

STEVENSON

SHORELINE MASTER PROGRAM



City of Stevenson
First Draft Shoreline Restoration Plan

January 2018

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Tasks 4.1



DRAFT



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Chapter 1 – Introduction

1.1 Title

This document shall be known and may be cited as the 2018 Stevenson Shoreline Restoration Plan.

1.2 Adoption Authority & Plan Context

5 This restoration plan was prepared as part of the City of Stevenson (City) Comprehensive Shoreline Master Program (SMP) update. The City’s SMP was first adopted in June 1974, was revised in August 1975. The current program does not include a restoration plan element as is now required in order to comply with the Washington State Shoreline Management Act (SMA), Revised Code of Washington (RCW) 90.58, and the SMP Guidelines, Washington Administrative Code (WAC) 173.26.

10 Included within the updated SMP are the policies and regulations that govern the use and development of the City’s shorelines. Some projects require compensatory mitigation to offset unavoidable impacts, however research has shown that even the best designed and implemented mitigation projects are subject to some degree of failure. Therefore, the SMP is required to include a “real and meaningful” strategy to restore shoreline ecological functions where such functions are
15 impaired. This restoration plan is the City’s strategy.

This strategy is adopted under the authority granted by the Shoreline Management Act of 1971 embodied in the RCW Chapter 90.58, and is adopted in compliance with the Shoreline Master Program Guidelines contained in WAC 173-26.

20 This Restoration Plan is not proposed for inclusion as regulatory text or as part of the Stevenson Comprehensive Plan or the Stevenson Municipal Code. However, the City’s SMP indicates that degraded areas should be restored in accordance with this restoration plan, and the content of this plan will serve as a useful reference during SMP implementation.

1.3 Purpose

25 Generally speaking, shoreline and waterbody restoration is defined as returning an area to a previous condition by improving its current ecological conditions. The SMA defines restoration as follows:

“Restore”, “Restoration”, or “Ecological Restoration” means the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions. (WAC 173-26-020)

30 The purpose of this plan is to identify restorative actions to address impaired ecological processes and functions. Although many of the opportunities for restoration activities described in this plan affect private property, it is not the intention of the City to require or commit private property owners to
35 carrying out those restoration activities. Instead, this is a facilitative plan of the City which will support restoration actions whenever willing collaborations with or between landowners materialize. Additionally, private landowners who are required to provide mitigation for development-related

impacts may choose to implement the actions noted in this plan as a way of meeting those mitigation obligations.

40 **1.3.1 No Net-Loss & Restoration**

Per the SMP Guidelines, “no net loss” means that impacts may occur, but adequate measures are in place within the overall shoreline program to mitigate them such that the post-development conditions are no worse overall than pre-development conditions.

45 The restoration plan component of the SMP is an acknowledgement that mitigation alone is not enough to prevent loss of ecological functions during land use and development, and that a restoration plan is needed to offset the expected loss of function that will occur from site-specific mitigation and other incremental impacts sustained over time.

50 The state guidelines note that “no net loss” is achieved primarily through regulatory mechanisms, including mitigation requirements, but that restoration incentives and voluntary actions are also critical to achieving no net loss. The SMP requires that developers of shoreline development fully mitigate impacts caused by their proposed development. Although developers are not required to improve conditions over and above the impacts of their development action, they may elect to implement elements of this plan as mitigation for shoreline development if appropriate. As an example, a park improvement project could be designed to include the removal of invasive species and streambank stabilization. These actions would have the effect of improving conditions over time, which is necessary for achieving no net loss.

55 Citizens, agencies, and other groups may also elect to implement portions of this plan irrespective of development activity or requirements to mitigate impacts and purely for the ecological benefits of restoration.

60 **1.4 Methodology**

SMPs must include goals, policies, and actions to restore impaired shoreline ecological functions. These provisions are to achieve overall improvements in shoreline ecological functions over time, when compared to the functions’ status upon adoption of the SMP. The approach to restoration planning may vary significantly among local jurisdictions, depending on the size of the jurisdiction; the extent and condition of the shorelines in the jurisdiction; the availability of grants, volunteer programs, or other tools for restoration; and the nature of the ecological functions to be addressed by restoration planning. The guidelines (WAC 173-26-201(2)(f)) require that shoreline restoration plans address the following six components.

- 70 • Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration.
- Establish overall goals and priorities for the restoration of degraded areas and impaired ecological functions.
- 75 • Identify existing and ongoing projects and programs that are being implemented, or are reasonably assured of being implemented (based on an evaluation of funding likely in the foreseeable future), and which are designed to contribute to local restoration goals.

- Identify additional projects and programs needed to achieve local restoration goals and implementation strategies, including prospective funding sources for the projects and programs.
- Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals.
- Provide mechanisms or strategies that will ensure 1) the implementation of restoration projects and programs according to plans, and 2) the appropriate review of their effectiveness in meeting the overall restoration goals.

1.4.1 Study Area

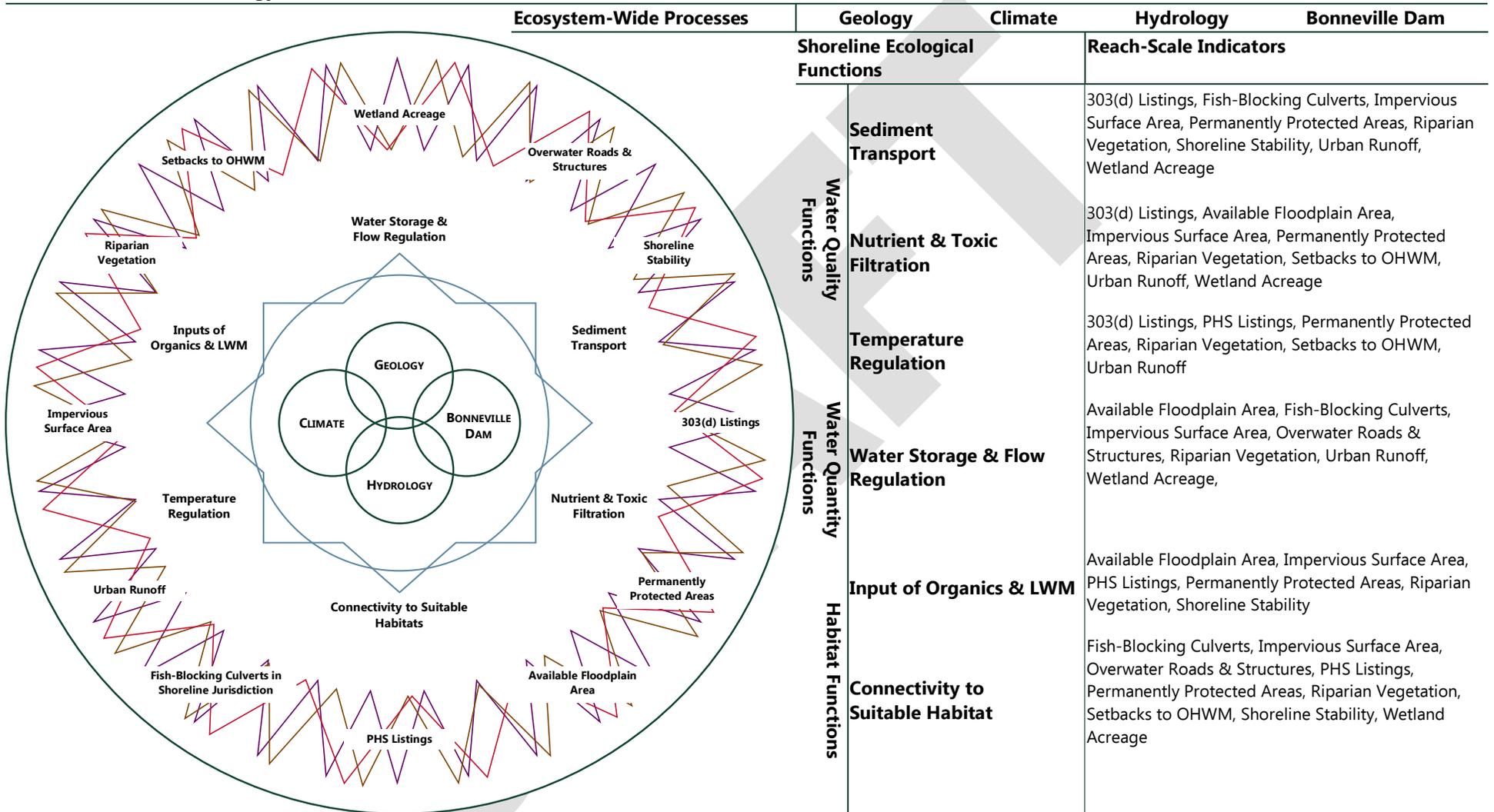
The City is located in Skamania County, Washington, on the north bank of the Columbia River in the Columbia River Gorge National Scenic Area, and contains shorelines associated with Columbia River (a shoreline of statewide significance), Ashes Lake, Rock Cove, and Rock Creek. The City encompasses approximately 1.52 square miles in Water Resource Inventory Area (WRIA) 29 – Wind-White Salmon – and is surrounded by rural residential and forest lands to the east, west and north. The WRIA subbasins where Stevenson’s shoreline is located include Rock Creek and several Columbia River Tributaries. The study area for this report includes all land currently within the City’s proposed shoreline jurisdiction and predesignation areas, as depicted in Map 1 in Appendix A. The total area subject to the proposed SMP is ~205 acres, with only ~104 acres currently within the City’s Shoreline Jurisdiction. The study area of this restoration plan evaluates ~10 miles of shoreline length, with ~6.3 miles of shoreline currently within city jurisdiction.

