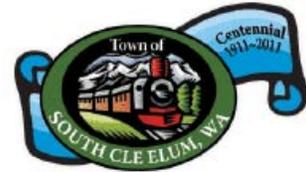


TOWN OF SOUTH CLE ELUM SHORELINE MASTER PROGRAM UPDATE – CUMULATIVE IMPACTS ANALYSIS

Ecology Grant No. G1200054



Prepared for:

Town of South Cle Elum

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the Report

The Town of South Cle Elum is updating its Shoreline Master Program (SMP) in accordance with the Shoreline Management Act (SMA) and implementing regulations¹. As part of this SMP Update effort, the Town is required to evaluate the cumulative impacts of “reasonably foreseeable future development” to verify that proposed policies and regulations for shoreline management are adequate to ensure “no net loss” of shoreline ecological functions. The Washington Administrative Code (WAC) 173-26-186(8) directs that master programs “include policies and regulations designed to achieve no net loss of those ecological functions.” The proposed Town of South Cle Elum SMP (dated January 2014) provides standards and procedures to review, through established permitting processes, subsequent use or development proposals for their potential to impact shoreline resources. The purpose of this report is to assess the cumulative impacts that would result from development and activities in the shoreline over time under the provisions contained in the Town’s Final Draft SMP. This report is prepared as a requirement of the Kittitas County Regional Comprehensive Shoreline Master Program Update grant agreement with the state funding agency, Washington Department of Ecology (SMA Grant No. G1200054). This report is based upon guidance provided in Ecology’s SMP Handbook (accessed at: <http://www.ecy.wa.gov/programs/sea/shorelines/smp/handbook/index.html>), specifically Chapter 4 – No Net Loss of Shoreline Ecological Functions and Chapter 17 – Cumulative Impacts Analysis (CIA).

The cumulative impacts to be addressed in this report are those expected to result from future development and uses within the SMA shoreline jurisdiction and regulated by the Final Draft SMP (January 2014). Cumulative impacts that may result from development outside the shoreline jurisdiction are not considered in this report.

This analysis will need to be revised if substantial revisions are made to the policies and regulations proposed in the Town of South Cle Elum Final Draft SMP.

1.2 State Requirements

According to the state shoreline guidelines outlined in WAC 173-26, Part III, the Town of South Cle Elum is required to evaluate and consider cumulative impacts of “reasonably foreseeable future development” on the shorelines of the state as follows²:

To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that

¹ RCW 90.58 and WAC 173-26

² WAC 173-26-186(8)(d))

address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:

- Assessment of current shoreline conditions;
- Reasonably foreseeable future development and use of the shoreline; and
- Beneficial effects of any established regulatory programs under other local, state, and federal laws.

This CIA uses these three considerations as a framework for evaluating the potential long-term impacts on shoreline ecological functions and processes that may result from development or activities under the proposed Final Draft SMP over a 20-year time frame for consistency with local government Growth Management Act comprehensive plans.

1.3 Report Contents and Methodology

This report provides a planning-level assessment of the potential cumulative impacts that can be expected to occur if the proposed Final Draft SMP is adopted and implemented. The assessment is limited to cumulative impacts of reasonably foreseeable future development in areas subject to SMA jurisdiction. There is approximately 0.5-mile of regulated stream shoreline within the town limits of South Cle Elum, which encompasses a portion of the Yakima River.

The shoreline guidelines state that the impacts of “commonly occurring and planned development” should be assessed programmatically “without reliance on an individualized cumulative impacts analysis.” In contrast, developments that have unforeseen or uncommon impacts, which cannot be reasonably identified at the time of SMP development should be evaluated via the shoreline substantial development and/or conditional use permit processes to ensure that all impacts are addressed and that there is no net loss of ecological function after mitigation³. In addition, the guidelines require evaluation of the cumulative effects caused by:

- Unregulated activities (i.e., timber harvest and certain agricultural uses);
- Developments that are exempt from a shoreline substantial development permit (e.g., single-family residential development); and
- Residential bulkheads, residential piers, and runoff from newly developed properties.

³ WAC 173-26-201(3)(d)(iii)

Accordingly, this analysis is focused on those uses or developments that have the greatest potential for adverse impacts when considered collectively over a 20-year planning horizon. In South Cle Elum, this primarily involves residential and commercial development. Some types of development that are addressed in the SMP, such as signs, dredging, and/or utilities, are not analyzed in detail because of their limited size and effect on shoreline ecological functions or because they will be assessed through the conditional use permit process.

The objective of this analysis is to evaluate whether commonly occurring shoreline uses and developments within the Town will result in cumulative impacts to shoreline ecological functions. The analysis assists in determining whether the Final Draft SMP will result in a *net* loss of shoreline ecological functions compared to 'baseline' conditions. 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. For this analysis, the baseline conditions are the conditions that are generally identified and described in the Kittitas County Regional Shoreline Master Program Update-Shoreline Inventory and Characterization Report (ICR) (ESA, 2013).

Standards and procedures are at the core of any SMP. These are essential for evaluating the effects of specific development actions on a case-by-case basis at the time individual shoreline development proposals are reviewed. These project-level analyses will allow site-scale factors to be considered in the assessment of baseline conditions to supplement the inventory information available for the Town. To achieve no net loss, the SMP requires each project to mitigate impacts by avoiding, then minimizing adverse effects, then replacing impacted resources through compensatory mitigation efforts. The SMP requires that avoidance, minimization and compensatory mitigation be employed at the project scale to ensure no net loss of ecological functions on a site-by-site basis.

1.3.1 Methodology

Assessing whether the Town of South Cle Elum Final Draft SMP would result in cumulative impacts over time requires a multi-step process:

Step 1: Identify existing shoreline ecological functions.

The concept of ecological functions recognizes that any ecological system is composed of a wide variety of interacting physical, chemical and biological components, that are interdependent in varying degrees and scales, and that produce the landscape and habitats as they exist at any time. Ecological functions are the work performed or role played individually or collectively within ecosystems by these components (WAC 173-26-201).

Existing ecological functions in the county are documented by waterbody and by shoreline segments or reaches per the ICR (ESA, 2013).

Step 2: Determine reasonably foreseeable future development. A qualitative assessment of potential development within shoreline jurisdiction was conducted, based

on underlying zoning districts and planned projects or improvements. Future foreseeable development is described in Chapter 3.

