TOWN OF SOUTH CLE ELUM SHORELINE MASTER PROGRAM UPDATE – NO NET LOSS REPORT

Ecology Grant No. G1200054

Prepared for: Town of South Cle Elum

July 2014
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SECTION 1. INTRODUCTION

The purpose of this report is to document how the Town of South Cle Elum Revised Final Draft Shoreline Master Program (SMP) (July 2014) would achieve “no net loss” of shoreline ecological functions. The concept of no net loss of shoreline ecological functions has been rooted in the Shoreline Management Act since its enactment by the citizens of the state of Washington in 1971. The Act states that “permitted uses in the shoreline shall be designed and conducted in a manner that minimizes in so far as practical, any resultant damage to the ecology and environment of the shoreline area...” (RCW 90.58.020). The SMP guidelines were updated in 2011, and now specifically require that updated SMPs include policies and regulations designed to achieve no net loss of ecological functions (WAC 173-26-186). The guidelines suggest 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 the “no net loss” goal.

As recommended by the Washington State Department of Ecology (2010), this report explains how the information from the SMP supporting documents were applied in the development and revision of policies and regulations within the Final Draft SMP (January 2014) and the Revised Final Draft SMP (July 2014). To date, the Revised Final Draft SMP has not yet been reviewed by the South Cle Elum Town Planning Commission or Town Council.

SECTION 2. TOWN SHORELINES

“Shorelines of the state” and their associated “shorelands” are regulated under the Shoreline Management Act. Shorelines of the state are defined as rivers and streams with a mean annual flow of 20 cubic feet per second or more and lakes greater than 20 acres. Shorelands refers to the lands extending landward for 200 feet in all directions from the ordinary water line; floodways and contiguous floodplains areas landward 200 feet from such floodways; and all associated wetlands.

An approximately 0.5-mile segment of the Yakima River is located within South Cle Elum shoreline jurisdiction. The south bank of the river within town limits consists primarily of undeveloped forest and shrub habitat; the area from west Town Limits to just east of 7th Street is federally owned, while the area from just of 7th Street to South Cle Elum Way is privately owned and zoned as Urban Residential. To the north, the river is bordered by railroad tracks. To the northwest of the railroad, the area within Town shoreline jurisdiction consists of a river side channel/wetland complex that is federally owned.

SECTION 3. SHORELINE INVENTORY AND CHARACTERIZATION REPORT

The Shoreline Inventory and Characterization Report (ESA, 2013a), prepared in support of the Kittitas County, City of Ellensburg, City of Cle Elum, and Town of South Cle Elum SMP
update efforts, contains an assessment of the shorelines within South Cle Elum shoreline jurisdiction. The report was developed in collaboration with Central Washington University’s Center for Spatial Information and Research, and was reviewed by Ecology and the SMP Technical Advisory Committee.

During the SMP update process the report has served multiple purposes, such as:

- Identifying shoreline resources and areas that provide value to shoreline stakeholders, to ensure that they are managed according to the goals of the Shoreline Management Act;
- Assessing and documenting current shoreline conditions to establish a baseline against which future conditions can be compared;
- Providing a basis of information to assign Shoreline Environment Designations; and
- Informing the development of SMP policies and regulations related to shoreline use and development, shoreline ecology, and public access.

Key findings and recommendations from the Shoreline Inventory and Characterization Report that apply to South Cle Elum are presented in Table 1, along with brief descriptions of how the findings/recommendations are addressed in the Revised Final Draft SMP.

### Table 1. Key findings and recommendations from the Shoreline Inventory and Characterization Report (ESA, 2013a) and corresponding provision(s) in the Revised South Cle Elum Final Draft SMP.