1.4.2 Relationship to Inventory & Characterization Report

This analysis will rely on the existing condition information provided in the City’s Shoreline Inventory & Characterization Report (ICR), which evaluated ecosystem-wide processes, shoreline ecological functions, and the land uses within shoreline jurisdiction. Figure 1-1 on the next page is taken from the ICR to describe how the 4 ecosystem-wide processes, 6 ecological functions, and 12 reach-scale indicators were evaluated. ICR Chapter 4 includes descriptions of each indicator, a qualitative assessment of their performance, and identifies degraded areas and aspects of the reach which could be restored and/or enhanced. The restoration plan provides an opportunity to assess the development potential of the draft SMP’s proposed environment designations. The restoration opportunities provided in this restoration plan will require further investigation and analysis in order to assess their costs, benefits, and overall feasibility within the City’s shoreline jurisdiction.

Figure 1-1 Stevenson’s Ecosystem-Wide Processes, Ecological Functions, and Reach-Scale Indicators

Characterization Methodology



Chapter 2 – Existing Conditions

This section includes selected text from the ICR as an overview of the shoreline waterbodies in Stevenson’s shoreline jurisdiction. The following includes summary of the major degraded aspects in Stevenson, and a short description and summary of each reach. A more complete background is provided in the ICR.

2.1 Summary of Degraded Areas and Restoration Opportunities

The summaries below list 73 degraded areas and restoration opportunities within the City’s 7 reaches. When reviewed collectively, however, 18 discrete categories of action can be identified to will help set the context for the restoration priorities, strategies and projects discussed in subsequent sections:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Aggradation in lower Rock Creek.
3. Shoreline instability near the Piper Road Landslide.
4. Character and coverage of riparian vegetation.
5. Rip rap armoring of shorelines.
6. Presence of piers in Rock Creek for the SR 14 and Rock Creek Drive bridges.
7. Active shoreline erosion along Port holdings.
8. Culverts.
9. Unknown character of PHS listings.
10. Unknown character and functions of wetlands.
11. Ecosystem-wide water quality concerns.
12. Paved coverage.
13. Proximity of non-water-oriented and/or abandoned structures to OHWM.
14. Sheet pile at Leavens Point.
15. Abandoned pilings.
16. Quantity & unknown quality of stormwater runoff.
17. Quality of stormwater entering from Vancouver Avenue outfall.

2.2 Assessment of Individual Reaches

2.2.1 Columbia River Reach 1 – East Urban Area

The physical shoreline of Columbia River Reach 1 is located entirely within Skamania County and east of the City’s downtown waterfront. However, some small areas of shorelands and 2 associated wetlands from this reach extend into inside city limits. The shorelands occur along the Kanaka Creek Underpass road, and the wetlands are located on the north side of SR 14, affecting 3 properties having commercial, stormwater utility, and residential uses. Beyond these areas, the City has elected to predesignate the shorelines of this reach that are located outside existing City boundaries. In total, this comprises~5,555 linear feet of Columbia River shoreline and 256 acres of shoreline jurisdiction area, 26.1 acres of which are shorelands above the OHWM. The reach starts at the eastern urban growth boundary line at Nelson Creek and ends downstream at the eastern city limits and Kanaka Creek. This reach is a shoreline of statewide significance.

The Summary of Ecological Functions for this reach is included below as Figure 2-1.

Figure 2-1 Summary of Ecological Functions, Columbia River Reach 1

		Indicators of Ecological Functions—CR1										Overall	
		Physical Environment			Biological Environment				Altered Conditions				
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff
Water Quality	Sediment Transport		➔	⊖	⊖	⊖		➔	⚠	➔		➔	⊖
	Nutrient & Toxic Filtration	⚠	➔			⊖		➔	⚠	➔		⚠	➔
	Temperature Regulation		➔			⊖	➔		⚠			⚠	➔
Water Quantity	Water Storage & Flow Regulation	⚠	➔		⊖			➔		➔	⊖	➔	⊖
	Input of Organics & LWM	⚠	➔	⊖		⊖	➔			➔			➔
Habitat	Connectivity to Suitable Habitat		➔	⊖	⊖	⊖	➔	➔		➔	⊖	⚠	➔

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Character and coverage of riparian vegetation.
3. Rip rap armoring of shorelines (BNSF/SR 14 berm).
4. Culverts (railroad/highway berm and Lutheran Church Road).
5. Unknown character of PHS listings.
6. Unknown character and functions of wetlands.
7. Ecosystem-wide water quality concerns.
8. Proximity of non-water-oriented and/or abandoned structures to OHWM.
9. Quantity & unknown quality of stormwater runoff.

2.2.2 Columbia River Reach 2 – Downtown Waterfront

Columbia River Reach 2 is located in the city and includes the downtown waterfront and ~4,175 linear feet of Columbia River shoreline. The reach starts at the eastern limits of the city at Kanaka Creek, and ends downstream at its western limits on the Columbia River, at the center of the BNSF railroad bridge over Rock Creek. There are 222 acres of total land and water area in this reach and 35 acres of land above the OHWM.

The Summary of Ecological Functions for this reach is included below as Figure 2-2.

65 **Figure 2-2 Summary of Ecological Functions, Columbia River Reach 2**

		Indicators of Ecological Functions—CR2										Overall	
		Physical Environment			Biological Environment				Altered Conditions				
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff
Water Quality	Sediment Transport		↔	↗	↗	↗		↗	↔	↔		↗	↘
	Nutrient & Toxic Filtration	↔	↔			↗		↗	↔	↔	↗	↗	↔
	Temperature Regulation		↔			↗	↗		↔	↔		↗	↗
Water Quantity	Water Storage & Flow Regulation	↔	↔		↗			↗		↔	↘	↗	↔
Habitat	Input of Organics & LWM	↔	↔	↗		↗	↗		↔	↔			↔
	Connectivity to Suitable Habitat		↔	↗	↗	↗	↗		↔	↔	↘	↗	↗

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Aggradation in lower Rock Creek.
3. Character and coverage of riparian vegetation.
4. Rip rap armoring of shorelines.
5. Active shoreline erosion along Port holdings.
6. Culverts (Kanaka Creek).
7. Unknown character of PHS listings.
8. Unknown character and functions of wetland.
9. Ecosystem-wide water quality concerns.
10. Paved coverage (Cascade Avenue, Kanaka Creek Underpass, and parking areas).
11. Proximity of non-water-oriented and/or abandoned structures to OHWM.
12. Sheet pile at Leavens Point.
13. Abandoned pilings.
14. Quantity & unknown quality of stormwater runoff.