Step 3: Determine potential impacts associated with foreseeable development. This step examines the potential impacts that could result from the amount of development likely to occur along Town shorelines.

Step 4: Determine ecological functions at risk. Step 4 compares current conditions and reasonably foreseeable future development to determine ecological functions at risk. Ecological functions at risk are grouped into categories of water quality, habitat, and hydrology. The categories are consistent with WAC 173-26-201(3)(d)(i)(C). A summary of ecological functions at risk is included in Chapter 3.

Step 5: Determine how impacts will be adequately avoided or mitigated. This step describes the regulations in the Final Draft SMP that would serve to mitigate potential impacts associated with foreseeable development, with a particular focus on ecological functions at risk. Four questions guided this analysis:

- Are the proposed Shoreline Environment Designations (SEDs) protective of existing ecological functions?
- Are the allowed and conditionally allowed uses appropriate for each SED?
- 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?

Step 6: Evaluate incremental impacts. This analysis addresses incremental impacts anticipated from development and other activities in the shoreline after mitigation is applied. Even with mitigation, development can cause impacts to shoreline functions which cumulatively could have adverse impacts. According to Ecology's SMP Handbook (Ecology, 2010), restoration activities included in the Shoreline Restoration Plan should be considered in determining whether the SMP will prevent cumulative impacts and achieve no net loss.

Step 6: Describe beneficial effects. Various existing local, regional, state and federal plans and programs were reviewed to determine if ecological functions and processes would be restored or improved when new development occurs.

Step 7: Explain how the SMP will deal with unanticipated impacts. The final step describes uses and developments that may have unanticipated or uncommon impacts (e.g. illegal activities) within the shoreline and how the SMP will address such impacts, such as through site-specific analysis or the conditional use permit process.

CHAPTER 2. SUMMARY OF EXISTING SHORELINE CONDITIONS

This chapter describes the current ecological conditions and land uses along the portion of the Yakima River within Town of South Cle Elum.

An approximately 0.5-mile segment of the river is located within Town shoreline jurisdiction (Figure 2-1). Within the Town vicinity, the Yakima River is identified by WDFW (2012) as providing spawning and juvenile rearing habitat for spring Chinook and summer steelhead, and the presence of several other salmonid species is documented. Fish habitat quality within Town shoreline jurisdiction has been impacted by upstream conditions and land uses, including an altered flow regime due to irrigation reservoir operations, lack of large woody debris, and the presence of floodplain/channel confining structures. Within Town shoreline jurisdiction, Yakima River water quality is listed by Ecology (2009) as impaired for temperature, turbidity, and the presence of toxic compounds (i.e. 4,4'-DDE and DDT).

Within the Town, the south bank of the river consists primarily of undeveloped forest and shrub habitat, and many of the parcels within shoreline jurisdiction are federally owned (Bonneville Power Administration [BPA]). A small area of urban residential development is located within shoreline jurisdiction to the west, and one dwelling is located on a 13-acre parcel to the east, adjacent to South Cle Elum Way.

To the north, the river is bordered by railroad tracks which are protected by armoring. To the northwest of the railroad tracks, the area within Town shoreline jurisdiction consists of a river side channel/wetland complex. The area is relatively unaltered, and is federally owned (BPA).

The portion of the Yakima River within Town shoreline jurisdiction is located within the FEMA 100-year floodplain, and the area south of the river is within a mapped channel migration zone.

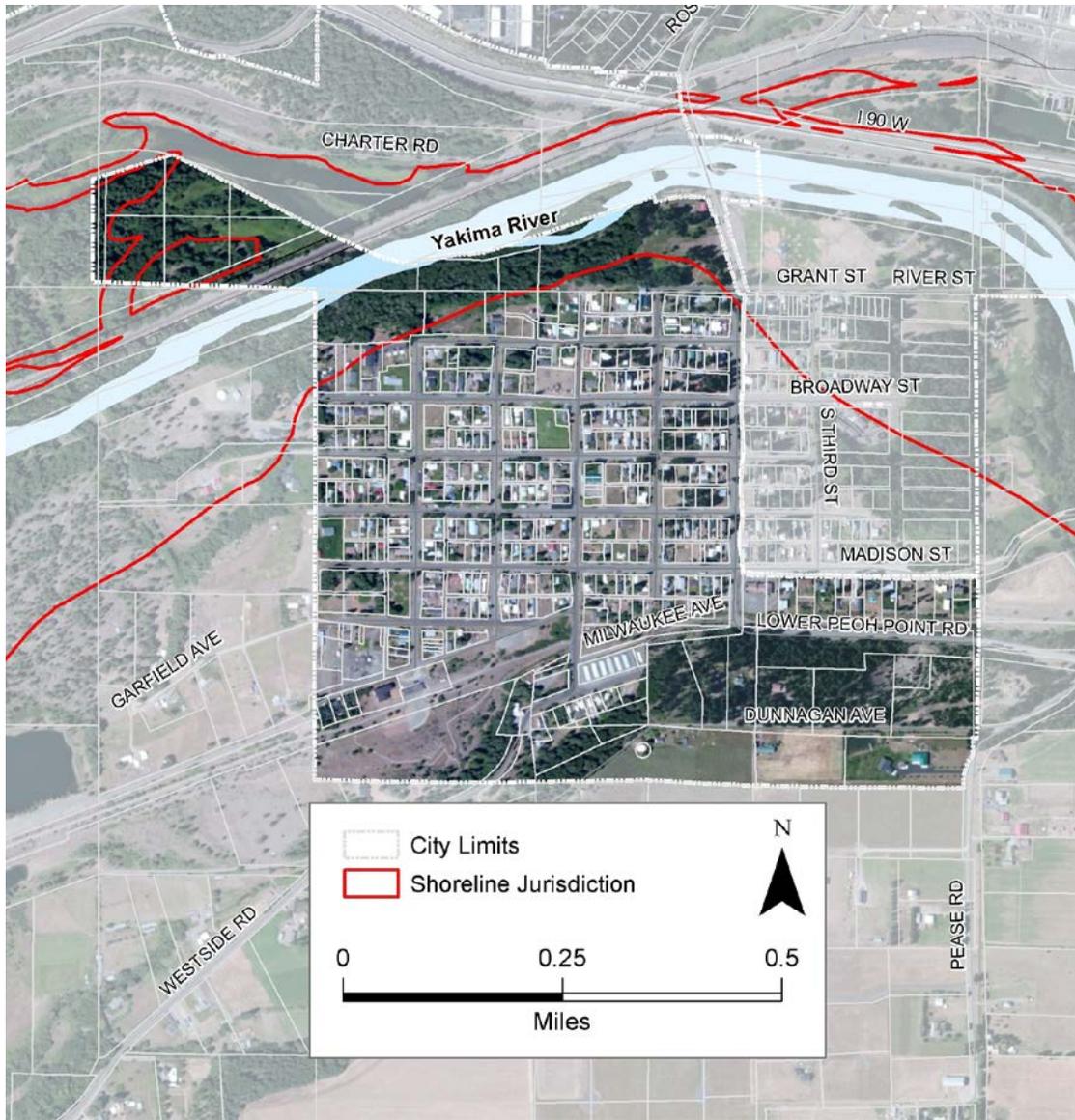


Figure 2-1. Shorelines within Town of South Cle Elum jurisdiction.

