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SHORELINE MASTER PROGRAM

ORDINANCE 2336
ADOPTED MAY 15, 2018



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Shoreline Management Act and Guidelines

Washington’s Shoreline Management Act (SMA) was passed by the State Legislature in 1971 and was intended “to prevent the inherent harm in an uncoordinated and piecemeal development of the state’s shorelines.” While protecting shoreline resources by regulating development, the SMA is also intended to provide for appropriate shoreline use by encouraging land uses that enhance and conserve shoreline functions and values.

The SMA has three broad policies:

1. Encourage water-dependent and water-oriented uses: "uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the states' shorelines...."
2. Promote public access: “the public’s opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally."
3. Protect shoreline natural resources, including "...the land and its vegetation and wildlife, and the water of the state and their aquatic life...."

The primary responsibility for administering the SMA is assigned to local governments through local shoreline master programs, adopted under guidelines established by Ecology. The guidelines ([WAC 173-26](#)) establish goals and policies that provide a framework for development standards and use regulations in the shoreline. The State legislature established new guidelines in 2003 requiring all cities and counties to update shoreline policies and regulations. The new shoreline guidelines set a higher level of environmental protection for shorelines in the state and a goal of “no net loss” of shoreline function. Local SMPs are to be based on these State guidelines and tailored to the specific conditions and needs of individual communities. The SMP is also meant to be a comprehensive vision of how the shoreline area will be managed over time.

Drafting a New Shoreline Master Program for the City of Snohomish

The original City of Snohomish Shoreline Master Program (SMP) was adopted in 1976. To meet State guidelines, the City began an update process in 2009. Between 2009 and 2012, the City created a Citizens Advisory Committee (CAC) and contracted with Environmental Science Associates (ESA) to support the comprehensive SMP update. Draft SMP update documents were developed during this time, including a Shoreline Inventory and Characterization report and map folio, a Shoreline Restoration Plan, a Cumulative Impacts Analysis memorandum, a Shoreline Element of the Comprehensive Plan, and proposed SMP development regulations and administrative standards.

Due to City staff changes and competing priorities, SMP update efforts were put on hold in December 2012. In August 2016, the City reinitiated efforts to finalize and locally adopt the updated SMP. The City Planning & Development Services Department (PDS) coordinated with the Washington State Department of Ecology (Ecology) to identify key areas of earlier draft SMP update materials that required adjustments based on new SMA guidelines, changed shoreline conditions in Snohomish and policy updates within the City. The updates and proposed revisions to the earlier draft SMP materials

reflect completion of a new public boat launch, recently implemented restoration actions within shoreline jurisdiction, and a new approach for integrated protection of critical areas within shoreline jurisdiction and parks.

The components of the updated SMP are detailed below, starting with the key policy and code update components and followed by the supporting technical analysis and documentation necessary to ensure consistency with the SMA and Ecology guidelines:

Shoreline Element of the Comprehensive Plan (Shoreline Management Policies)

Per State’s 2003 guidelines ([WAC 173-26](#)), shoreline master programs are to provide clear, consistent policies that translate broad statewide policy goals into local directives. Policies are statements of intent directing or authorizing a course of action or specifying criteria for regulatory and non-regulatory actions by a local government. Master program policies provide a comprehensive foundation for more specific shoreline regulations, and are used to evaluate proposed shoreline development. At a minimum, shoreline policies must:

- Be consistent with State shoreline management goals and policies;
- Address all master program elements defined in State law; and
- Be designed and implemented in a manner consistent with constitutional and other legal limitations on the regulation of private property ([WAC 173-26-191](#)).

The draft SMP goals and policies are to be adopted as the Shoreline Element of the City’s overall Comprehensive Plan. Goals and polices were developed to maintain consistency with the existing Snohomish Municipal Code and other elements of the Comprehensive Plan. Draft SMP goals and policies include:

Shoreline Management Purpose and Intent – Goal SMP 1 and Goal SMP 2 (and supporting policies) define the overall purpose and intent of Snohomish’s SMP and the City’s regulatory authority to manage shorelines of the state.

Shorelines of Statewide Significance – These policies guide the management of shorelines of statewide significance, including the Snohomish River.

Shoreline Environment Designations – Goals SMP 3 through SMP 8 (and supporting policies) establish and provide the policy intent of the Shoreline Environment Designation across Blackman’s Lake, the Snohomish River, and the Pilchuck River. Shoreline Environment Designations reflect the physical conditions and development settings for the City’s shoreline segments, and include the Aquatic, Rural Utility, Shoreline Residential, Historic Riverfront, and Urban Conservancy environments.

Shoreline Management Policies – These policies broadly address specific shoreline uses and resources, listed below, based on [WAC 173-26-221](#) and [WAC 173-26-191](#). These policies are intended to provide general guidance in the management of shorelines.

- Residential Development
- Utilities
- Boating Facilities
- Economic Development
- Recreation
- Vehicular Circulation and Parking
- Historic, Cultural, Archeological, and Scientific Resources
- Conservation
- General Shoreline Use
- Water Quality, Stormwater and Nonpoint Pollution

Shoreline Modification Policies – These policies express the general principles for managing shoreline modifications and address specific types of shoreline modification, including:

- Shoreline stabilization
- Piers and docks
- Fill and dredging
- Breakwaters and weirs
- Dredging
- Restoration and enhancement

Shoreline Use Policies – These policies address general and specific types of shoreline use, including:

- Shoreline Resources
- Agricultural
- Aesthetics
- In Stream Structures
- Flood Protection
- Habitat and Natural Systems

Shoreline Management Code

The City of Snohomish adopted the 1976 Shoreline Management Master Program under Snohomish Municipal Code (SMC) Chapter 14.250, titled SHORELINE MANAGEMENT. The SMP Update will repeal all code of existing SMC Chapter 14.250, and replace it with updated SMP code standards (to be adopted as SMC 14.250.010 through SMC 14.250.330). These regulations are intended to carry out draft shoreline policies (above), and incorporate changes such that Snohomish’s program will be consistent with Ecology’s guidelines. Please note that some amendments are required in other sections of the Snohomish’s Municipal Code to ensure consistency with the updated Shoreline Management Code. The Snohomish Critical Areas Code (Chapters 14.255-14.280) is integrated into the Shoreline Management Code and is applicable to the Shoreline Jurisdiction, with an exception. The Shoreline Management Code is divided into the following sections:

- Shoreline Management Purpose, Definitions and Administrative Provisions (SMC 14.250.010 - 14.250.070)
- Shoreline Environments (14.250.080 – 14.250.090)

- Shoreline Development Regulations (14.250.100)
- Shoreline Use Regulations (14.250.110 - 14.250.320)
- Shoreland Critical Areas (14.250.330)

Shoreline Restoration Plan

This Restoration Plan builds on the Shoreline Inventory and Analysis and provides a framework and guidance for implementing the SMP goals and policies for restoration. The plan also describes how future restoration efforts may be integrated with existing work being done by local agencies, non-governmental organizations and private citizens. The State requirement for restoration planning is entirely new per 2003 Ecology SMA Guidelines. Although the plan would not be used to mandate restoration on shorelines, it would be used to guide City actions and mitigation requirements.

Shoreline Inventory and Analysis

Per the State guidelines ([WAC 173-26-201](#)), a first step in the comprehensive Master Program update process is development of a shoreline inventory and analysis report. The Inventory and Analysis documents current shoreline conditions and provides a basis for updating the City's Master Program goals, policies, and regulations. The analysis identifies existing ecological and land use conditions, evaluates existing functions and values of shoreline resources, and explores opportunities for the protection and restoration of ecological functions and for increasing shoreline public access. The Shoreline Inventory analysis identified shoreline public access along the Snohomish River, Pilchuck River and Blackmans Lake as redevelopment opportunities for increased public access, while maintaining the economic viability of existing businesses. This supports other planning documents which also identified public access opportunities, such as the *Snohomish Riverfront Master Plan* and the *PROS Long-Range Plan*.

SEPA Checklist and Determination of Non-Significance

A SEPA Checklist that describes the types of environmental impacts that would result from adoption of the new program was prepared on Dec. 13, 2011, based on the Draft SMP. As the lead agency, the City of Snohomish determined the Draft SMP, if implemented, would not have a probable significant adverse impact on the environment. As a result, the City issued a Determination of Non-Significance on Dec. 16, 2011. No appeals of the determination were made so the determination stands as issued.

Cumulative Impacts Analysis and No Net Loss Memorandum

This section describes the potential effects that the program could have over time, taking into consideration minor changes to the environment that are inevitable with development. It includes an analysis of the effects that such changes would have on ecological functions and what the program contains to mitigate those impacts. The purpose of evaluating cumulative impacts is to ensure that, when implemented over time, the proposed SMP goals, policies and regulations will achieve no net loss of shoreline ecological functions from current "baseline" conditions (as summarized in the Memo, and detailed in the Shoreline Inventory and Characterization Report). The CIA and NNL Memo has been prepared based on the May 2017 Draft SMP being considered for local adoption.

SMP Submittal Checklist

This checklist was developed by Ecology and is a required submittal with the SMP. It provides a guide to how the SMP addresses the requirements of the WAC guidelines.

Appendices

The appendices included with the SMP package include excerpts from the RCW and the WAC, as well as sections from the Snohomish Municipal Code that Ecology needs in order to review the SMP (including portions of the codified Critical Areas Ordinance that are incorporated by reference by proposed SMC 14.250.320).

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INITIAL PROCEDURES

If you are planning on developing, redeveloping, or adding on to your property and aren't sure if it's in the shoreline jurisdiction see Map A: Shoreline Jurisdiction in Snohomish Municipal Code (SMC) 14.250.030; see definition of "shoreline jurisdiction". Then, contact the Planning & Development Services Department (the Department) to determine if you need a shoreline permit. You can also contact the Department to help you determine if your property falls within the shoreline jurisdiction.

If your property is in the shoreline jurisdiction you next have to find out if your proposal is permitted by the Shoreline Master Program (SMP). To do that, first determine which shoreline environment designation applies to your site. You can find that out by reviewing the map in SMC 14.250.080. If you need assistance with this contact the Department. Then check to see if the environment designation policies and regulations in SMC 14.250.120 allow the proposed use. Your proposal may be permitted outright, allowed only as a conditional use, or prohibited. It may also require a variance. Keep in mind your proposed use must also meet the city-wide requirements for the Land Use Designation Area where the property is located. That information can be found in SMC 14.205 and 14.207.

Although your proposal may be permitted by shoreline development regulations, or even exempt from specific permit requirements, all proposals must comply with all relevant policies and regulations of the entire SMP as well as the general purpose and intent of the SMP.

For development and uses allowed under the SMP, the City must find that the proposal is generally consistent with the applicable policies and regulations, unless a variance is to be granted. When your proposal requires an approval or statement of exemption, submit the proper application to the City's Permit Center. Processing of your application will vary depending on its size, value, and features. Contact the Department at (360) 568-3115 for additional information.

When Is a Permit Required?

All development within the shoreline jurisdiction will require the normal development permits (e.g. building, right-of-way) required throughout the City. The Shoreline Management Act of 1971 defines "development" as:

A use consisting of the construction or exterior alteration of structures; dredging, drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of piling; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to this chapter at any state of water level.

Development in the shoreline jurisdiction will require a Shoreline Substantial Development Permit if the activity meets the definition of "substantial development" as defined in RCW 90.58.030(3)(e). Generally, any development for which the total cost or fair market value is greater than \$7,047 is considered to be substantial development. (This dollar amount is subject to review every five years. It will next be updated in 2022.) Development can be exempt from requiring a Shoreline Substantial Development Permit, even if it exceeds the dollar threshold, pursuant to exemptions described in RCW 90.58.030(3)((e)(i-xii). These exemptions include normal maintenance or repair of existing structures, construction of the normal protective bulkhead common to single-family residences, and emergency repairs to protect property from damage by the elements. For more information about exemptions from the substantial development permit requirement see WAC 173-27-040.

Some development may also require a Shoreline Conditional Use Permit, if listed as such in the Shoreline Use Table in SMC 14.250.120. If your proposal does not meet the requirements of the

Shoreline Development regulations it may be possible to obtain a Shoreline Variance to allow it. Shoreline Conditional Use Permits and Shoreline Variances require a public hearing before the City’s Hearing Examiner. Development proposals may require a Shoreline Conditional Use Permit or Shoreline Variance even if they do not meet the definition of “substantial development.”