2.2.3 Columbia River Reach 3 – West Urban Area

Columbia River Reach 3 is located south of Rock Cove and west of the downtown waterfront. It includes ~8,000 linear feet of the Columbia River shoreline, and 396 acres of predesignated shoreline area. Only 34 acres of this reach are shorelands located above the OHWM. The reach is located outside the city limits and begins at the western boundary of Columbia River Reach 2 at the centerline of Rock Creek and ends downstream at the eastern boundary of Ashes Lake. The reach includes the full right-of-way for SR 14, the BNSF railroad, and privately owned properties. This reach is a shoreline of statewide significance.

The Summary of Ecological Functions for this reach is included below as Figure 2-3.

Figure 2-3 Summary of Ecological Functions, Columbia River Reach 3

		Indicators of Ecological Functions—CR3											Overall
		Physical Environment			Biological Environment				Altered Conditions				
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff
Water Quality	Sediment Transport		↘	—	↔	↘		—	↘	↘		↘	↘
	Nutrient & Toxic Filtration	↘	↘			↘		—	↘	↘		↘	↘
	Temperature Regulation		↘			↘	↘		↘			↘	↘
Water Quantity	Water Storage & Flow Regulation	↘	↘		↔			—		↘	—	↘	↘
	Input of Organics & LWM	↘	↘	—		↘	↘			↘			↘
Habitat	Connectivity to Suitable Habitat		↘	—	↔	↘	↘	—		↘	—	↘	↘

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Aggradation in lower Rock Creek.
3. Character and coverage of riparian vegetation.
4. Rip rap armoring of shorelines.
5. Unknown character of PHS listings.
6. Ecosystem-wide water quality concerns.
7. Paved coverage (roads and former industrial site).
8. Proximity of non-water-oriented and/or abandoned structures to OHWM.
9. Abandoned pilings.
10. Quantity & unknown quality of stormwater runoff.

2.2.4 Rock Creek Reach 1

Rock Creek Reach 1 includes the shoreline jurisdictional area associated with Rock Creek within the City’s boundaries. On the east side of this stream, this reach covers the area within city limits from the approximate extension of Lasher Street downstream to the BNSF railroad trestle. This reach also runs along the west/south side of the stream from Ryan Allen Road at the upstream end to the BNSF railroad trestle at the downstream end. The southwestern boundary of this reach at the Rock Cove reach is hard to pinpoint, running southward over the Creek’s deltaic deposits toward the trestle. This reach includes ~10,375 linear feet of shoreline, 44 acres of shorelands, and 4 acres of water within shoreline jurisdiction. This reach is not a shoreline of statewide significance.

The Summary of Ecological Functions for this reach is included below as Figure 2-4.

Figure 2-4 Summary of Ecological Functions, Rock Creek Reach 1

		Indicators of Ecological Functions—RC1											Overall
		Physical Environment			Biological Environment				Altered Conditions				
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff
Water Quality	Sediment Transport		⬆️	⬆️	⬆️	⬆️		⬆️	⬆️	⬆️		⬆️	⬆️
	Nutrient & Toxic Filtration	⬆️	⬆️			⬆️		⬆️	⬆️		⬆️	⬆️	⬆️
	Temperature Regulation		⬆️			⬆️	⬆️		⬆️		⬆️	⬆️	⬆️
Water Quantity	Water Storage & Flow Regulation	⬆️	⬆️		⬆️			⬆️		⬆️	⬆️	⬆️	⬆️
	Input of Organics & LWM	⬆️	⬆️	⬆️		⬆️	⬆️		⬆️				⬆️
Habitat	Connectivity to Suitable Habitat		⬆️	⬆️	⬆️	⬆️	⬆️	⬆️		⬆️	⬆️	⬆️	⬆️

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Aggradation in lower Rock Creek.
3. Shoreline instability near the Piper Road Landslide.
4. Character and coverage of riparian vegetation (lower Rock Creek).
5. Rip rap armoring of shorelines.
6. Presence of piers in Rock Creek for the SR 14 and Rock Creek Drive bridges.
7. Unknown character of PHS listings.
8. Ecosystem-wide water quality concerns.
9. Paved coverage (roads and parking areas).
10. Proximity of non-water-oriented and/or abandoned structures to OHWM (abandoned residential and former transportation structures).
11. Abandoned pilings.
12. Quantity & unknown quality of stormwater runoff.
13. Quality of stormwater entering from Vancouver Avenue stormwater outfall.

2.2.5 Rock Creek Reach 2

Rock Creek Reach 2 includes shoreline jurisdictional area associated with the north/east bank of Rock Creek in the unincorporated Urban Area. This includes the area ~5,325 linear feet from the City boundary at about Lasher Street upstream to the urban area boundary just north of Ryan Allen Road. The reach includes 30 acres of land and 7 acres of water. The City is choosing to predesignate this reach in preparation for future annexation. This reach is not a shoreline of statewide significance. The Summary of Ecological Functions for this reach is included below as Figure 2-5.

Figure 2-5 Summary of Ecological Functions, Rock Creek Reach 2

		Indicators of Ecological Functions—RC2										Overall	
		Physical Environment			Biological Environment				Altered Conditions				
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff
Water Quality	Sediment Transport		⬆️	⬇️	⬇️	⬆️	⬆️	⬆️	⬆️	⬆️		⬆️	⬆️
	Nutrient & Toxic Filtration	⬆️	⬆️			⬆️		⬆️	⬆️	⬆️		⬆️	⬆️
	Temperature Regulation		⬆️			⬆️	⬇️		⬆️			⬆️	⬆️
Water Quantity	Water Storage & Flow Regulation	⬆️	⬆️		⬇️			⬆️		⬆️	⬆️	⬆️	⬆️
Habitat	Input of Organics & LWM	⬆️	⬆️	⬇️		⬆️	⬇️		⬆️				⬆️
	Connectivity to Suitable Habitat		⬆️	⬇️	⬇️	⬆️	⬇️	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Aggradation in lower Rock Creek.
3. Shoreline instability near the Piper Road Landslide.
4. Character and coverage of riparian vegetation (Piper Road Landslide).
5. Unknown character of PHS listings.
6. Proximity of non-water-oriented and/or abandoned structures to OHWM.
7. Quantity & unknown quality of stormwater runoff.

2.2.6 Rock Cove

The Rock Cove reach includes the waterbody otherwise known as the Stevenson Mill Pond, Stevenson Lake, Rock Creek Pond, or Hegewald Mill Pond. Rock Cove is located in the city, is connected to Rock Creek Reach 1 at its mouth, and is to the north of Columbia River Reach 3, separated by the highway/railroad berm. The reach includes all of Rock Cove, the northern fill slope of SR 14, and western portions of the Skamania County Fairgrounds, the Columbia Gorge Interpretive Center, other County-owned properties, and three residential properties. Including the islands in the cove, there are ~18,800 linear feet of shoreline, 69 acres of water, and 35 acres of shorelands. There is presently a lack of clarity regarding whether this reach is a shoreline of statewide significance.

The Summary of Ecological Functions for this reach is included below as Figure 2-6.