CHAPTER 3. REASONABLY FORESEEABLE FUTURE DEVELOPMENT, ECOLOGICAL FUNCTIONS AT RISK AND PROTECTIVE SMP STANDARDS

The purpose of this chapter is to identify reasonably foreseeable development for Town of South Cle Elum SMA shorelines based on underlying zoning districts and planned development. This chapter also describes the shoreline ecological functions most at risk from foreseeable development, based on the findings of the ICR (ESA, 2013), and how foreseeable development would affect ecological functions. The protective provisions in the Town of South Cle Elum Final Draft SMP that would serve to mitigate potential impacts associated with foreseeable development are also described.

3.1 Reasonably Foreseeable Future Development

This section provides an assessment of reasonably foreseeable development along the portion of the Yakima River and associated shorelands that are within Town limits. This qualitative analysis was conducted primarily by using Kittitas County parcel data (2013), the Town of South Cle Elum Comprehensive Plan (2011), and the Town of South Cle Elum zoning map (no date).

The federally-owned (BPA) land south of the Yakima River, which extends from west Town Limits to just east of 7th Street, is zoned as Proposed Future Parks. Corresponding regulations for this zone are not included in the Town’s zoning regulations (SCEMC Title 17). Currently, there are no major planned improvements for this area.

The privately-owned parcel located between the BPA land and South Cle Elum Way is zoned as Urban Residential—Over Five Acres. This parcel, which is approximately 13 acres in area, could be developed with an additional residence pursuant to SCEMC Chapter 17.40. However, the Town’s Comprehensive Plan (2011) states that a mixed-use development on this site is anticipated. Because of the parcel’s location near the Yakima River and the entrance to the Town, the Plan states that the property should be subject to a planned process with design review. One of the major factors that the Plan says should be addressed during project design review is retention of the “critical areas” adjacent to the Yakima River as open space.

A small area of Mixed Residential-zoned land is located within shoreline jurisdiction, north of Broadway Avenue and west of Main Street. The principal uses allowed within this zone are single- and multi-family dwelling units, with minimum lots sizes of 5,000 square feet and 3,000 square feet, respectively. Based upon County parcel data (2013), the area appears to be fully developed.

The lands within Town shoreline jurisdiction north of the Yakima River are not shown on the Town zoning map. These lands consist primarily of wetland habitat that is in federal ownership (BPA), so significant development is not anticipated in this area.

3.2 Ecological Functions at Risk

This section summarizes how foreseeable future development would affect shoreline functions within Town jurisdiction.

3.2.1 Water Quality

Upstream of the Town of South Cle Elum, the temperature of the Yakima River is elevated (particularly in reaches downstream of storage reservoirs) and elevated concentrations of legacy pollutants (e.g., chlorinated pesticides) have been detected. Within Town shoreline jurisdiction, water quality is listed by Ecology (2009) as impaired for temperature, turbidity, and the presence of toxic compounds (i.e. 4,4'-DDE and DDT).

There is potential for vegetation clearing within the privately-owned parcel west of South Cle Elum Way, particularly if the anticipated mixed-use development occurs. However, it is unlikely that vegetation directly adjacent to the river would be removed, as this vegetation would likely be maintained for bank stability and retention of riverside vegetation is a priority in the Town's Comprehensive Plan (2011). Therefore, there is low risk of vegetation removal that would result in decreased river shading and subsequent higher water temperatures.

A new development would likely increase impervious surface levels, and thus could increase the runoff of sediments and pollutants to the Yakima River. However, the potential development would be required to meet the State stormwater manual requirements for stormwater detention and treatment, so a significant decrease in river water quality would be unlikely.

3.2.2 Habitat

The potential mixed-use development on the privately-owned parcel west of South Cle Elum Way could result in the removal of some forest and shrub habitat within Town shoreline jurisdiction, which would cause a localized reduction in wildlife habitat. There are currently no proposed development plans, so the potential extent of habitat removal is unknown. In addition, if development occurs on this site, the property owner may seek to install shoreline armoring to protect the property. This could result in a localized degradation of fish habitat in the river.

3.2.3 Hydrology

The privately-owned parcel west of South Cle Elum Way is located within a channel migration zone, and the property owner may seek to install shoreline armoring to protect

the property if development occurs. Installation of hard armoring may result in increased water velocities, which could result in increased erosion rates downstream.

3.3 Protective SMP Standards

This section describes regulations in the Final Draft SMP that would serve to protect shoreline ecological functions.

3.3.1 Shoreline Environment Designations

SEDs have been assigned to each shoreline segment based upon an analysis of the existing designation system under South Cle Elum's current SMP, the Ecology Guidelines (WAC 173-26-211) and the ICR (ESA, 2103) findings. Consistent with the Ecology Guidelines, the proposed SEDs reflect:

- Existing land use patterns;
- The biological and physical character of the shoreline being considered for development; and
- The goals and aspirations of community as expressed through comprehensive plans

The proposed designation criteria were incorporated in Chapter 3-Environment Designations and Management Policies of the Final Draft SMP. The criteria are included in Table 3-1 summary form and were used to apply designations to shorelines.

