

# CUMULATIVE IMPACTS ANALYSIS (REVISED DRAFT)

## City of Spokane Valley Shoreline Master Program Update

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## 1.1 Introduction

The Shoreline Management Act (SMA) Guidelines under Washington Administrative Code (WAC) 173-26-186(8)(d) state that, “To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities”. Cumulative impacts are not specifically defined in the SMA; however, they generally describe the impact of an action or project in conjunction with other similar, reasonable foreseeable actions.

This Cumulative Impacts Analysis is intended to develop a model of cumulative impacts on shoreline ecological functions within the City of Spokane Valley (City). The intent of this analysis is to ensure that shoreline environmental designations and proposed Shoreline Master Program (SMP) regulations will be protective of shoreline functions even when considering incremental actions that cumulatively have the potential to negatively impact those functions. Per the SMA Guidelines, the evaluation of such cumulative impacts should consider:

1. Current circumstances affecting the shorelines and relevant natural processes;
2. Reasonably foreseeable future development and use of the shoreline; and
3. Beneficial effects of any established regulatory programs under other local, state, and federal laws.

Findings of this model may result in modifications to the draft SMP regulations if it is determined that cumulative impacts could result in a net loss of shoreline ecological functions over time. If such changes are made to the SMP regulations as a result of this report, a brief addendum will be prepared for this report that documents those changes and updates the model results accordingly.

The results of this analysis are based on a variety of inputs filtered through the draft environmental designations and their applicable level of land use restrictions. The inputs include anticipated growth, development estimates, and existing shoreline functions with particular emphasis on those that are most at risk. These are then analyzed based on the proposed protections in the updated SMP, other regulatory protections, and estimates of non-regulatory shoreline restoration.

## 1.2 Updates to Initial Draft

Since the first Cumulative Impacts Analysis (CIA) report was drafted in 2013, the draft shoreline regulations have been amended to reflect input from the Spokane Valley Planning Commission, public comments, and the findings of the draft CIA report. As a result, this report includes an updated description of the shoreline regulations, including a new section for additional approval criteria found in the current draft of the shoreline regulations (see Section 4.1.7 below). Also, the findings of this report have been updated to reflect changes to the

estimated cumulative affects based on the updated regulations. Note that references to sections of the current draft of the shoreline regulations refer to the document dated September 9, 2014.

**2.1 Natural Processes and Shoreline Functions**

As described in the shoreline Inventory and Characterization Report (URS 2010), the shoreline zone within the City provides several ecological functions that the SMA seeks to protect. Influenced by watershed processes, such as erosion and deposition, the hydrologic cycle, and nutrient transport and uptake, these functions provide ecological services that are less available outside of the shoreline zone. Shoreline functions are often separated into three general functional categories for ease of assessment and description. These functional categories include habitat functions, water quantity (hydraulic) functions, and water quality functions. Table 2-1 provides an overview of commonly assessed shoreline functions provided by the Spokane River and Shelley Lake (including associated wetlands).

**Table 2-1: Summary of Local Shoreline Ecological Functions**

Habitat functions	Hydrologic functions	Water quality functions
<ul style="list-style-type: none"> <li>• Aquatic habitat for invertebrates, native fish, and amphibians</li> <li>• Terrestrial (riparian) habitat for mammals, birds, invertebrates</li> <li>• Support for native biodiversity</li> <li>• Production of organic material</li> <li>• Creation of conditions for breeding and nesting/rearing</li> </ul>	<ul style="list-style-type: none"> <li>• Flow attenuation/regulation</li> <li>• Water storage</li> <li>• Base flow support</li> <li>• Transport of water and materials, including wood</li> <li>• Creation and maintenance of in-stream habitat complexity (pools, riffles, gravel bars, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Nutrient cycling</li> <li>• Sediment filtering and stabilization</li> <li>• Cover for contaminated aquatic sediment</li> <li>• Shade/thermoregulation</li> <li>• Aquifer recharge</li> <li>• Toxicant removal</li> </ul>

**2.2 External Processes Affecting Shorelines**

There are several processes affecting shoreline ecological functions within the City that are beyond the City’s ability to control. Habitat functions are affected by the spread of invasive weeds along the shoreline zone by wind, foot traffic, water flow, animal droppings, and other means. Aquatic habitat is affected by hydroelectric project management, which controls the amount of water flow moving through the City. During periods of low flow, temperatures rise and dissolved oxygen, which fish require, decreases. Water quality is affected by upstream agricultural runoff, urban runoff, limited erosion, temperature, and 303(d) contaminants associated with historical and current industry upriver. Water quantity/hydrologic functions are highly affected by upstream and downstream hydroelectric dams; natural aquifer inputs and recharge locations; and, to a lesser extent, upstream agricultural diversions.

### **2.3 Internal Factors Affecting Shorelines**

Within the City, several land use activities and natural processes affect shoreline ecological functions. Unlike the external processes listed in Section 2.2, many of these land use activities and processes can be controlled by the City, in coordination with the Washington Parks and Recreation Commission (State Parks), through a combination of regulations and land management activities.

Within the City, habitat, water quality, and hydrologic functions are primarily affected by development, recreation, industry, and vegetation management. Riparian habitats are affected by unmitigated land clearing and development, after which they can become especially susceptible to invasive plant species establishment and erosion, which lowers the riparian habitat value for most species. Riparian areas are also be affected by recreational uses, including foot traffic, fire, and litter as well as natural processes like infrequent flooding and slope failure.

Water quality within the City is largely affected by external processes but degradation can be exacerbated by erosion from concentrated surface runoff, contamination from localized discharge of untreated stormwater, motorboat pollution, and general aquifer contamination throughout the City. Erosion from runoff into the river and lake also affects water quality and aquatic habitat. Too much runoff can result in turbid water, which is harmful for fish.

Water quantity/flow management within the river and lake is primarily affected by external factors but impervious development has the potential to increase “flashy” flows and decrease summer base flows through rapid discharge of stormwater that would otherwise infiltrate and recharge the aquifer over a longer period.

### **2.4 Summary of Ecological Functions at Risk**

Much of the City’s shoreline jurisdiction along the Spokane River is managed by State Parks, as part of the Riverside State Park. As a result, river shoreline functions are largely protected from development within the City relative to other cities. However, recreational uses are common, encouraged by the SMA, and provided for by the Spokane River Centennial Trail (SRCT) and various public parks along the shoreline. Heavy recreational use has the potential to degrade shoreline functions as noted in Section 2.3 above. In addition, shoreline areas above the State Park lands and adjacent areas outside of the SMP jurisdiction, particularly on the south side of the river, have the potential for development and/or redevelopment/infill based upon the land use analysis in Section 6 of the Shoreline Inventory and Characterization Report (URS 2010). The majority of Shelley Lake is currently developed, making the potential for incremental current and future shoreline development impacts low around the lake. Table 2-2 below provides a list of potential impairments to shoreline ecological functions based on conditions within the City.

**Table 2-2: Summary of Potential Impairments to Shoreline Ecological Functions**

Habitat functions	Water quantity functions	Water quality functions
<ul style="list-style-type: none"> <li>• Loss of riparian cover from development and recreation</li> <li>• Degraded habitat functions from spread of noxious weeds</li> <li>• Degraded fish habitat due to turbidity from erosion/sediment loading</li> <li>• Degraded aquatic habitat due to untreated stormwater runoff</li> <li>• Degraded wildlife habitat due to edge effects (noise, light, human/pet presence) from new development</li> </ul>	<ul style="list-style-type: none"> <li>• Lower stream flow due to increased aquifer use</li> <li>• Increased short-term flow velocity after rain events due to increased impervious area/runoff</li> <li>• Lower summer base flow support due to lack of infiltration associated with new impervious development</li> </ul>	<ul style="list-style-type: none"> <li>• Increased turbidity due to erosion from foot traffic, construction</li> <li>• Degraded water quality due to increased contamination/nutrient loading from vehicles, lawn chemicals, pet waste, etc.</li> <li>• Warmer water temperatures due to loss of riparian cover</li> </ul>

## SECTION THREE Estimate of Future Shoreline Developments and Uses

This section discusses the estimated developments and other uses that are reasonably expected within the shoreline zone over a 20-year period.