For more information about substantial development permits, conditional uses and variances see SMC 14.250.060.

Keep in mind, **ALL** new development, uses, and activities must comply with the policies and regulations set forth in the City of Snohomish SMP, including those developments, uses, and activities that are exempt from permits. Also, some projects may be subject to environmental review under the State Environmental Policy Act (SEPA).

The Permit Process

Because there are multiple variations of the permits that would be required to develop within the shoreline jurisdiction, potential applicants are urged to contact the Department before getting too far into the process. The City’s planners can help determine if a project is classified as a substantial development, determine if a permit is necessary or if a project is exempt from permit requirements, and identify which regulations in the SMP may apply to the proposed project. The Department can also provide information on the permit application process and how the SMP process relates to, and can coordinate with, the State Environmental Policy Act (SEPA) process. In addition, applicants can submit their conceptual development proposals to the Department for a pre-application review whereby all relevant City departments review the proposal for consistency with City regulations and standards.

The Shoreline Permits

There are three types of permits: the Shoreline Substantial Development Permit, the Shoreline Conditional Use Permit, and the Shoreline Variance. All of these permits use the same application form; however, they are processed differently and have different criteria for approval. Shoreline Exemptions require City review to determine whether the proposal is indeed exempt from shoreline permits, and whether the proposal meets the policies and regulations of the Shoreline Master Program. Requests for Shoreline Exemption are made on a separate application form.

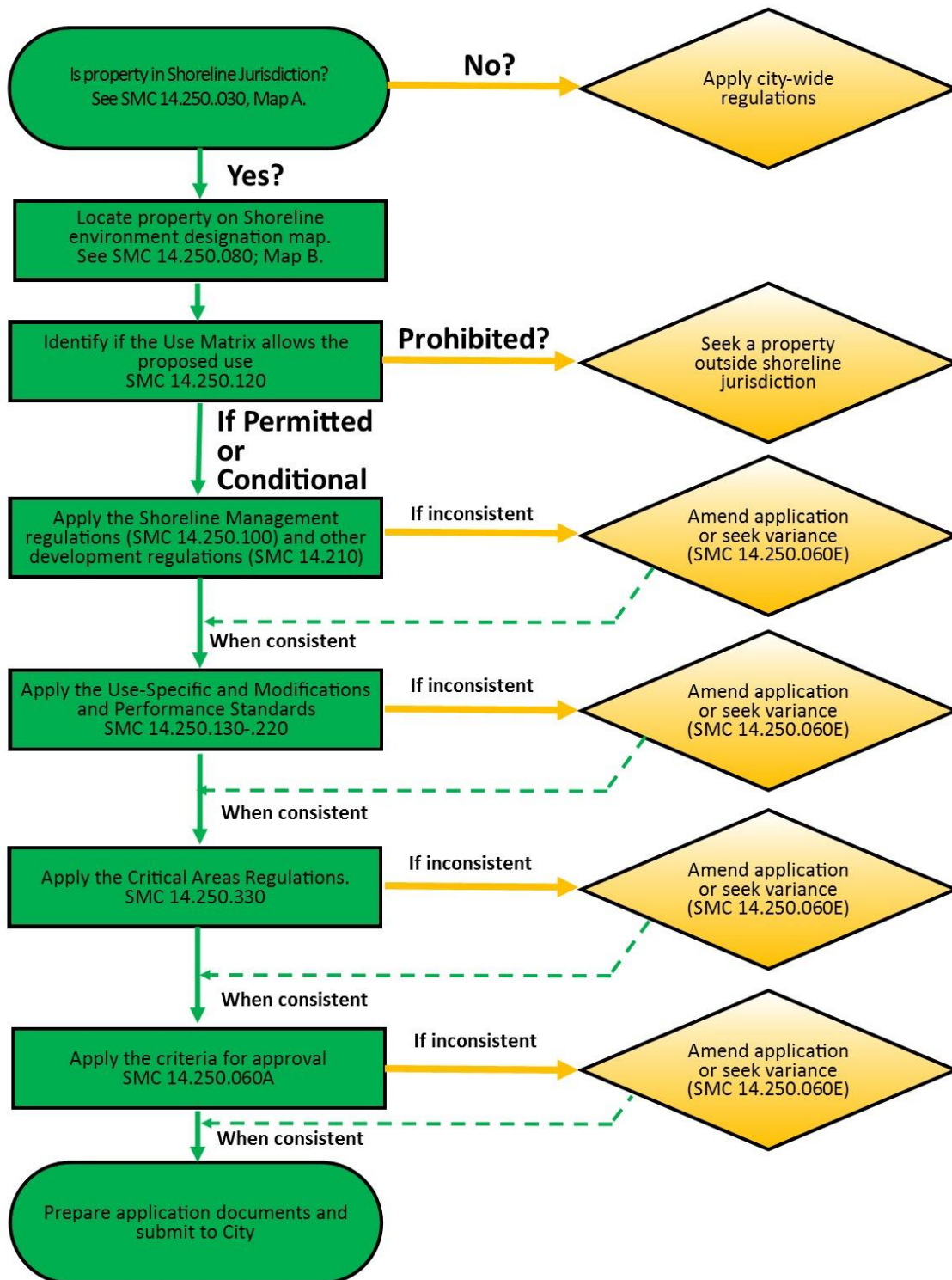
Requests for a Shoreline Exemption and Shoreline Substantial Development Permit are reviewed by the Planning Director or his designee. Requests for a Shoreline Variance or Shoreline Conditional Use Permit require review by the City of Snohomish Hearing Examiner and a public hearing. There may be instances where a Shoreline Conditional Use Permit or Shoreline Variance may be approved without the need for a Shoreline Substantial Development Permit. The Hearing Examiner will hold a public hearing on the proposal and approve, approve with conditions, or deny the application. The Hearing Examiner’s decision is final, unless an appeal is filed. Shoreline Conditional Use Permits and Shoreline Variances also require final approval by the Washington State Department of Ecology.

Relationship of this Shoreline Master Program to Other Plans

In addition to compliance with the provisions of the Shoreline Management Act of 1971, the SMP must be consistent with other City of Snohomish local plans, policy documents, and development regulations specifically, the Snohomish Comprehensive Plan and the Snohomish Municipal Code (primarily Title 14 – Land Use Development Code). The SMP must also be consistent with the regulations developed by the City such as building construction and safety requirements.

Submitting an application for a shoreline development, use, or activity does not exempt an applicant from complying with any other local, county, state, regional, or federal statutes or regulations, which may also be applicable to such development or use.

Permitting Process



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SHORELINE ELEMENT (Policies)

Shoreline Management Act

In 1971 the Washington State legislature passed the Shoreline Management Act (SMA) because of concern over the use, protection, restoration, and preservation of shorelines of the state. The legislature stated shorelines of the state are among the most valuable and fragile of natural resources. It found that ever increasing pressures of additional uses being placed on the shorelines necessitated increased coordination in the management and development of the shorelines. Therefore, the goal of the SMA was to provide for a planned, rational, and concerted effort, jointly performed by federal, state, and local governments, to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines.

The SMA establishes a cooperative program of shoreline management between local governments and the state. Local government, such as the City of Snohomish, is given the primary responsibility of initiating the planning required by the Act and with administering the regulatory program created to implement the policies of the SMA. To achieve this the City develops a Shoreline Master Program (SMP) which is certified by the Washington State Department of Ecology. The SMP must be updated at least every eight years.

There are three basic policy areas in the SMA, which are codified in RCW 90.58.020:

1. Shoreline Use
2. Environmental Protection
3. Public Access

The SMA establishes preferred uses for the shoreline area which are consistent with the control of pollution and prevention of damage to the natural environment. Thus, the preferred uses are single family residences, ports, recreational users, water dependent industrial and commercial uses and development that provide public access opportunities.

The SMA is intended to protect shoreline natural resources against adverse effects. All allowed uses are required to mitigate the adverse environmental impacts they cause to the maximum extent feasible and to preserve the natural character and aesthetics of the shoreline.

The SMA requires local SMPs to include a public access element that makes provisions for public access to publicly owned areas and a recreational element for the preservation and enlargement of recreational opportunities.

Snohomish's SMP must implement the SMA's three basic policy areas.

Shoreline Jurisdiction

Areas that are subject to the requirements of the SMA are:

- Shorelines of the state; and
- Shorelands.

A shoreline of the state is defined as all water areas of the state that meet specified size thresholds. Lakes that are more than 20 acres in area are considered to be shorelines of the state. So too are streams with an average annual flow of more than 20 cubic feet per second.

Shorelands are defined as the area 200 feet landward of the ordinary highwater mark of a shoreline.

Three water bodies in the City meet the threshold to be considered a shoreline of the state. They are Blackman Lake, the Snohomish River, and the Pilchuck River. Thus, they and their shorelands are subject to the requirements of the SMA which in turn makes them subject to the requirements of the City of Snohomish Shoreline Management Program (SMP). Figure SMP 1 depicts the areas subject to the SMP.

The policies of the SMP apply to all development within these areas. When areas are annexed that contain shorelines of the state, the SMP will apply to that shoreline and its associated shoreland and a shoreline environment designation shall be adopted for that area.

Shorelines of Statewide Significance

The SMA requires larger shorelines of the state to be subject to a higher level of effort in implementing policy goals of the SMA than the smaller shorelines. These larger shorelines are called “Shorelines of Statewide Significance.” The SMA sets specific use priorities for shorelines of statewide significance. It requires that the public interest be paramount in the management of shorelines of statewide significance. Management goals for shorelines of statewide significance are given a priority order.

The SMA defines rivers with a mean annual flow of more than 2,000 cubic feet per second as a Shoreline of Statewide Significance. The Snohomish River is the only “Shoreline of Statewide Significance” in the City.

City of Snohomish Shoreline Management Program

The City of Snohomish’s Shoreline Management Program (SMP) is comprised of the following:

- Overview of the SMP
- Users Guide to explain permitting processes for projects within the shoreline jurisdiction.
- This Shoreline Element of the Comprehensive Plan, which contains the City’s goals and policies for protecting and using the shorelines and shorelands within the City.
- A Shoreline Inventory & Characterization report which provides a baseline inventory and characterization of the City’s designated shoreline areas. The report identifies which shoreline ecological functions and ecosystems have been impaired.
- A Shoreline Restoration plan which describes ways to restore and enhance those shoreline areas that have been identified as having impaired ecological functions and ecosystems.
- A Cumulative Impacts Analysis which ensures there will be no net loss of shoreline ecological functions (from the current baseline as identified by the Shoreline Inventory & Characterization report) as the SMP is implemented over time.
- Land use and development regulations specific to the City’s shorelines and shorelands intended to implement the goals and policies of the SMA and the Shoreline Element of

the City of Snohomish Comprehensive Plan. These regulations are in Chapter 14.250 Snohomish Municipal Code.

Critical Areas within the Shoreline Jurisdiction

The Shoreline Management Act (SMA) establishes that critical areas must be regulated as part of a Shoreline Master Program, pursuant to RCW 90.58.090(4) and as implemented through WAC 173-26-221(2) which identify the critical areas as defined within RCW 36.70A.030(5) to include:

- Wetlands;
- Areas with critical recharging effect on aquifers used for potable water;
- Fish and wildlife habitat conservation areas;
- Frequently flooded areas; and
- Geologically hazardous areas.

It is not feasible to simply adopt the City's City-wide Growth Management Act (GMA) Critical Areas Regulations as contained within Chapters 14.255 – 14.280 Snohomish Municipal Code (SMC) because the SMA, pursuant to RCW 90.58 and WAC 173-26-221, requires application of a different set of critical area objectives than that established for GMA critical areas regulations. The GMA regulations rely solely on Best Available Science and do not take into account existing conditions and development. The SMA approach encourages certain uses and activities to be allowed within shoreline buffers to accommodate water-oriented and other preferred uses. This is the primary, though not only, difference between the two approaches.