Table 3-1. Proposed Shoreline Environment Designation Criteria

Proposed Shoreline Environment Designation	Proposed Designation Criteria
Urban Conservancy	<p>An urban conservancy environment designation was assigned to shoreline areas appropriate and planned for development that is compatible with maintaining or restoring the ecological functions of the area, that are not generally suitable for water-dependent uses. At least one of the following characteristics apply to urban conservancy-designated shorelands:</p> <ul style="list-style-type: none"> • The area is suitable for water-related or water-enjoyment uses; • The area is open space, flood plain or other sensitive areas that should not be more intensively developed; • The area has potential for ecological restoration; • The area retains important ecological functions, even though partially developed; or • The area has potential for development that is compatible with ecological restoration. <p>Mineral resource lands were assigned an urban conservancy designation that allowed mining and associated uses in addition to other uses consistent with the urban conservancy environment.</p>
Shoreline Residential	<p>A shoreline residential environment designation was assigned to shoreline areas within the Town that are predominantly single-family or multi-family residential development or are planned and platted for residential development.</p>
Aquatic	<p>An aquatic environment designation was assigned to lands waterward of the ordinary high-water mark.</p>

The most prevalent designation in the proposed designation system is Urban Conservancy. The Mixed Residential-zoned land within shoreline jurisdiction west of Main Street is designated as Shoreline Residential.

For each SED, the Town of South Cle Elum SMP (Final Draft SMP Sections 3.7 and 5.21) identifies:

- Permitted uses – These are uses and developments that are consistent with the SMA. Such uses/developments require a shoreline substantial development permit or a letter of exemption. A letter of exemption is required for projects that are considered exempt from shoreline substantial development permits. The letter of exemption process is an added check to ensure that the proposed location and design meets all of the requirements of the SMP. Deviations from bulk, dimensional

or performance standards may necessitate a variance permit, which requires Ecology approval.

- Conditionally-allowed uses – Uses that may be authorized provided they meet certain criteria. Conditional use permits also require Ecology approval.
- Prohibited uses – These are uses and developments that are inconsistent with the SMA in the specified SED, and cannot be allowed through any permit or variance.
- Required shoreline buffers and setbacks – Shoreline buffers, building setbacks, building heights, and residential density limits are established for each SED. Buffers and setbacks are intended to protect shoreline ecological functions and water views while supporting other priority uses of the shoreline.

The SED system is designed so that the uses allowed on each shoreline segment are generally appropriate considering the ecological condition and sensitivity of the land and water, as well as the community land use vision reflected in the zoning. The type and intensity of uses allowed in areas designated Urban Conservancy are more limited than in areas designated Shoreline Residential. This ensures that sensitive areas are adequately protected from future development.

3.3.2 Mitigation Sequencing

Mitigation sequencing is a common hierarchical protocol for avoiding and minimizing environmental impacts. Mitigation sequencing is a requirement per WAC 173-26-201(2)(e) that directs all proposed uses and developments to avoid environmental impacts of a proposal and where unavoidable, include measures to minimize and mitigate those impacts in compliance with the SMP and other applicable regulations. Mitigation sequencing is a requirement in South Cle Elum Final Draft SMP and can be found in Section 4.2 Environmental Protection and Critical Areas, Regulation B.2.

In instances where impacts to ecological functions have the potential to occur, mitigation sequencing requires that all reasonable efforts must be taken to avoid, and where unavoidable, minimize and mitigate impacts such that no net loss of shoreline ecological functions is achieved.

In mitigation sequencing, possible adverse impacts should be avoided altogether by not taking a certain action or parts of an action, or by moving the action. For example, a development project that may impact a wetland might be required to avoid construction activities that will directly impact (e.g. vegetation removal or draining) or indirectly impact (e.g. increased sedimentation or runoff) the wetland habitat. By simply avoiding impacts to critical areas no future compensatory mitigation will be required.

When adverse impacts to ecological functions are unavoidable, the magnitude or severity of the impact resulting from an activity should be minimized. This may include reducing or eliminating the adverse impact by preservation and maintenance operations that occur during the life of the action. Minimizing impacts would include, but not be limited to,

installing sediment and erosion control measures and other Best Management Practices to reduce soil erosion and retain water quality in or adjacent to a critical area and retaining natural vegetation, to ultimately reduce or abate the severity of the development action.

When avoiding or minimizing impacts is unfeasible, compensatory mitigation is required to replace the affected resources. This includes monitoring both the impact and mitigation project and taking appropriate corrective measures to ensure that impacts are abated to ensure no net loss. Compensatory mitigation can involve reseeding or replanting impacted areas, restoring water quality and quantity, or otherwise restoring the ecological functions. Other typical mitigation activities include wetland restoration, installation of large woody debris, and floodplain reconnection.

3.3.3 Vegetation Conservation and Shoreline Buffers

According to Ecology Guidelines, master programs must include “planning provisions that address vegetation conservation and restoration, and regulatory provisions that address conservation of vegetation; as necessary to assure no net loss of shoreline ecological functions and ecosystem-wide processes, to avoid adverse impacts to soil hydrology, and to reduce the hazard of slope failures or accelerated erosion” (WAC 173-26-221(5)(b)).

The Final Draft SMP requires new uses and developments to be located 100 feet landward of the ordinary high water mark of the shoreline, for both the Urban Conservancy and Shoreline Residential SEDs. The SMP also requires shoreline buffers to be maintained in a well-vegetated condition that supports native plant species at densities that would occur in similar undisturbed settings. Clearing or removing vegetation is allowed only when associated with an allowed use or development. These provisions must be met by any use, development, or activity regardless if a shoreline permit is required or not. The focus of these provisions is to establish shoreline buffers and limit development and activities in the buffers.

Protection and restoration of riparian zones is important for improvement of water quality and maintenance of adequate water temperatures. Protection of existing native vegetation and enhancement of degraded riparian areas is a key component in protecting water quality and improving in-stream habitat for aquatic species, including salmonids. Riparian zones also buffer streams and lakes from noise and human activities associated with property use.

3.3.4 Critical Areas Standards

Critical area protections must be included in the SMP per Ecology Guidelines. SMPs are required to incorporate protections for critical areas that assure no net loss of shoreline ecological functions necessary to sustain shoreline natural resources. Critical area regulations for wetlands, aquatic habitat conservation areas, wildlife habitat conservation areas, geologically hazardous areas, frequently flooded areas, and critical aquifer recharge areas are established in Section 4.2. As an overview, critical area buffers for wetlands and aquatic habitat conservation areas are shown in Table 3-2.