### 3.1 Review of Past and Current Shoreline Developments

#### 3.1.1 Past Shoreline Uses

In an effort to understand past shoreline impacts for the purpose of determining cumulative impacts of shoreline development, the preceding nine years of shoreline permits issued within the City was researched, reviewed, and summarized. Table 3-1 provides a snapshot of shoreline development over the past eight years since the City incorporated in 2003. When combined with estimates of growth, as described in Section 3.2, this provides a reasonable tool for estimating future growth as well.

**Table 3-1: Summary of Shoreline Permits since Incorporation**

Year	Development Type					COSV Permit Type				No. Permits
	Dock	In-water Fill	Grading/ Utilities	Upland Structure	Pathway w/ Reveg.	Subst. Dev.	Exempt	Cond. Use	Var.	
2004	2			2	2		2			2
2005										0
2006			1			1				1
2007	2	1	1	2	1	2	5			7
2008										0
2009										0
2010	2		1	2		1	1			2
2011			4	4	1	6	3			9
2012		1	2	1		1	3			4
Avg./yr.	0.67	0.22	1.0	1.22	0.44	1.22	1.56	0.00	0.00	2.78

Although the short period of time since incorporation makes the City's permit history short for the purposes of prediction, there are certain trends that are clear, even with the large standard deviation between values year to year. Based on Table 3-1, upland structures appear to be the most common type of development requiring a shoreline permit. They are also the type of development most likely to require a Substantial Shoreline Development Permit under the existing SMP. Docks are allowed as an exempt shoreline development at a rate of less than one per year, which indicates that, unless regulated differently by the SMP update, several more docks are likely over the future SMP planning period of 20 years within areas zoned for residential uses. The table also indicates that infrequent in-water fill occurs, generally associated with bank stabilization following a flood. Both in-water fill projects were allowed as an exemption. Under the current SMP, conditional uses and variances have never been used to permit a shoreline development.

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### 3.1.2 Current Shoreline Uses

Within the City, there are approximately 511 acres under the jurisdiction of the SMA. This accounts for approximately three percent of the 24,464 acres within City limits. Per Table 3-2, below, the majority of the shoreline zone is held in Parks/Open Space. This is followed by Industrial zoning, which is associated with the gravel pits and Kaiser Aluminum. Low Density Residential zoning is the third largest shoreline zone. A combination of other zoning categories, including Mixed Use, Commercial, and Public ROW account for less than 10 percent of the shoreline zone, combined. Shoreline areas lacking a zoning designation include 287.46 acres of open water and 20 acres of public right-of-way.

**Table 3-2: Summary of Zoning Categories within SMP Jurisdiction**

Zoning Category	Acreage	%
Parks/Open Space	201	42.4
Industrial	153	32.3
Low Density Residential	76	16.0
Mixed Use	29	6.1
Railroad ROW	8	1.7
Commercial	7	1.5

The Spokane River currently receives moderate to high in-water recreational use due to the hydraulics of the Spokane River, which provide prized floating conditions for non-motorized boats, rafts, and kayaks. Due to an abundance of public park land and access provided by the SRCT and parking at Mirabeau Park, the southern shoreland areas receive a good deal of recreational use, primarily by bicyclists and pedestrians. The northern shoreland areas receive moderate hiking and angling uses at specific, publicly accessible areas, particularly around Sullivan Park.

### 3.2 Expectations of Growth

Per the Shoreline Use Analysis in Section 6 of the Shoreline Inventory and Characterization Report, the City expects an annual growth rate of approximately 1.5 percent. Developable lands that are currently listed as “vacant” in the Assessor’s tax parcel database were quantified for the City by Planning Department staff in 2009 to update their comprehensive plan. Based on this effort, it was determined that there are currently 48.95 acres of developable land categorized as “Vacant” within the City’s shoreline zones.

### 3.3 Reasonably Foreseeable Future Development and Uses

In general, shoreline areas with development potential are limited to dispersed fragments of parcels with industrial, residential, or mixed use zoning designations. Many of these lack adequate access, utilities, or are otherwise constrained in a manner that limits development

## SECTION THREE Estimate of Future Shoreline Developments and Uses

potential (such as by utility or railroad easements). The majority of areas under SMA jurisdiction within the City are either not developable (e.g., park land) or have already been developed. Some minor redevelopment and infill are expected within residential shoreland areas, particularly within River Segment (SR)-1 (Figure 1); however, this would be restricted from infringing upon park lands and, as such, would have little direct effect on the current state of shoreline ecosystem functions.

Planners often estimate a region’s ability to support additional growth by quantifying developable lands that are currently listed as “vacant” in the Assessor’s tax parcel database. Such a land quantity analysis (LQA) was conducted by the City Planning Department staff in 2009 to update their comprehensive plan. Using the LQA data, there are currently 48.95 acres of land categorized as “Vacant” within the City’s shoreline jurisdiction. Table 3-3 provides a summary of anticipated development within currently vacant lands, which fall into three zoning designations within SMP jurisdiction. This list is based upon conversations with City planning staff, State Parks, and Avista Corporation, a utility company with natural gas and electrical transmission within the SMP zone.

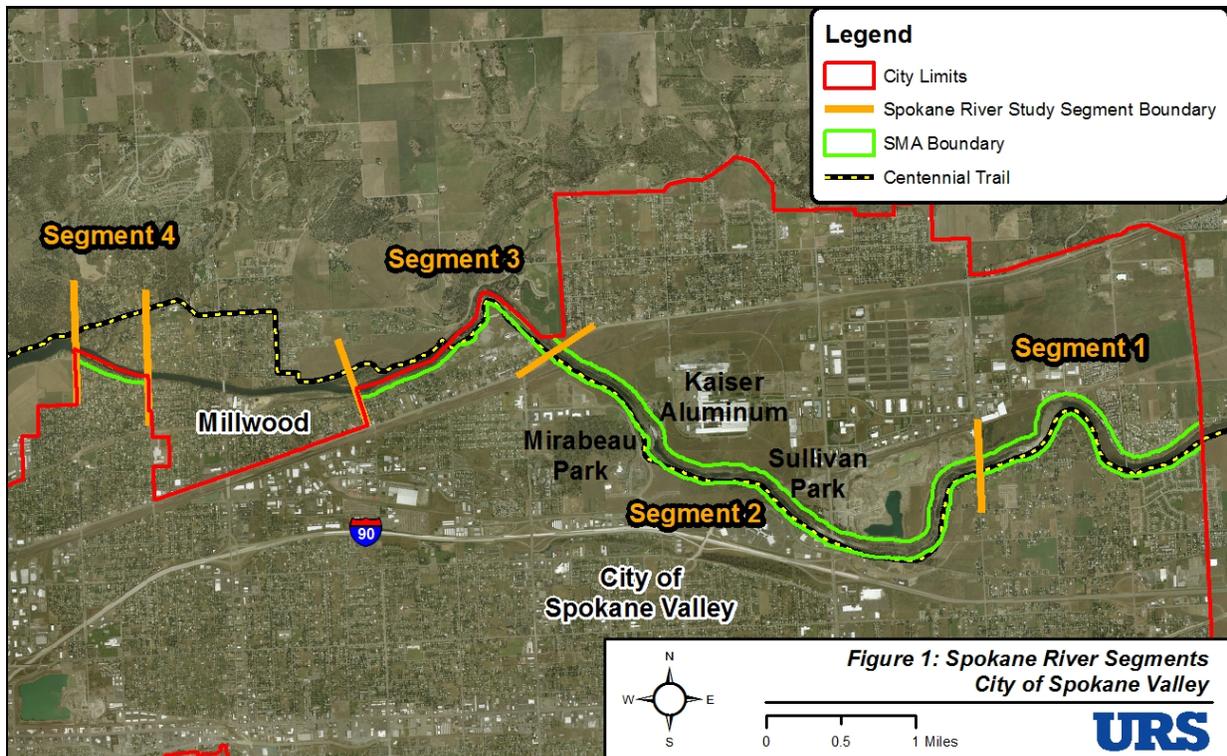
**Table 3-3: Anticipated Development by Zoning Designation**