Further, WAC 173-26-221(2)(b) states the principal upon which critical area regulations shall be crafted:

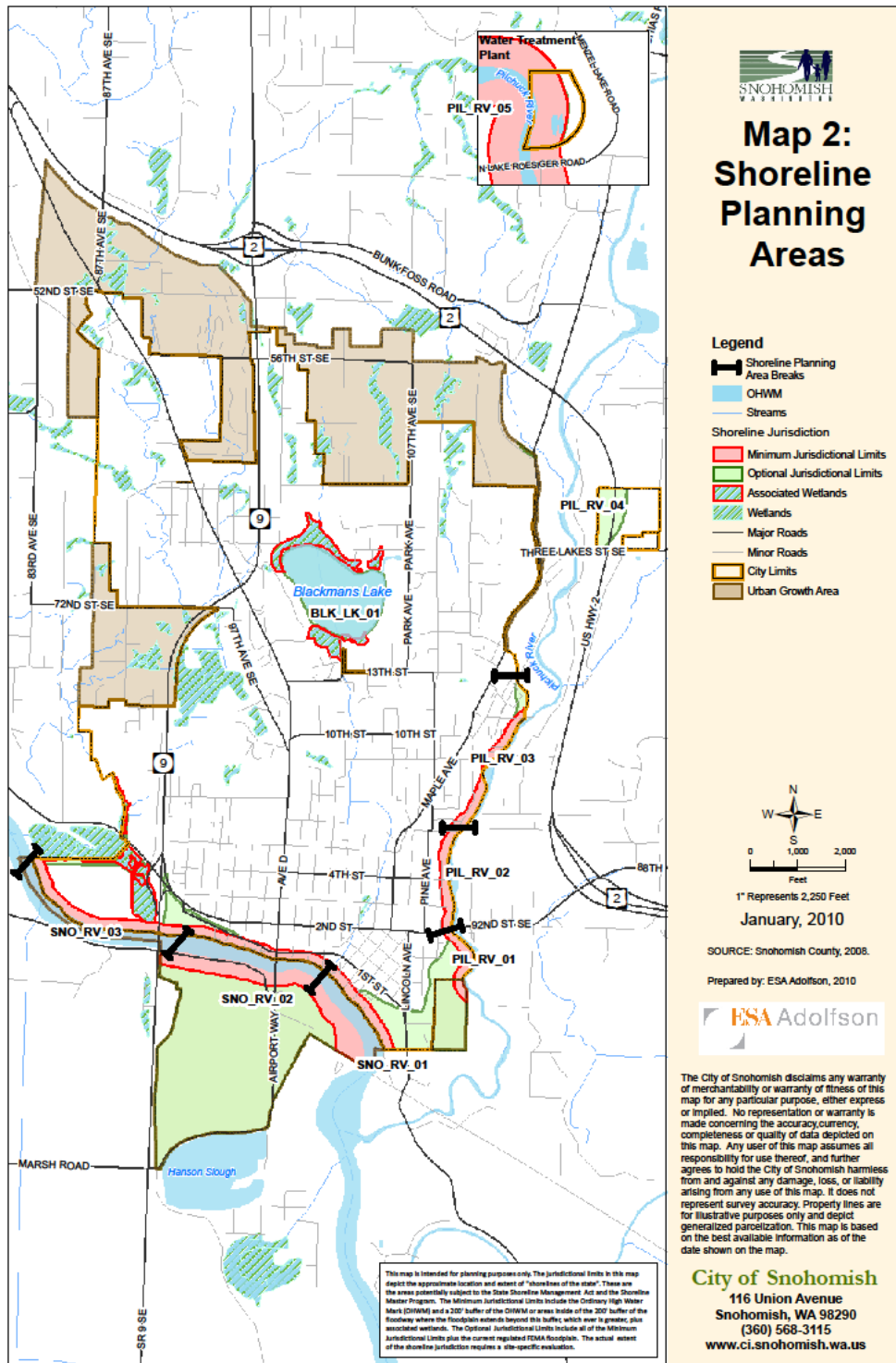
- (ii) using "scientific and technical information"
- (iii) to "integrate the full spectrum of planning and regulatory measures"
- (iv) to protect "existing ecological functions and ecosystem-wide processes and restoration of degraded ecological functions and ecosystem-wide processes."
- (v) "Promote human uses and values ... such as public access and aesthetic values, provided that impacts to ecological functions are first avoided, and any unavoidable impacts are mitigated."

The proposed SMP critical area regulations within Chapter 14.250 are different from the SMC 14.255 – 14.280 critical area provisions in that:

- Wetland buffers are based upon Ecology standards;
- There is not a reasonable use exception – rather a variance is required;
- Existing uses, structures, activities, and preferred uses (such as water-dependent uses) are taken into consideration; and
- Certain water-oriented uses and activities are allowed within the shoreline buffers.

However, the City-wide critical area regulations in SMC 14.255 – 14.280 forms that backbone of the SMP critical area regulations and many provisions of the City-wide regulations, such as Geologically Hazardous Areas and Aquifer Recharge areas, are duplicated virtually verbatim.

MAP A: Shoreline Planning Areas



SHORELINE ELEMENT GOALS AND POLICIES

- GOAL SMP 1:** The City of Snohomish Shoreline Master Program (SMP) is intended to:
- Promote the public health, safety, and general welfare of the community by providing long range, comprehensive policies and regulations for development and use of City of Snohomish shorelines;
 - Manage and protect shorelines in an effective and equitable manner; and
 - Carry out the responsibilities established by the Shoreline Management Act (Chapter 90.58 RCW) for the City of Snohomish, recognizing and fostering the policies contained in RCW 90.58.020 for shorelines of the State.

Policies:

- SMP 1.1:** The policy statements of RCW 90.58.020 shall be the basis for the goals, policies and regulations of the City of Snohomish Shoreline Master Program.
- SMP 1.2:** The shoreline ecology should be protected by:
- Identifying and inventorying the existing and potential ecological functions provided by shorelines.
 - Mitigating adverse impacts in a manner that ensures no net loss of shoreline ecological functions from the baseline functions present as of the date of adoption of this SMP. Any required mitigation should include avoidance, minimization, and compensation of impacts.
 - Addressing cumulative impacts, including ensuring that the cumulative effect of exempt development will not cause a net loss of shoreline ecological functions and by proportionately allocating the burden of addressing such impacts among development opportunities.
 - Adopting regulations and regulatory incentives designed to protect shoreline ecological functions and to restore impaired ecological functions where such opportunities have been identified, consistent with the City's Shoreline Restoration Plan.
- SMP 1.3:** Regulation of private property to implement SMP policies shall be consistent with all relevant and applicable constitutional, statutory and other legal limitations.
- SMP 1.4:** Regulatory or administrative actions adopted to implement SMP policies shall be consistent with the Public Trust Doctrine and other applicable legal principles as appropriate and shall not unconstitutionally infringe on private property rights or result in an unconstitutional taking of private property.
- SMP 1.5:** The regulatory provisions adopted to implement SMP policies shall be applicable only to the shorelines of the state and their related shorelands.
- SMP 1.6:** The provisions of the Shoreline Restoration Plan may extend beyond the designated shoreline boundaries.

- SMP 1.7:** The policies and regulations established by the SMP shall be integrated and coordinated with the policies of the City of Snohomish Comprehensive Plan and the development regulations in Snohomish Municipal Code
- SMP 1.8:** The goals and policies of the SMP should be considered in balance with other relevant local, state, and federal regulatory and non-regulatory programs.
- SMP 1.9:** The public interest in the stewardship, use, and enjoyment of shorelines of statewide significance in the City of Snohomish should be paramount.
- SMP 1.10:** In developing and implementing its Shoreline Master Program for the Snohomish River, a shoreline of statewide significance, the City of Snohomish shall give preference, in the following order, to uses that:
- Recognize and protect the statewide interest over local interest;
 - Preserve the natural character of the shoreline;
 - Result in long-term over short-term benefit;
 - Protect the resources and ecology of the shoreline;
 - Increase public access to publicly owned areas of the shorelines; and
 - Increase recreational opportunities for the public in the shoreline.

GOAL SMP 2: **To ensure appropriate conservation and development of the City’s shorelines, uses that are dependent upon access to shorelines, or that provide opportunities for substantial numbers of people to enjoy the shorelines, and that are consistent with the shoreline environments in which they are located, should be encouraged.**

Policies:

- SMP 2.1:** Only uses or activities that conserve shoreline resources for future generations and do not result in a net loss of ecological functions should be allowed.
- SMP 2.2:** Only uses and developments that are compatible with the shoreline environment in which they are located should be allowed.
- SMP 2.3:** Site development performance standards and other appropriate criteria defining minimum acceptable standards to be achieved should be adopted.
- SMP 2.4:** Property owners should be encouraged to transition their non-conforming uses, sites, and structures to a conforming shoreline use.
- SMP 2.5:** Multiple use of shorelines where location and integration of compatible uses or activities is feasible should be encouraged.
- SMP 2.6:** A hierarchy of preferred water-oriented uses that establish the following priorities should be established through regulations and other suitable means:
1. Water-dependent uses should be preferred over all other uses;
 2. Other water-oriented uses that do not conflict with water-dependent uses should be allowed if a water-dependent use is not feasible;
 3. Non-water oriented uses where water-oriented uses are not practical due to site location or conditions or existing building design should be allowed.

- SMP 2.7:** A management system should be implemented to allow reasonable and appropriate uses of all areas in the shoreline jurisdiction while implementing the following priority system:
1. Natural areas or systems identified for their unique geological, ecological and/or biological significance should be protected and enhanced;
 2. Water-dependent uses should be maintained and promoted as the best option in all environment designations;
 3. Water-related uses should be allowed, maintained, and accommodated if no water-dependent use is feasible or practical;
 4. Water-enjoyment uses should be allowed, maintained, and accommodated if no water-dependent or water-related use is feasible or practical;
 5. Uses that are not water-oriented may be accommodated if a water-oriented use is not feasible or practical ; and
 6. Uses that have no relation to the water and whose operation would be intrinsically harmful to the shoreline should be prohibited.
- SMP 2.8:** Ecological, cultural, and economic studies of the City's shoreline systems should be developed and/or periodically updated to allow proper assessment of the impact of any proposal relative to the City of Snohomish Master Program.
- SMP 2.9:** All development in the shoreline area shall comply with the requirements of the version of the Washington State Department of Ecology Stormwater Management Manual for Western Washington adopted by the City.
- SMP 2.10:** Land uses should be designated as permitted, conditionally permitted, or prohibited for each of the shoreline environments.

Residential Development Policies

- SMP 2.11:** Planned Residential Development should be encouraged in eligible shoreline subdivisions.
- SMP 2.12:** Water quality, shoreline habitats, and shoreline aesthetic characteristics, and, where feasible, significant public vistas, should be protected and preserved through subdivision design.
- SMP 2.13:** Subdivisions with more than four lots and new multifamily development with more than four dwellings should be designed to provide public pedestrian access to the shorelines, unless physical access to the shoreline is not feasible due to the presence of critical areas.
- SMP 2.14:** Where topographically feasible and where ecological functions will not be reduced, subdivisions should be designed to provide all residents within the subdivision with physical and/or visual access to the water.
- SMP 2.15:** Construction of residential development over water should be prohibited.

SMP 2.16: Shoreline subdivisions should be designed and constructed so that future shoreline stabilization or flood hazard reduction measures will not be required.

Utilities Policies

SMP 2.17: Utility facilities should be located, designed, installed, and operated to ensure no net loss of ecological functions, to preserve the natural landscape and views, and to minimize conflicts with present and planned uses.

SMP 2.18: Utility transmission lines and facilities should be located outside shoreline areas, except where existing easements and rights-of-way exist or where there is a functional necessity for a shoreline location.

SMP 2.19: Where utility infrastructure must be placed in a shoreline area, utility facilities should be located as far landward as possible, underground, and/or in existing or combined utility corridors, and the aesthetic impacts on the shoreline should be minimized.

Boating Facilities Policies

SMP 2.20: Boating facilities should be located, designed, constructed, and operated to minimize adverse impacts on shoreline ecology and to mitigate impacts that cannot be avoided so that such facilities do not result in a net loss of ecological functions.

SMP 2.21: Boating facilities should be located, designed, constructed, and operated to minimize adverse impacts on aesthetic quality of the shoreline, navigation, and adjacent shoreline uses.

SMP 2.22: Boat launch facilities and docks should be allowed on the Snohomish River and Blackman Lake.

SMP 2.23: Marinas should be allowed on the Snohomish River.

SMP 2.24: Only hand launch boat facilities should be allowed on the Pilchuck River.