<table>
<thead>
<tr>
<th>Key Finding/Recommendation</th>
<th>Corresponding SMP Provision(s)</th>
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| A channel migration zone is mapped along the Yakima River. Channel migration is a natural habitat-forming process, but it can be hazardous to people and structures. | • New shoreline uses and developments shall be located, designed, constructed, and maintained to avoid geologically hazardous areas (including channel migration zones) (Section 4.2.P.1).  
• If it is determined that a severe landslide hazard (including channel migration zones) may be present on or adjacent to a proposed development site, the applicant shall submit a geologic risk assessment prepared by a professional engineer (Section 4.2.P.5). If the assessment concludes that further analysis is necessary, the applicant shall submit a geotechnical report (Section 4.2.P.6). |
| New development should be set back an adequate distance from shorelines to riparian functions and vegetation. | • Shoreline buffers for the Urban Conservancy and Shoreline Residential designation are 100 feet (Section 4.5.B.1). Buffers must be maintained in a well-vegetated condition (Section 4.5.B.2). A 15-foot building setback is required from the shoreline buffer (Section 5.21).  
• Alteration of the standard shoreline buffer is only allowed for certain uses/developments, including limited and selective tree removal/pruning to create a shoreline view corridor, construction of a private un-paved pathway, hazard tree removal, invasive species management, creation of public trails and other public access improvements, and construction of water-dependent or |
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<tr>
<td>water-related utilities and essential public facilities (Section 4.5.B.4). The Administrator may require vegetation enhancement outside of the disturbed area as compensation for buffer alteration.</td>
<td>Protect forested riparian areas. • Development and uses within the Urban Conservancy designation shall be situated to avoid or minimize impacts to forest habitat and other relatively undisturbed native vegetation communities (Section 4.5.C.1).</td>
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<tr>
<td>Protect high-quality wetland habitat.</td>
<td>• Proposed impacts to critical areas (including wetlands) must follow the mitigation sequencing criteria (Section 4.2.B.2). The first (and priority) action in the sequence is to avoid the impact altogether.</td>
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The identification of shoreline conditions, ecological functions, land use patterns and management recommendations in the Shoreline Inventory and Characterization Report was a primary consideration in developing and mapping the Shoreline Environment Designations. The following describes the purposes of the three environment designations specified in the Revised Final Draft SMP, and provides examples of how the information in the shoreline inventory report was used to designate specific shoreline areas.

- The purpose of the **Urban Conservancy** designation is to protect and restore ecological functions of open space, floodplain, and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. The area north of the Yakima River within the Town is mapped as Urban Conservancy because it is high-quality wetland habitat that is within close proximity to urban development and transportation infrastructure.

- The purpose of the **Shoreline Residential** designation is to accommodate residential development and recreational uses while maintaining the existing character of the shoreline in areas that are primarily developed, platted, or zoned for moderate- to high-density residential development. The residential areas south of Grant Street are designated as Shoreline Residential because they are zoned and developed with urban residential.

- The purpose of the **Aquatic** designation is to protect, restore, and manage the unique characteristics and resources of aquatic areas. All areas waterward of the Ordinary High Water Mark are designated as Aquatic.

**SECTION 4. CUMULATIVE IMPACTS ANALYSES**

ESA (2013b) conducted a preliminary draft cumulative impact analysis on the January 2013 draft of the Kittitas County SMP. This version of the County SMP was used as the basis for developing the South Cle Elum SMP. The purpose of the analysis was to evaluate...
the cumulative impacts of “reasonably foreseeable future development” within shoreline jurisdiction, if the June 2013 Draft SMP was adopted as-is.

In the process of assessing cumulative impacts, some provisions in the June 2013 Draft SMP were determined to be inadequate at preventing cumulative impacts, and potentially would result in a net loss of shoreline functions in the County as a whole. The issues that were relevant to the Town of South Cle Elum were revised in the January 2014 Final Draft South Cle Elum SMP and Revised Final Draft SMP, and are summarized in Table 2.

**Table 2.** Key issues identified during development of the preliminary draft cumulative impact assessment (ESA, 2013b), and corresponding revisions to the South Cle Elum Revised Final Draft SMP.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Corresponding SMP Revision</th>
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<tr>
<td>SMP did not adequately address vegetation retention outside of shoreline and critical area buffers, but still within shoreline jurisdiction.</td>
<td>• Where possible, development and uses within the Urban Conservancy designation shall be situated to avoid or minimize impacts to forest habitat and other relatively undisturbed native vegetation communities (Section 4.5.C.1).</td>
</tr>
<tr>
<td>SMP did not limit buffer averaging and reduction for new residential subdivisions.</td>
<td>• Critical area and shoreline buffer averaging and reduction are prohibited for residential subdivisions of 5 or more lots. Buffer averaging or reduction is only allowed when adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances (Sections 4.2 and 4.5).</td>
</tr>
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<td>SMP did not clearly specify that &quot;common line&quot; buffer reduction cannot be used for wetland and non-shoreline riparian buffers.</td>
<td>• Common line shoreline buffers shall only be used for shoreline buffers, and only for the development of a single family dwelling on an undeveloped lot, where the lot is a legal lot of record in place on the date of the adoption of the SMP, is located adjacent to existing residential units on both adjacent shoreline lots, and is located within an urban growth area. In addition, a management and mitigation plan must be submitted, which demonstrates no net loss of ecological functions (Section 5.20.B.7).</td>
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Additionally, some revisions to the January 2013 Draft SMP resulted from agency and public comments. However, there were some public comments relating to the protection of shoreline functions that were not incorporated into the South Cle Elum-specific SMP, as it was determined that the proposed regulations were sufficient to protect shoreline functions within Town shoreline jurisdiction (Table 3).