Zoning Designation	Developable Acreage in SMP	%	Anticipated Development	River Segment <sup>1</sup>
Residential	4.15	8	Coyote Rocks Residential Development	SR-3
			Trailside Residential Development	SR-3
			Likely short plat applications that will break large lots into smaller lots for development ( <i>not specific—estimated based on past development trends</i> )	SR-1, SR-2
			Residential redevelopment ( <i>not specific—estimated based on past development trends</i> )	SR-1, SR-2, SR-4, Shelley Lake
Heavy Industrial	16.72	34	Flora Road gravel pit will eventually transition into other land uses	SR-2
Mixed Use Center	28.08	57	Pinecroft business and commercial area	SR-2
			Centennial Properties mixed use development	SR-2

<sup>1</sup>Refer to Figure 1 below for river segment reference.

## SECTION THREE Estimate of Future Shoreline Developments and Uses

In addition to the private and commercial developments noted in Table 3-3, there are public developments that are likely to occur, which are not specific to one zoning designation. The City Parks Plan is currently being updated. The update is in the early stages but future improvements at Sullivan or Mirabeau Park may include shoreline developments associated with improved access, as per the Public Access Plan (URS 2012). State Parks has no plans for park improvements within the foreseeable future. However, they would like to see the riprap revetment in SR-1 improved to provide enhanced visual benefits and ecological functions.



Also, the City intends to replace the aging Sullivan Bridge. The bridge replacement will be similar in scale to the Barker Road Bridge Replacement. Access improvements in conjunction with the Sullivan Bridge Project are expected, including an improved pathway to the water.

Additionally, Avista conducts maintenance projects and upgrade projects routinely. These include access road maintenance and repair, periodic pole replacement, tower upgrades, and buried natural gas line maintenance, repair, and replacement.

Lastly, the Barker South metals cleanup site is expected to occur in the near future. This cleanup site was planned for 2012, but delays in the Barker Road Bridge project made the associated river access restrictions that would be associated with the cleanup activity unfavorable to the public. As a result, the cleanup activity is currently being re-evaluated.

Much of the effect on Spokane River's shorelines is expected to come from increased recreation. Due to the presence of the SRCT and widespread public park land throughout the river corridor, increased populations within the region have direct access to the majority of the

## **SECTION THREE**      Estimate of Future Shoreline Developments and Uses

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river's shorelines through the City, particularly along the southern shoreline due to the SRCT. Future recreational use may increase with the establishment of the proposed Spokane River Water Trail, which is being discussed by members of the local Spokane River Forum. As currently envisioned, the Water Trail would formalize and provide improved direct river access at many of the existing access points identified in the Inventory and Characterization Report (URS 2010).

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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### **4.1 Protective Provisions of Proposed SMP**

Based upon the actions described in Section 3 above, certain shoreline uses appear to have the greatest potential to result in losses of ecological shoreline functions due to incremental actions over time. These uses are analyzed by shoreline environmental designation (SED) in Table 4-1, below, to determine whether they would be allowed outright through an exemption, allowed with a shoreline substantial development application, potentially allowed as a conditional use, or outright prohibited. In addition to the general allowances and prohibitions associated with each SED, there are several additional shoreline regulations that further protect shoreline environmental functions. These are described in Sections 4.1.2 through 4.1.6. Following this, Section 4.2 describes other state and federal regulatory programs that function to protect shoreline ecological functions. Lastly, Section 4.3 describes other activities that are expected to enhance shoreline ecological functions and, as such, should be considered together with potentially detrimental anticipated development and recreation effects to assess the potential for a net loss or gain of shoreline ecological functions.

#### **4.1.1 Shoreline Environmental Designations**

The SMP currently includes five SEDs. Based on data gathered during the shoreline inventory, shoreline areas with similar characteristics are assigned a common SED that reflects unique land management goals and policies that are appropriate for the area. The SED is used during the shoreline planning review process as a zoning overlay, which provides additional land use approval considerations above those associated with the underlying zoning category.

The five SED categories are Urban-Conservancy-High Quality (UC-HQ), Urban Conservancy (UC), Shoreline Residential–Waterfront (SR-W), Shoreline Residential-Upland (SR-U), and Aquatic (AQ). The AQ SED applies to those areas below the ordinary high water mark for Waters of the State. Most of the Spokane River shoreline is designated as UC, including State Park lands. The UC designation allows for conservation of near-shore habitat while allowing limited commercial and mixed use development within the outer portion of the SMP jurisdiction. Areas specifically identified as proposed conservation areas in the 2010 inventory were designated as UC-HQ. The AQ and UC-HQ designations allow for the least amount of habitat alteration and generally focus on preservation and management of existing, high-quality riparian and aquatic habitat. There are two Shoreline Residential designations. Each was developed to provide a means for allowing appropriate residential uses with regard to the proximity of the residential area to the waterline. For areas directly adjacent to the water, the SR-W designation addresses land uses along the water line that are not applicable to upland residential areas (SR-U). Further descriptions of each SED are provided in City Resolution 12-007, which was passed on November 13, 2012.

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**Table 4-1: Shoreline Development Allowances by Environmental Designation**

Shoreline Development with Potential to Degrade Shoreline Ecological Functions	Shoreline Residential – Upland	Shoreline Residential – Waterfront	Urban Conservancy	Urban Conservancy – High Quality	Aquatic	Notes
<b>Agriculture</b>	X	X	X	X	X	
<b>Aquaculture</b>	X	X	X	X	X	
<b>Boating Facilities</b>	N/A	P	C	X	P/C/X	See note below. <sup>1</sup>
<b>Commercial Development</b>						
Water-dependent	X	P	P	X	C	Commercial uses are allowed in the Shoreline Residential and Urban Conservancy Environments only if the underlying zoning of the property is “Mixed Use Center.”
Water-related and water-enjoyment	P	P	P	X	C	
Non water-oriented	X	X	P	X	X	
<b>Industrial Uses</b>	X	X	P	X	X	Non water-oriented uses only allowed if part of a mixed-use project that includes water-dependent uses and development is separated from river by intervening parcel or ROW.
<b>In-stream Development</b>						
Fish Habitat Enhancement	N/A	P	P	P	P	Habitat enhancement encouraged.
Dredging and Fill	C	C	C	X	P/C/X	See note below. <sup>1</sup>
Other uses (flood protections, groins, weirs)	N/A	C	C	X	C	
Piers and Docks	P	P	P	X	P/C/X	See note below. <sup>1</sup>
<b>Mining</b>	X	X	X	X	X	No new gravel mines will be allowed in the SMP zone.
<b>Parking Facilities</b>	P	P	P	C	X	Parking as a primary use prohibited in all SEDs. Accessory parking for mixed use/residential/recreational developments permitted in most non-aquatic areas.

