be consistent with and work in concert with these existing state and federal regulations:

- **Hydraulic Project Approval (HPA)** – The HPA is administered by the Washington Department of Fish and Wildlife (WDFW). Any work that uses, diverts, obstructs, or changes the natural flow of beds or banks of state waters is subject to WDFW regulation and could require HPA approval. This could include any projects within

the shoreline jurisdiction that require construction below the ordinary high water mark (OHWM) of lakes, rivers, and streams. This could also include projects that propose creating new impervious surfaces that would increase stormwater runoff to the waters of the state.

- **National Pollutant Discharge Elimination System (NPDES)** – NPDES permits are administered by Ecology. Any activity that results in the discharge of wastewater to surface water from industrial facilities to municipal wastewater treatment plants requires a NPDES permit. In addition, activities that result in stormwater discharge from industrial facilities, construction sites larger than five acres, or municipal stormwater systems that serve over 100,000 people require a NPDES permit.
- **Clean Water Act Section 404 Permit (Section 404)** – The federal Clean Water Act provides the regulatory structure that authorizes the discharge of pollutants from point sources to waters of the United States. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into the water of the United States, including wetlands. The U.S. Army Corps of Engineers administers and enforces the 404 permit, including individual permit decisions and jurisdictional determinations.
- **Clean Water Act Section 401 Water Quality Certification (Section 401)** – Section 401 of the Clean Water Act requires that activities under Section 404 meet the state water quality standards. Ecology reviews and certifies that a proposed project meets the state’s standards with the issuance of the Section 401 Water Quality Certification (WQC). The WQC is required for all general and individual Section 404 permits.
- **Section 10 Rivers and Harbors Act (Section 10)** – In conjunction with the Section 404 permit, USACE also administers the Section 10 permit. All projects and activities that take place in navigable waters of the United States are subject to Section 10.
- **Endangered Species Act (ESA) Compliance** – The ESA serves to protect and recover threatened and endangered species and the habitat that the species depend upon. The National Oceanic and Atmospheric Administration (NOAA) Fisheries and U.S. Fish and Wildlife Service (USFWS) jointly administer ESA compliance. Projects that are associated with federal funding or that require approvals for activities that may affect ESA listed species will trigger compliance.

Additionally, the City is in the process of developing and implementing a vegetation management plan for City parks and recreation areas, including developed and undeveloped

lands (in coordination with USACE) that protects ecological functions and will result in no net loss of these functions through operations, maintenance and restoration actions in undeveloped areas. This plan includes integrated vegetation management for control of invasive weeds and replacing existing invasive species with native or compatible species.

### **4.3 Restoration Opportunities**

The SMP objective is to maintain no net loss of ecological shoreline functions necessary to sustain shoreline natural resources. It also should aim to improve the shoreline natural resources through restoration planning. Many groups are involved in shoreline restoration and protection in the region containing the City, including the federal and state government, the Benton Conservation District, and local cities and towns. A list of the key groups and is included below in alphabetical order. This is intended to be a list of key parties and may not name all groups that have contributed to shoreline restoration or protection in the past and may in the future, as there may be others that arise or that Anchor QEA is unaware of at this time.

- Benton Conservation District
- City of Richland Parks and Recreation Department
- Ducks Unlimited
- Ecology
- Mid-Columbia Fisheries Enhancement Group
- NOAA Fisheries
- Pheasants Forever
- Tapteal Greenway
- The Nature Conservancy
- U.S. Army Corps of Engineers
- U.S. Bureau of Reclamation
- U.S. Department of Agriculture
- USFWS
- WDFW
- Washington State Conservation Commission
- Washington State Department of Natural Resources
- Washington State Recreation and Conservation Office (RCO)

- Washington Trout
- Yakama Nation

While most restoration plans and programs from the SMP jurisdictional area address large-scale direction and management, there is a small set of actions that are named or planned for specific areas. Table 2 lists these locations and opportunities, and includes the source document or project proponent, as well as the impairment to be addressed and the key benefits to ecological function expected as a result of the project implementation. Projects have been re-ordered in this table from the list of projects in the City's SMP Restoration Plan (Anchor QEA 2014) to match chronological order of reaches, but the project number has remained consistent with the Restoration Plan.