SMP 2.25: Operating procedures for fuel handling and storage should be established to minimize the potential for accidental spillage and provide satisfactory means for containing and managing those spills that do occur.

SMP 2.26: Procedures should be established to ensure that boat facilities are designed in compliance with State and local health agency standards and guidelines.

Shoreline Environment Designations

GOAL SMP 3: **Have effective shoreline management regulations by prescribing different sets of environmental protection measures, allowable use provisions, and development standards that reflect the physical conditions and development settings for each type of shoreline segment.**

Policies

- SED 3.1:** Shoreline Environment Designations should be created to allow for customized environmental protection measures, allowable use provisions, and development standards in recognition of the varying physical conditions and development settings on the City’s shorelines.
- SED 3.2:** Shoreline Environment Designations should establish preference for shoreline uses that protect and preserve shoreline resources.
- SED 3.3:** Shoreline Environment Designations should encourage efficient use of already-developed shoreline areas.
- SED 3.4:** Shoreline Environment Designations should encourage uses, densities and development patterns that reinforce the policies of the Shoreline Management Act.
- SED 3.5:** For areas with high levels of ecological function, a Shoreline Environment Designation should be applied to reserve appropriate shoreline areas for water-oriented uses, and discouraging non-water-oriented uses in the shoreline.
- SED 3.6:** For areas that area almost fully developed with historic or culturally significant structures, a Shoreline Environment Designation should be applied to preserve the historic nature of the area and emphasizing improved public access and habitat restoration over providing water-oriented uses.
- SED 3.7:** For areas with high levels of development and little undeveloped land, a Shoreline Environment Designation should be applied to respect the rights of the owners of developed properties by allowing a variety of compatible uses with a priority on providing improved public access, protecting undamaged habitats, restoring damaged habitats, and protecting or improving ecological functions rather than encouraging water-oriented uses.
- SED 3.8:** For areas largely developed with residential uses, a Shoreline Environment Designation should be made to accommodate residential uses and provide for public access and recreational uses.
- SED 3.9:** For areas with a unique use, such as a utility facility, a Shoreline Environment Designation should be applied to protect the operational integrity of the utility with an emphasis on enhancing and restoring damaged habitat and impaired ecosystems.
- SED 3.10:** Undesignated shorelines, including undesignated shorelines in annexed areas, shall be designated Urban Conservancy in accordance with WAC 173-26-211(2)(e), until the SMP is amended to include such areas.
- SED 3.11:** All Shoreline Environment Designations shall include a purpose, objectives, designation criteria, and management policies.

Aquatic Environment

GOAL SMP 4: The intent of the Aquatic Environment designation is to protect, restore, and manage the existing characteristics and resources of the areas waterward of the ordinary high-water mark of the City's three shorelines of the state – Blackman Lake, the Snohomish River, and the Pilchuck River.

Aquatic Environment Policies

- AQE 4.1:** The Aquatic Environment designation shall be applied to all shoreline areas waterward of the ordinary high-water mark.
- AQE 4.2:** Construction of new over-water structures should be discouraged only allowing structures for water-dependent uses, public access and ecological restoration.
- AQE 4.3:** The size of new over-water structures should be limited to the size necessary to allow them to serve their intended use.
- AQE 4.4:** Development on navigable waters should be located and designed to minimize interference with surface navigation, to limit any adverse impacts to public views, and to allow for the safe, unobstructed passage of fish and wildlife.
- AQE 4.5:** Uses that adversely impact the ecological functions of critical freshwater habitats should be prohibited except where necessary to achieve the objectives of providing for water-dependent uses and public access, and where adverse impacts can be mitigated.
- AQE 4.6:** Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrologic conditions.

Rural Utility Environment

GOAL SMP 5: The purpose of the Rural Utility Environment designation is to allow for the operation of the existing water treatment plan while providing for habitat preservation and enhancement opportunities as they may occur.

Rural Utility Environment Policies:

- RUE 5.1:** The Rural Utility designation shall be applied only to rural areas with existing utility facilities that are not expected to be redeveloped with urban uses.
- RUE 5.2:** The only uses allowed should be directly related to the operation of a utility.
- RUE 5.3:** Expansion and redevelopment shall be allowed but shall be designed to minimize any adverse impacts on environmental functions, mitigate those impacts that cannot be avoided to ensure there is no net loss of ecological function.
- RUE 5.4:** Expansion and redevelopment projects should include provisions to restore damaged habitat and/or impaired environmental functions.

Shoreline Residential Environment

GOAL SMP 6: The purpose of the Shoreline Residential Environment designation is to accommodate residential development and appurtenant structures and uses and to provide public access and recreational opportunities.

Shoreline Residential Environment Policies

- SRE 6.1:** The Shoreline Residential Environment designation shall be applied to shoreline areas that are predominantly developed with single-family residential development and areas that are planned for predominantly single-family residential development. Areas designated Shoreline Residential Environment should have minimal native riparian vegetation between structures and the water's edge and should be unsuitable for intensive urban development due to land use designation, presence of critical areas, being in a flood zone, presence of soils with poor drainage and percolation, or in the vicinity of unstable streambanks.
- SRE 6.2:** New shoreline residential development should be controlled by type, location, and scale in order to maintain and enhance the residential character of the Shoreline Residential Environment.
- SRE 6.3:** Development should be restricted to single family residential uses, recreational uses, and utilities. Commercial, industrial, and residential development other than single family should be prohibited.
- SRE 6.4:** Preserving views of natural shorelines and minimizing glare and other visual intrusions in the shoreline by means of setbacks, landscaping requirements and similar means should be required.
- SRE 6.5:** Beach enhancement projects with appropriate sand supplements should be allowed where it can be shown that other portions of the shoreline would not be adversely affected and that there would be no net loss of ecological functions.
- SRE 6.6:** New residential development or substantial redevelopment projects more than four lots or dwelling units should include new or improved public access to the shoreline and/or new or improved recreational opportunities.
- SRE 6.7:** Standards that will enhance the environmental characteristics of the shoreline area, such as setbacks, buffers, shoreline stabilization, vegetation conservation, critical area protection, and water quality should be adopted.

Historic Riverfront Environment

GOAL SMP 7: The purpose of the Historic Riverfront Environment designation is to protect historic resources and provide for the continuation of commercial uses that are consistent with the historic character of the area, while protecting existing ecological functions and enhancing public access – both visual and physical – to the shoreline. This designation recognizes that

Snohomish no longer has the water-dependent and water-related uses that characterized its downtown waterfront in the 19th and early 20th centuries. Development and redevelopment in the Historic Riverfront Environment should maximize water-enjoyment uses and minimize adverse impacts on the aquatic, shoreland, and historic environments.

Historic Riverfront Environment Policies

- HRE 7.1:** The Historic Riverfront Environment shall be applied only to the shorelines within the Historic District.
- HRE 7.2:** Water-oriented recreational uses that can be located and designed to minimize conflicts with surrounding development should be encouraged.
- HRE 7.3:** Uses that are not water-dependent shall be allowed provided they are:
- Part of mixed-use development that includes water-dependent uses, water-related uses, water-enjoyment uses, or public access; or
 - In existing buildings in the Historic District that are not designed for water-dependent uses; or
 - In new buildings on properties where water-dependent use is infeasible due to the property being separated from the water by publicly owned land, public rights-of-way, or developed or developable properties, or other physical characteristics of the site.
- HRE 7.4:** Public visual and physical access to the shoreline where adverse ecological impacts can be avoided or mitigated should be encouraged.
- HRE 7.5:** Shoreline aesthetics, such as historic character and views of water and natural shoreline areas, should be protected and improved by adoption of sign regulations, building design and landscaping standards, and similar methods.
- HRE 7.6:** New and expanded commercial developments should provide for or facilitate pedestrian waterfront activities where safely feasible.
- HRE 7.7:** An off-site mitigation program in the Snohomish River shoreline areas should be considered for development in the Historic Riverfront Environment where off-site mitigation would result in better ecological performance than on-site mitigation.

Urban Conservancy Environment

- GOAL SMP 8:** **The purpose of the Urban Conservancy Environment designation is to protect and restore ecological functions of riparian floodplain and other sensitive lands in developed and undeveloped urban settings, while allowing a variety of compatible land uses, public access to the water, and recreation uses.**

Urban Conservancy Environment Policies

UCE 8.1: The Urban Conservancy Environment should be applied to areas that possess one or more of the following characteristics:

- Existing moderate-intensity land use where such uses are compatible with maintaining and restoring ecological functions of the shoreline.
- Designated for a use by the City of Snohomish Comprehensive Plan other than for Single Family, Parks, or Open Space.
- Public services, utilities, and property access are available to accommodate moderate to high intensity urban development such as multi-family, commercial, and industrial development.
- Undeveloped land not appropriate for the Rural Utility, Shoreline Residential, or Historic Riverfront designation.
- Active agricultural, urban horticultural, or intensive recreational use.
- Existing residential development density is low due to limitations such as buildable area, utility capacities, and vehicular access.

UCE 8.2: Redevelopment of areas capable of accommodating additional density where ecological functions can be restored or protected should be encouraged.

UCE 8.3: Incentives, development regulations and standards that encourage water-dependent industrial and commercial uses should be adopted.

UCE 8.4: Water-dependent uses should be the preferred uses on the Snohomish River shorelands that are designated for industrial use.

UCE 8.5: Uses that are not water-dependent should be allowed if they are:

- Part of a mixed-use development that includes water-related or water-enjoyment uses, or provide public access;
- In existing buildings that are not designed for water-dependent uses; or
- In new buildings on properties where water-dependent use is infeasible due to the property being separated from navigable waters by publicly owned land, public rights-of-way, or developed or developable properties, or other physical characteristics of the site.

UCE 8.7: Water-oriented recreational uses, such as boat launching sites and trail systems that can be located and designed to minimize conflicts with surrounding development should be allowed.

UCE 8.8: Public visual and physical access to the shoreline in the Urban Conservancy Environment where adverse ecological impacts can be mitigated should be encouraged.

UCE 8.9: Industrial and commercial facilities should be designed to allow and encourage pedestrian waterfront activities where feasible without compromising public safety.

- UCE 8.10:** New development in Urban Conservancy Environments should:
- Reflect the character of the surrounding area; and
 - Limit shoreline modifications; and
 - Provide permanent open space; and
 - Provide public access; and
 - Restore damaged habitat or impaired environmental functions either on site or near the site; and
 - Maintain adequate building setbacks from the water to minimize impacts on the adjacent Aquatic Environment.
- UCE 8.11:** An off-site mitigation program should be considered in the Urban Conservancy Environment where off-site mitigation would result in better ecological performance than on-site mitigation. The off-site mitigation should only be allowed on a shoreline of the same water body where the development is occurring.
- UCE 8.12:** Uses that preserve the natural character of the area or promote preservation of critical areas either directly or over the long term should be allowed in the Urban Conservancy Environment. Uses that result in the restoration of ecological functions should be allowed if the use is otherwise compatible with the purpose of the environment.
- UCE 8.13:** Shoreline aesthetics such as views of natural shorelines, should be protected and improved by means of adoption of design standards for signs, buildings, and landscaping, or similar methods.

GOAL SMP 9: **The City should protect and enhance the economic vitality of the shorelines by encouraging water-oriented commercial, industrial, and recreational uses, while maintaining and improving the quality of the natural shoreline environment.**

Policies

- SMP 9.1:** The amenity value and attractiveness to visitors of public shoreline areas should be improved while protecting natural systems.
- SMP 9.2:** Water-dependent commercial, industrial and recreational development that implement the City’s economic objectives or provide substantial numbers of the public an opportunity to enjoy the shoreline should be encouraged.
- SMP 9.3:** New commercial and industrial development should be encouraged to locate first in developed areas that are adequately served by existing public services and utilities.
- SMP 9.4:** Development that provides public access to the shoreline while maintaining the economic viability of the principal use should be encouraged.