## SECTION FOUR Summary of Mitigating Regulations and Other Activities

<b>Public Facilities and Utilities</b>						
Public facilities	C	C	C	X	C	Includes bridge repairs, park improvements.
Utilities	C	C	C	C	C	
Routine maintenance of existing infrastructure	A	A	A	P	A	A Letter of Exemption is required if the maintenance activity involves any ground disturbing activity; always required in UC-HQ.
<b>Recreational Development</b>						
Water-dependent/related	P	P	P	P	P	No recreational development is prohibited outright and none is exempted outright.
Non-water-oriented	P	P	P	C	C	
Trails and walkways	P	P	P	C	P	
<b>Residential Development/Redevelopment</b>						
Single-family, including accessory uses and structures	A	A	A	A	X	Residential structures are subject to underlying zoning requirements only outside of Aquatic SED.
Multi-family	P	P	P	X	X	
Private docks serving one to three residences	N/A	P	P	P	X	Private docks serving 4+ residences covered through "boating facilities."
Accessory Dwelling Units	P	P	P	P	X	Includes small exterior apartments.
<b>Shoreline Habitat Enhancements (Modifications)</b>	P	P	P	P	P	Enhancements that do not modify the shoreline dimensions (e.g., plantings) may be allowed.
<b>Shoreline/Slope Stabilization</b>	X	P	P	P/X	P/C/X	In UC-HQ structural modifications are prohibited but non-structural activities such as soil bioengineering are permitted. See note below. <sup>1</sup>
<b>Transportation Facilities</b>						
New circulation routes related to permitted shoreline activities	P	P	C	C	X	All new transportation projects will require permits or letters of exemption.
Expansion of existing circulation systems	P	P	P	P	X	
New, reconstructed, or maintenance of bridges, trail, or rail crossings	P	P	P	P	P	

**KEY:** A= Allowed/Exempt. P= Permitted. C= Conditional Use. X= Prohibited. N/A= Not Applicable.

<sup>1</sup>**Note:** For these uses within the Aquatic Environment, the adjacent upland environment per the City of Spokane Valley Environment Designation Map shall govern.

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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### **4.1.2 Buffers and Setbacks**

Shoreline buffers and building setbacks protect the shoreline environment by limiting development and use within a reasonable distance from the water edge and associated sensitive shoreline habitats, ensuring no further degradation of the existing shoreline environment. Shoreline buffers generally follow the vegetation conservation boundary identified in the shoreline inventory and can be seen on Figure 3 (page 32). Buffers occupy the majority of the shorelands. Buffer reductions in all SEDs may be granted by Shoreline Variance Permit; however, sites which have had buffer widths reduced or modified by any prior action are not eligible for buffer reduction.

Development setbacks from the outer edge of the buffer are required within UC (10-foot) and UC-HQ (15-foot) SEDs. In residential SEDs, 15-foot setbacks are required for new subdivisions, binding site plans, and planned residential developments, but no setbacks are proposed for individual private developments. The existing Spokane Valley Municipal Code (SVMC 19.40) requires a 20-foot setback from the property line. For most properties in the SR-U SED, this zoning setback provides a full 20-foot setback from the shoreline buffer. There are ten residential lots, only one of which is currently vacant, where the zoning setback would allow development along the edge of the shoreline buffer. The developable portion of parcels in the SR-W SED are very narrow as approved under the current SMP. To protect use of these properties, buffer setbacks are not currently proposed in this SED.

The SMP allows the following developments within the building setback area when accessory to a primary structure:

- Landscaping
- Uncovered decks or patios
- Paths, walkways, or stairs
- Building overhangs, if not extending more than 18 inches into the setback area

### **4.1.3 Shoreline Vegetation Conservation Measures**

The Inventory and Characterization Report identifies the loss of riparian cover from development and recreation as a threat to shoreline habitat function (URS 2010). Shoreline vegetation plays a number of functional roles by providing bank stability, habitat and wildlife corridors, shade and cover, and wood and organic debris recruitment. Vegetation conservation measures ensure that vegetation within the shoreline jurisdiction is protected and/or restored when damaged or removed by development activities. Vegetation conservation also improves the aesthetic qualities of the shoreline.

The proposed SMP requires vegetation conservation measures for all projects proposing vegetation removal within the shoreline jurisdiction. For new development, expansion, or redevelopment, all clearing and grading activities must also comply with Spokane Valley

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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Municipal Code (SVMC) 24.50 Land Disturbing Activities. A vegetation management plan, describing the vegetative conditions of the site and summarizing functions provided by existing vegetation, is required for all projects that propose removal of mature native trees or greater than 10 square feet of native shrubs or herbaceous vegetation. Mitigation, in the form of native vegetation replacement, may be required. If the proposed vegetation removal is within the shoreline buffer area, the Applicant will also need to demonstrate that the removal is consistent with No Net Loss standards and mitigation sequencing standards. The City may also require a performance surety as a condition of shoreline permit approval to ensure compliance with the SMP.

Exceptions to proposed shoreline conservation measures include activities related to maintenance of existing yards or gardens, noxious weed removal, and dead or hazardous tree removal. Pruning and thinning of trees for maintenance, safety, forest health, and view protection are also exempt from the requirement to obtain a Shoreline Permit, if a Letter of Exemption is issued, and if conducted on or within the following areas:

- Public land.
- Utility corridors.
- Private residential land buffer areas.

Pruning and thinning for view maintenance on public and private lands are subject to conditions to ensure that pruning activities are conducted in a way that ensures the continued health and vigor of shoreline vegetation.

Adherence with the Shoreline Critical Areas Ordinance (CAO) regarding the application of pesticides, herbicides, fertilizers, or other chemicals is required for all vegetation removal activities.

### **4.1.4 Shoreline Hardening Restrictions**

Bulkheads and other hard shoreline stabilization structures can disrupt natural shoreline processes and destroy shoreline habitats. The proposed SMP encourages the use of nonstructural methods (e.g., building setbacks, relocation of the threatened structure, soil bioengineering with vegetation, groundwater management, and planning and regulatory measures to avoid the need for structural stabilization) instead of shoreline hardening measures. New structural stabilization methods require a Shoreline Conditional Permit and will be permitted only under the following conditions:

- Evidence shows that an existing primary structure is in danger from shoreline erosion caused by wave action and river currents.
- Nonstructural measures are not feasible or not sufficient.
- An engineering or scientific analysis shows that damage is caused by natural processes.
- Structural stabilization will incorporate native vegetation and comply with the mitigation sequencing in Section 4.1.5.

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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The SMP also includes provisions allowing for repair, maintenance, and replacement of existing shoreline stabilization structures, so long as the location and footprint of the replacement structure remain similar.

New or replaced shoreline stabilization structures must comply with the requirements of the SVMC 24.50 Land Disturbing Activities and with Section 4.1.3 (Shoreline Vegetation Conservation), and require the submittal of design plans, a design narrative, and engineering or scientific reports prepared by a Qualified Professional.

### **4.1.5 No Net Loss and Mitigation Sequencing Standards**

To achieve No Net Loss of shoreline ecological functions, Applicants proposing shoreline modifications or developments must demonstrate that the proposed project meets the City's No Net Loss and Mitigation Sequencing standards (SVMC 21.50.210). These standards require the Applicant to first seek opportunities to avoid impacts to sensitive shoreline areas, including the Riparian Habitat Area and shoreline CAOs. Where impacts cannot be avoided, they must be minimized to the extent practicable and remaining impacts must be mitigated. Mitigation for unavoidable impacts to sensitive shoreline areas typically includes shoreline restoration. Mitigation measures will be applied in the following order of priority:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
6. Monitoring the impact and the compensation projects and taking appropriate corrective measures.

Mitigation sequencing is required for all proposed shoreline uses and development, including uses that are exempt from a Shoreline Substantial Development Permit.

### **4.1.6 Shoreline Critical Areas Regulations**

The City's shoreline CAO provides regulations for development within critical areas located within SMP jurisdiction. Designated critical areas within the shoreline jurisdiction include wetlands, fish and wildlife habitat conservation areas, geologically hazardous areas, and critical aquifer recharge areas. Development is generally restricted from occurring within a critical area without a site-specific analysis of potential impacts to the critical area and proposed mitigation.

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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Regulation of critical areas within the shoreline jurisdiction will be administered as part of the CAO guidelines that are being developed specifically for the SMP update. All use, modification, or development proposed within the shoreline jurisdiction must comply with the CAO.