Figure 2-6 Summary of Ecological Functions, Rock Cove Reach

		Indicators of Ecological Functions—RCo											Overall
		Physical Environment			Biological Environment				Altered Conditions				
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff
Water Quality	Sediment Transport		↖	↗	↖	↖		↖	↘	↘		↘	↗
	Nutrient & Toxic Filtration	↘	↖			↖		↖	↘	↘		↖	↘
	Temperature Regulation		↖			↖	↖		↘			↖	↘
Water Quantity	Water Storage & Flow Regulation	↘	↖		↖			↖		↘	⊥	↘	↘
Habitat	Input of Organics & LWM	↘	↖	↗		↖	↖			↘			↗
	Connectivity to Suitable Habitat		↖	↗	↖	↖	↖	↖		↘	⊥	↗	↗

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Aggradation in lower Rock Creek.
3. Character and coverage of riparian vegetation.
4. Rip rap armoring of shorelines.
5. Culverts (Foster Creek).
6. Unknown character of PHS listings.
7. Unknown character and functions of wetland.
8. Ecosystem-wide water quality concerns.
9. Paved coverage (roads and parking areas).
10. Proximity of non-water-oriented and/or abandoned structures to OHWM (abandoned former industrial fences and concrete structures).
11. Abandoned pilings.
12. Quantity & unknown quality of stormwater runoff.

2.2.7 Ashes Lake

The Ashes Lake reach includes only the extreme eastern portion of Ashes Lake, two road rights-of-way (Ash Lake and Mallicott), and small portions of privately owned properties. This reach is located within the Stevenson Urban Area, west of Skamania Lodge and north of SR 14, and is being pre-designated. The Columbia River frontage south of the highway and railroad is part of Columbia River Reach #3, previously described. The shoreline jurisdictional area of this reach includes all lands extending landward for 200 feet from the OHWM, including floodplains within 200 feet. This reach is not a shoreline of statewide significance.

The Summary of Ecological Functions for this reach is included below as Figure 2-7.

Figure 2-7 Summary of Ecological Functions, Ashes Lake Reach

		Indicators of Ecological Functions—AL										Overall		
		Physical Environment			Biological Environment				Altered Conditions					
		Available Floodplain Area	Riparian Vegetation	Shoreline Stability	Fish-Blocking Culverts	Permanently Protected Areas	PHS Listings	Wetland Acreage	303(d) Listings	Impervious Surface Area	Overwater Roads & Structures	Setbacks to OHWM	Urban Runoff	
Water Quality	Sediment Transport		↔	↘	↔	↘		↘	↔	↔		↘	↘	↔
	Nutrient & Toxic Filtration	↔	↔			↘		↘	↔	↔		↘	↘	↔
	Temperature Regulation		↔			↘	↘		↔			↘	↘	↘
Water Quantity	Water Storage & Flow Regulation	↔	↔		↔			↘		↔	↔	↘	↘	↘
Habitat	Input of Organics & LWM	↔	↔	↘		↘	↘			↔				↔
	Connectivity to Suitable Habitat		↔	↘	↔	↘	↘	↘		↔	↔	↘		↘

The degraded areas and restoration opportunities identified in this reach include:

1. Bonneville impoundment of the Columbia River and inundation of floodplains.
2. Character and coverage of riparian vegetation.
3. Rip rap armoring of shorelines.
4. Unknown character of PHS listings.
5. Unknown character and functions of wetland.
6. Paved coverage (roads).
7. Proximity of non-water-oriented and/or abandoned structures to OHWM.
8. Quantity & unknown quality of stormwater runoff.

Chapter 3 – Restoration Goal, Strategies & Projects

205 This chapter of the restoration plan sets the overall goal and establishes priorities for restoration of degraded areas and impaired ecological functions within the City’s shoreline jurisdiction in accordance with the SMP guidelines (WAC 173-26-201(2)(f)). The goal of this restoration plan envisions a future where:

210 *Voluntary actions and public/private partnerships successfully restore, reestablish, or otherwise improve shoreline ecological functions. As a result, ecosystem-wide processes are more stable than in 2018, and Stevenson’s shorelines are more capable than ever before of sustaining human investments in shoreline areas.*

The sections of this chapter describe how this goal can be reached and lay out the priorities for restoration activities, including the rationale for their establishment.

215 3.1 Shoreline Restoration Strategies

The restoration plan establishes a basic framework for improving the quality and sustainability of the City’s shoreline resources over time. This framework is based on the City’s restoration strategies to Program, Cooperate, Vegetate, Share, and Filter as detailed in Figure 3-1. These strategies are intended to be identify broad courses of action that will lead to an improvement of Stevenson’s shoreline ecosystem in a collaborative, consistent, manner.

220

Figure 3-1 Restoration Strategies	
Title	Description
Program	Integrate restoration efforts with city programs, policies, capital projects, and other resource management efforts.
Cooperate	Encourage cooperative restoration actions involving local, state, and federal public agencies, tribes, non-governmental organizations (NGOs), and private landowners.
Vegetate	Restore degraded riparian vegetation throughout the city.
Share	Increase the availability and viability of shoreline habitats for salmon, resident fish, mammals, birds, and other species.
Filter	Restore water quality so that the waters in the City are safe for drinking, swimming, and other human uses and enjoyment, and contribute to the health and wellbeing of native mammals, fish, and birds.

3.2 Shoreline Restoration Actions & Projects

225 This section identifies specific actions which can be taken to restore the ecological functions of Stevenson’s shorelines. The restoration actions and projects described in Figure 3-2 are recommended to implement the strategies identified in Figure 3-1, to reach the City’s goal for shoreline restoration, and to ensure “no net loss” of shoreline ecological functions in Stevenson.

For each action or project listed, Figure 3-2 a preliminary prioritization (high, low) is provided. The voluntary nature of restoration engenders frequent reprioritization of projects as needs change and opportunity arise, however, the prioritization included here remains useful in identifying the projects with the greatest impact. The preliminary priorities were assigned as follows:

- 230
- **High:** Restoration projects that address more than 4 indicators of ecological function or will lead to significant improvements in any one indicator, especially water quality impairments as recorded by the State 303(d) list.
 - **Low:** Restoration projects that address 4 or fewer indicators of ecological function and lead to marginal improvements in the indicators addressed.

235 The figure also identifies key aspects about the project’s need and or components. The final column in this figure identifies which indicators of shoreline ecological function are expected to improve upon completion of the project and whether those improvements can be expected in any specific reach. T

3.2.2 *Restoration Actions*

240 The restoration actions recommended for each shoreline waterbody were compiled from a number of studies and reports, including the inventory and characterization report, the Draft SMP, and reports and knowledge provided by partners in restoration (as listed in Restoration Plan Chapter 4). The Lower Columbia Fish Recovery Board (LCFRB) is a particularly noteworthy partner based on the organizational and funding activities they perform.

245 In addition to the restoration actions listed in this document, other potential restoration projects can be found in reports released by partner organizations. For example, the LCFRB identifies restoration opportunities through their SalmonPORT database and in their detailed implementation plans that have already been funded and/or completed.