- SMP 9.5:** New non-water-oriented industrial uses should be restricted to sites that are physically separated from the shoreline by another property or public right-of-way or where access is not feasible due to topography or some other obstruction.
- SMP 9.6:** Shared use of in-water and upland facilities, including but not limited to docks, parking, storage and solid waste facilities, should be encouraged to support efficient use of aquatic and land resources.
- SMP 9.7:** Forest management shall be consistent with the management practices required by the Forest Practices Act (Chapter 76.09 RCW). Where conversion of forest to non-forest uses is proposed, the provisions of the SMP for the proposed use shall apply.
- SMP 9.8:** The potential adverse impact that commercial and industrial development may have on the aesthetic quality of the shoreline, navigation, and adjacent shoreline uses should be minimized.
- SMP 9.9:** New development in the Historic District should assist in preserving the character of the Historic District to ensure its continued economic vitality.

Public Access

GOAL SMP 10: **Create convenient and diverse visual and physical public access to shorelines that does not intrude upon the established rights of private property owners, endanger public health and safety, or adversely impact critical areas and is consistent with the SMA.**

Public Access Policies

- PA 10.1:** New commercial, industrial, and multi-family residential developments should provide public access to the shoreline. On the Snohomish River, public access improvements may include off-site improvements to existing public access areas and trails. On the Pilchuck River, public access improvements should be limited to improvements to existing public access locations, except where it can be demonstrated that a new location will avoid degradation of the shoreline ecology.
- PA 10.2:** Publicly-owned or publicly-funded shoreline development should include public access to the shoreline area, public recreation area, and/or protected open space to protect the natural habitat.
- PA 10.3:** When locating and designing shoreline public access private property rights subject to constitutional and other legal protections shall be ensured.
- PA 10.4:** The location, design, and maintenance of public access improvements should be done in a manner that protects unique and/or fragile geological or biological characteristics and critical areas.
- PA 10.5:** The City should seek to acquire an easement or fee simple ownership of privately-owned property that is determined to be a significant link or component of the shoreline public access network that could provide access to the water for navigation, fishing, and recreation to ensure permanent availability of public access.

- PA 10.6:** When shoreline properties are developed and public shoreline access is provided the City should acquire control of the shoreline access either by purchase or by requiring easements.
- PA 10.7:** Except for minor residential development, non-water-oriented development on waterfront lots should be required to grant the public physical and/or visual access to shorelines as a condition of shoreline development.
- PA 10.8:** Public access should be designed, provided, and maintained so that it is appropriate to the shoreline environment and land use designation where it is located.
- PA 10.9:** Public access should be designed, maintained, and regulated to ensure that the ecological functions of the shoreline are protected from damage by public use of the shoreline and when there are unavoidable impacts they are adequately mitigated for through restoration actions.
- PA 10.10:** Wherever practical, public access points should be linked with non-motorized transportation routes such as bicycle and pedestrian paths.
- PA 10.11:** The recommendations of critical area reports and biological evaluation should be used to provide direction on the appropriate type of public access improvements that are provided to ensure that proper mitigation of development and public access impacts is implemented.
- PA 10.12:** The visual and physical connections between downtown Snohomish and the Snohomish River should be improved and maintained through the preservation of view corridors and with directional signs, outdoor seating areas, landscaping, and the design of buildings facing the river.

Recreation

GOAL SMP 11: Create more recreational opportunities by improving the shoreline connections in the City to its lake and riverfront areas.

Recreation Policies

- REC 11.1:** Park facilities, recreation opportunities, and public access should be enhanced and/or expanded along the City's shorelines.
- REC 11.2:** Recreational facilities should be located so as to have the least adverse effect on unique or fragile natural features.
- REC 11.3:** A balanced variety of recreational opportunities on the City's shorelines should be encouraged.
- REC 11.4:** Recreational development should be located, designed, operated, and regulated in conformance with environmental protection and public access provisions of the City of Snohomish Shoreline Master Program; Parks, Recreation and Open Space Master Plan; and the Comprehensive Plan.

- REC 11.5:** Public ownership and access along the City’s shorelines should be expanded through targeted purchases and/or land dedication.
- REC 11.6:** Private investment and development that provides shoreline-oriented recreational uses and other improvements facilitating public access to shorelines should be encouraged.
- REC 11.7:** Parking areas for shoreline recreational uses should be located inland, away from the water and outside of required buffer areas.
- REC 11.8:** The re-orientation and/or renovation of downtown buildings should be encouraged to take advantage of their proximity to the Snohomish River and thereby promote public access to and recreation near the shoreline.
- REC 11.9:** Commercial and mixed-use development with public open space and/or public recreation facilities in a manner that will help sustain the economic viability of the urban shoreline should be allowed.

Vehicular Circulation and Parking

GOAL SMP 12: Create an efficient, safe, and convenient circulation and parking system for vehicles that is appropriate to the shoreline environment which preserves shoreline ecological functions.

Vehicular Circulation and Parking Policies

- VCP 12.1:** Circulation systems should be designed to provide safe and efficient movement of people and products using motorized and non-motorized modes of transportation.
- VCP 12.2:** Transportation and parking facilities should be planned, located, and designed to have the least possible adverse effect on unique or fragile shoreline ecological functions.
- VCP 12.3:** Facilities that support waterborne transportation that are compatible with surrounding land uses and preserve ecological functions should be allowed.
- VCP 12.4:** Shared corridors should be encouraged for transportation and utilities where they must cross shorelines.
- VCP 12.5:** Transportation and parking facilities should be planned, located, and designed to be consistent with public access plans and policies and the environmental protection policies and provisions of the Shoreline Master Program.
- VCP 12.6:** Parking facilities necessary to support an authorized use should be allowed.
- VCP 12.7:** Stand-alone parking facilities, not directly associated with a specific use or uses at a specific location, shall not be allowed within the shoreline regulatory area.
- VCP 12.8:** Parking facilities in the shoreline area should be designed to minimize negative aesthetic impacts.
- VCP 12.9:** The provision of overlooks, trails, and other similar types of recreational amenities adjacent to transportation facilities in public shoreline areas should be encouraged.
- VCP 12.10:** The use of railroad rights-of-way for trail systems, especially where they would provide public access to or enjoyment of the shorelines, should be encouraged.

VCP 12.11: Road and railroad bridges should be located and designed to minimize impacts to existing floodways and channel migration zones of streams and rivers.

Historic, Cultural, Archeological, and Scientific Resources

GOAL SMP 13: **Protect, preserve, and restore sites and areas on the shorelines of the City that have significant historical, cultural, archeological, educational, or scientific value.**

Historical, Cultural, Archeological, and Scientific Resources Policies

HCA 13.1: Historic, cultural and archeological resources on or eligible for listing in the national or state historical register should be preserved and protected.

HCA 13.2: Preservation of historic structures through flexible regulations that allow adaptive reuse while preserving historical character should be encouraged.

HCA 13.3: Historians, archeologists and tribal representatives should be consulted to identify areas containing potentially valuable archeological or cultural resources.

HCA 13.4: Where development is proposed in areas where the potential for encountering undiscovered cultural resources is high, compliance with all protocols for professional site assessment for potential archaeological and cultural resources and preservation of such resources if discovered should be ensured.

Conservation

GOAL SMP 14: **Preserve, protect, and restore ecological functions of the natural systems in the shoreline area.**

Conservation Policies

CON 14.1: Utilization of shoreline natural resources should be allowed where there will not be a net loss of ecological functions.

CON 14.2: Areas with potential for restoration of damaged or diminished features or ecological functions should be identified and alternative mitigation programs to achieve restoration should be allowed.

CON 14.3: Opportunities to preserve unique, rare and fragile natural features and resources should be identified and encouraged.

CON 14.4: Existing ecological functions of the shoreline should be preserved by first requiring avoidance of impacts wherever possible, then applying mitigation in the following sequence of steps listed in order of priority when impacts cannot be avoided:

1. Minimizing impacts by limiting the degree or magnitude of the action and its implementation or by taking affirmative steps to reduce impacts;
2. Reducing or eliminating the impact over time by preservation and maintenance operations to restore the affected environment to its historical conditions or the conditions existing at the time the project was initiated;

3. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
4. Monitoring the impact and the compensation projects and taking appropriate corrective measures.

CON 14.5: Best management practices shall be required for utilization of renewable resources to ensure that such practices provide for a sustained yield of those resources.

CON 14.6: Wetlands, riparian areas, frequently flooded areas, channel migration zones, geologically hazardous areas, critical freshwater habitats, and habitats of rare and endangered species should be protected by restricting development, requiring buffers, and establishing performance standards as necessary to ensure no net loss of ecological functions and habitat areas.

CON 14.7: Public and private shoreline owners should be encouraged to promote the proliferation of native wildlife, fish and plants without unduly interfering with existing activities.

CON 14.8: Surface and groundwater quality and quantity in shoreline areas should be controlled by minimizing land clearing, soil disturbance and non-point runoff.

CON 14.9: To protect existing habitat and environmental functions, uses and activities should be located, and setbacks and buffers incorporated into the site design, to minimize the adverse impacts of those uses and activities. Construction timing, bank stabilization, bio-engineering and use of erosion and drainage control methods should be used both during and after construction.

CON 14.10: Shoreline stabilization and protection measures should be approved only where erosion or flooding pose a threat to existing structures or public safety, but only if they do not result in a net loss of ecological functions associated with the water body.

GOAL SMP 15: Protect shoreline resources, development, and ecological functions by minimizing the impacts of shoreland flooding.

Policies

SMP 15.1: Non-structural flood hazard reduction measures should be used over structural methods where a non-structural measure can be effective and feasible.

SMP 15.2: The City should coordinate with other agencies and jurisdictions on regional flood hazard management planning.

SMP 15.3: Flood hazard reduction measures that are used should not result in a net loss of ecological function.

SMP 15.4: Proponents of development within flood hazard areas shall be required to demonstrate the development is consistent with the National Marine Fisheries Service (NMFS) Biological Opinion relating to the National Flood Insurance Program (NFIP) and the Endangered Species Act (ESA), dated September 22, 2008.

- SMP 15.5:** Any Restoration Plan should include measures for returning river and stream corridors to more natural hydrological conditions, including seasonal flooding, over time, except for in developed areas.
- SMP 15.6:** Restoration planning should consider removal of structures in flood-prone areas.
- SMP 15.7:** The removal of artificial restrictions to natural channel migration should be planned for where feasible if the removal will not endanger existing structures and uses.
- SMP 15.8:** Flood hazard reduction should be accomplished primarily through the City's existing stormwater management regulations, floodplain regulations, critical areas regulations, and participation in the National Flood Insurance Program.
- SMP 15.9:** Development, fill, or encroachments in floodways, frequently flooded areas, highly erodible areas, and other critical areas should be discouraged.

GOAL SMP 16: Provide for appropriate agricultural uses within the City's shorelines.

Policies

- SMP 16.1:** Allow agricultural practices where permitted in the underlying zoning, and encourage use of best management practices for erosion control, water quality protections, and compatibility with shoreline uses.
- SMP 16.2:** Allow agri-tourism uses that are supportive of continued agricultural uses.

GOAL SMP 17: Preserve the scenic and aesthetic qualities of shorelines and public shoreline vistas.

Policies

- SMP 17.1:** The positive aesthetic qualities of shorelines should be preserved through building design, the location of parking areas, vegetation management, sign and lighting controls, and consideration of effects of development on public viewpoints and shoreline views from private property both inside and outside of the shoreline.
- SMP 17.2:** Degradation of vistas and viewpoints and impairment of visual access to the water from such vistas by the placement of signs should be prevented.

GOAL SMP 18: Minimize both the number of breakwaters, jetties, groins, and weirs in shoreline areas and their adverse impacts.

Policies

- SMP 18.1:** Breakwaters, jetties, groins, and weirs should be designed to protect critical areas and ecological functions. Where negative impacts are unavoidable, mitigation should be provided according to the sequence of priorities in these policies.
- SMP 18.2:** Jetties, groins and weirs that protect or restore ecological functions should be allowed.

SMP 18.3: Where a jetty or groin is necessary, multiple uses of the jetty and/or groin to increase public access to and enjoyment of the shoreline should be encouraged.

GOAL SMP 19: Minimize both the amount of fill and dredging activity in shoreline areas and the adverse impacts caused by such activities.

Policies

SMP 19.1: Fill and dredging should only be allowed as necessary to support a permitted use.

SMP 19.2: Fill and dredging shall be done in a manner consistent with floodplain regulations and that protects critical areas to ensure no net loss of ecological function. Fill within wetlands and below the ordinary high water mark shall be consistent with the required state and federal approvals.

SMP 19.3: Fill that would adversely affect other uses or interfere with channel migration should be prohibited.