### **4.1.7 Additional Approval Criteria for Specific Modifications**

The initial cumulative analysis found that losses of shoreline ecological functions were possible based on the fact that docks and associated shoreline developments had the potential to cumulatively degrade ecological functions over time. Some of the public comments voiced similar concerns over the effects of docks on aquatic habitat and flow characteristics. To address the potential for cumulative degradation of shoreline ecological functions, aesthetics, and shared use of the river, the Planning Commission advised City planning staff to craft regulations that would require additional approval criteria for specific shoreline modifications, including docks. Their intent was to allow private property uses so long as an Applicant could demonstrate that their proposed development would not result in a loss of ecological functions.

As a result, the City has updated their shoreline regulations to require additional approval criteria for specific shoreline modifications. Under SVMC 21.50.410 of the draft City shoreline regulations, additional approval criteria are required for the following activities: shoreline stabilization projects; piers and docks; dredging and fill; and shoreline habitat and natural systems enhancement projects. Prior to receiving approval from the City, Applicants seeking to modify shorelines in one of these ways will be required to submit a:

1. Site suitability analysis that justifies the project on fish and wildlife habitat and migration areas.
2. Habitat Management Plan prepared by a Qualified Professional that describes:
  - a. The anticipated effects of the project on fish and wildlife habitat and migration areas;
  - b. Provisions for protecting in-stream resources during construction and operation; and
  - c. Measures to compensate for impacts to resources that cannot be avoided.
3. An engineering analysis which evaluates and addresses:
  - a. The stability of the structure for the required design frequency;
  - b. Changes in base flood elevation, floodplain width, and flow velocity;
  - c. The potential for blocking or redirecting the flow which could lead to erosion of other shoreline properties or create an adverse impact to shoreline resources and uses;
  - d. Methods for maintaining the natural transport of sediment and bedload materials;
  - e. Protection of water quality, public access, and recreation; and
  - f. Maintenance requirements.

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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Under SVMC 21.50.430, there are additional added approval criteria specific to piers and docks. For Applicants seeking to develop piers and docks on the Spokane River east of the City of Millwood, these additional approval criteria require the following:

1. The site suitability analysis shall demonstrate that:
  - a. The river conditions in the proposed location of the dock, including depth and flow conditions, will accommodate the proposed dock and its use; and
  - b. Any design to address river conditions will not interfere with or adversely affect navigability.
2. The Habitat Management Plan for any such docks shall demonstrate that the proposed dock will not result in a net loss of ecological functions.

Also, per SVMC 21.50.430(B)(9), new residential development of two or more dwellings within the shoreline located east of the City of Millwood, and west of the Centennial Trail Pedestrian Bridge, shall provide joint use or community dock facilities, when feasible, rather than allowing individual docks for each residence.

### **4.2 State and Federal Regulatory Protections**

Federal and state regulations also provide mechanisms that aim to avoid adverse impacts to shoreline ecological functions. In addition to local regulations, several state and federal agencies have regulatory authority over resources within the City's shoreline jurisdiction. These regulations help manage potential cumulative impacts to shorelines. The following state and federal regulations may apply to activities and uses within the City's shoreline jurisdiction to avoid impacts.

- **Clean Water Act Section 404 Permit:** Section 404 of the Federal Clean Water Act regulates the discharge of dredged or fill material into waters of the United States. The U.S. Army Corps of Engineers (Corps) is responsible for authorizing fill activities.
- **Clean Water Act Section 401 Permit:** Applicants receiving a Section 404 permit from the Corps are required to obtain a Section 401 (Water Quality Certification) permit from Ecology. Water quality certification helps protect water quality by providing the state with the opportunity to evaluate aquatic impacts from federally-permitted projects.
- **Federal Endangered Species Act (ESA):** All projects with the potential to directly or indirectly affect species listed as threatened or endangered under the ESA are subject to the review of the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries).
- **National Flood Insurance Program (NFIP):** The Flood Insurance and Mitigation Administration (FIMA) administer NFIP, which provides flood insurance, floodplain

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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management, and flood hazard mapping. Participants in the NFIP adopt and enforce floodplain management ordinances to reduce future flood damage.

- **State Hydraulic Project Approval (HPA):** Any work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state requires a HPA permit from the Washington State Department of Fish and Wildlife. Project Applicants must show that construction will not adversely affect fish, shellfish, and their habitats.
- **Washington State Water Pollution Control Act (WPCA):** The WPCA prohibits the discharge of pollutants into any water of the state. Any discharge of pollutants from point sources to surface waters of the state requires a National Pollutant Discharge Elimination System (NPDES) permit from the Washington State Department of Ecology (Ecology).
- **Washington State Parks and Recreation Commission:** Planning projects at Washington State Parks require completion of the Classification and Management Plan (CAMP) process. The process reflects the standards set out in the State Environmental Policy Act (SEPA) and information collected through the planning effort is used to satisfy SEPA requirements.

### **4.3 Spokane Valley Boating Restrictions**

SVMC 7.25 describes the City's Water Safety Regulations, which are enforced by the Spokane County Sheriff's Department. Under SVMC 7.25.040(B), power boat traffic is limited to a no-wake speed (5 miles per hour) within 100 feet of either shoreline. The width of the river through the City east of Millwood ranges between 220 feet and 300 feet. This gives it an average width within the City limits of 260 feet, which allows only a narrow 60-foot-wide path for motor boating above the no-wake speed in the City.

### **4.4 Other Activities that May Protect or Restore Shoreline Functions**

As noted in Table 5-1, opportunities for the restoration of shoreline ecological functions have been identified throughout the City's SMP jurisdiction. These restoration opportunities are described in the City Shoreline Restoration Plan prepared for the SMP update (URS 2012b). Implementation of these restoration projects is coordinated through the City but is dependent upon volunteer interest or mitigation obligations associated with a shoreline permit application. Local environmental advocacy groups periodically work on tree planting and weed removal activities. Two such activities occurred over the last two years, including weed and trash removal combined with tree planting at Mirabeau Park and a separate tree planting effort near Barker Road Bridge. Based on this, volunteer restoration activities are reasonably foreseeable.

Future developments requiring a Substantial Shoreline Development Permit are likely to require mitigation if they involve habitat impacts that cannot be avoided. Where located near an

## **SECTION FOUR** Summary of Mitigating Regulations and Other Activities

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identified shoreline restoration opportunity, the City is expected to work with Applicants to include an identified restoration opportunity as part of the permit approval.

Other activities that are likely to protect or restore shoreline functions include ongoing weed management activities carried out by State Parks and the City as part of their routine park maintenance, which includes areas along the SRCT. Also, ongoing metals cleanup projects in and upstream of the City will improve water quality functions.

## 5.1 Findings

As summarized in Table 5-1 below, this SMP is generally expected to maintain existing shoreline net ecological functions through a combination of City regulations, state and federal regulations, current land ownership, land uses, and anticipated ecological restoration activities. The current shoreline regulations would closely review uses likely to have a detrimental impact on ecological functions. They establish standards to ensure compensatory mitigation of impacts to vegetation conservation areas, critical areas, and associated buffers, and they encourage restoration activities. They require building setbacks where appropriate. Additionally, since the first draft of this report was prepared, the City has included additional approval criteria for shoreline uses/modifications that were determined to have the potential for cumulative impacts that could degrade shoreline ecological functions, namely docks and associated access developments in an area with a high potential for multiple individual new residential developments.

Public comments and prior lawsuits have alleged that allowing for multiple docks between the Centennial Trail Bridge and the City of Millwood have the potential to cumulatively affect native redband trout and their habitat. While the current regulations still allow docks in the SR-W SED, the potential is low for there to be numerous docks that would cumulatively degrade net shoreline ecological functions. The potential for such cumulative impacts is limited by the additional approval criteria. These additional criteria require that Applicants wishing to construct docks demonstrate site suitability, prepare a Habitat Management Plan, and provide an engineering analysis report that evaluates the stability of the structure with regard to the river conditions.