Table 3-2. Summary of Buffer Requirements for Wetlands and Aquatic Habitat Conservation Areas

Critical Area		Standard Buffer
Wetlands	Category I	150 feet
	Category II	100 feet
	Category III	50 feet
	Category IV	25 feet
Aquatic Habitat Conservation Areas	Type S Waters (Shorelines of the State)	100 feet
	Non-Type S Stream (fish bearing)	50 to 200 feet ¹
	Non-Type S Stream (non-fish bearing)	50 foot buffer

¹ If there is credible evidence of historic or current fish use within a non-Type S stream, the Administrator must increase the standard 50-foot, non-Type S water buffer up to a maximum of two hundred feet to protect fish habitat forming processes.

Subdivisions must have lots that contain at least one site, including access and utility locations that is suitable for use or development and is not located entirely within a wetland, aquatic habitat conservation area, floodway, channel migration zone, or landslide hazard area. The new lots must adhere to the standard buffer widths without buffer averaging or reduction.

The Town also designates wildlife habitat conservation areas, geologically hazardous areas, aquifer recharge areas and floodplains as critical areas and establishes standards and use limitations. Standards and limits on certain uses for these critical areas are described in Table 3-3 below.

Table 3-3. Summary of Requirements for Wildlife Habitat Conservation Areas, Frequently Flooded Areas, Geologically Hazardous Areas and Aquifers

Critical Area	Standards and Use Limitations
Wildlife Habitat Conservation Areas	<p>A habitat management plan (HMP) must be prepared if a proposed use or development is located within 200 feet of a known or suspected wildlife habitat conservation area and there are potential direct or indirect impacts on wildlife species or habitat. The HMP must identify methods and measures to avoid, minimize, or compensate for adverse impacts associated with the proposed development.</p> <p>For unavoidable impacts to wildlife habitat conservation areas, a wildlife habitat management and mitigation plan must be prepared and must demonstrate that when implemented there will be no net loss of ecological function of habitat.</p>
Geologically Hazardous Areas	<p>New shoreline uses and developments must be located, designed, constructed and maintained to avoid geologically hazardous areas.</p> <p>If a severe erosion hazard, mine hazard, or landslide hazard is present, a geologic hazard risk assessment is required. If further analysis is required, a geotechnical report is required that provides recommendations concerning drainage practices, vegetation retention and other mitigation and monitoring measures which may be needed to ensure slope stability.</p>
Frequently Flooded Areas	<p>New uses or developments must not reduce the effective flood storage volume within frequently flooded areas.</p> <p>Compensatory storage must be provided if grading, fill or other activity will occur within a frequently flooded area. Compensatory storage must provide equivalent volume at equivalent elevations to that being displaced; be hydrologically connected to the source of flooding; and designed to prevent fish stranding.</p>
Critical Aquifer Recharge Areas	<p>Activities in critical aquifer recharge areas (CARA) must not cause contaminants to enter the aquifer or significantly adversely affect the recharging of the aquifer. The use or development must comply with water source protection requirements and must be designed and constructed in accordance with stormwater management standards.</p>

3.3.5 Allowed Shoreline and Critical Area Buffer Alterations

Shoreline and critical buffers are generally required to be left undisturbed but there are some exceptions that allow for buffer reduction, buffer averaging and activities and developments within buffers. These allowances provide for minimal infill development

while still maintaining or improving existing levels of protection for riparian zones, shoreline vegetation, and associated habitats.

3.3.5.1 *Shoreline Buffer Alterations*

Shoreline Buffer Averaging

Shoreline buffer widths may be averaged to accommodate a single-family residential development or a water-dependent or water-related development. Buffer averaging is only allowed in those limited instances when adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances. Residential subdivisions of more than four lots and non-water-dependent and non-water-related developments are not eligible for buffer averaging except through a shoreline variance. The minimum width of the buffer at any given point must be at least 75 percent of the standard buffer or 25 feet, whichever is greater. The net buffer area after averaging (total acreage) must not be less than the standard buffer area. The area that is added to the buffer to offset the reductions must be well-vegetated and may require vegetation enhancement.

Common Line Shoreline Buffer

To ensure new single-family dwellings have similar, though not necessarily equivalent, shoreline views as existing development, a common line shoreline buffer—determined by averaging the buffers for each of the adjacent residential dwelling units on the shoreline—may be utilized for the development of a single-family dwelling where:

1. The lot was a legal lot of record in place on the date of the adoption of the SMP;
2. The lot is located adjacent to existing residential dwelling units on both adjacent shoreline lots;
3. The lot is located within an urban growth area;
4. There is less than 15 feet of elevation difference between the vacant lot and adjacent lots and less than two hundred fifty 250 cubic yards of grade or fill is required to accommodate use of the common line shoreline buffer; and
5. A management and mitigation plan prepared by a qualified professional shall be submitted and approved which demonstrates no net loss of ecological functions.

Activities Allowed in Shoreline Buffers

Alterations to the shoreline buffers are allowed to accommodate one of the following uses or developments. It must be limited to the minimum necessary and vegetation enhancement may be required as compensation:

1. Shoreline view corridors limited to 25 feet in width or 25 percent of the width of the lot frontage, whichever is less

2. Private pathways made of pervious materials and no greater than 6 feet in width
3. Hazard tree removal
4. Invasive species management
5. Public trails and other public access improvements
6. Water-dependent or water-related utilities and essential public facilities

3.3.5.2 Allowed Critical Buffer Alterations

Similar to shoreline buffers, there are some exceptions that allow for critical area buffer alterations including buffer averaging and reduction.

Wetland and Stream Buffer Averaging

Wetland and stream buffer widths may be averaged on a case-by-case basis, when necessary to accommodate a single family residential development or a water-dependent or water-related use or development. The minimum width of the wetland buffer at any given point must be at least 75 percent of the standard buffer or 25 feet, whichever is greater. The minimum width of the standard 50-foot aquatic habitat conservation area buffer must be at least 25 feet. The net buffer area after averaging must be the same as the buffer area without averaging. The area that is added to the buffer to offset the reductions must be well-vegetated and may require vegetation enhancement.

Wetland and Stream Buffer Reduction

Wetland and stream buffers may be reduced on sites that lack well-vegetated buffers to accommodate single-family, water-related or water-dependent use or development. Buffer reduction is only allowed in those limited instances when adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances. Residential subdivisions of more than four lots and non-water-dependent and non-water-related developments are not eligible for buffer reduction except through a shoreline variance. The width of the reduced wetland buffer must be at least 75 percent of the standard wetland buffer or at least 35 feet for aquatic habitat conservation areas; the reduced portion of the buffer cannot exceed 40 percent of the buffer length on the development property; the reduced buffer is planted and enhanced; and a mitigation plan is prepared and implemented.