SMP 19.4: Sanitary landfills and solid waste disposal sites shall be prohibited in any shoreline area.

SMP 19.5: Dredging waterward of the ordinary high-water mark for the primary purpose of obtaining fill material should only be allowed through an approved shoreline conditional use permit, except where the activity is associated with a project related to:

- Restoration of ecological functions;
- Habitat restoration;
- The Model Toxics Control Act (MTCA); or
- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

SMP 19.6: New dredging projects should be approved only when accompanied by an acceptable plan for the long-term disposal of dredge spoils created by the project and its continued maintenance.

SMP 19.7: Dredging in or disposing of spoils on archeological sites listed on the Washington State Register of Historic Places shall only be allowed when approved by the Washington State Department of Archaeology and Historic Preservation and any affected Native American tribe.

SMP 19.8: New development should be sited and designed to avoid or, if that is not possible, to minimize the need for new and maintenance dredging.

SMP 19.9: Dredging for the purpose of establishing, expanding, relocating or reconfiguring navigation channels and basins should be allowed only where necessary to assure safe and efficient accommodation of existing navigational uses and then only where significant ecological impacts are minimized and where mitigation is provided. Maintenance dredging of established navigation channels and basins

should be restricted to maintaining previously dredged areas and/or to existing authorized location, depth, and width.

GOAL SMP 20: Allow new shoreline structural stabilization measures only where necessity is demonstrated.

Policies

SMP 20.1: To protect existing primary structures, shoreline structural stabilization measures should be allowed subject to all of the following conditions:

- New or enlarged structural shoreline stabilization measures for an existing primary structure, including residences, should not be allowed unless there is conclusive evidence documented by a geotechnical analysis that the structure is in danger from shoreline erosion caused by tidal action, flooding, currents, or waves.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

SMP 20.2: Shoreline structural stabilization measures should be allowed in support of new non-water-dependent development uses, including single-family residences, subject to all of the following conditions:

- The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- Non-structural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
- The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report. The damage must be caused by natural processes, such as tidal action, currents, and waves.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

SMP 20.3: Shoreline structural stabilization measures should be allowed if in support of water-dependent development, subject to all of the following conditions:

- The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- Non-structural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
- The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

SMP 20.4: To protect projects proposed to restore ecological functions or hazardous substance remediation projects pursuant to Chapter 70.105D RCW, shoreline

structural stabilization should be allowed, subject to all of the following conditions:

- Non-structural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient to protect the project.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

SMP 20.5: An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents, tidal action, or waves, subject to all of the following conditions:

- The replacement structure shall be designed, located, sized, and constructed to assure no net loss of ecological functions.
- Replacement walls or bulkheads protecting residential dwelling units shall not encroach waterward of the ordinary high-water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there is an overriding safety or environmental concern. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
- Soft shoreline stabilization measures are not feasible or sufficient. Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high-water mark once the applicant has obtained the required state and federal approvals.

SMP 20.6: Where proposed structural shoreline stabilization measures meet the conditions of SMP 20.5, the stabilization measures should meet all of the following design standards:

- The size of stabilization measures should be limited to the minimum necessary and include measures designed to assure no net loss of shoreline ecological functions.
- Soft approaches should be used unless demonstrated not to be sufficient to protect primary structures, dwellings, and businesses.
- Publicly-financed or subsidized shoreline erosion control measures should be designed to ensure they do not restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. Where feasible, ecological restoration and public access improvements should be incorporated into the project.
- New erosion control measures, including replacement structures, should be designed to avoid adverse impacts. If that is not possible, they should be designed to minimize adverse impacts to sediment conveyance systems.

GOAL SMP 21: **Minimize the use and adverse impact on shoreline areas of flood protection measures, including but not limited to dikes and levees.**

Policies

SMP 21.1: All flood protection measures should be placed landward of the principal floodway and associated wetlands that are directly interrelated and interdependent with the stream proper.

SMP 21.2: New development should be designed to preclude the need for shoreline stabilization or structural flood control protection.

SMP 21.3: Construction of flood control works or streambank stabilization projects that would contribute to destructive streamway channelization or substantial modification of existing shoreline character should be avoided, except for in the case of streamway restoration projects.

SMP 21.4: Where possible, bulkheads and seawalls should be designed to blend in with the surroundings and should not detract from the aesthetic qualities of the shoreline.

GOAL SMP 22: **Allow new piers and docks only for public access, water-dependent uses, and as accessory to single family residences.**

Policies

SMP 22.1: Pier and dock construction should be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use.

SMP 22.2: Where a pier or dock is proposed for any development of two or more residential units, shared or community piers should be required.

SMP 22.3: Docks and piers should be located and designed so that they do not significantly interfere with navigation or public access to the shoreline.

SMC 22.4: Docks and piers shall be constructed of materials that have been approved by applicable state agencies.

GOAL SMP 23: **Support and coordinate shoreline habitat and natural systems enhancement projects with other adopted plans and regulations, including salmon conservation plans and flood hazard management regulations.**

Policies

SMP 23.1: Habitat and natural systems enhancement projects such as the following should be allowed:

- Modification of existing vegetation;
- Removal of non-native or invasive plants;
- Shoreline stabilization using soft or non-structural techniques; and
- Dredging, and filling, provided that the primary purpose of such actions is clearly restoration of the natural character and ecological processes and functions of the shoreline.

SMP 23.2: Habitat and natural systems enhancement projects should address restoration needs and priorities, as determined by the City, and facilitate implementation of the City of Snohomish Shoreline Restoration Plan.

GOAL SMP 24: **Advance the intent and policy of the Shoreline Management Act of 1971 through the implementation of the City of Snohomish Shoreline Management Program, the administration of the shoreline permit processes, and other legal requirements of the Act.**

Policies

SMP 24.1: Applications for shoreline permits should be processed expeditiously with a thorough analysis and review.

SMP 24.2: When necessary, advice and assistance from recognized experts at federal, state, or local levels should be sought whenever technically complex issues are involved in review of shoreline permit applications.

SMP 24.3: The Shoreline Master Program should be administered in a consistent fashion and in compliance with the provisions of the Shoreline Management Act (Chapter 90.58 RCW) and WAC Chapters 173-18 through 173-22 and Chapters 173-26 and 173-27 as exist now and hereafter amended.

SMP 24.4: To ensure compliance with applicable regulations, shoreline development applications should include, where appropriate, submittal of a survey delineating the ordinary high water mark, wetlands, and buffers, including the placement of permanent survey markers.

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SHORELINE MANAGEMENT (Regulations)

Chapter 14.250 Snohomish Municipal Code SHORELINE MANAGEMENT

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14.250.010 Purpose

The purpose of this chapter is to:

- A. Implement the Washington State Shoreline Management Act (Chapter 90.58 RCW), the City of Snohomish Shoreline Master Program (SMP), and the City of Snohomish Comprehensive Plan (Comprehensive Plan).
- B. Promote public health, safety, and general welfare by providing regulations for protection, development and use of shorelines.
- C. Manage shorelines in an effective and equitable manner.
- D. Achieve the City’s responsibilities specified by the Shoreline Management Act.

14.250.020 Shoreline Master Program Regulations and Relationship to other Regulations

- A. The following regulations shall constitute the Snohomish Shoreline Master Program development regulations, are incorporated herein and provided in Appendix A for reference purposes, except as supplemented or modified under Sections 14.250.330, with the exceptions specified below.
 - 1. Chapter 14.250 SMC – Shoreline Development (Ordinance 2336, dated May 15, 2018)
 - 2. Chapter 14.255 SMC – Critical Areas; General (Ordinance 2083, dated May 3, 2005)
 - 3. Chapter 14.265 SMC – Critical Aquifer Recharge Areas (Ordinance 2083, dated May 3, 2005)
 - 4. Chapter 14.270 SMC – Flood Hazard Areas (Ordinance 2090, dated Aug. 16, 2005)
 - 5. Chapter 14.275 SMC – Geologically Hazardous Areas (Ordinance 2083, dated May 3, 2005)
 - 6. Chapter 14.280 SMC – Fish and Wildlife Habitat Conservation Areas (Ordinance 2083, dated May 3, 2005)
- B. Unless specifically stated, this chapter does not alter the provisions and requirements specified by other chapters of the Snohomish Municipal Code. In no case shall this chapter be construed to lessen the requirements of any other City regulation.
- C. The following sections and subsections of Snohomish Municipal Code are excluded from incorporation and do not apply in the Shoreline Jurisdiction.
 - 1. SMC 14.255.060 – Exemptions
 - 2. SMC 14, 255.130 – Variances
 - 3. SMC 14.265.020 – Exemptions
 - 4. SMC 14.275.030 – Exemptions
 - 5. SMC 14.255.120(G)
 - 6. SMC 14.260.040 – Substantive Requirements
 - 7. SMC 14.280.050 – Substantive Requirements
 - 8. SMC 14.280.060 – Habitat Conservation Area Buffers
- D. Any provisions of the City of Snohomish Critical Areas Code (Chapters 14.255-14.280 Snohomish Municipal Code) that are not consistent with the Shoreline Management Act Chapter, 90.85 RCW,

and supporting Washington Administrative Code chapters shall not apply in the Shoreline Jurisdiction.

- E. Where this Program makes reference to RCW, WAC, or other state or federal law or regulation, the most recent amendment or version shall apply.
- F. In the event of any conflict between the Shoreline Master Program development regulations and any other regulations of the City, the regulations that provide greater protection of the shoreline natural environment and aquatic habitat, as determined by the Planning Director or designee, shall prevail.
- G. The Planning Director, or designee, is authorized to issue permits and approvals for development and/or construction upon regulated shorelands after confirming that the proposed activity is consistent with this Master Program.
- H. Issuance of a substantial development permit, conditional use permit, and/or variance approval does not constitute approval pursuant to any other federal, State or City laws or regulations.

14.250.030 Definitions

In addition to the definitions provided in this section, the definitions contained in Title 14 SMC, Chapter 90.58 RCW, Chapter 173-26 WAC, and Chapter 173-27 WAC apply within the shoreline jurisdiction. Where definitions in this chapter conflict with definitions elsewhere in Title 14 SMC, the definitions provided in this section shall control.

Access, public or public access means the ability of the general public to reach, touch, and enjoy the water's edge, to travel on waters of the state, and/or to view the water and the shoreline from adjacent locations.

Accessory structure means a structure that is incidental to and on the same site as the principal structure.

Agricultural activities means agricultural uses and practices including, but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation.

Agricultural products includes, but is not limited to, horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including, but not limited to, meat, upland finfish, poultry and poultry products, and dairy products;

Agricultural equipment and agricultural facilities includes, but is not limited to:

- A. The following used in agricultural operations: Equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal,

conveyance, and use equipment and facilities including, but not limited to, pumps, pipes, tapes, canals, ditches, and drains;

- B. Corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands;
- C. Farm residences and associated equipment, lands, and facilities; and
- D. Roadside stands and on-farm markets for marketing fruit or vegetables; and

Agricultural land means those specific land areas on which agricultural activities are conducted as of the date of adoption of this SMP, as evidenced by aerial photography or other documentation. After the effective date of the master program, land converted to agricultural use is subject to compliance with the requirements of the master program.

Aquaculture means the culture or farming of fish, shellfish, or other aquatic plants and animals.

Associated wetlands means wetlands that are in proximity to tidal waters, lakes, rivers or streams that are subject to the Shoreline Management Act and either influence or are influenced by such waters. Factors used to determine proximity and influence include, but are not limited to: proximity to a regulated shoreline, susceptibility to tidally-influenced geo-hydraulic processes, presence of a surface connection, including through a culvert or tide gate, location in whole or in part within the floodplain of a shoreline, periodic inundation, and/or hydraulic continuity.

Average grade level, within the shoreline jurisdiction means the average of the natural or existing topography of the portion of the lot, parcel, or tract of real property which will be directly under the proposed building or structure: In the case of structures to be built over water, average grade level shall be the elevation of the ordinary high water mark. Calculation of the average grade level shall be made by averaging the ground elevations at the midpoint of all exterior walls of the proposed building or structure;

Base flood – see Chapter 14.270 SMC and 44 CFR 59.1.

Breakwater means an in-water structure, either floating or not, designed and purposed to absorb, dampen, or reflect wave energy.