**Table 3.** Key public comments relating to the protection of shoreline functions that did not result in substantive revisions to the Town of South Cle Elum Revised Final Draft SMP.

<table>
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<tr>
<th>Comment Summary</th>
<th>Justification for Maintaining the Existing SMP Provision(s)</th>
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<tr>
<td>The proposed wetland buffers are inconsistent with the science</td>
<td>Shoreline jurisdiction in South Cle Elum contains very few wetlands and the zoning is such that separation of low and moderate uses does not yield meaningful differences in protection of ecological functions.</td>
</tr>
<tr>
<td>Comment Summary</td>
<td>Justification for Maintaining the Existing SMP Provision(s)</td>
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<td>provided by Ecology.</td>
<td>The proposed buffers were evaluated in the Cumulative Impact Analysis and found to result in no net loss of shoreline ecological function.</td>
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| The SMP does not adequately designate and protect hyporheic habitat. | Unlike floodplains, streams, and wetlands, there is no scientifically-accepted and prescribed method for identifying and mapping hyporheic habitat. There is no statutory requirement to designate and protect hyporheic habitat. With regard to hyporheic habitat, WAC 173-26-221(2)(c)(iv)(B) states, in part:  

"...effective management of lake basins and river and stream corridors depends on:...regulating uses and development within lake basins and stream channels, associated channel migration zones, wetlands, and the floodplain...as necessary to assure no net loss of ecological functions, including where applicable the associated hyporheic zone, results from new development."

Therefore, in order to protect hyporheic habitat, channel migration zones, wetlands, and the floodplain should be managed and regulated. Buffer standards and the other SMP regulations applicable to channel migration zones, wetlands and the floodplain work in concert to protect hyporheic habitat, but regulations specific to the management and protection of hyporheic habitat are not a required component of SMPs. |
| The proposed shoreline buffers in the draft SMP are a substantial decrease from the existing SMP standards. | The proposed shoreline buffer widths were developed based on applicable statutory requirements, including scientific and technical information requirements of WAC 173-26-201, and the Kittitas County Regional Shoreline Inventory and Characterization Report. The impacts of reasonably foreseeable future development constructed in compliance with the proposed buffers have been evaluated in the Town’s Cumulative Impact Analysis report. The report concluded that the SMP regulations, including the proposed buffers, are sufficient to ensure no net loss of shoreline ecological function. |
| The channel migration zone (CMZ) maps are inaccurate and lack sufficient detail to be useful. | WAC 173-26-201(3)(c) requires jurisdictions to inventory the "general location of channel migration zones.” The County-wide CMZ mapping was performed using the methodology that Ecology developed, and the mapping was reviewed and approved by Patricia Olson at Ecology. The mapping is course-scale and to be used for planning purposes only. As the methodology does not take into account changes to the Yakima River water regime caused by upstream dams and irrigation withdrawals, the mapping likely overestimates the actual extent of CMZs along the Town’s shoreline.  

Project applicants may provide a special study, performed by a qualified professional, to refine the CMZ mapping at development sites. |
| The critical aquifer recharge area (CARA) regulations are not sufficient to protect water quantity and the critical | The proposed regulations establish performance standards in all CARAs and condition uses with the potential to adversely affect groundwater quality and/or quantity when located in a medium or high susceptibility CARAs. The CARA regulations and standards are |
Comment Summary | Justification for Maintaining the Existing SMP Provision(s)
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recharging effects on stream, lakes, and wetlands that provide critical fish and wildlife habitat. | consistent with statutory requirements and consistent with regulations approved by Ecology in recent SMPs.

The January 2014 South Cle Elum SMP-specific cumulative impact analysis (ESA, 2014a) assessed the January 2014 South Cle Elum Final Draft SMP. To determine if the Final Draft SMP would result in cumulative impacts, reasonably foreseeable future development within South Cle Elum shoreline jurisdiction was estimated using several sources of information, including Kittitas County Assessor records and the Town of South Cle Elum zoning map. The ecological functions (i.e. water quality, habitat, and hydrology) that would be at risk from the potential future development were analyzed. The protective regulations in the Final Draft SMP that would serve to mitigate impacts from development were then compared to the ecological risk assessment, to determine if cumulative impacts to shoreline functions may occur in the future. Four questions guided this analysis:

- Are the proposed Shoreline Environment Designations protective of existing ecological functions?
- Are the allowed and conditionally allowed uses appropriate for each environment designation?
- Are the shoreline buffers, setbacks and critical area buffers protective of existing ecological functions?
- What other regulations in the SMP serve to protect ecological functions at risk and are they adequate to address all potential impacts?