Activities Allowed in Wetland Buffers

The following uses are allowed in a wetland buffer without a variance provided they are conducted in a manner that minimizes impacts to the buffer and adjacent wetland, including wetland functions and values:

1. Conservation or restoration activities;

2. Passive recreation facilities (pervious walkways and trails in the outer 25 percent of the buffer, wildlife viewing structures less than 500 square feet in size); and
3. Stormwater management facilities in the outer 25 percent of the buffer of Category III or IV wetlands.

3.3.6 Unregulated and Exempt Activities

Ecology Guidelines identify specific developments and activities as exempt from obtaining a shoreline substantial development permit under the SMP. The developments and activities that are considered exempt and are anticipated to occur along Town of South Cle Elum shorelines include: vegetation clearing and maintenance and restoration projects.

Exempt developments and activities (per WAC 173-27-040) may have to obtain a conditional use permit when required by a local government's SMP or a variance if the development is not consistent with bulk and dimensional standards (see Section 3.3.7 for information on conditional use permits and variances). For exempt uses not required to obtain a conditional use permit, a letter of exemption must be obtained from the Town. A letter of exemption from the Town that verifies the project would conform to all SMP goals, policies and regulations is required for all activities considered exempt. For projects that require Town permits, including clearing, grading, and most construction, the Town reviews the projects for compliance with the SMP before the permit is issued. Other exempt activities are enforced only on complaint basis. By establishing a formal shoreline permit review process for exemptions, the Town has reduced the possibility of confusion during building permit review and increased scrutiny for shoreline compliance.

3.3.7 Uses Requiring Conditional Use Permits and Variances

Developments that have impacts that cannot be anticipated or are considered uncommon, which cannot be reasonably identified during the SMP planning process, are typically allowed only with approval of a conditional use permit. For example, impacts and effects from dredging include sedimentation and degradation of fish habitat. Requiring these uses to obtain a conditional use permit would help identify and address such impacts during the permit process. In some cases, activities exempt from shoreline substantial development permits are required to obtain a conditional use permit (per WAC 173-27-040).

Evaluation under the conditional use permit process ensures that all impacts are addressed and that there is no net loss of ecological function after mitigation. Local governments make decisions on shoreline conditional uses, but these decisions need review and approval by Ecology and provide opportunities for citizens to provide input into Ecology's decision and provides for the opportunity to appeal final decisions to the State Shorelines Hearing Board.

Developments that do not comply with bulk and dimensional standards in the SMP, or cannot adhere to the standards in the SMP including the provisions to protect critical areas could only be allowed if a shoreline variance permit is approved. Variances are strictly

limited to granting relief where there are extraordinary circumstances relating to the physical character or configuration of property such that the strict implementation of the SMP would impose unnecessary hardships on the applicant or thwart the policies set forth in RCW 90.58.020.

Evaluation under the variance process must ensure that all impacts are addressed through mitigation. The shoreline variance process also elevates final decision-making to Ecology.

3.3.8 Illegal Activities

Violations of the SMP, such as a dock built illegally, vegetation removed from a buffer, unreported spills of pollutants, or illegal construction of bulkheads, could adversely affect shoreline ecological functions and harm shoreline resources. Without enforcement, impacts from such activities would not likely be mitigated. Once identified by the local government, illegal actions are expected to be corrected through enforcement and, it is assumed, after-the-fact mitigation would be required as part of that enforcement.

3.4 Summary of SMP Protective Standards by Use Type

The following table summarizes the protective regulations proposed in the Final Draft SMP for developments that have the potential to occur within shoreline jurisdiction and are allowed or conditionally allowed in the Final Draft SMP.

Table 3-4. Summary of Potential Future Developments and SMP Protective Standards by Use Type

Use / Development Type	Existing Development	Expected Type and Location of Future Development	SMP Protective Standards
Residential Development	Existing residential developments are located near the Yakima River, south of the BPA-owned land.	There is generally low potential for new residential development, as the residential-zoned appears to be fully built out. There is some potential for future redevelopment.	<p>A 100-foot buffer in the Urban Conservancy and Shoreline Residential designations is required for all developments. A 15-foot building setback from the buffer is also required. Buffers must be maintained in a predominately well-vegetated condition. Clearing not associated with an allowed use or development is not allowed.</p> <p>New residential development, including lot creation, must not require structural flood hazard reduction measures within the floodway or shoreline stabilization measures during the life of the development/use.</p> <p>New uses are not allowed to reduce the effective flood storage volume within frequently flooded areas. Subdivisions must have lots that contain at least one site that is suitable for development and is not located entirely within a floodway or channel migration zone.</p> <p>Development must be located landward of the channel migration hazard area or the applicant must submit documentation that demonstrates the parcel is effectively protected or has minimal risk.</p>
Commercial Development	There is no existing commercial development within SMA jurisdiction in South Cle Elum.	A parcel adjacent to the Yakima River, west of Main Street, is identified in the Comprehensive Plan as the site for a potential mixed-use development.	<p>A 100-foot buffer in the Urban Conservancy designation is required for all developments. A 15-foot building setback from the buffer is also required. Buffers must be maintained in a predominately well-vegetated condition. Clearing not associated with an allowed use or development is not allowed.</p> <p>Commercial development must not result in significant adverse impacts to shoreline resources and values, such as navigation, recreation, and public access.</p> <p>New uses and developments must provide stormwater management facilities designed, constructed, and maintained in accordance with the current stormwater management standards. Best management practices for control of erosion and sedimentation must also be implemented for all use and development proposals in shorelines through an approved temporary erosion and sediment control plan.</p>

