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SHORELINE RESTORATION PLAN

City of Goldendale Shoreline Master Program

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SHORELINE RESTORATION PLAN

CITY OF GOLDENDALE SHORELINE MASTER PROGRAM

1 INTRODUCTION

1.1 Background and Purpose

As part of a comprehensive Shoreline Master Program (SMP) update, as elaborated on in the SMP Guidelines (Washington Administrative Code [WAC] 173-26), local jurisdictions are required to plan for the restoration of impaired shoreline functions. Such planning “should be designed to achieve overall improvements in shoreline ecological function over time, when compared to the status upon adoption of the master program” (WAC 173-26-201(2)(f)). The purpose of this Shoreline Restoration Plan is to plan for the restoration of impaired shorelines in the City of Goldendale (City or Goldendale).

As defined in the SMP Guidelines, “restoration” means the reestablishment or upgrading of impaired ecological shoreline processes or functions. The SMP Guidelines indicate that restoration may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures, and removal or treatment of toxic materials. However, restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions (WAC 173-26-020(31)).

Importantly, this Shoreline Restoration Plan is a **non-regulatory** component of the City’s SMP update. This Shoreline Restoration Plan represents a vision for **voluntary** restoration to be implemented over time and result in ongoing improvements to shoreline ecological functions within Goldendale. While some of the opportunities identified in this Shoreline Restoration Plan may concern private property, the City does not intend to require restoration on private property or to commit private property for restoration purposes without the willing cooperation and participation of affected landowners.

Presently, the restoration opportunities identified in this Shoreline Restoration Plan are conceptual. However, with City leadership and potential collaboration with one or

more restoration partners, the conceptual restoration opportunities identified in this Shoreline Restoration Plan could be funded and implemented.

1.2 Uses

This Shoreline Restoration Plan could be used by agencies, interest groups, and property owners in the following ways:

- *Grant applications* – If grant applications require or recommend inclusion in a publicly vetted and approved plan, the identification of programs or actions in this Shoreline Restoration Plan may facilitate obtaining grant funding.
- *Information resource* – Appendices A and B of this Shoreline Restoration Plan identify several agencies and organizations that are actively involved in shoreline restoration, conservation, and protection in the Goldendale area. These organizations could be consulted by property owners or other parties considering undertaking a restoration action.
- *Mitigation* – In situations that require off-site mitigation, this Shoreline Restoration Plan could provide ideas to maximize the regional impact of the mitigation.

2 GOALS & OBJECTIVES

The goal of this Shoreline Restoration Plan is achieve overall improvements in shoreline ecological function over time, when compared to existing conditions.

The following objectives provide more detail of how the City and its restoration partners might work to achieve a net improvement in shoreline ecological functions:

- *Objective 1* – Protect natural shoreline ecological processes and functions, and restore those processes and functions that have been altered.
- *Objective 2* – Maintain biodiversity and conserve unique, fragile, and valuable species and habitats.

3 SHORELINE IMPAIRMENTS & RESTORATION OPPORTUNITIES

3.1 Context

The Final Shoreline Analysis Report for Shorelines in the City of Goldendale: Little Klickitat River (Shoreline Analysis Report; The Watershed Company 2015) provides a detailed look at shoreline ecosystem conditions, including climate, geology, key species and habitats, and major land use changes. As discussed in that document, the Little Klickitat River is the only waterbody in the City that qualifies as a Shoreline of the State. Shoreline jurisdiction within City limits covers approximately 7,263 linear feet of shoreline and encompasses approximately 115 acres. Outside of current City limits, within its designated urban growth area, the City has also pre-designated Little Klickitat River shorelines in preparation for eventual annexation (these shorelines were not reviewed in the Shoreline Analysis Report).

The Shoreline Analysis Report relayed that the Little Klickitat River has a large floodplain present throughout the City's shoreline jurisdiction and that development is very limited. A narrow, forested riparian area is intact along most of the shoreline. Shorelands generally consist of undeveloped open space or scrub/shrub vegetation. Additional pertinent findings from the Shoreline Analysis Report on specific portions of the City's shorelines are provided in the following paragraphs.