Figure 3-2 Restoration Actions		
Project/Priority	Description/Actions	Benefit
R.1 Invasive riparian and aquatic species eradication Priority: Low	<ul style="list-style-type: none"> Partner with and encourage participation in the Skamania County Noxious Weed Control Program, develop projects to eradicate invasive species from shoreline habitats. Identify and remove invasive aquatic species, including milfoil. Identify and remove invasive species, including Himalayan blackberry, reed canary grass, and English Ivy. Replant native trees and shrubs to discourage recolonization of invasives, control erosion, and preserve water quality. 	<p>Indicators Improved: Riparian Vegetation, Shoreline Stability, Urban Runoff</p> <p>Reaches Improved: All</p>
R.2: Stevenson Shoreline Restoration and Enhancement Project Priority: High	<ul style="list-style-type: none"> Encourage multi-agency partnership to complete the currently-permitted Stevenson Shoreline Restoration and Enhancement Project. Coordinate with Restoration Plan Projects R.5, R.6, and R.14. 	<p>Indicators Improved: Riparian Vegetation, Shoreline Stability, Permanently Protected Areas, Overwater Roads & Structures, Setbacks to OHWM, Urban Runoff</p> <p>Reaches Improved: CR2</p>
R.3: Rock Creek Drive Bridge Priority: High	<ul style="list-style-type: none"> Replace bridge with freespan structure. Remove existing bridge piers and upstream in-water "tree-catcher" structures. Coordinate with Restoration Plan Projects R.4, R.5, R.6, and R.11. 	<p>Indicators Improved: Available Floodplain Area, Overwater Roads & Structures</p> <p>Reaches Improved: RC1</p>
R.4: Vancouver Avenue stormwater outfall Priority: High	<ul style="list-style-type: none"> Develop public stormwater treatment infrastructure to treat water drained from the residential core of the city. Coordinate with Restoration Plan Projects R.3 and R.11 	<p>Indicators Improved: Riparian Vegetation, 303(d) Listings, Impervious Surface Area, Urban Runoff</p> <p>Reaches Improved: CR2, CR3, RC1, RCo</p>
R.5: Habitat quality issues for salmonid species in Rock Creek Priority: High	<ul style="list-style-type: none"> Improve fish passage. Reduce sediment accumulation. Increase habitat diversity. Improve stream flow Ameliorate high water temperatures. Improve channel stability Reduce effective stormwater runoff. Remove/improve barriers to fish passage. Place LWM to enhance cover, pool formation, bank stability, and sediment sorting. Decrease channel width-to-depth ratios. 	<p>Indicators Improved: Available Floodplain Area, Riparian Vegetation, Shoreline Stability, PHS Listings, Overwater Roads & Structures</p> <p>Reaches Improved: CR2, CR3, RC1, RC2, RCo</p>

	<ul style="list-style-type: none"> Enhance coniferous riparian vegetation to improve sediment sorting and channel stability. 	
<p>R.6: Water quantity and quality issues caused by landslides along Rock Creek Priority: High</p>	<ul style="list-style-type: none"> Reduce stormwater runoff, especially in sensitive areas (steep, erodible slopes). Reduce sediment accumulation. Improve channel stability. Restore natural rates of erosion and mass wasting within river corridors. Replant heavily cut forest areas. Replant/enhance riparian vegetation to improve sediment sorting and channel stability. Place LWM to enhance cover, pool formation, bank stability, and sediment sorting. 	<p>Indicators Improved: Available Floodplain Area, Riparian Vegetation, Shoreline Stability, PHS Listings, 303(d) Listings Reaches Improved: CR2, CR3, RC1, RC2, RCo</p>
<p>R.7: Canopy cover improvement Priority: Low</p>	<ul style="list-style-type: none"> Plant trees along shorelines, especially trees that will provide shade from the south and west banks. Plant Oregon White Oak and other trees that overhang shoreline waterbodies and provide allochthonous inputs to the aquatic ecosystem. Discourage planting of non-native vegetation and lawns because of their need for more water, which can contribute to erosion, and fertilizers, which can negatively affect water quality. 	<p>Indicators Improved: Riparian Vegetation, Shoreline Stability, PHS Listings, 303(d) Listings Reaches Improved: CR2, CR3, RC1, RC2, RCo</p>
<p>R.8: Kanaka Creek fish passage Priority: Low</p>	<ul style="list-style-type: none"> Replace culverts to improve fish passage. Increase habitat diversity. 	<p>Indicators Improved: Fish-Blocking Culverts, PHS Listings Reaches Improved: CR1, CR2</p>
<p>R.9: Foster Creek fish passage Priority: Low</p>	<ul style="list-style-type: none"> Replace culverts to improve fish passage. Increase habitat diversity. 	<p>Indicators Improved: Fish-Blocking Culverts, PHS Listings Reaches Improved: RCo</p>
<p>R.10: Data gap closure Priority: High</p>	<ul style="list-style-type: none"> Address gaps that hinder identification of site-specific restoration needs and opportunities. Identify and assess the quality of priority habitats and the primary constituent elements of critical habitat for species protected by state and federal law. Delineate and rate wetlands in shoreline jurisdiction in advance of development proposals. Ensure restoration project data and information are fully integrated and tracked in LCFRB's SalmonPORT database. Identify whether culverts under the railroad and SR 14 eliminate fish passage. Encourage a statewide or regionwide clearinghouse to curate wetland reports and datasheets. Identify shoreline structures that are degrading local habitats. Identify sources of pollutants (e.g., stormwater runoff) and develop restoration projects to address these sources. 	<p>Indicators Improved: Fish-Blocking Culverts, PHS Listings, Wetland Acreage, 303(d) Listings, Overwater Roads & Structures, Urban Runoff Reaches Improved: All</p>

<p>R.11: Abandoned or inappropriate shoreline structure removal Priority: Low</p>	<ul style="list-style-type: none"> • Demolish the City-owned single-family residence at Vancouver Avenue and Rock Creek. • Remove abandoned pilings. • Remove the abandoned tugboat dock between SR 14 and the BNSF railroad. • Remove abandoned fence and concrete structures on the County's Old Hegewald Mill Site on Rock Cove. • Encourage WsDOT to evaluate replacement of SR 14 bridge over Rock Creek. • Develop programs to upgrade or remove the structures found to degrade local habitats. 	<p>Indicators Improved: Impervious Surface Area, Overwater Roads & Structures, Setbacks to OHWM, Urban Runoff Reaches Improved: CR2, CR3, RC1, RCo</p>
<p>R.12: Educational programs Priority: High</p>	<ul style="list-style-type: none"> • Educate homeowners on low-impact development practices, including stormwater control, for shoreline properties. • Educate property owners on the benefits of trees and native vegetation in shoreline areas. • Educate property owners on the impacts of lawn chemicals and fertilizers. • Educate property owners on the impacts of flowage easements maintained by the USACE. • Encourage participation in the Skamania County Master Gardeners training offered by Oregon State University - Hood River and Washington State University Vancouver. • Educate boaters on best boating practices to minimize habitat disruption/damage and water contamination. • Encourage participation by utility providers in the optional memorandum of understanding (MOU) process for utility maintenance exemptions. 	<p>Indicators Improved: Available Floodplain Area, Riparian Vegetation, PHS Listings, 303(d) Listings, Impervious Surface Area, Urban Runoff, Reaches Improved: All</p>
<p>R.13: Stormwater quantity and quality improvement Priority: Low</p>	<ul style="list-style-type: none"> • Promote the replacement of paved parking areas with pervious pavement through incentives such as grants or development fee reductions. • Promote retrofitting existing development with landscaping, rain gardens, and other stormwater improvement measures 	<p>Indicators Improved: Riparian Vegetation, 303(d) Listings, Impervious Surface Area, Urban Runoff Reaches Improved: All</p>
<p>R.14: Sediment management plan for Rock Cove and Lower Rock Creek Priority: Low</p>	<ul style="list-style-type: none"> • Develop a plan to address aggradation of Rock Cove and Rock Creek, including its confluence with the Columbia River. • Dredge shoreline waterbodies as appropriate or as coordinated with R.2 and R.5. 	<p>Indicators Improved: Available Floodplain Area, Shoreline Stability Reaches Improved: RC1, RC2, RCo</p>
<p>R.15: Riprap retrofits Priority: High</p>	<ul style="list-style-type: none"> • Soften riprap armoring through planting of vegetation, regrading, and measures that improve channel width-to-depth ratios. 	<p>Indicators Improved: Riparian Vegetation, Shoreline Stability, PHS Listings, Setbacks to OHWM Reaches Improved: All</p>

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Chapter 4 – Implementation & Monitoring

4.1 Introduction

Under the SMA, the City must periodically review and, if necessary, amend its SMP every 8 years, starting in 2021 (RCW 90.58.080(4)). The City is required to report progress toward meeting its restoration goals, but there is no particular requirement or timeframe for implementing this long-range planning effort which does not have dedicated funding.