Building height – means the measurement from average grade level to the highest point of a structure except that television antennas, chimneys, and similar appurtenances that do not obstruct the view of the shoreline from a substantial number of residences shall not be used in calculating height. However, temporary construction equipment is excluded in this calculation.

Buffer or shoreline buffer means a non-clearing area adjacent to a wetland, river, or stream that, generally, functions to protect the integrity, function, and values of affected critical area or shoreline. Specifically, a buffer may:

- A. Physically isolate the water body from surrounding areas using distance, height, visual and/or sound barriers;
- B. Minimize risk to the public and property damage from the natural processes and occasional catastrophic actions of water bodies;
- C. Protect the functions and values of the water body from adverse impacts of adjacent development and activities;
- D. Provide shading, input of organic debris, and coarse sediments, room for variation and changes in natural wetland, river, or stream characteristics;

- E. Cleanse and recharge stormwater runoff to minimize sediment and chemical transport to the water body; and/or
- F. Provide habitat for wildlife.

Buffers may be modified and reduced to accommodate allowed uses when consistent with the Act and this Program, and when conducted so that no net loss of critical area or shoreline ecological functions occurs. Under optimal conditions, buffers are composed of intact native vegetation. Buffer widths are measured horizontally.

Bulkhead means a solid or open wall of rock, concrete, steel, timber, or other material erected generally parallel to the shoreline for the purpose of protecting upland areas from inundation, saturation, waves, current, etc. A bulkhead may have earthen fill placed upland of the wall structure.

Channel migration zone – means the area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.

Commercial means a use that involves wholesale or retail trade, or the provision of services.

Critical areas as defined under chapter [36.70A](#) RCW includes the following areas and ecosystems:

- A. Wetlands;
- B. Areas with a critical recharging effect on aquifers used for potable waters;
- C. Fish and wildlife habitat conservation areas;
- D. Frequently flooded areas; and
- E. Geologically hazardous areas.

Development means a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel or minerals; bulkheading; driving of piling; placing of obstructions; and/or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to this chapter at any state of water level.

Dock means an anchored platform structure in or floating upon water to facilitate pedestrian access to the water or to watercraft. Docks may provide moorage for watercraft, and may include ancillary features such as piling, anchors, gangways, floats, fingers, etc. For the purposes of this chapter, “dock” is synonymous with “pier”.

Dredging means the removal, displacement, and/or disposal of unconsolidated earth material such as sand, silt, gravel, or other submerged materials, from the bottom of water bodies, ditches, or wetlands; maintenance dredging and/or support activities are included in this definition.

Ecological functions or shoreline functions means the work performed or role played by physical, chemical and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline’s natural ecosystem.

Feasible means that an action, such as a development project, mitigation, or preservation requirement meets all of the following conditions:

- A. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results; and
- B. The action provides a reasonable likelihood of achieving its intended purpose; and
- C. The action does not physically preclude achieving the project's primary intended legal use.

In determining an action's infeasibility, the Planning Director shall also consider the action's relative public costs and public benefits, considered in the short- and long-term time frames.

In cases where certain actions are required unless they are not feasible or infeasible, the burden of proving infeasibility is on the applicant.

Fill means the addition of soil, sand, rock, gravel, sediment, earth retaining structure or any other earthen or organic material to an area waterward of the ordinary high water mark, in wetlands, or on shorelands in a manner that raises the elevation of, or creates, dry land.

Float means a structure or device which is not a breakwater and which is moored, anchored, or otherwise secured in the water in a manner that allows the structure or device to remain at the surface of the water.

Flood plain is synonymous with one hundred-year flood plain and means that land area susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon flood ordinance regulation maps or a reasonable method which meets the objectives of the act.

Floodway means the area, as identified in a master program, that either:

- A. Has been established in federal emergency management agency flood insurance rate maps or floodway maps; or
- B. Consists of those portions of a river valley lying streamward from the outer limits of a watercourse upon which flood waters are carried during periods of flooding that occur with reasonable regularity, although not necessarily annually, said floodway being identified, under normal condition, by changes in surface soil conditions or changes in types or quality of vegetative ground cover condition, topography, or other indicators of flooding that occurs with reasonable regularity, although not necessarily annually. Regardless of the method used to identify the floodway, the floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state.

Grading means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.

Groin means a barrier-type structure extending from the backshore into the water across the beach. The purpose of a groin is to interrupt sediment movement along the shore.

Hatchery means a facility for the rearing and/or holding of fish, the design of which is compatible with the natural environment and contains minimal development necessary for fish propagation.

In-water utility means infrastructure related to public infrastructure for domestic water, stormwater, wastewater, power generation, etc. that by nature and common design must be located in or in the immediate vicinity of a river, stream, or lake.

Jetty means an artificial barrier used to change the natural littoral drift to protect inlet entrances from clogging by excess sediment.

Marina means a water-dependent facility that provides launching, storage, supplies, moorage and other accessory services for five or more pleasure and/or commercial water craft.

Nonconforming development or nonconforming structure means an existing structure that was lawfully constructed at the time it was built but is no longer fully consistent with present regulations such as setbacks, buffers or yards; area; bulk; height or density standards due to subsequent changes to the master program.

Nonconforming lot means a lot that met dimensional requirements of the applicable master program at the time of its establishment but now contains less than the required width, depth or area due to subsequent changes to the master program.

Nonconforming use means an existing shoreline use that was lawfully established prior to the effective date of the act or the applicable master program, but which does not conform to present use regulations due to subsequent changes to the master program.

No net loss means that the Snohomish Shoreline Master Program provisions shall, to the greatest extent feasible, protect existing shoreline ecological processes and functions and avoid new adverse impacts to ecological processes and functions. The term “net” as used herein, recognizes that any development has potential for short-term or long-term impacts and that through application of appropriate development standards, avoidance of impacts and use of mitigation measures, those impacts will not diminish the shoreline resources and values as they currently exist. This standard is achieved through both the SMP planning process and by appropriately regulating individual developments through the permit review process.

Non-water-oriented uses means those uses that are not water-dependent, water-related or water-enjoyment.

Normal protective bulkhead common to single-family residences means a bulkhead constructed on a lot designated to permit one single-family residence and containing one single-family residence.

Ordinary high water mark, as defined in Chapter 90.58 RCW as now or hereafter amended and determined in the field, means on all lakes, streams, and tidal water the mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department: PROVIDED, That in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining freshwater shall be the line of mean high water. In cases where the location of the ordinary high water mark is contested, its determination shall rest with the Washington State Department of Ecology.

Park means land maintained for purposes of active or passive recreation.

Pier - See “dock”.

Planning Director means the manager of the City of Snohomish Department of Planning & Development Services. Planning Director means the same as City Planner as provided for in Chapter 2.34 Snohomish Municipal Code.

Principal use parking lot means a parking lot that is not dedicated to serving the residents, customers, or employees of specific sites or uses but is available for general public use whether free or for a fee.

Public access – see “Access, Public”

Recreational use means a private or public facility designed and used to provide recreational opportunities to the public. Water-oriented recreation includes fishing, swimming, diving, hiking, and viewing. Recreational development provides the opportunity for the use and enjoyment of the shoreline by the public.

Residential development means the development of single-family residences, including appurtenant structures and uses. Residential development also includes multifamily development and the creation of new residential lots through land subdivision. Residential development does not include hotels, motels, or bed and breakfast facilities.

Restoration or ecological restoration means the reestablishment or upgrading of impaired or diminished ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.

Riprap means angular, quarry rock used for revetments or other bank stabilization projects.

Shall means a mandate; the action must be done.

Should means that the particular action is required unless there is a demonstrated, compelling reason, based on policy of the Shoreline Management Act and this chapter, against taking the action.

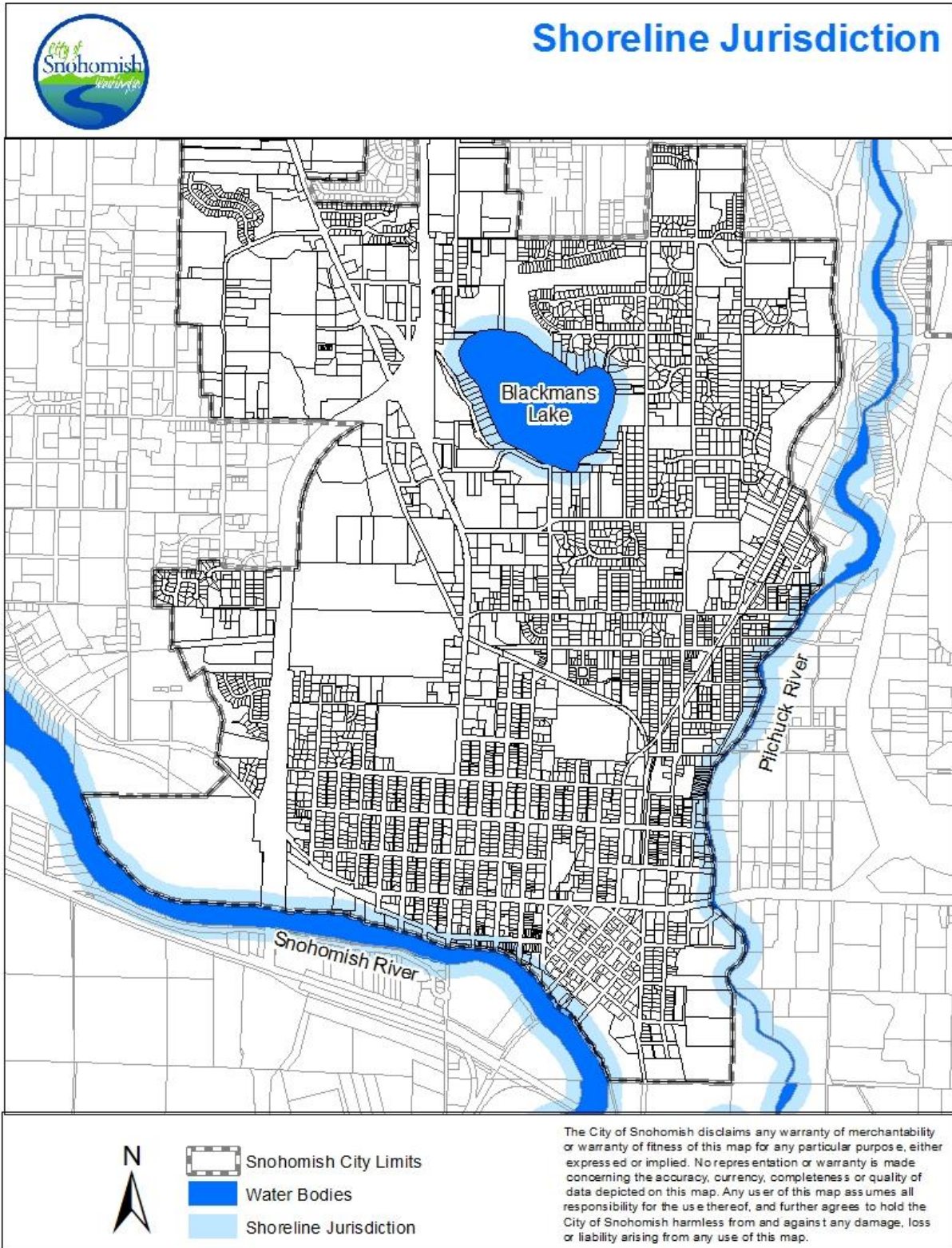
Shorelands or shoreland areas means those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the streams and lakes that are subject to the provisions of Chapter 90.58 RCW.

Shoreline environment designations means a regulatory classification of shorelines of the state established in the Shoreline Master Program to differentiate between areas subject to differing objectives regarding their use and future development.

Shoreline Management Act (Act): the Washington State Shoreline Management Act, Chapter 90.58 RCW.

Shoreline jurisdiction means all “shorelines of the state” and “shorelands” as defined in RCW 90.58.030 and as depicted in Map A below.

Map B



Shoreline modifications means actions that change the physical configuration or qualities of the shoreline area, such as clearing, grading, or the application of chemicals; or the construction of physical elements such as a dike, breakwater, groin, jetty, fill, bulkhead, or similar shoreline structure.

Shoreline stabilization means actions taken to prevent or diminish erosion impacts to property or structures caused by natural hydrological processes, such as current, flood, tides, wind or wave action. These actions include installation or expansion of structures, such as bulkheads, jetties, groins, etc.; and nonstructural methods, such as the planting of vegetation.