The majority of development is found in the western half of shoreline jurisdiction. This area is comprised of primarily residential uses, but over a third of the western reach is undeveloped or vacant land. Two areas of higher-intensity development are also present. Two main roads cross the river, and a side street, vehicle access, and parking are associated with the high intensity developments, otherwise transportation infrastructure is not present within the reach. Some armoring is present around the two bridge crossings at Mill Avenue and North Columbus Avenue.

The majority of the central portion of shoreline jurisdiction is undeveloped. It includes a Ekone Park and trails, and has a fairly intact riparian buffer separating the river from these uses.

The eastern portion of shoreline jurisdiction is also primarily undeveloped. However, some commercial mining activities are present in the central portion of the southern shoreline where vegetation is lacking. Vegetation function is lowest off of Highway 142 where some development and disturbed undeveloped ground is present.

Goldendale is located in the Little Klickitat subbasin of the Klickitat River Watershed in Water Resource Inventory Area (WRIA) 30. The Little Klickitat River is the primary tributary to the lower Klickitat River.

The Klickitat Basin Watershed Management Plan (Watershed Professionals Network and Aspect Consulting 2005) was developed to identify key water resource issues and present the agreed-upon strategies to address those issues. Discussions in the plan are focused around three areas: fish habitat, water quality and water quantity. A Detailed Implementation Plan (WRIA 30 Water Resource Planning and Advisory Committee 2008) was later developed to provide a framework for how to implement the strategies recommended in the management plan.

Similar to the organization of the management plan, the remainder of this subsection focuses on fish habitat, water quality, and water quantity in the Goldendale area.

Little Klickitat Falls, downstream of Goldendale at river mile 6.1, is thought to be a passage barrier to anadromous fish except during high flow events (Glass 2013). However, there is documented presence of winter steelhead and spawning summer steelhead in all reaches of the Little Klickitat River within Goldendale (WDFW 2015).

Temperature has historically been a water quality concern in portions of the Little Klickitat watershed, particularly in the lower Little Klickitat River and Bowman Creek because of the use of its waters by steelhead, a species listed as threatened under the Endangered Species Act, as a migration corridor, and as spawning and rearing habitat. Elevated temperature and altered channel morphology resulting from various land use activities, such as timber harvest and agriculture, limit available spawning and rearing habitat for steelhead in this area. A Total Maximum Daily Load (TMDL) plan for temperature was developed in 2002 for the Little Klickitat River watershed including the Little Klickitat River and tributaries Butler Creek, East Prong, West Prong, Blockhouse Creek, Bowman Creek and Mill Creek. An implementation plan was completed in 2005 (Ecology 2005). The reach of the Little Klickitat River through Goldendale is not currently identified on Ecology maps as having any water quality impairments (Ecology 2015).

Stream flows near Goldendale have tended to be higher in winter and lower in summer than those near the mouth of the river. The magnitude of summer flows affects the quantity and quality of fish habitat available. Goldendale has made major changes in its water supply sources by discontinuing its diversion of water from Bloodgood Springs, a tributary to the Little Klickitat River. The Klickitat Basin Watershed Management Plan

estimated curtailment of diversion from Bloodgood Springs could increase flow by up to two cubic feet per second in the Little Klickitat River.

3.2 Actions

Issues and actions most applicable to the Little Klickitat subbasin identified in the Klickitat Basin Watershed Management Plan and Detailed Implementation Plan are listed below in Table 3-1. Notes specific to Goldendale are also provided. Some of the general actions may not be specifically applicable to areas within Goldendale, but may apply to areas upstream or downstream within the surrounding County and/or Goldendale urban growth area.

Table 3-1. Issues and general actions for the Little Klickitat subbasin that may be applicable within Goldendale.

Issues	General Actions	Notes Specific to Goldendale
Degraded riparian corridors and floodplain	Control invasive species.	
	Work with landowners to protect key properties with riparian habitat. Identify specific degraded riparian areas and restore.	Only one area of potentially associated wetland was identified in Goldendale. Opportunities may exist to improve connectivity between the intact riparian area and this wetland. Potential enhancements could restore off-channel floodplain and improve riparian habitat diversity. The area where mining uses are present and the intensely developed area near Allyn Drive appear to be most impaired and have potential for enhancement. The City has also noted that the area adjacent to the Twin Buttes Drainage Ditch regularly ponds and could be enhanced with vegetation to improve off-channel floodplain and habitat.
Low summer stream flow	Reduce water use through conservation actions such as updates to irrigation systems and approaches to improve efficiency, selection of drought resistant plants for urban landscapes, and encouragement of water conservation in the home such as through installation of high efficiency/low volume appliances. Purchase or lease of water rights and encouragement of participation in water trust programs.	