**Table 2**  
**Site-specific Restoration and Protection Opportunities in Richland**

	Site	Restoration/Protection Opportunities	Priority <sup>1</sup>	Source	Key Impairments <sup>2</sup>	Key Benefits to Ecological Functions <sup>2</sup>
14	Gravel mining area south of I-182 and west of SR240 along Carrier Road - Reach 4	Enhance wetland habitat and riparian buffers	Moderate	SMP public visioning workshop 2/13/2013; also SIAC	Reduced water storage and reduced filtration of sediment, nutrient-, toxin-, or pathogen-laden water	Increased subsurface infiltration and flow, protect surface water quality
					Habitat loss	Increased riparian vegetation recruitment and habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing
16	South end of Riverside Drive along irrigation canal - Reach 5	Enhance riparian and upland habitat along shoreline slope near canal	Moderate	SIAC	Habitat loss	Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration
						Riparian vegetation recruitment
1	Bateman Island - Reach 6	Coordinate recreation use management to concentrate riparian, shoreline, and shallow aquatic impacts	Moderate	SMP public visioning workshop 1/23/2013	Habitat loss - riparian and wetland	Riparian vegetation recruitment for native terrestrial species - foraging/breeding/nesting habitat
						Protections for temperature/dissolved oxygen conditions and protection against toxin/pathogen addition
		Remove invasives and replace with native vegetation <sup>3</sup>	Moderate	SIAC, SVMP	Habitat loss	Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration
						Riparian vegetation recruitment
Evaluate options for breaching causeway for protection of Bateman Island and reconnection of Yakima River flow	Very High	SIAC	Habitat loss and fragmentation	Habitat protection for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing		
				Restricts water movement	Improved habitat connectivity and sediment delivery processes	
17	Irrigation canal parallelling Columbia Park Trail - Reach 6	Enhance riparian and upland habitat along shoreline slope near canal	Moderate	SIAC	Habitat loss	Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration
						Riparian vegetation recruitment
2	Columbia Point South Trail System - Reach 6	Coordinate recreation use management to concentrate riparian, shoreline, and shallow aquatic impacts	Moderate	SMP public visioning workshop 1/23/2013	Habitat loss (riparian and wetland)	Riparian vegetation recruitment for native terrestrial species - foraging/breeding/nesting habitat
						Protections for temperature/dissolved oxygen conditions and protection against toxin/pathogen addition
						Reductions in soil erosion
4	East city limits to west side of Columbia Park West - Reach 6	Set back road from current location; enhance riparian zone along shoreline by removing concrete rubble and retaining wall (replace with boulders), and removing Russian Olive and other invasive species, and replacing with native riparian vegetation <sup>3</sup>	High	CPWMP; SIAC; SVMP	Habitat loss	Increased habitat for terrestrial species - foraging/breeding/nesting/migration
					Sediment and organic material cycle disruption	Riparian vegetation recruitment
						Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration
5	West side of Columbia Park West to Wye Boat Launch - Reach 6	Remove Russian Olive and other invasive species, and replace with native riparian vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration
						Riparian vegetation recruitment
6	Wye Boat Launch to SR 240 (Wye Levee) - Reach 6	Bank stabilization using soft-engineering techniques that also increase habitat functions. Remove Russian Olive and other invasive species, and replace with native riparian vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing
						Riparian vegetation recruitment