Additionally, specific to piers and docks, the site suitability report required for all shoreline modifications must demonstrate that the river conditions in the proposed location of the dock, including depth and flow conditions, will accommodate the proposed dock and its use; and that any design to address river conditions will not interfere with or adversely affect navigability. The Habitat Management Plan for any such docks must demonstrate that the proposed dock will not result in a net loss of ecological functions. Approval criteria added to specifically limit the potential for multiple docks is found in SVMC 21.50.430(B)(9). This regulation requires that new residential development of two or more dwellings within the shoreline jurisdiction located east of the City of Millwood and west of the Centennial Trail Pedestrian Bridge must provide joint use or community dock facilities, when feasible, rather than allowing individual docks for each residence.

What would enhance the intent of this “joint use” requirement is a means to ensure that Applicants consider this joint use of docks as part of their application process. It is recommended that the regulations be slightly amended under SVMC 21.50.430 (B)(9) to include a provision that Applicants document their efforts coordinate with neighbors regarding joint use, and have neighbors sign their applications to indicate interest in docks. If neighbors are

interested then the City can require the Applicant to demonstrate joint or community use. If uninterested, the City will have a clear record to limit future applications (and associated cumulative impacts). While it is unclear that an Applicant could demonstrate site suitability for even one dock, this additional approval step would further “prevent the inherent harm in an uncoordinated and piecemeal development” (RCW 90.58.020) of the shoreline in SR-3.

Concentrated losses to shoreline ecological functions from cumulative effects are anticipated to be relatively small in area and limited to a small portion of the City’s shoreline jurisdiction where up to 31 new residential developments are anticipated between the Centennial Trail Bridge and the City of Millwood. In contrast, the majority of the SMP jurisdiction is made up by the UC SED, which appears likely to achieve a net increase in shoreline functions over the planning period as a result of public interest in volunteering for shoreline restoration projects, availability of shoreline restoration opportunities, and anticipated mitigation activities associated with likely shoreline developments. As a result, the overall, or net, status of shoreline ecological functions is expected to improve or at least remain at its current state within the City.

As noted in Table 5-1, where ecological functions may be affected by foreseeable cumulative impacts, recommendations for minimizing functional losses are provided that may help achieve no change over the planning period. It should be noted that some of the factors that may degrade shoreline ecological factors are largely beyond the scope of the SMP, including managed flows on the river and increased recreational use of the State Parks.

## SECTION FIVE

## Findings by Proposed Environmental Designation

**Table 5-1. Findings**

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-1	Urban Conservancy (HQ)	Native riparian forest/ Habitat for terrestrial wildlife, shade; bank stabilization; native biodiversity; woody material provision, base flow support  Ecological Rating: Fair-Good	No growth expected; area recommended for conservation  Ongoing shoreline erosion likely	Commercial and industrial uses, significant vegetation removal, prohibited. Non-water-oriented recreational development requires conditional use review. Requires setbacks from RHAs. Mitigation requirements apply to any development.	None planned; none needed	Area located away from recreation hot spots and no developments planned. Result is <b>No loss.</b>	Conserve/ protect existing native riparian functions
SR-1	Urban Conservancy	Primarily State Park land near shoreline/ Native riparian forest habitat for terrestrial wildlife, shade; bank stabilization; native biodiversity; woody material provision, flood protection, base flow support/  Ecological Rating: Fair-Good	Increased water-dependent uses  Minor soil, water, and vegetation disturbance from increased off-trail pedestrian traffic	Protects existing vegetation and limits floodplain development. Requires setbacks from RHAs. Allows for restoration. Mitigation requirements apply to most development in this SED.	Riparian habitat restoration/tree planting associated with voluntary efforts	Vegetation restoration should balance increased foot traffic impacts to result in <b>no loss.</b>	Encourage restoration opportunities 30-38

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## Findings by Proposed Environmental Designation

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-1	Shoreline Residential (Upland)	Single family residential development, low to medium density, on terrace above river/ Habitat for terrestrial wildlife, bank stabilization, shade/ Ecological Rating: Fair-Good	Small amount of new residential development, subdivisions and redevelopment expected/ Increased runoff from new impervious, vegetation alteration, habitat loss, edge effects on wildlife (light and noise impacts)	Maintains buffers, limits development in buffers, conserves vegetation, protects critical areas, imposes building setbacks, provides public access. Underlying zoning requires 20-foot development setback from property lines.	Riparian plantings, slope stability/ erosion control in nearby UC SED.	Development may result in potential localized <b>minor loss</b> due to increased runoff, increased shoreline access, docks, and edge effects. Functional losses are minimized by building setbacks, vegetation conservation and buffer standards, use restrictions, mitigation, and possible restoration activities	Look for ways to limit piecemeal stormwater and habitat impacts.  Restoration opportunity 36 (~0.06 acre)
SR-2	Urban Conservancy (HQ)	Native riparian forest or shrub areas with high biological diversity, mature vegetation, or uncommon species assemblages/ Habitat for terrestrial wildlife, shade; bank stabilization; native biodiversity; woody material provision, base flow support/ Ecological Rating: Fair-Good	Expected increase in recreational use as population increases and access improvements facilitate greater use/ Potential for increased noxious weeds, fire, vegetation disturbance from foot traffic.	Commercial and industrial uses, significant vegetation removal, prohibited. Non-water-oriented recreational development requires conditional use review. Requires setbacks from buffers. Mitigation requirements apply to any development.	None planned	Most areas located within a RHA and access improvements designed to direct recreation use outside of HQ areas. Restoration activities elsewhere assumed to balance minor effects of increased recreation resulting in <b>no loss</b> .	Conserve/ protect existing forest areas; Place new park developments in other SEDs; Restoration opportunity 29 (0.3 acre)

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## Findings by Proposed Environmental Designation

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-2	Urban Conservancy	<p>Primarily State Park land near shoreline with limited mixed-use, commercial, and industrial areas at outer edge of SMP zone/</p> <p>Native riparian forest habitat for terrestrial/aquatic wildlife, shade; bank stabilization; native biodiversity; woody material provision, flood protection/</p> <p>Ecological Rating: Fair-Good</p>	<p>Increased recreational uses and new commercial and mixed-use development south of State Park lands /</p> <p>Minor soil, water, and vegetation disturbance from increased off-trail pedestrian traffic; increased runoff from new impervious areas; minor increase in edge effects on wildlife (light and noise impacts)</p>	<p>SMP protects existing vegetation and limits floodplain development.</p> <p>Requires setbacks from buffers. For large developments, requires Habitat Management Plan and mitigation for habitat impacts. Dimensional standards limit size of new developments.</p> <p>City code and NPDES requires stormwater treatment for all new development</p>	<p>Riparian habitat restoration/tree planting associated with voluntary efforts</p> <p>Ongoing noxious weed control</p>	<p>Mitigation standards should limit loss of functions and large area of potential vegetation restoration should increase shoreline functions to result in <b>no net loss; potential net increase.</b></p>	<p>Restoration opportunities 8-24, 26-28 (~27.6 acres)</p>

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## Findings by Proposed Environmental Designation

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-2	Shoreline Residential (Upland)	Small area of single-family residential development, low density, on terrace above river/ Habitat for terrestrial wildlife, bank stabilization, shade/ Ecological Rating: Fair-Good	Small amount of new residential development and redevelopment expected/ Increased runoff from new impervious, vegetation alteration, habitat loss, edge effects on wildlife	Maintains buffers, limits development in buffers, conserves vegetation, protects critical areas, imposes building setbacks, provides public access. Underlying zoning requires 20-foot development setback from property lines.	Riparian plantings, slope stability/ erosion control in nearby UC SED.	Development may result in potential localized <b>minor loss</b> due to increased runoff, increased shoreline access, and edge effects. Functional losses are minimized by building setbacks, vegetation conservation and buffer standards, use restrictions, mitigation, and possible restoration activities	Restoration opportunity 25, 26 (~0.8 acres)
SR-3	Urban Conservancy (HQ)	Native riparian shrub areas with high biological diversity and unique riparian physical environment near Coyote Rock river formations / Habitat for terrestrial wildlife, shade, bank stabilization, native biodiversity, flood attenuation, woody material provision, base flow support/ Ecological Rating: Fair-Good	Expected increase in adjacent recreational use as population increases/ Potential for increased noxious weeds, fire	Commercial and industrial uses, significant vegetation removal, prohibited. Non-water-oriented recreational development requires conditional use review. Requires setbacks from buffers. Mitigation requirements apply to any development.	None planned	Areas located within a RHA and no development is anticipated in area resulting in <b>no loss</b> .	Restoration opportunity 6 would expand the HQ habitat to provide a net increase in shoreline habitat/water quality functions.