Issues	General Actions	Notes Specific to Goldendale
Historic high water temperature	Continue to implement recommendations of the TMDL detailed implementation plan including increasing and maintaining effective shade cover.	Bloodgood Creek provides a cool water source to the Little Klickitat River. Efforts to protect Bloodgood's water temperature and the confluence with the Little Klickitat could be prioritized. Trees could be planted in some of the more developed shoreline areas lacking adequate shade.
Fish habitat protection and restoration	Develop public education program to inform landowners of processes affecting fish habitat and assist landowners with habitat protection projects.	See notes above.

4 IMPLEMENTATION

4.1 Restoration Partners

Several agencies and organizations are actively involved in shoreline restoration, conservation, and protection in and around Klickitat County, and could be potential restoration partners for the City. These potential partners and their local roles in shoreline protection and/or restoration are identified in Appendix A.

4.2 Funding Mechanisms

A variety of funding opportunities are available to support the protection and restoration of shorelines in the City and surrounding areas of Klickitat County. Potential funding sources are identified in Appendix B.

4.3 Restoration Actions

Table 3-1, above, identifies potential restoration actions within Goldendale. The City could independently, or in coordination with one of the potential restoration partners, initiate plans to implement one or more of the potential actions.

Depending on the scale and type of the action, qualified professionals, such as biologists or engineers, may need to assist in design and implementation. Additionally, permits or approvals from several government agencies may be required prior to commencing a restoration project. Permits or approvals may be required from the City, the Washington State Department of Ecology, the Washington State Department of Fish and

Wildlife, the Washington State Department of Natural Resources, and/or the U.S. Army Corps of Engineers.

4.4 Outreach and Education

Land use activities on privately owned lands outside of shoreline jurisdiction can play a significant role in hydrologic, water quality, and geomorphic functions and processes of a watershed. As a result, private landowners play an extremely important role in the condition of shoreline ecological functions. Outreach and education measures that help inform and engage the public to take actions that limit degradation and/or improve shoreline functions are essential to effectively maintain and restore conditions in a watershed. Several agencies and non-governmental organizations (see Appendix A) are actively involved in public outreach and education measures in the Goldendale area.

4.5 Tracking

The SMP Guidelines require that shoreline restoration plans "...provide for mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals" (WAC 173-26-201(2)(f)(vi)).

The Habitat Work Schedule provides the primary mechanism to track development and implementation of salmon habitat conservation projects. The Lead Entities in the county continue to develop their use of the Habitat Work Schedule. The Habitat Work Schedule has the potential to track restoration actions and funding. The state's Project Information System (PRISM) database also provides a means of tracking proposed and funded projects. Finally, the Washington State Conservation Commission's Conservation Practice Data System provides a database that tracks projects and conservation practices on private lands. Together, these databases provide an overall view of proposed, active, and recently completed projects.

5 REFERENCES

- Aspect Consulting and Watershed Professionals Network. 2009. Riparian Vegetation Assessment, Little Klickitat River and Swale Creek.
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- Washington State Department of Ecology (Ecology). 2005. Little Klickitat River Watershed Temperature Total Maximum Daily Load Detailed Implementation Plan.
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- Watershed Professionals Network and Aspect Consulting. 2005. Klickitat Basin (WRIA 30) Watershed Management Plan.
- WRIA 30 Water Resource Planning and Advisory Committee. 2008. Detailed Implementation Plan: Klickitat River Basin, WRIA 30.

RESTORATION PARTNERS

SHORELINE RESTORATION PLAN APPENDIX A

Several agencies and organizations are actively involved in shoreline restoration, conservation, and protection in and around Klickitat County, and could be potential restoration partners for the City of Goldendale (City). These potential partners and their local roles in shoreline protection and/or restoration are identified below.