Use / Development Type	Existing Development	Expected Type and Location of Future Development	SMP Protective Standards
Recreational Development	There is no existing recreational development within shoreline jurisdiction.	The BPA land south of the Yakima River is zoned as "proposed future parks," although there are no current park development proposals.	<p>A 100-foot buffer in the Urban Conservancy designation is required for all developments. A 15-foot building setback from the buffer is also required. Buffers must be maintained in a predominately well-vegetated condition. Water-dependent or water-related recreational uses and developments may be allowed in the shoreline buffer, provided that the amount of buffer encroachment is kept to the minimum necessary.</p> <p>Recreational facilities must be designed to take maximum advantage of and enhance the natural character of the shoreline area. The use of native plant species is preferred.</p> <p>Recreational facilities must incorporate means to prevent erosion and control the amount of runoff and prevent harmful concentrations of chemicals and sediment from entering waterbodies.</p>
Transportation	Roads and a railroad are located within shoreline jurisdiction.	Potential improvements include repaving and other maintenance activities to existing roads and parking areas.	<p>Parking not accessory to a permitted use is prohibited.</p> <p>A 100-foot buffer in the Urban Conservancy and Shoreline Residential SEDs is required for all developments. A 15-foot building setback from the buffer is also required. Buffers must be maintained in a predominately well-vegetated condition. Clearing not associated with an allowed use or development is not allowed.</p> <p>Construction of roadways across stream corridors must be by the most direct route possible having the least impact to the stream corridor. Roadways that must run parallel to stream or wetland edges must be along routes having the greatest possible distance from stream or wetland and the least impact to the corridor. Roadways within the stream corridor must not hydrologically obstruct, cut-off, or isolate stream corridor features.</p> <p>Bridges and water-crossing structures shall not constrict the stream channel or impede the flow of the ordinary high water, sediment and woody debris. The use of bridges is the preferred means to preserve natural streams and drainage ways. Where bridges are not feasible, large, natural bottom culverts, multi-plate pipes and bottomless arches must be used.</p>

Use / Development Type	Existing Development	Expected Type and Location of Future Development	SMP Protective Standards
Shoreline Restoration	There are no known restoration projects within SMA jurisdiction in South Cle Elum,	There is potential for shoreline restoration activities within the Town, along the Yakima River	<p>Restoration is permitted in all SEDs.</p> <p>Restoration must be carried out in accordance with a Town or resource agency-approved restoration plan and in accordance with the policies and regulations of the Shoreline Master Program.</p> <p>All shoreline restoration and enhancement projects must protect the integrity of adjacent natural resources, including aquatic habitats and water quality, and must not result in significant adverse changes to ecological functions, processes or properties.</p> <p>Restoration projects must be monitored and maintained to ensure they achieve their intended restoration goals. The project proponent must assess and document each restoration project according to the requirements prescribed by the applicable authorizing or funding agency. The project proponent is responsible for implementing corrective actions as needed to ensure the project's ecological benefits are sustainable over time.</p>

CHAPTER 4. BENEFICIAL EFFECTS OF ESTABLISHED PROGRAMS

A variety of other regulatory programs, plans, and policies work in concert with the Town of South Cle Elum SMP to manage shoreline resources and regulate development near the shoreline.

4.1 Local Plans and Regulations

4.1.1 Town of South Cle Elum Comprehensive Plan

The *Town of South Cle Elum Comprehensive Plan* was last amended in 2011. It contains goals, policies, and strategies for protection of the Town's environmental resources. Several "land use categories" are described in the plan. These categories serve as the basis for more detailed zoning code designations. Land use categories for the Town of South Cle Elum are as follows:

- Residential
- Commercial
- Public lands
- Parks and open space

During the development of SEDs as part of this SMP update process, Comprehensive Plan designations were examined to determine planned future uses and whether they would be in general alignment with existing shoreline ecological functions. Generally speaking, the Comprehensive Plan designations generally aligned with the findings of the Shoreline ICR (ESA, 2013) findings. Regulating the type and location of land uses in the Town of South Cle Elum ensures that development occurs in areas that would result in minimal impacts to existing shoreline ecological functions.

4.1.2 Flood hazard management

The Kittitas County area, including South Cle Elum, has significant exposure to numerous natural hazards that have caused millions of dollars in past damage. Limited local resources make it difficult to be pre-emptive in risk reduction initiatives, and being able to leverage federal financial assistance is paramount to successful hazard mitigation in the area. In an effort to be proactive in preparedness for the impacts of natural hazards, Kittitas County and partners developed the *Kittitas County Multi-Jurisdictional Hazard Mitigation Plan* (Tetra Tech 2012), which was approved by the Washington Military Emergency Management Division and the Federal Emergency Management Agency on July 27, 2012. The plan identifies resources, information, and strategies for reducing risk from natural hazards.

The plan addresses the following hazards of concern: avalanche, dam failure, drought, earthquake, flood, landslide, severe weather, volcano, and wildfire. The hazard mitigation plan is intended to be incorporated by reference in the Town's comprehensive plan. This will assure that all future trends in development can be established with the benefits of the information on risk and vulnerability to natural hazards.

Recently, the County formed the Flood Control Zone District (FCZD), which is funded through property taxes. The collected funds will be used to fund flood-related projects and programs within the County and its municipalities.

4.1.3 SCEMC Chapter 16.05 State Environmental Policy Act

Most projects requiring a shoreline permit must also demonstrate compliance with the State Environmental Policy Act (SEPA). The SEPA process assures that environmental impacts, including compliance with SMP regulations, are identified, minimized and mitigated, where possible. The Town adopts the state's SEPA rules by reference (Chapter 197-11 WAC). Chapter 16.05 outlines categorical exemptions, general SEPA requirements, procedural requirements, and threshold determinations.

4.1.4 SCEMC Title 17 Zoning

The purpose of Title 17 is to provide zoning standards that direct uses, lot coverage, building bulk, scale, and location, and other design considerations throughout the town. All development must be served by the town's sewage system in the Mixed Residential, Downtown Business and Light Industrial zoning districts. Buildings or developments are prohibited within 200 feet of critical areas and 100 feet of other watercourses in these same zoning districts. In the One-half acre-Urban Residential, One to Five Acres-Urban Residential, and Over Five Acres-Urban residential zoning districts, buildings or developments are prohibited within 300 feet of wetlands and 100 feet of other watercourses. In addition to these zoning standards, Chapter 17.65 Erosion/Landslide Hazard Zone establishes limitations in certain hazardous areas. The regulations prohibit mining, construction and logging along the entire length of slopes. Buildings cannot be constructed, altered or enlarged on slopes in excess of 30 percent.

4.1.5 Benefits of Local Regulations

Various sections of the SCEMC regulate development in ways that benefits the Town's shoreline environments. Regulations are focused on protecting public health through flood damage prevention and land use and development standards including management of environmentally critical areas.