Further study, collaboration, identification, and implementation of restoration projects are needed before a detailed timeline can be developed. As guidance, this restoration plan provides an initial prioritization of restoration projects (high, low) in Figure 3-2. These restoration priorities may change over time, and the City may choose to update this plan to reflect changing priorities or to overcome obstacles and challenges such as:

- *Funding:* Large-scale restoration projects can be expensive, and their funding is both limited and competitive.
- *Project permitting:* Obtaining local, state, and federal permits for restoration projects can be time-intensive and hinder the project's implementation.
- *Climate change:* Changes in precipitation patterns have the potential to alter Skamania County's shoreline jurisdiction, processes, and functions dramatically over time. In turn, these changes may affect restoration priorities in the county.
- *Landowner participation:* Landowners may be unwilling or unable to participate in restoration projects. To encourage landowner participation, the City could establish new SMP provisions to grant restoration credits for projects that restore degraded shoreline functions in advance of project impacts that would require mitigation. Such restoration actions would need to be documented and credits could apply for a specified amount of future time (e.g., 5 years). The City could establish other incentives including tax credits which could come by setting land aside in a conservation easement for permanent preservation.

4.2 Restoration Partners

This plan is intended to be compatible with the restoration goals already developed by other restoration planning entities in the region, including Skamania County, the Underwood Conservation District (UCD), the Lower Columbia Fish Recovery Board (LCFRB), and area tribes. Their activities may be located in the City, or in a watershed beyond the city where the restoration activities will have positive effects on waterbodies that flow into and out of the city. Ongoing restoration planning efforts in the City and surrounding areas through the voluntary collaboration of residents, tribes, NGOs, and local, state, and federal resource agencies may help inform and implement future restoration actions.

The organizations responsible for the existing restoration programs in the City are likely to play a major role in carrying out the restoration efforts described in this plan. These potential partners are identified in Figure 4-1. They are some of the key organizations that have ecological restoration as their primary focus and are actively involved in the restoration and stewardship of the City's freshwater resources. The list, which is not exhaustive, describes the key partners, their mission or area of focus, and some past and current projects that illustrate the role they can play in future restoration activities.

Table 4.1 – Existing Programs & Potential Partners		
Partner Organization	Mission	Restoration Activities
Cowlitz Indian Tribe	The mission of the Natural Resources Department of the Cowlitz Indian Tribe is to protect, conserve, restore and promote culturally-relevant species and landscapes integral to the unique identity of the Cowlitz People, and to further educate the community and inspire future leaders and participants in this vision.	<ul style="list-style-type: none"> • Otter Creek side channel restoration • Riparian enhancement along the lower main stem of the Lewis River • Abernathy Creek restoration
Lower Columbia Estuary Partnership	The mission of the Lower Columbia Estuary Partnership is to improve the lower Columbia River by protecting and restoring ecosystems and enhancing clean water for current and future generations of fish, wildlife, and people.	<ul style="list-style-type: none"> • Hardy Creek restoration • Pierce Island restoration • Horsetail Creek floodplain restoration
Lower Columbia Fish Enhancement Group	This group is one of 14 RFEGs created by the state legislature and is a non-regulatory, non-partisan 501(c)(3) salmon recovery organization. Working within specific watersheds throughout the area (including north and eastern Skamania County), it leverages public funding through landowner partnerships and collaborations with individuals, groups, corporations, tribes, foundations, and agencies.	<ul style="list-style-type: none"> • Hamilton Creek restoration • Lee fish passage project • Hardy Creek fish passage and groundwater investigation design (LCFEG and partners) • Lower Hamilton Creek channel stability and habitat restoration (LCFEG and partners)
Lower Columbia Fish Recovery Board	The LCFRB leads the coordinated implementation of locally-driven salmon recovery and watershed management plans across our region to restore at-risk fish population and ensure we have clean water, healthy forests, working farms, and thriving rural and urban communities into the future. The LCFRB runs the Wind River Work Group, which organizes community stakeholders to develop restoration projects in the Wind River watershed. The LCFRB maintains SalmonPORT, an online tool that tracks restoration projects and opportunities, as well as recovery plan actions. The LCFRB website also provides several restoration and management documents for download.	<ul style="list-style-type: none"> • Wind River Habitat Strategy • Duncan Creek Dam fish passage restoration (LCFRB and partners) • Hardy Creek fish passage and groundwater investigation design (LCFRB and partners) • Lower Hamilton Creek channel stability and habitat restoration (LCFRB and partners)
Mid-Columbia Fisheries Enhancement Group	This group is an RFEG created by the state legislature in 1990. It is a non-regulatory, non-partisan 501(c)(3) salmon recovery organization. Working within specific watersheds throughout the area (including southwest Skamania County), it leverages public funding through landowner partnerships and collaborations with individuals, groups, corporations, tribes, foundations and agencies.	<ul style="list-style-type: none"> • Salmonid recolonization assessment for the White Salmon River (post-Condit Dam removal)

Table 4.1 – Existing Programs & Potential Partners, Cont.		
Partner Organization	Mission	Restoration Activities
Northwest Power and Conservation Council	The NPCC is an interstate compact of Idaho, Montana, Oregon, and Washington. Its mission is to ensure, with public participation, an affordable and reliable energy system while enhancing fish and wildlife. It achieves this through its Columbia River Basin Fish and Wildlife Program, which is funded by the Bonneville Power Administration.	<ul style="list-style-type: none"> Locally developed subbasin plans
Recovery Implementation Science Team (Pacific Northwest)	NOAA Fisheries initiated a coast-wide process to develop recovery plans for 27 Pacific salmon species listed on the ESA. RIST and the NOAA Fisheries Northwest Regional Office and its Science Center work closely to develop appropriate tasks and priorities for scientific analysis based on input from these groups.	<ul style="list-style-type: none"> NOAA Fisheries staff are responsible for coordinating with other groups involved in recovery implementation to ensure that RIST timelines and priorities are consistent with recovery needs.
South Gifford Pinchot Collaborative	SGPC works with the Forest Service on projects on its 10-year action plan and forest restoration projects. They advise during the NEPA process and/ or are proactive in moving projects forward by receiving grant funding to work on areas ahead of the Forest Service schedule.	<ul style="list-style-type: none"> Work in the Woods Workshop – advertising upcoming opportunities for working in the woods; co-sponsored by WSU Skamania County Extension Office
Underwood Conservation District	The UCD engages landowners and land users throughout Skamania and west Klickitat counties in the conservation, enhancement, and sustainable use of natural resources through voluntary stewardship. As one of 47 conservation districts in Washington, the UCD is a legal subdivision of state government that administers programs for the productive use and conservation of natural resources.	<ul style="list-style-type: none"> Native Plant Sales Kanaka Creek habitat restoration
Washington State Department of Ecology	Ecology is Washington's environmental protection agency, and their mission is to protect, preserve and enhance the state's land, air and water for current and future generations. Nearly 70 percent of Ecology's budget is passed through to local communities to pay for projects that benefit the environment.	<ul style="list-style-type: none"> Shorelands and Environmental Assistance Program Water Quality Program
Washington State Department of Fish and Wildlife	Management and regulatory oversight of state waters and other habitats. WDFW sponsors several key restoration-related activities including the summer chum salmon conservation initiative and the barrier culvert inventory and prioritization. WDFW also manages the SSHIAP (co-managed with the NW Indian Fisheries Commission), which provides information on habitat conditions and prescriptions for improving fish habitat.	<ul style="list-style-type: none"> Fish passage barrier inventory and correction

Table 4.1 – Existing Programs & Potential Partners, Cont.