1 REGIONAL AGENCIES & QUASI-GOVERNMENTAL ORGANIZATIONS

1.1 [Klickitat County Lead Entity](#)

The Klickitat County Lead Entity for Salmon Recovery (Lead Entity) is responsible for evaluating and submitting habitat project applications to the Salmon Recovery Funding Board for funding consideration. Lead entities are local, watershed-based organizations that develop local salmon habitat recovery strategies and then recruit organizations to do habitat protection and restoration projects that will implement the strategies. Lead entities consist of a lead entity coordinator, a committee of local, technical experts, a committee of local citizens and a lead entity grant administrator. The Klickitat County Department of Natural Resources is the Lead Entity for Klickitat County salmon recovery, which includes water resource inventory areas (WRIAs) 29b, 30 and 31.

Key Documents:

- [Klickitat Lead Entity Region Salmon Recovery Strategy \(2013\)](#)

Sets the vision for salmonid recovery including goals and other components of the strategy for salmonid habitat recovery and protection.

1.2 [WRIA 30 Watershed Planning Unit](#)

The WRIA 30 Watershed Planning Unit was formed in 1998 under the Watershed Management Act, to provide a framework for local citizens, interest groups, and government organizations to work collaboratively to identify and solve water-related issues. Klickitat County is the lead agency for the group.

Key Documents:

- [Klickitat Basin \(WRIA 30\) Watershed Management Plan \(2005\)](#)
Lays out the goals, objectives, and framework for water resource management in WRIA 30. The plan identifies key issues related to water quantity, water quality and fish habitat.
- [Detailed Implementation Plan \(2008\)](#)
The purpose of this document is to outline a comprehensive approach for accomplishing the goals of the Klickitat Basin Watershed Management Plan through prioritized strategies and interim milestones.

1.3 [Central Klickitat Conservation District](#)

Established in 1946, the Central Klickitat Conservation District (CKCD) is a non-regulatory, not-for-profit, community-based, subdivision of state government, made up of local community members and staff with the goal providing services in cooperation with landowners to provide the most on-the-ground conservation for the dollars spent. The CKCD offers technical and financial assistance to landowners through a variety of programs.

Key Documents

- [5-Year Plan \(2014-2019\) Central Klickitat Conservation District](#)
This plan identifies priority natural resource conservation needs and geographic areas, education and operations priorities, as well as measures of success and goals for each. The plan establishes milestones, timelines and actions to reach its goals.

2 STATE AGENCIES

2.1 [Washington State Department of Ecology](#)

The mission of the Washington State Department of Ecology (Ecology) is to protect, preserve, and enhance Washington's environment, and to promote the wise management of our air, land, and water for the benefit of current and future generations. Ecology is an active partner in monitoring and improving water quality conditions in accordance with Total Maximum Daily Loads in Klickitat County.

2.2 Washington State Department of Fish and Wildlife

In addition to reviewing applications for in-water work and issuing Hydraulic Project Approvals, the Washington State Department of Fish and Wildlife (WDFW) develops management plans for Washington's Priority Habitats and Species. The WDFW also leads the state in resolving fish passage barrier problems through the Fish Passage Program, supporting public, state, and local agencies in their efforts to prioritize and fund fish passage barrier repairs across the state.

2.3 Washington State Department of Natural Resources

The Washington State Department of Natural Resources (DNR) owns and manages approximately five million acres of tidelands, forestlands, rangelands, and agriculture lands in Washington. DNR manages these lands for revenue, outdoor recreation, and habitat for native fish and wildlife.

DNR is responsible for managing forest practices in Washington through the Forest Practices Program. The Forest Practices Program and rules require the maintenance and restoration of aquatic and riparian habitat.

The Aquatic Restoration Program of DNR works to restore, enhance, create, and protect healthy ecological conditions in freshwater, saltwater and estuarine aquatic systems through partnerships with agencies and organizations. DNR provides funds, permit assistance, planning, and technical assistance for project partnerships.

2.4 Washington State Recreation and Conservation Office

The Washington State Recreation and Conservation Office manages grant programs to create outdoor recreation opportunities, protect high quality wildlife habitat and farmland, and aid salmon recovery.