	Site	Restoration/Protection Opportunities	Priority <sup>1</sup>	Source	Key Impairments <sup>2</sup>	Key Benefits to Ecological Functions <sup>2</sup>
7	Columbia Point South to I-182 Bridge - Reach 6	Remove Russian Olive and other invasive species, and replace with native vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
15	Columbia River parks (all, particularly north of Howard Amon Park) - Reach 7-10	Enhance riparian zone along shoreline in areas not frequently used	Moderate	SMP public visioning workshop 2/13/2013	Habitat loss	Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration Riparian vegetation recruitment
13	Snyder Street to Ferry Street - Reach 8 & 9	Remove Russian Olive and other invasive species, and replace with native riparian and upland vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
11	North end of Haines Street levee to sand volleyball courts in Leslie Groves Park - Reach 9	Remove Russian Olive and other invasive species, and replace with native riparian and upland vegetation in clustered areas while providing view corridors and water access at bench locations <sup>3</sup>	Medium	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
12	Sand volleyball courts in Leslie Groves Park to Snyder Street - Reach 9	Remove Russian Olive and other invasive species, and replace with native riparian and upland vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
8	I-182 Bridge to Bradley Landing - Reach 10	Remove Russian Olive and other invasive species, and replace with native riparian vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
9	Bradley Boulevard parking lot to south end of Howard Amon Park - Reach 10	Bank stabilization using soft-engineering techniques that also increase habitat functions. Remove Russian Olive and other invasive species, and replace with native upland and riparian vegetation <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
10	Howard Amon Park - Reach 10	Bank stabilization from boat launch to north end of park using soft-engineering techniques that also increase habitat functions. Remove aged, diseased, and safety hazard trees over time and replace with native trees <sup>3</sup>	High	SVMP	Habitat loss	Increased native riparian habitat for terrestrial and aquatic species - foraging/breeding/nesting/migration/rearing Riparian vegetation recruitment
3	Marina Vista Estates - Reach 10	Enhance riparian zone along shoreline	Moderate	SMP public visioning workshop 1/23/2013	Habitat loss	Increased native shrub-steppe habitat for terrestrial species - foraging/breeding/nesting/migration Riparian vegetation recruitment

Notes:

CPWMP = Columbia Park West Master Plan (RPR 2012).

SIAC = Shoreline Inventory, Analysis, and Characterization

SMP = Shoreline Master Program

SVMP = Draft City of Richland Shoreline Vegetation Maintenance Plan (Pinard 2013)

1 Categories are Very High (habitat protection actions), High (actions that restore ecosystem function), and Moderate (actions that restore habitat structure). Funded projects would take priority over other projects within each category.

2 Impairment and Benefits categories come from Table 1 of this Restoration Plan.

3 Trees: Coyote and peachleaf willow, black cottonwood, choke cherry and Red Osier dogwood. Native plants: Big basin sage, elderberry, golden currant, mock orange, rabbitbrush, smooth sumac, wood's rose, basin wild rye, Indian ricegrass, thickspike wheatgrass, needle and thread grass, and yarrow.

#### 4.4 Environment Designations

The City has designated shorelines pursuant to chapter 90.58 RCW by defining them, providing criteria for their identification, and establishing the shoreline ecological functions to be protected. Project proponents are responsible for determining whether a shoreline exists and is regulated pursuant to this Program. The SMP classifies the City's shoreline into eight shoreline environment designations, shown here with their purpose:

- **Aquatic** – The purpose of the Aquatic shoreline designation is to protect, restore, and manage the unique characteristics and resources of the areas waterward of the OHWM.
- **Natural** – The purpose of the Natural shoreline designation is to protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline ecological functions less tolerant of human use. These systems require that only very low-intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes. Consistent with the policies of the designation, restoration of degraded shorelines within this environment is appropriate.
- **Rural** – The purpose of Rural environments on the City's shorelines is to protect agricultural land and other historically rural areas from pressures of urban expansion, provide buffer areas between urban areas, protect ecological functions of the shoreline, and maintain open spaces and opportunities for recreational and other uses compatible with agricultural activities.
- **Recreation Conservancy** – The purpose of the Recreation Conservancy shoreline designation is to provide continued and enhanced low-intensity recreational opportunities with minimal modification of the shoreline character. The intensity of recreational uses should be designed to avoid alteration of existing vegetation as much as feasible and introduce low levels of human use.
- **Recreation** – The purpose of the Recreation environment is to provide higher intensity recreation uses including water-oriented and non-water-oriented uses. This environment includes existing and planned parks where native vegetation has been replaced by introduced species for aesthetic enjoyment, as well as for active areas such as informal lawn areas, picnic areas, and sports fields. Water-oriented uses are