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## Findings by Proposed Environmental Designation

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-3	Urban Conservancy	<p>Primarily State Park land (Myrtle Point Natural Area and SRCT) near shoreline with limited mixed-use, commercial, and industrial areas at outer edge of SMP zone/</p> <p>Native riparian forest habitat for terrestrial/aquatic wildlife, shade; bank stabilization; flood attenuation, native biodiversity; woody material provision/</p> <p>Ecological Rating: Fair-Good</p>	<p>Small area with potential for increased recreational uses and possible new subdivision and/or commercial development/</p> <p>Minor soil, water, and vegetation disturbance from increased off-trail pedestrian traffic; increased runoff from new impervious areas; minor increase in edge effects on wildlife from new residential community (incl. pets)</p>	<p>SMP protects existing vegetation and limits floodplain development.</p> <p>Requires setbacks from buffers. For large developments, requires Habitat Management Plan and mitigation for habitat impacts. Dimensional standards limit size of new developments.</p> <p>City code and NPDES requires stormwater treatment for all new development</p>	Riparian plantings, passive restoration, erosion control	<p>Mitigation standards should limit loss of functions and large area of potential vegetation restoration should increase shoreline functions to result in <b>no loss; potential increases.</b></p>	Restoration opportunities 5-7 (6.0 acres)

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## Findings by Proposed Environmental Designation

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-3	Shoreline Residential (Waterfront)	<p>Area currently vacant but cleared and platted for new single family, waterfront development behind a 75-foot vegetated shoreline setback/</p> <p>Habitat for terrestrial wildlife, bank stabilization, shade/</p> <p>Ecological Rating: Fair-Good</p>	<p>Thirty-one new residential developments expected. Applications for new homes, dock developments and associated pathways anticipated/</p> <p>Increased runoff from new impervious, change to stream flow, vegetation alteration, habitat loss, edge effects on wildlife</p>	<p>SMP maintains buffers, limits development in buffers, conserves vegetation, and protects critical areas. Docks costing &lt;\$20K allowed by letter of exemption; larger docks require shoreline permit. Either way Applicant must prepare a site suitability analysis, HMP, and engineering analysis. No setbacks.</p>	Riparian enhancement on-site or in nearby UC SED.	<p>Approval of multiple shoreline modifications may result in potential localized <b>minor loss</b> due to increased runoff, increased shoreline access/habitat fragmentation, dock access, and edge effects. Functional losses are minimized by building setbacks, vegetation conservation and buffer standards, use restrictions, additional approval criteria, mitigation, and possible restoration activities.</p>	<p>Add a formal process to the approval criteria to ensure that nearby residents that may want docks in the future are considered in the approval process for individual private dock applications. Restoration opportunities 1-4 (1.0 acre)</p>
SR-3	Shoreline Residential (Upland)	<p>Small area platted for single-family residential development but currently vacant and covered with young pine trees/</p> <p>Habitat for terrestrial wildlife, bank stabilization, shade/</p> <p>Ecological Rating: Fair-Good</p>	<p>New single family residential development/</p> <p>Increased runoff from new impervious, vegetation alteration, habitat loss, edge effects on wildlife</p>	<p>Maintains buffers, limits development in RHA, conserves vegetation, protects critical areas, imposes building setbacks, provides public access. Underlying zoning requires 20-foot development setback from property lines</p>	Riparian plantings, slope stability/ erosion control in nearby UC SED.	<p>Development may result in potential localized <b>minor loss</b> due to increased runoff, increased shoreline access, docks, and edge effects. Functional losses are minimized by building setbacks, vegetation conservation and buffer standards, use restrictions, mitigation, and possible restoration activities.</p>	<p>Look for ways to limit piecemeal stormwater and habitat impacts. Has potential for passive restoration.</p>

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## Findings by Proposed Environmental Designation

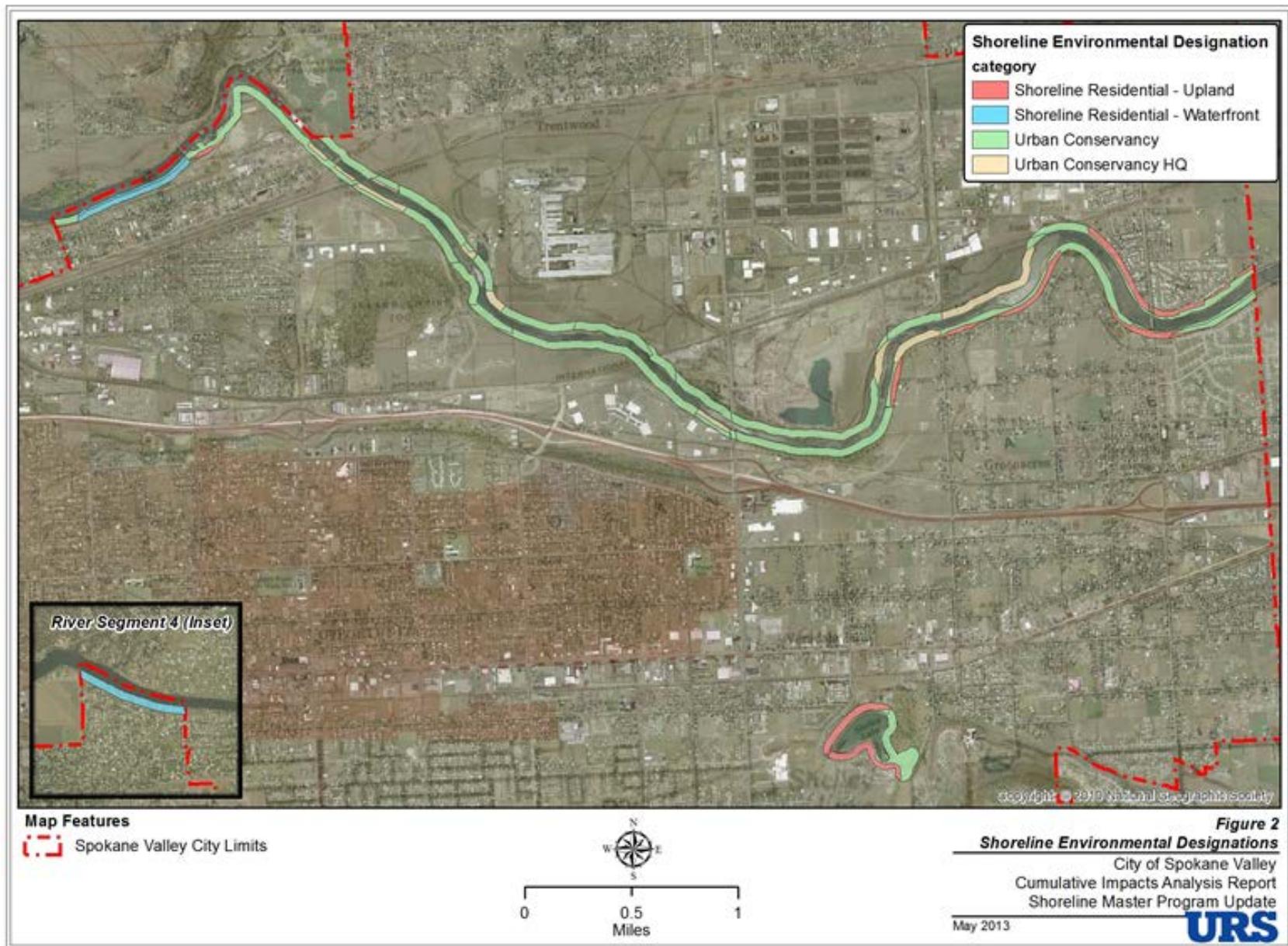
Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
SR-4	Shoreline Residential (Waterfront)	Fully developed residential area along slack water waterfront behind upriver dam. No public access. Many docks; shoreline heavily armored/  Shade from landscaping/  Ecological Condition: Poor-Fair	Residential development, recreational uses, public access	Standards for density, lot coverage limits, shoreline stabilization, vegetation conservation, critical area protection, and water quality to assure no net loss of ecological function.	No change to current ecological condition expected	No change anticipated.	Require native landscaping as partial mitigation for any new substantial developments.
SR (All)	Aquatic	Spokane River below the ordinary high water line/  Aquatic habitat for native fish, amphibians, benthic invertebrates; support for sensitive aquatic species <sup>1</sup> ; aquifer recharge; transport of materials; nutrient cycling; contaminated sediment cover  Ecological Condition: Fair-Good	Increased recreation and additional docks	Prevents most development, facilitates in-stream habitat restoration, TMDL&NPDES restrict pollution and provide for cleanup plan, state/federal permits required for most in-water work.	Barker south metals cleanup site will reduce metals contamination. Increased stormwater treatment standards likely to limit water quality degradation. Riparian enhancements will provide shade, organic matter.	Decreased flows likely.  Reduced trout populations likely with increase human use.	Prohibit/limit motorboats, design docks to allow light through decks, post signs to limit river use during peak trout spawning periods