Partner Organization	Mission	Restoration Activities
Washington State Department of Natural Resources, Aquatic Program	DNR manages state-owned aquatic lands and restores them where appropriate. In partnership with citizens and governments, DNR provides innovative leadership and expertise to ensure environmental protection, public safety, perpetual funding for schools and communities, and a rich quality of life.	<ul style="list-style-type: none"> • Establishment of aquatic reserves and management plans for them with potential restoration actions, research, and monitoring • Aquatic Restoration Program • Debris removal • Removal of creosote-treated wood • Re-vegetating riparian zones
Washington Watershed Restoration Initiative	A coalition of environmental and outdoor recreation NGOs, tribes, and state agencies working together since 2008. Members include Ecology, WDFW, the Wilderness Society, Gifford Pinchot Task Force, and Trout Unlimited.	<ul style="list-style-type: none"> • Forest road upgrading or decommissioning • Culvert replacement or repair • Education, outreach, scientific and economic analysis, and advocacy.
Yakama Nation	The Yakama Nation Department of Natural Resources was established to manage, co-manage and protect the Yakama Nation's Ancestral, Cultural, and Treaty Natural Resources on Reservation, in the Ceded Area and at Usual and Accustomed Sites, to meet the tribal culture, protecting tribal sensitive areas and sites and restoring diminished damaged resources.	<ul style="list-style-type: none"> • Yakama Nation Fisheries • Upper Columbia habitat restoration project

4.3 Implementation Monitoring

In order to assess its success in achieving no net loss, the City will need to track restoration efforts over time. Efforts should be evaluated according to categories such as those listed below. More specific benchmarks can be developed for efforts on a project-by-project basis and through future coordination with restoration partners.

- Number of restoration projects implemented
- Square feet of riparian enhancement
- Square feet of native vegetation planted
- Square feet of noxious weeds removed
- Linear feet of hard shoreline stabilization replaced
- Number of culverts removed or number of miles of stream open to migration
- Square feet of conservation easement/protected area established
- Square feet of wetlands restored in shoreline jurisdiction
- Square feet of stream canopy addition
- Fewer exceedances of water quality criteria as measured in the state water quality assessment
- Square feet of impervious surface removed or untreated runoff treated
- Linear feet of road upgraded or decommissioned

Because monitoring can be both complicated and expensive, the County should coordinate with other agencies that already operate monitoring efforts. The frequency of monitoring will involve periodic review of environmental functions at the time of periodic SMP updates when the effectiveness of the SMP, including the restoration plan, in achieving no net loss of shoreline ecological functions can be assessed. There are several existing databases reporting restoration efforts in the state that the City can utilize to restoration track projects:

- The Lower Columbia Fish Recovery Board (LCFRB) tracks projects related to the recovery of threatened or priority fish populations and/or habitat, including projects that are proposed, active, or completed. LCFRB also provides a map of existing fish passage barriers, including culverts, dams, and fishways, which may prove useful in identifying future opportunities. The City will work with the LCFRB to ensure that projects are tracked in their SalmonPORT database.
- The Washington State Project Information System (PRISM) database tracks proposed and funded projects, and data from PRISM is often integrated in the grant application process.
- The Washington State Conservation Commission's Conservation Practice Data System (CPDS) maintains a database that tracks projects and conservation practices on private lands.

4.4 Potential Funding

Shoreline restoration in Stevenson depends almost entirely on grant funding, and its availability is unpredictable and varies from year to year. Many of the proposed restoration projects will require outside funding through federal or state grants along with local, private, or non-profit matching funds. Projects may be funded in multiple phases, with different funding sources appropriate for each phase.

40 Provided below is a list of potential funding sources for future restoration activities. While this is not an
exhaustive list, in conjunction with the list of potential partners provided in Figure 4-1 it is a starting
point for implementing restoration projects in the City.

Environmental Protection Agency, Region 10: Pacific Northwest

45 1200 Sixth Avenue, Suite 900
Seattle, WA 98101
206-553-6367

<https://www3.epa.gov/>

50 The EPA funds a variety of projects that aim to safeguard the natural environment and protect human
health. Potential opportunities specific to watershed protection and restoration are listed below.

- *The Clean Water State Revolving Fund Program* provides grants or “seed money” to all 50 states plus Puerto Rico to capitalize state loan funds. The states, in turn, make loans to communities, individuals, and others for high-priority water-quality activities. Projects funded by the low-interest loans may include wetlands protection and restoration, estuary management efforts – including wildlife habitat restoration – and development of streambank buffer zones.
- *Nonpoint Source Implementation Grant (319) Program* provides Clean Water Act Section 319(h) funds only to designated state and tribal agencies to implement their approved nonpoint source management programs. State and tribal nonpoint source programs include a variety of components, including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and regulatory programs. Each year, EPA awards Section 319(h) funds to states in accordance with a state-by-state allocation formula that EPA has developed in consultation with the states.
- *Wetland Protection, Restoration, and Stewardship Discretionary Funding* supports studies and activities related to implementation of Section 404 of the Clean Water Act for both wetlands and sediment management. Projects can support regulatory, planning, restoration, or outreach.
- The *Targeted Watershed Grants Program* supports innovative, community-based watershed approaches aimed at preventing, reducing, or eliminating water pollution. Resources provided through this program include grants, tools, training, and technical expertise and assistance to communities to bolster their efforts to expand and improve existing water protection measures.

National Fish and Wildlife Foundation

75 1120 Connecticut Avenue, NW, #900
Washington, DC 20036
202-857-0166
www.nfwf.org

80 Non-profit organizations and local, state, or federal government agencies are eligible to apply for funds for community-based projects that improve and restore native salmon habitat or remove barriers to fish passage or for the acquisition of land/ conservation easements on private lands where the habitat is critical to salmon species. Specific grant programs are listed below.

- 85 • The *Bring Back the Natives/More Fish* program invests in conservation activities that restore, protect, and enhance native populations of sensitive or listed fish species across the United States, especially in areas on or adjacent to federal agency lands. The program emphasizes coordination between private landowners and federal agencies, tribes, corporations, and states to improve the ecosystem functions and health of watersheds.
- 90 • The *Columbia Basin Water Transactions Program* (CBWTP) was developed in 2002 to address chronically diminished stream flows in tributaries of the Columbia River. To enhance stream flow, the CBWTP works through locally based entities to acquire water rights voluntarily from willing landowners. Using temporary and permanent water rights acquisitions and other incentive-based approaches, the CBWTP supports program partners to assist landowners who wish to voluntarily restore flows to key fish habitat. Funding for this program is provided by Bonneville Power Administration in cooperation with NPCC and with support from Altria.
- 95 • The *Five Star and Urban Waters Restoration Program* seeks to develop nation-wide-community stewardship of local natural resources, preserving these resources for future generations and enhancing habitat for local wildlife. Projects seek to address water quality issues in priority watersheds, such as erosion due to unstable streambanks, pollution from stormwater runoff, and degraded shorelines caused by development.

100 **Northwest Fund for the Environment, Aquatic Ecosystem Program**

1904 Third Ave., Suite 615

Seattle, WA 98101

360-705-7518

105 <http://www.nwfund.org/>

Grants by the Northwest Fund come from an endowment designated to be spent to promote change in the uses of natural resources which will increase their protection and preservation in Washington. Special emphasis is placed on "the protection of wild fish, native wildlife, natural forests, wetlands and shorelines, and the preservation of pure and free-flowing waters." The fund's Aquatic Ecosystem Program aims to protect and restore the extensive network of fresh and saltwater ecosystems in Washington and the native species that inhabit them.

110 **NOAA Fisheries**

Office of Habitat Conservation

115 1201 Northeast Lloyd Boulevard, Suite 1100 1315 East-West Highway Silver Spring, MD 20910

301-713-2325

NOAA Fisheries, also known as the National Marine Fisheries Service, is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce. NOAA administers the

120 federal Pacific Coastal Salmon Recovery Fund, and their community-based restoration program awards
121 grants and cooperative agreements to support research and conservation initiatives coordinated by
122 state and local governments, non-profits, colleges and universities.