3 NON-GOVERNMENTAL ORGANIZATIONS

3.1 Land Trusts & Conservancies

Land trusts and conservancy organizations play an important role in shoreline natural resource conservation in Klickitat County. These organizations continue to acquire conservation easements and in-fee holdings, and to protect and restore significant shoreline areas. In addition, these organizations are active partners in restoration, research, and lands management.

Active land trusts and conservancies in the county include the following:

- [Columbia Land Trust](#)
- [The Nature Conservancy](#)

3.2 Other Non-profit Organizations

In addition to land trusts, other non-profit organizations are active in restoration, research, and outreach in Klickitat County. Non-profit organizations involved in shoreline conservation efforts in the county include the following, among others:

- [Trout Unlimited](#)
- [Washington Waterfowl Association](#)
- [Audubon Washington](#)
- [Wild Fish Conservancy](#)
- [Columbia Riverkeeper](#)
- [Friends of the Columbia Gorge](#)

3.3 Private Landowners

Private landowners play an important role in future watershed conditions. Where private landowners are willing to voluntarily restore lands and manage them in such a way as to minimize potential impacts, these landowners help conserve ecosystem conditions in the City.

FUNDING OPPORTUNITIES

SHORELINE RESTORATION PLAN APPENDIX B

A variety of funding opportunities are available to support the protection and restoration of shorelines in the City of Goldendale and surrounding areas of Klickitat County. Potential public funding sources are identified in Table B-1; potential private funding sources are listed in Table B-2. Funding sources other than those listed in these two tables may also exist. It should be noted that public funding is dependent on appropriations from state and federal governments.

Table B-1. Potential public funding sources for restoration and protection of shoreline ecological functions.

Agency	Grant Name	Description
US Fish and Wildlife Service	Cooperative Endangered Species Conservation Fund (Section 6 of the Endangered Species Act)	Grants to states to participate in a wide array of voluntary conservation projects for candidate, proposed, and listed species.
	Partners for Fish and Wildlife Restoration	Technical assistance and cost-share incentives to private landowners to restore fish and wildlife habitats.
Washington State Department of Ecology	Clean Water State Revolving Fund	Funds water quality infrastructure and projects to control non-point source pollution.
	Coastal Protection Fund / Terry Husseman Grants	Funding to: restore or enhance environmental, recreational, archaeological, or aesthetic resources; investigate the long-term effects of oil spills; and develop and implement aquatic land geographic information systems.
	Floodplains by Design	Funding for projects that restore floodplain habitat and reduce flooding risks.
Washington State Department of Fish and Wildlife	Aquatic Lands Enhancement Account Grants	Funding to buy, protect, and restore aquatic lands habitat and to provide public access to the shoreline.
Washington State Department of Natural Resources	Family Forest Fish Passage Program	Assists private forestland owners in replacing culverts and other stream crossing structures.

Agency	Grant Name	Description
US Department of Agriculture Natural Resources Conservation Service	Agricultural Conservation Easement Program	Provides financial and technical assistance to help tribes, state and local governments, non-governmental organizations and private landowners conserve agricultural lands and wetlands and their related benefits.
Washington State Recreation and Conservation Office	Land and Water Conservation Fund	Funding to preserve and develop outdoor recreation resources, including parks, trails, and wildlife lands.
	Salmon Recovery Funding Board Grants	Funds projects that protect and restore salmon habitat.
	Washington Wildlife and Recreation Program	Provides funding for land protection and outdoor recreation, including park acquisition and development, habitat conservation, farmland preservation, and construction of outdoor recreation facilities.

Table B-2. Potential private funding sources for restoration and protection of shoreline ecological functions.

Group	Grant Focus
FishAmerica Foundation	In partnership with the National Oceanic and Atmospheric Administration Restoration Center, provides grants for community-based restoration of marine and anadromous fish species.
National Fish and Wildlife Foundation	Provides funding on a competitive basis to projects that sustain, restore and enhance the nation's fish, wildlife, plants and their habitats.
The Burning Foundation	Protection of threatened rivers, forests, and native fish populations.
The Konsgaard-Goldman Foundation	Forest protection and initiatives addressing climate change in Washington State.
The Northwest Fund for the Environment	Protection and restoration of aquatic ecosystems.