Lastly, the various existing local, state, and federal laws and programs (such as the federal Endangered Species Act) were reviewed to determine if ecological functions and processes would be restored or improved when new development occurs.

The January 2014 cumulative impact analysis concluded that the January 2014 Final Draft SMP would be effective in preventing cumulative impacts to shoreline functions within Town shoreline jurisdiction. The Final Draft SMP was subsequently revised in July 2014 in response to comments from the public, County staff, and Ecology. As documented in a memo from ESA dated July 31, 2014, the SMP revisions are minor, and do not decrease the level of environmental protection as compared to the January 2014 Final Draft SMP.

If substantial revisions are made to the policies and regulations proposed in the Revised Final Draft SMP, the analysis will be revised.
SECTION 5. SHORELINE RESTORATION PLAN

A County-wide shoreline restoration plan (ESA, 2014b) was prepared as part of the SMP update processes for Kittitas County, the City of Ellensburg, the City of Cle Elum, and the Town of South Cle Elum. The restoration plan will serve as a framework for the County, its municipalities, and their restoration partners to identify and implement opportunities to improve impaired ecological functions. The restoration plan contains the following elements:

- A summary of existing shoreline impairments (as identified in the Shoreline Inventory and Characterization Report [ESA, 2013a]);
- Identification of existing and ongoing restoration projects and programs, as well as previously unidentified potential restoration actions;
- Timelines and benchmarks for implementing restoration projects and programs; and
- Identification of partners and potential funding sources that can help the County and its municipalities achieve its shoreline restoration goals.

While the restoration planning component of the SMP update process is voluntary, the identified restoration projects could be undertaken to offset and compensate for unavoidable shoreline impacts, in order to achieve no net loss of shoreline ecological functions. For example, if a trend is occurring over time in which a net loss of riparian vegetation is occurring due to development activities, South Cle Elum could stop or reverse this trend by undertaking shoreline revegetation projects. The shoreline restoration plan contains a list of potential sites where revegetation could occur within the Town, and identifies project partners and potential funding sources that could help the Town undertake the projects.

In order to determine if no net loss of shoreline functions is occurring, a method is needed to track changes in shoreline conditions. The restoration plan contains a framework for tracking key environmental indicators over time, to determine if ecological functions are increasing, decreasing, or remaining the same, as compared to baseline conditions (as documented in the Shoreline Inventory and Characterization Report [ESA, 2013a]). Sample ecological indicators that could be tracked include clearing or revegetation of riparian vegetation cover, creation or removal of impervious surfaces, and filling or creation of wetlands. The restoration plan contains a sample shoreline development checklist that could be completed by Town staff for all use and development proposals; the checklist contains review questions to help identify and track changes in environmental indicators.

Based upon the compiled results of the shoreline development checklists, the Town could assess SMP performance and restoration objectives in the future. Those ecological processes and functions that demonstrate a downward trend of impairment could be elevated for priority action, to prevent a net loss of critical shoreline resources.
SECTION 6. CONCLUSIONS

The baseline conditions of ecological functions and processes in the Shoreline Inventory and Characterization Report (ESA, 2013a) were used as the basis for decisions made throughout the Town’s SMP update process. The inventory was integral to the development of the shoreline designations, informed goal and policy development, and led to the establishment of proactive regulations. The preliminary cumulative impact analysis (ESA, 2013b) identified issues in the Draft SMP that may result in a net loss of shoreline functions; these issues were revised in the Town’s January 2014 Final Draft SMP and July 2014 Revised Final Draft SMP. The cumulative impact analysis (ESA, 2014a) determined that the Final Draft SMP would be effective in preventing cumulative impacts to shoreline functions within Town jurisdiction; this finding is also applicable to the July 2014 Revised Final Draft SMP. The shoreline restoration plan (ESA, 2014b) identifies potential restoration projects, partners, and funding sources, as well as timelines and benchmarks for implementing shoreline restoration within the County, including the Town of South Cle Elum. The plan also describes a framework for tracking key environmental indicators over time, to verify if no net loss of shoreline ecological functions is occurring.

Based upon the SMP update supporting documents described above, our conclusion is that adoption of the Town of South Cle Elum July 2014 Revised Final Draft SMP would, over time, achieve no net loss of Town shoreline ecological functions. This summary will need to be revised if substantial revisions are made to the policies and regulations proposed in the Revised Final Draft SMP.

SECTION 7. REFERENCES


ESA. 2013b. Kittitas County Shoreline Master Program Update: Cumulative Impacts Analysis (Preliminary Draft).


ESA. 2014b. Kittitas County Regional Shoreline Master Program Update: Shoreline Restoration Plan (Final).