preferred, but non-water-oriented uses are allowed as long as the location and configuration does not substantially interfere with enjoyment of the shoreline.

- **Residential** – The purpose of the Residential environment is to accommodate residential development and appurtenant structures at a variety of housing types and population densities consistent with the Comprehensive Plan and zoning. Protection is provided against hazards, objectionable influences, traffic, building congestion, and lack of light, air, and privacy. Certain compatible public service installations are permitted in residential use districts. An additional purpose is to provide appropriate public access and recreational uses, particularly associated with multi-family use.
- **Waterfront Use** – The Waterfront Use environment is a special commercial and residential classification providing for the establishment of such uses as marinas, boat docking facilities, resort motel and hotel facilities, offices, and other similar commercial, apartment, and multifamily uses, which are consistent with waterfront-oriented development. This environment encourages mixed special commercial and high-density residential uses to accommodate a variety of lifestyles and housing opportunities and enhances and maintains existing ecological functions of shoreline while providing for maximum public access and circulation.
- **Industrial Conservancy** – The Industrial Conservancy environment is applied to the Port of Benton barging facilities in North Richland to provide for transfer of waterborne cargos to land while maintaining the current generally undeveloped condition of the shoreline area outside of those areas needed for port facilities.

#### 4.5 Exempt Activities

The following types of developments are exempt from substantial development permit requirements (WAC 173-27-040). However, these activities must comply with all development standards, such as setbacks and other regulations in the local SMP.

- **Normal maintenance or repair of existing structures** – Maintenance or repair of existing lawful structures and developments is exempted when they are subject to damage by accident, fire, or the elements.
- **Owner-occupied single family residences** – These residences are exempt when they are less than 35 feet above ground level and appurtenant structures such as garages,

decks, driveways, fences, utilities, and grading that moves less than 250 cubic yards of material.

- **Building bulkheads to protect single family residences** – State rules specify that a bulkhead should be installed at or near the OHWM and be for the sole purpose of protecting an existing single-family residence and/or appurtenant structures. A bulkhead cannot be exempted if constructed for the purpose of creating dry land.
- **Constructing docks designed for pleasure craft** – This exemption is only for a dock designed for pleasure craft only and for the private noncommercial use of the owner, lessee, or contract purchaser of single and multiple family residences. The fair market value of the dock should not exceed \$10,000 in fresh waters.
- **Certain farming and ranching construction and practices** – These practices include: feedlots, processing plants and other commercial ventures; irrigation and drainage activities, including operation and maintenance of existing canals, reservoirs, and irrigation facilities; and operation of dikes, ditches, drains, and other facilities existing on September 8, 1975.
- **Emergency construction to protect property from the elements** – This exemption applies for emergency construction that is necessary to protect property from damage by the elements. Emergency construction does not include building new permanent protective structures, which previously did not exist. Restoration actions include: control of aquatic noxious weeds; improving fish or wildlife habitat or fish passage; cleaning toxic waste; controlling weeds; or restoring watersheds. A special kind of exemption, defined in the Model Toxic Control Act RCW 70.105D, is exempt from all procedural requirements, but not substantive requirements of the SMA and the local SMP.
- **Site exploration and investigation activities** – Activities performed in preparation for applying for a development authorization are exempt if conform to conditions listed in RCW 90.58.030.(3).(e).xi.
- **Building navigation aids and marking property lines** – Navigational aids such as channel markers and anchor buoys are exempt from permit requirements.