- 123 • The *Pacific Coastal Salmon Recovery Fund* was established by Congress in 2000 to reverse
124 the declines of Pacific salmon and steelhead. NOAA Fisheries is the agency charged with
125 administering this competitive grants process. The LCFRB is the local contact for PCSRF funds
126 in Skamania County west of the White Salmon subbasin, and the Klickitat Lead Entity is the
127 contact for funds in the White Salmon subbasin. The fund has catalyzed the development of
128 a community of salmon restoration experts and fostered partnerships among land owners,
129 local governments, and state, tribal, and federal agencies.
- 130 • NOAA awards grants through its *Community-based Restoration Program* to support
131 research and conservation initiatives coordinated by state and local governments, non-
132 profits, colleges and universities. Grants are for restoration projects that use a habitat-based
133 approach to promote productive and sustainable fisheries, improve the recovery and
134 conservation of protected resources, and promote healthy ecosystems and resilient
135 communities.

136 **U.S. Fish & Wildlife Service**

Pacific Region

911 NE 11th Avenue

Portland, OR 97232

140 503-231-2014

<https://www.fws.gov/>

The USFWS funds a variety of projects that aim to safeguard the natural environment and protect
141 human health. Potential opportunities specific to watershed protection and restoration are listed
142 below.

- 143 • *National Fish Habitat Action Plan*: This program is a national investment strategy to leverage
144 federal and privately raised funds to protect, restore, and enhance the nation's fish and
145 aquatic habitats through partnerships that foster fish habitat conservation. Funds will
146 support national and regional science and coordination activities to protect, restore, or
147 enhance fish habitats.
- 148 • *National Fish Passage Program (NFPP)*: NFPP is a voluntary program that provides direct
149 technical assistance and financial assistance in the form of cooperative agreements to
150 partners to provide fish (and other aquatic organisms) passage and restore aquatic
151 connectivity for the benefit of federal trust resources. The NFPP is delivered through Fisheries
152 and Aquatic Conservation Field Offices. The Field Offices staff coordinates with project
153 partners, stakeholders and other Service programs to identify and collaboratively implement
154 projects within Regional priority areas.
- 155 • *Partners for Fish and Wildlife Program*: This program provides technical and financial
156 assistance to private landowners and Tribes who are willing to work with USFWS and other
157 partners on a voluntary basis to help meet the habitat needs of Federal Trust Species. The

160 Partners Program can assist with projects in all habitat types which conserve or restore native
vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine,
bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or
ecosystems that otherwise provide an important habitat requisite for a rare, declining or
protected species.

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- *North American Wetlands Conservation Act Grants Program* provides matching grants to wetlands conservation projects through a Standard Program and a Small Grants Program. Both are competitive and require that grant requests be matched by partner contributions at no less than a 1-to-1 ratio.

170 **Washington State Department of Ecology**

300 Desmond Drive

Lacey, WA 98503

360-407-6300

<http://www.ecology.wa.gov/>

175 Ecology's mission is to protect, preserve and enhance Washington's land, air and water for current and future generations. Ecology provides planning and financial support for environmental work throughout Washington. The department offers several types of grants to achieve these goals, including:

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- *Freshwater Aquatic Invasive Plant Management Program* is designed to tackle the problem of non-native aquatic plants on a statewide level. The program provides funding for technical assistance, public education and grants to help control aquatic invasive plants. Eligible activities include the development of integrated aquatic vegetation management plans, plant control activities, and aquatic plant mapping and inventory.
 - *Water Quality Program –Stormwater Grants* provides financial assistance to local communities to prevent pollution of water bodies from stormwater and run-off from urbanized areas. Eligible projects include restoration projects that address existing pollution problems and provide a high level of water quality benefit.
 - *Floodplain by Design* is a partnership of local, state, federal and private organizations focused on coordinating investment in and strengthening the integrated management of floodplain areas through Washington State. Ecology administers the grant program under a biennial funding cycle, and awards grants on a competitive basis to eligible entities for collaborative and innovative projects that support the integration of flood hazard reduction with ecological preservation and restoration. Proposed projects may also address other community needs, such as preservation of agriculture, improvements in water quality, or increased recreational opportunities provided they are part of a larger strategy to restore ecological functions and reduce flood hazards.
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Washington State Department of Fish & Wildlife

600 Capitol Way North

200 Olympia, WA 98501

360-902-2806

<http://wdfw.wa.gov/>

WDFW's mission is to preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities. The department offers several types of grants to achieve these goals, including:

- *Landowner Incentive Program* is designed to provide financial assistance to private landowners for the protection, enhancement, or restoration of habitat to benefit species at risk on privately owned lands. At-risk species depend on specific ecosystems for survival such as riparian areas, wetlands, oak woodlands, prairies and grasslands, shrub steppe, and nearshore environments. Through Washington's LIP, individual landowners can apply for up to \$50,000 in assistance. In addition, \$50,000 is usually set aside for small grants to individuals of up to \$5,000. A 25 percent non-federal contribution is required, which may include cash and/or in-kind contributions (labor, machinery, materials).

Washington State Recreation and Conservation Office (RCO)

1111 Washington Street SE

PO Box 40917

Olympia, WA 98504

360-902-3000

<http://www.rco.wa.gov/grants/index.shtml>

RCO provides leadership, funding, and technical assistance to protect and restore habitats, invest in and track salmon health and recovery, and protect Washington's diverse biological heritage. Grant programs offered by the RCO include:

- *Aquatic Lands Enhancement Account (ALEA)* targets re-establishing the natural, self-sustaining ecological functions of the waterfront, providing or restoring public access to the water, and increasing public awareness of aquatic lands as a finite natural resource and irreplaceable public heritage. ALEA grants may be used for the acquisition, improvement, or protection of aquatic lands for public purposes. They also may be used to provide or improve public access to the waterfront.
- The *Family Forest Fish Passage Program* provides funding to small forest landowners to repair or remove fish passage barriers, such as culverts and other stream crossing structures, which keep trout, salmon, and other fish from reaching upstream habitat. The program funds the replacement of eligible barriers with new structures. Since 2003, nearly 285 landowners have taken advantage of the program to remove 353 barriers and open more than 804 miles of stream habitat.
- The *Washington Wildlife Recreation Program (WWRP)* provides funds for the acquisition and development of recreation and conservation lands. WWRP funds restoration projects such as animal watering stations, bank stabilization, LWD placement, and riparian revegetation.

Washington State Department of Transportation City Fish Passage Grant Program

310 Maple Park Avenue SE
Olympia, WA 98501
206-386-7220

<http://www.wsdot.wa.gov/Projects/FishPassage/default.htm>

245 State highways cross streams and rivers in thousands of places in Washington. At many places, culverts
are too small or otherwise inadequate to allow fish to migrate upstream and downstream as necessary
for growth and reproduction. State law (RCW 77.57.030) requires WSDOT to install and maintain all
culverts, fishways, and bridges to provide unrestricted fish passage. WSDOT has worked for more than
250 two decades to improve fish passage and reconnect streams.

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Appendix A – Shoreline Restoration Project Map

A.1 Overview

Several restoration projects identified in this plan are associated with a specific area or location. Where that is the case, those projects are identified on Map 1.

5 A.2 Specific Projects

Development of detailed plans and specifications for many of the projects identified in this plan is beyond the capacity of the City or this Shoreline Master Program effort. However, some projects are in more advanced stages of development and can be included here to 1) illustrate the plan and 2) help with the development of future projects. This includes:

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- Figure A-1: Stevenson Shoreline Restoration & Enhancement Project (City of Stevenson, Skamania County, Port of Skamania County)

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