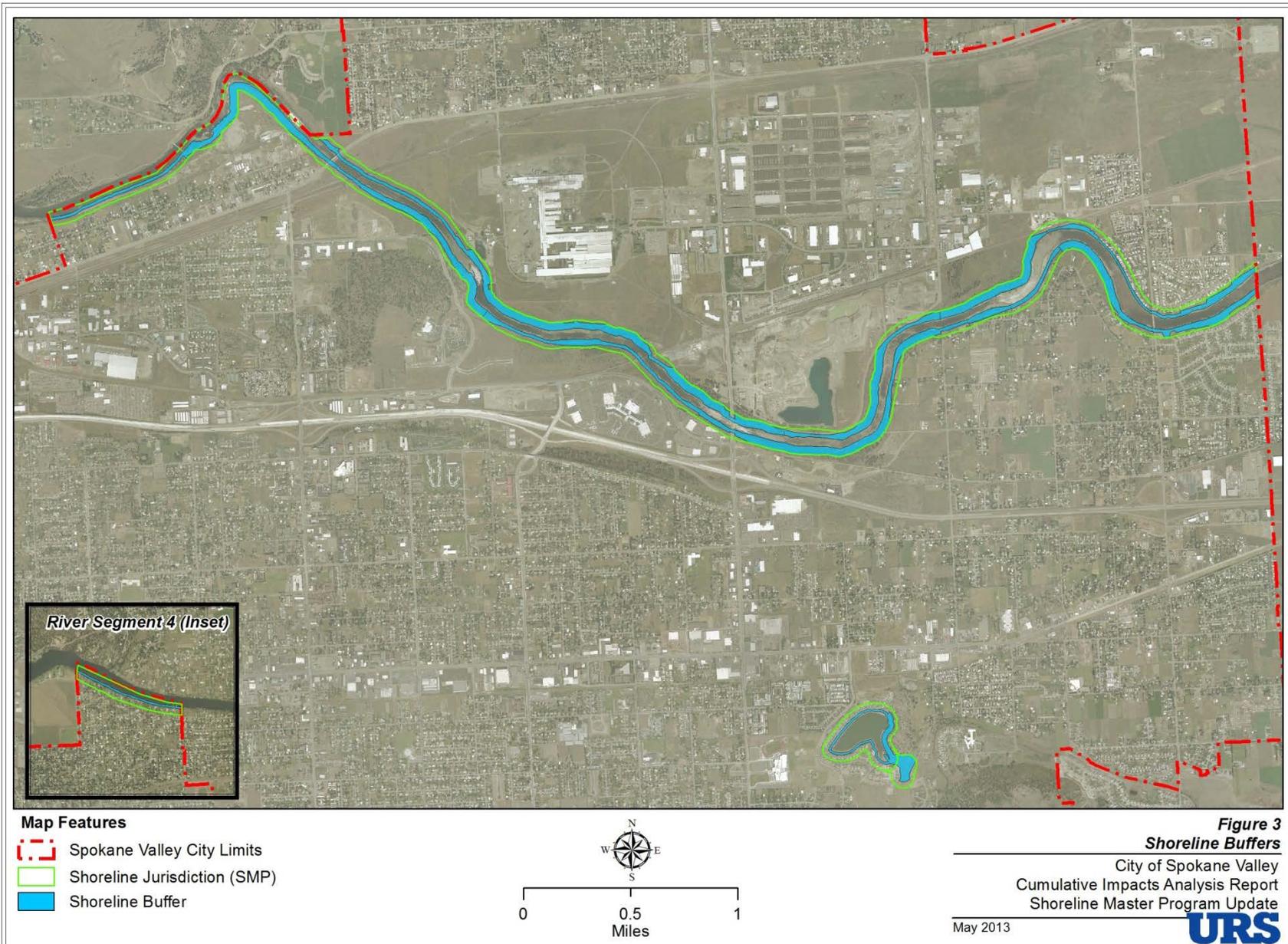
<sup>1</sup> Aquatic environment contains Priority Species.

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## Findings by Proposed Environmental Designation

Shoreline Segment	Environmental Designation	Existing Conditions/ Functions Provided/ Ecological Rating	Expected Growth/ Impacts	Effect of SMP & Other Regulations	Expected Ecological Enhancement	Net Impact to Functions over Next 20 years	Recommended Actions
Shelley Lake	Urban Conservancy	<p>Large private lot containing native riparian habitat and used by local community as a nature trail/ Habitat for terrestrial wildlife, shade, organic material for lake/ Ecological condition: good</p>	Limited growth in adjacent residential areas will bring additional foot traffic along existing trail	SMP Establishes RHA with limited development allowed.	Possible noxious weed control and revegetation	<b>No change</b> likely. With restoration, may see a <b>slight increase</b> .	Restoration opportunities 39, 40 (2.6 acres)
Shelley Lake	Shoreline Residential (Upland)	<p>Single- and multifamily residential development above an existing paved trail around majority of lake/ Minor shade for lake, roosting habitat for birds/ Ecological condition: poor-fair</p>	<p>New single- and multi-family residential development/ Additional water use, lawn chemicals, and runoff.</p>	SMP Maintains buffers and setbacks, conserves vegetation, protects critical areas, limits lot coverage. State and federal permits regulate in-water work	Work with local conservation district to establish vegetation along lake's draw-down zone	Most of lake is already developed along shoreline in this zone. Efforts to provide native plants along shoreline expected to maintain existing functions as recreational use increases resulting in <b>no change</b> .	





- URS Corporation. 2010. City of Spokane Valley Shoreline Master Program Update, Shoreline Inventory and Characterization Report. Spokane Valley, WA.
- URS Corporation. 2012. City of Spokane Valley Shoreline Master Program Update, Public Access Plan. Spokane Valley, WA.
- URS Corporation. 2012b. City of Spokane Valley Shoreline Master Program Update, Restoration Plan. Portland, OR