4.2 State and Federal Regulations

A number of state and federal agencies may have jurisdiction over land or natural elements in shoreline jurisdiction. Local development proposals most commonly trigger requirements for state or federal permits when they propose work in or over waters of the

state; impact wetlands or streams; potentially affect fish and wildlife listed under the federal Endangered Species Act (ESA); result in over one acre of clearing and grading; or affect the floodplain or floodway. As with local requirements, state and federal regulations may apply throughout the jurisdiction, but regulated resources are common within the Town's shoreline jurisdiction. The most commonly applied state and federal regulations protecting shoreline-related resources are described briefly below.

4.2.1 Endangered Species Act

The federal ESA addresses the protection and recovery of federally listed species. The ESA is jointly administered by the National Oceanic and Atmospheric Administration (NOAA) Fisheries (formerly referred to as the National Marine Fisheries Service), and the United States Fish and Wildlife Service (USFWS).

4.2.2 Clean Water Act

The federal CWA requires states to set standards for the protection of water quality for various parameters, and it regulates fill, excavation, and dredging in waters of the U.S., including wetlands. Certain activities affecting wetlands in shoreline jurisdiction or work in the adjacent rivers may require a permit from the U.S. Army Corps of Engineers and/or Washington State Department of Ecology under Section 404 and Section 401 of the CWA, respectively.

4.2.3 National Flood Insurance Program

Communities that participate in the National Flood Insurance Program receive federally backed flood insurance. In order to participate, a community must adopt and enforce floodplain management regulations to reduce future flood damage. The Federal Emergency Management Agency is responsible for mapping the country's flood hazard areas.

4.2.4 Hydraulic Project Approval

The Washington Department of Fish and Wildlife (WDFW) regulates activities that use, divert, obstruct, or change the natural flow of the beds or banks of waters of the state and which may affect fish habitat. Projects in the shoreline jurisdiction requiring construction below the ordinary high water mark could require an HPA from WDFW. Projects creating new impervious surface that could substantially increase stormwater runoff to waters of the state may also require approval.

4.2.5 Rivers and Harbors Act

Any work or project that may affect or obstruct navigable waters requires a Section 10 permit under the Rivers and Harbors Appropriation Act of 1899. The U.S. Army Corps of Engineers reviews and authorizes projects with either a standard individual permit, letter-of-permission, nationwide permit, or regional permit.

4.2.6 National Pollutant Discharge Elimination System (NPDES)

Ecology regulates activities that result in wastewater discharges to surface water from industrial facilities or municipal wastewater treatment plants. NPDES permits are also required for stormwater discharges from industrial facilities, construction sites of one or more acres, and municipal stormwater systems that serve census-defined Urbanized Areas (more than 50,000 people and population densities greater than 1,000 per square mile).

4.2.7 Benefits of State and Federal Regulations

Regulations focused on preserving in-stream water quality, quantity, and habitat integrity include the Clean Water Act, the Hydraulic Project Approval, the Rivers and Harbors Act, and the National Pollutant Discharge Elimination System. These regulations require that any development or redevelopment must comply with protocol for avoiding or mitigating impacts to streams, creeks, rivers, lakes, wetlands, or other water bodies. For example, projects that will require in-channel work must comply with the protocol of the Hydraulic Project Approval process in addition to the Clean Water Act. In addition, the Endangered Species Act provides a framework for the preservation of endangered or threatened flora, fauna, or fish species and their associated habitat areas. This overarching regulation must be considered for federal projects or projects with a federal nexus (projects funded with federal money or take place on federal lands) that may adversely impact priority species habitat.

The Federal Emergency Management Agency National Flood Insurance Program and the Rivers and Harbors Act address the removal of materials that may exacerbate flood conditions, and/or provide assistance in development or redevelopment in areas subjected to flooding. In addition to protecting public health and property, these measures also assist in promoting preservation and restoration of floodplain habitat.

CHAPTER 5. RESTORATION EFFORTS

The draft Shoreline Restoration Plan (ESA, 2013b) identifies planned and potential shoreline restoration opportunities within Kittitas County, including the Town of South Cle Elum. Restoration opportunities that have been identified in the vicinity of South Cle Elum include:

Yakima River:

- Revegetate disturbed riparian areas, where practical.
- Investigate opportunities for floodplain reconnection and setting-back of hydromodifications.

CHAPTER 6. CONCLUSIONS

ESA has reviewed the South Cle Elum Final Draft SMP (dated January 2014) according to the requirements in the shoreline guidelines to determine the potential for cumulative impacts. This analysis was guided by the three factors identified in the guidelines for evaluating cumulative impacts and no net loss:

- Assessment of current shoreline conditions;
- Reasonably foreseeable future development and use of the shoreline; and
- Beneficial effects of any established regulatory programs under other local, state, and federal laws.

The Final Draft SMP provides a comprehensive update to the existing SMP goals, policies, and regulations and establishes appropriate standards for the management of the Town's shorelines consistent with the Shoreline Management Act and its implementing regulations. For example, the new shoreline environment designation system is consistent with the Ecology-recommended system (WAC 173-26-211) and was derived from the ICR (ESA, 2013a).

Further, the draft Kittitas County Shoreline Restoration Plan (ESA, 2013b) identifies restoration opportunities within the Town that could improve or restore ecological functions that have been impaired as a result of past development activities. Together, the Shoreline Restoration Plan and ICR document the existing conditions within Town shoreline jurisdiction at the time of this SMP Update.

Based on review of the Final Draft SMP policies and regulations and our analysis of past shoreline development trends, and potential areas where future foreseeable development is anticipated, we contend that the Final Draft SMP will be effective in preventing cumulative impacts on water quality, habitat, and hydrology functions within the Town's shoreline jurisdiction.

This analysis will need to be revised if substantial revisions are made to the policies and regulations proposed in the South Cle Elum Final Draft SMP.

CHAPTER 7. REFERENCES

- Ecology (Washington Department of Ecology). 2009. 2008 Water Quality 303(d)-5 List: Upper Yakima Water Resource Inventory Area (WRIA) 39. W39-303d. Olympia, WA.
- ESA. 2013. Kittitas County Regional Shoreline Master Program Update—Shoreline Inventory and Characterization Report (Revised Draft). Prepared for: Kittitas County Communication Development Services, City of Cle Elum Department of Community Development, Town of South Cle Elum, and City of Ellensburg Department of Community Development.
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