## 4.6 Response to Unanticipated Impacts

Policies within the SMP provide the process for protecting shoreline ecological function from anticipated and unanticipated development through the environment designations, setbacks, and mitigation standards. Additional provisions for unanticipated development, conditional uses, and unique development situations include:

- A reasonable description of shoreline uses through the environment designations
- Buffers and setbacks
- Public input required for conditional use permitted development
- Review by the City and Ecology for conditional use permitted development and variances
- Civil penalties for unauthorized development
- SMP provides a strict no net loss policy, the Restoration Plan (Anchor QEA 2014) provides actions to mitigate for development impacts

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## 5 ASSESSMENT OF CUMULATIVE IMPACTS

The assessment of cumulative impacts combines existing conditions and environment designations and anticipated development by proposed environment designation with the potential ecological risks that characterize unregulated development. The provisions within the proposed SMP that can address the risks to ecological function are also identified, allowing an assessment of the future performance of net effect. Table 3 summarizes these elements for each shoreline reach in Grant County and the Coalition.

Anticipated development is based on a qualitative land capacity analysis and discussions with City Planners through the environment Designation development. The Environment Designations also determine permitted, permitted as an accessory unit, permitted as special use, and prohibited uses of the shoreline as shown in the Use Tables within the SMP regulations.

**Table 3**  
**Richland Cumulative Impacts Analysis**

Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Conservancy	Partially Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		No development is anticipated.
Conservancy	Partially Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		No development is anticipated.
Rural	Partially Functioning and small part is Functioning	Very limited. Potential development related to agricultural uses.	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	<p>Agriculture provisions (26.30.020)</p> <p>A. This Program shall not restrict lawfully existing agriculture activities that have been discontinued for less than 5 years and retains existing views from the shoreline trail corridor. An agricultural use shall not be considered discontinued if it is allowed to lie fallow in which it is plowed and tilled but left unseeded; allowed to lie dormant as a result of adverse agricultural market conditions; or allowed to lie dormant because the land is enrolled in a local, state, or federal conservation program.</p> <p>B. All new agricultural activities and facilities on land not meeting the definition of agricultural land are governed by this Program and shall observe the Sensitive Area standards and buffer requirements of this Program and the criteria below.</p> <p>C. Agricultural activities shall follow recognized best management practices that improve or maintain water quality and quantity, reduce soil erosion, maintain, or improve soil conditions, and provide for wildlife habitat.</p> <p>D. New intensive agricultural activities and liquid manure storage shall be located outside of shoreline jurisdiction, unless the proposed use is within an established agricultural area and no alternative agricultural activity is feasible. New intensive agricultural activities shall assure no net loss of ecological functions.</p> <p>F. New manure spreading operations shall be carried out so that animal wastes do not enter water bodies, wetlands, or groundwater recharge areas.</p>	Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for agricultural development, provided that SMP provisions are strictly applied.

Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Conservancy	Functioning	Limited recreation related development	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	<p>Recreation Provisions (26.30.080) Priority will be given to those recreational uses which provide appropriate public access to the shoreline.</p> <p>A. Only those public and private recreational uses that allow general public use shall be permitted on public shorelines of Richland.</p> <p>B. Access, circulation and parking for recreational developments shall comply with the following regulations:</p> <ol style="list-style-type: none"> <li>1. Vehicular access points shall be limited to the minimum number necessary for the proposed recreational facility and shall be configured to minimize disturbance of sensitive natural resources. Non-motorized access points shall be provided where feasible.</li> <li>2. Access to the water's edge from parking areas shall be limited to pedestrian movement, except that marinas and boat launching facilities may be provided with access drives or roads.</li> <li>3. Parking areas shall be located on the inland side of all buildings, structures and recreational uses and shall be developed in accordance with applicable city of Richland standards.</li> </ol> <p>C. Development plans shall include provisions for the protection and preservation of ecological functions, natural resources and scenic views and vistas of the shoreline.</p> <p>D. Applications for recreational uses that require the use of fertilizers, pesticides, or other chemical treatments shall include plans demonstrating best management practices to be used to minimize the potential for contamination of surface water and groundwater resources. Non-chemical methods of vegetation management shall be preferred wherever feasible.</p> <p>E. New over-water structures for recreation use shall be allowed only when:</p> <ol style="list-style-type: none"> <li>1. They accommodate water-dependent recreation uses or facilities, or</li> <li>2. They allow opportunities for substantial numbers of people to enjoy the shorelines of the state, and</li> <li>3. They are not located in or adjacent to areas of ecological sensitivity, especially aquatic and wildlife habitat areas, and</li> <li>4. No net loss of ecological functions will be achieved.</li> </ol> <p>F. Private recreation uses and facilities that utilize public aquatic lands shall provide public access as provided in Section 26.20.050 or shall provide improved, compensating public access at other locations.</p> <p>G. Motorized vehicular use outside of designated roadways and driveways, including the use of all-terrain and off-road vehicles, in the shoreline area is prohibited, except for boat launching and maintenance activities and except where specific areas for such use are set aside and controlled by a public entity.</p> <p>H. In natural open space areas, the need for trails for ADA access should be balanced with the extent of alteration of the natural environment required to accommodate such facilities.</p>	<p>Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for recreation development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied.</p>
Residential	Partially Functioning	Single family (limited vacant areas located at top of slope)	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	<p>Residential development provisions (26.30.090)</p> <p>A. Single-family residential development is a priority use on the shoreline when developed in a manner consistent with control of pollution and prevention of damage to the natural environment.</p> <p>B. Residential development in the shoreline shall meet the criteria of no-net-loss of ecological functions.</p> <p>C. New residential development shall cluster dwelling units to provide as little alteration to the natural environment as feasible and shall utilize low impact development (LID) techniques to reduce physical and visual impacts on shorelines.</p>	<p>Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for recreation development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied.</p>

Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
				<p>D. Multi-family residential use is not a priority for location on the shoreline Multi-family development uses may be permitted only where it provides significant public benefit with respect to the objectives of the Act by:1. Restoration of ecological functions both in aquatic and upland environments that shall provide native vegetation buffers according to the standards provided for Sensitive Areas or in accordance with the Restoration Element of this document; and 2. Provision of public access is required in accordance with RMC 26.20.40.</p> <p>E. Over-water residences are prohibited.</p> <p>F. New residential development shall assure that the development will not require shoreline stabilization.</p> <p>G. New residential development shall meet all Sensitive Area provisions of this program. Filling of, or into, water bodies or their associated wetlands for the purpose of subdivision or multi-family construction shall not be permitted. New subdivisions, short plats, and large lots shall preserve the required buffer in a protective tract, public or private land trust dedication, or similarly preserved through an appropriate permanent protective mechanism. Each lot owner within the subdivision, short plat, or other land division shall have an undivided interest in the tract(s) or protective mechanism created.</p> <p>I. All new divisions of land shall record a prohibition on new private individual docks on the face of the plat. An area reserved for shared moorage may be designated if it meets all requirements of this program.</p> <p>J. All development shall be in compliance with all codes and ordinances of the city of Richland, including applicable subdivision, Sensitive Area and zoning regulations.</p>	
Natural	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		Moderate priority restoration planned. No development is anticipated. If these plans are implemented a net gain in ecological function is anticipated.
Conservancy	Partially Functioning	None	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate		Moderate priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Natural	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		Moderate priority restoration is planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Conservancy	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		No development is anticipated.
Conservancy	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		No development is anticipated. Very high, high and moderate priority restoration planned. A net gain in ecological function is anticipated as these plans are implemented.
Residential	Functioning	None	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate		No development is anticipated. High priority restoration planned. A net gain in ecological function is anticipated as these plans are implemented.

Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Natural	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		No development is anticipated. High and moderate priority restoration planned. A net gain in ecological function is anticipated as these plans are implemented.
Recreation	Functioning	Limited recreation related development	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See Recreation provisions (26.30.080) above.	High priority restoration planned. Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for agricultural development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied and restoration plans are implemented.
Natural	Functioning & Partially Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		Moderate priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Industrial Conservancy	Partially Functioning	Port of Benton related industrial development	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	Industrial Development and Port Facilities provisions (26.30.050) A. Portions of the site not used for said water-dependent use shall preserve the generally undeveloped nature of adjacent shoreline areas. B. Industrial and port development shall be located, designed, constructed, and operated in a manner that minimizes impacts to shoreline resources and avoids unnecessary interference with shoreline use by adjacent property owners. C. Cooperative use of existing port facilities, including docks and piers, shall be encouraged to reduce additional disruption to the shoreline.	High priority protection planned. Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for industrial/port development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied and restoration plans are implemented.
Residential	Partially Functioning	Up to 8 additional single family units with associated docks (assume 8 new docks)	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low	See Residential provisions (26.30.090) above. Boats and Vessel Facilities provisions (26.08.090 - a selection) A. All boating uses, development and facilities shall demonstrate that they result in no net loss of ecological functions and may be required to provide on-site and off-site mitigation. F. All in- and over-water structures shall be constructed of materials that will not adversely affect water quality or aquatic plants and animals over the long term. J. A dock or pier serving a single family residence shall meet the following standards: a. To prevent damage to shallow-water habitat, piers and/or ramps shall extend at least 40 feet perpendicular from the ordinary high water mark (OHWM). b. Piers and ramps shall be no more than 4 feet in width. 2. The bottom of either the pier or landward edge of the ramp shall be elevated at least 2 feet above the plane of OHWM. a. Grating shall cover the entire surface area (100%) of the pier and/or ramp. a. Piling shall not exceed 8 inches in diameter. b. Pilings shall be spaced at least 18 feet apart on the same side of any component of the overwater structure. c. Each overwater structure shall utilize no more than 4 piles total for the entire project. A combination of two piles and four helical anchors may be used in place of four piles. f. No in-water fill material will be allowed, with the exception of pilings and float anchors. 6. Floats a. Float components shall not exceed the dimensions of 8- by 20-feet, or an aggregate total of 160 square feet, for all float components.	High and moderate priority protection planned. Impacts to ecological function will be avoided, minimized and mitigated per the SMP provisions for residential and boat and vessel facilities development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied and restoration plans are implemented.

Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
				<p>c. Grating shall cover 100% of the surface area of the float(s).</p> <p>d. Functional grating will cover no less than 50% of the float.</p> <p>e. Floats shall not be located in shallow-water habitat where they could ground or impede the passage or rearing of any salmonid life stage.</p> <p>f. Nothing shall be placed on the overwater structure that will reduce natural light penetration through the structure.</p> <p>g. Floats shall be positioned at least 40 feet horizontally from the OHWM and no more than 100 feet from the OHWM, as measured from the landward-most edge of the float.</p>	
Conservancy	Partially Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		High priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Natural	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		High priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Recreation	Partially Functioning	Limited recreation related development	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	<p>See Recreation provisions (26.30.080) above. Boats and Vessel Facilities provisions (26.08090 - boat launches section) H.</p> <p>3. New public boat launches for general public use, or expansion of public boat launches by adding launch lanes shall demonstrate that: a. Water depths are adequate to avoid the need for dredging and eliminate or minimize potential loss of shoreline ecological functions or other shoreline resources from offshore or foreshore channel dredging.</p> <p>c. Exterior lighting will not adversely impact aquatic species.</p>	High priority restoration planned. Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for recreation and boats and vessel facilities development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied and restoration plans are implemented.
Natural	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		High and moderate priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Recreation	Partially Functioning & Impaired	Limited recreation related development	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See Recreation provisions (26.30.080) above.	High and moderate priority restoration planned. Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for recreation development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied and restoration plans are implemented.
Residential	Impaired	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		High and moderate priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Conservancy	Functioning	None	Hydrology: Low Sediment: Low Water Quality: Low Habitat Low		High and moderate priority restoration planned. No development is anticipated. A net gain in ecological function is anticipated as these plans are implemented.
Recreation	Impaired	Limited recreation related development	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See Recreation provisions (26.30.080) above.	High and moderate priority restoration planned. Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for recreation development. No net loss of ecological functions is anticipated as SMP provisions are strictly applied and restoration plans are implemented.

Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Waterfront	Impaired	Limited commercial development anticipated	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	<p>Commercial Provisions (26.30.040)</p> <p>A. Commercial development in shoreline areas shall be designed, located, and constructed to achieve no net loss of ecological functions.</p> <p>B. Preference shall be given to water-dependent commercial uses over non-water-dependent commercial uses. Water-related uses shall be given priority over non-water related uses.</p> <p>C. Commercial development that is not water-dependent shall not be allowed over water except where it is located within the same building and is accessory to and necessary for a water-dependent use.</p> <p>D. Non-water-oriented commercial development shall be allowed only when:</p> <ol style="list-style-type: none"> <li>1. The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to provision of public access and/or ecological restoration; or</li> <li>2. Navigability is severely limited at the proposed site, and the commercial use provides a significant public benefit with respect to provision of public access and/or ecological restoration.</li> </ol> <p>E. In areas of the shoreline designated for commercial use, non-water-oriented commercial uses may be allowed on sites physically separated from the shoreline by another property or public road right-of-way. Marina Provisions (26.30.060)</p> <p>A. Proposals for new marinas must provide sufficient evidence that existing public boat launches, dry storage and moorage is not adequate to meet regional demand for recreational boating and that development of new marinas would result in fewer environmental impacts than expansion of existing facilities.</p> <p>B. Mooring buoys with small light dock access are preferred over in-water mooring docks Applications for marinas with in-water moorage may be approved as a Special Use if it is demonstrated that: Public navigation will not be impeded, location will not result in displacement of wetlands or interrupt natural processes, erosion or deposition, no dredging or armoring is required, existing public access will not be affected, water quality impacts will not increase, impacts to habitat are minimized, setbacks from non-commercial property are applied, changes to hydraulic, fluvial, and channel migration processes are minimized, exterior light pollution is minimized, adequate provisions for restroom, sewage and solid waste disposal facilities are made, parking is adequate and access and parking will not produce traffic hazards.</p> <p>C. Covered moorage is prohibited.</p> <p>D. Marinas shall provide public access amenities over public aquatic lands equivalent to a minimum 10 percent of over-water coverage and shall provide public walkway access to a public street and may be required to provide public parking including handicapped access.</p>	<p>applied and restoration plans are implemented.</p> <p>High and moderate priority restoration planned. Impacts to ecological function will be avoided, minimized, and mitigated per the SMP provisions for commercial development. Provided that SMP provisions are strictly applied and restoration plans are implemented no net loss of ecological functions is anticipated.</p>

OHWL = ordinary high water mark  
SMP = Shoreline Master Program

As described in the table above, the SMP will protect the baseline ecological functions within the City. The features that will provide this protection include the SMP environment designations and general requirements, the shoreline modification and use provisions, and finally, the Restoration Plan (Anchor QEA 2014). It is expected the SMP will accommodate reasonable foreseeable shoreline development, while affording these protections and restoration initiatives throughout the next 20 years. All of these provisions will result in no net loss of shoreline ecological function in the City, and may actually lead to an improvement or gain of ecological function over time.

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