Shorelines means all of the water areas within Snohomish and their associated shorelands, together with the lands underlying them, except:

- A. Shorelines of statewide significance; and
- B. Shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and
- C. Shorelines on lakes less than twenty (20) acres in size and wetlands associated with such small lakes.

Shorelines of statewide significance means those shorelines described in RCW 90.58.030(2)(f). Within the City of Snohomish, the Snohomish River is designated as a shoreline of statewide significance.

Shorelines of the state means the total of all “shorelines” and “shorelines of statewide significance” within the state, as defined in RCW 90.58.030.

Sign means any device, structure, fixture, or placard that is visible from a public right-of-way or surrounding properties and uses graphics, symbols, logos, or written copy for the purpose of advertising or identifying any establishment, product, good, service, or event.

Significant vegetation removal means the removal or alteration of trees, shrubs, and/or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The following do not constitute significant vegetation removal:

- A. Removal of invasive or noxious weeds;
- B. Tree pruning, not including tree topping, where it does not affect ecological functions;
- C. Mowing of established public and private lawn/grass areas; and
- D. Normal maintenance, including mowing and volunteer sapling clearing of utility maintenance corridors and active use recreation areas.

Substantial development means any development as defined in RCW 90.58.030(3)(e) as now or hereafter amended, and which requires a shoreline substantial development permit.

Utilities or utility facilities means services and facilities that produce, convey, store or process electric power, gas, sewage, water, communications, oil, and waste. This includes drainage conveyances and swales. On-site utility features serving a primary use, such as a water, sewer or gas line to a residence, are "accessory utilities" and shall be considered a part of the primary use.

For the purposes of this chapter, “utility facilities” does not mean infrastructure for administrative or support functions, such as professional offices, customer service centers, fleet maintenance facilities, storage yards, etc.

Water-dependent use means a use or portion of a use which cannot exist in a location that is not adjacent to the water and which is dependent on the water by reason of the intrinsic nature of its operations.

Water-enjoyment use means a recreational or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

Water-oriented use means a use that is water-dependent, water-related, or water-enjoyment, or any combination thereof.

Water-related use means a use or portion of a use that is not intrinsically dependent on a waterfront location but whose economic viability is dependent on a waterfront location because:

- A. The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water; or
- B. The use provides a necessary service supportive of the water-dependent uses, and the proximity of the use to its customers makes its services less expensive and/or more convenient.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands.

14.250.040 General Provisions

- A. The City of Snohomish's Shoreline Master Program, prepared and adopted in compliance with the Shoreline Management Act, consists of:
 1. This chapter;
 2. The Shoreline Element of the City of Snohomish Comprehensive Plan; and
 3. The City of Snohomish Shoreline Restoration Plan;
 4. City of Snohomish Cumulative Impacts Analysis; and
 5. The City of Snohomish Shoreline Inventory and Characterization Report.
- B. This chapter shall be known as "the shoreline management code".
- C. This chapter shall be exempted from the rule of strict construction and shall be liberally construed to give full effect to the purposes for which the Shoreline Management Act was enacted.

- D. Unless specifically excluded by statute, all proposed uses and development occurring within the shoreline jurisdiction shall conform to Chapter 90.58 RCW, the Shoreline Management Act and this Shoreline Master Program whether or not a permit is required.
- E. Development prohibited by this chapter but otherwise permitted by the Land Use Development Code is prohibited within the shoreline jurisdiction.
- F. In the event of conflict between City regulations and the Shoreline Management Act, State regulations shall prevail.
- G. Mitigation and/or conditions of approval imposed by the Planning Director, or designee, pursuant to this chapter shall reflect reasonable proportionality to the potential adverse impact being mitigated.
- H. The Planning Director, or designee, is authorized to enforce, and if necessary in a cooperative effort with the state, the provisions of this chapter and any administrative rules enacted to implement this chapter. Enforcement shall be consistent with the provisions of Chapter 1.14 SMC and Chapter 14.85 SMC or WAC 173-27.
- I. Alteration or reconstruction of uses or structures that do not conform to the requirements of this Program shall be subject to SMC 14.250.070. Alteration or reconstruction of uses or structures that do not conform to the requirements of other chapters of Title 14 shall be subject to the provisions of Chapter 14.80 SMC and Chapter 14.82 SMC.
- J. The Planning Director is authorized to make administrative decisions and interpretations of the policies and regulations of this Program and the Act in accordance with Snohomish Municipal Code SMC 14.05.050. The City shall consult with Ecology to ensure that any formal written interpretations are consistent with the purpose and intent of Chapter 90.58 RCW, and Chapters 173-26 and 173-27 WAC.
- K. Applicability to federal lands and agencies.
 - 1. The Act and this Program, including the permit system, shall apply to all non-federal developments and uses undertaken on federal lands and on lands subject to non-federal ownership, lease or agreement, even though such lands may fall within the external boundaries of a federal ownership.
 - 2. Areas and uses in those areas that are under exclusive federal jurisdiction as established through federal or state statutes are not subject to the jurisdiction of chapter 90.58 RCW or this Shoreline Master Program per WAC 173-22-070.
 - 3. Direct federal agency activities affecting the uses or resources subject to the Act must be consistent to the maximum extent practicable with the enforceable provisions of the Act as required by WAC 173-27-060.
 - 4. Pursuant to RCW 90-58-350, nothing in this chapter shall affect any rights established by treaty to which the United States is a party. The rights of treaty tribes to resources within their usual and accustomed areas should be accommodated.

14.250.050 Permits, Decisions, and Appeals – General

- A. The Planning Director, or designee, is authorized to create:
 - 1. Permit application form(s) as deemed necessary to ensure efficient and proper processing; and

2. A submittal checklist of all required submittals necessary for the application to be determined to be complete.
- B. A complete application for a shoreline substantial development, shoreline conditional use, or shoreline variance permit shall contain, as a minimum, the following documents and information:
1. The name, address and phone number of the applicant. The applicant should be the owner of the property or the primary proponent of the project and not the representative of the owner or primary proponent.
 2. The name, address and phone number of the applicant's representative if other than the applicant.
 3. The name, address and phone number of the property owner, if other than the applicant.
 4. Location of the property. This shall, at a minimum, include the property address and identification of the section, township and range to the nearest quarter, quarter section or latitude and longitude to the nearest minute. All applications for projects located in open water areas away from land shall provide a longitude and latitude location.
 5. Identification of the name of the shoreline (water body) that the site of the proposal is associated with. This should be the water body from which jurisdiction of the act over the project is derived.
 6. A general description of the proposed project that includes the proposed use or uses and the activities necessary to accomplish the project.
 7. A general description of the property as it now exists including its physical characteristics and improvements and structures.
 8. A general description of the vicinity of the proposed project including identification of the adjacent uses, structures and improvements, intensity of development and physical characteristics.
 9. A site development plan consisting of maps and elevation drawings, drawn to an appropriate scale to depict clearly all required information, photographs and text which shall include:
 - a. The boundary of the parcel(s) of land upon which the development is proposed.
 - b. The ordinary high water mark of all water bodies located adjacent to or within the boundary of the project. This may be an approximate location provided, that for any development where a determination of consistency with the applicable regulations requires a precise location of the ordinary high water mark the mark shall be located precisely and the biological and hydrological basis for the location as indicated on the plans shall be included in the development plan. Where the ordinary high water mark is neither adjacent to or within the boundary of the project, the plan shall indicate the distance and direction to the nearest ordinary high water mark of a shoreline.
 - c. Existing and proposed land contours. The contours shall be at intervals sufficient to accurately determine the existing character of the property and the extent of proposed change to the land that is necessary for the development. Areas within the boundary that

will not be altered by the development may be indicated as such and contours approximated for that area.

- d. A delineation of all wetland areas that will be altered or used as a part of the development.
 - e. A general indication of the character of vegetation found on the site.
 - f. The dimensions and locations of all existing and proposed structures and improvements including but not limited to; buildings, paved or graveled areas, roads, utilities, septic tanks and drainfields, material stockpiles or surcharge, and stormwater management facilities.
 - g. Where applicable, a landscaping plan for the project.
 - h. Where applicable, plans for development of areas on or off the site as mitigation for impacts associated with the proposed project shall be included and contain information consistent with the requirements of this section.
 - i. Quantity, source and composition of any fill material that is placed on the site whether temporary or permanent.
 - j. Quantity, composition and destination of any excavated or dredged material.
 - k. A vicinity map showing the relationship of the property and proposed development or use to roads, utilities, existing developments and uses on adjacent properties.
 - l. Where applicable, a depiction of the impacts to views from existing residential uses and public areas.
 - m. On all variance applications the plans shall clearly indicate where development could occur without approval of a variance, the physical features and circumstances on the property that provide a basis for the request, and the location of adjacent structures and uses.
- C. Permit application and review fees shall be as specified by the City of Snohomish Fee Schedule as established by resolution of the Snohomish City Council.
- D. The applicant shall have the burden of proving the application/request satisfies the applicable criteria.
- E. The Planning Director, or designee, may impose conditions of approval to a shoreline permit or determination of exemption as necessary to ensure the proposal is consistent with the City's Shoreline Master Program and the Act.
- F. When a shoreline substantial development permit and a shoreline conditional use permit or variance are required for a development, the submittal on the permits shall be made concurrently.
- G. For development where a permit decision by the Hearing Examiner is required in addition to an administrative shoreline permit, the Hearing Examiner shall conduct an open-record public hearing and issue decisions for all land use permits related to development of the site. In such instances, the Planning Director, or designee, shall provide a written analysis of the development's consistency with applicable regulations and provide a recommendation whether to approve, approve with conditions, or deny the permit application.
- H. Any decision on an application for a shoreline permit, whether it is an approval or a denial, shall, concurrently with the transmittal of the ruling to the applicant, be filed with the department of Ecology and the attorney general.

- I. As specified by RCW 90.58.140, the “date of filing” of the City’s decision on a shoreline substantial development permit shall be the date of actual receipt with the Department of Ecology. The “date of filing” of shoreline conditional use permits and shoreline variance permits shall be the date the Department of Ecology transmits the permit decision to the City and the applicant. When the City simultaneously transmits to Ecology its decision on a shoreline substantial development with its decision of either a shoreline conditional use permit or variance, or both, the shoreline substantial development permit shall have the same "date of filing" as the shoreline conditional use permit or variance.
- J. Any person aggrieved by the granting, denying, or rescinding of a permit or permit revision on shorelines of the state pursuant to RCW 90.58.140 and this chapter may seek review from the shorelines hearings board by filing a petition for review within twenty-one (21) days of the date of filing the decision, pursuant to RCW 90.58.180 and WAC 461-08-340.

14.250.060 Substantial Development Permit, Conditional Use Permit and Variance

- A. Review criteria for all development.
 - 1. All shoreline permits or statements of exemption issued for development or use within shoreline jurisdiction shall include written findings prepared by the City, documenting compliance with bulk and dimensional policies and regulations of this Program. The City may attach conditions to the approval as necessary to assure consistency with the RCW 90.58 and this Program.
 - 2. All uses and development on shorelines of the state shall be determined consistent with the policy and provisions of the Act and this Shoreline Master Program. Any new or expanded building or structure of more than thirty-five feet above average grade level shall only be permitted if it will not obstruct the view of a substantial number of residences and when the public interest will be served.
- B. Substantial development
 - 1. Permit required. A substantial development permit is required prior to commencement of construction of a structure or commencement of a use or activity constituting “substantial development” as defined in WAC 173-27-040, which is not exempt, within the shorelines of the city. No development shall be undertaken within the shoreline jurisdiction unless such development is authorized by a substantial development permit or an exemption.
 - 2. A substantial development permit shall be granted only when the development proposed is consistent with:
 - a. The policies and procedures of the Act;
 - b. The provisions of WAC 173-27; and
 - c. The applicable policies and regulations of this Shoreline Master Program.
- C. Developments exempt from the substantial development permit process
 - 1. A development or activity determined by the Planning Director, or designee, to meet the provisions of WAC 173-27-040 or to otherwise be specifically exempt under the Shoreline Management Act is not considered shoreline substantial development and a shoreline substantial development permit is not required.

2. Exemptions shall be construed narrowly. Only those developments that meet the precise terms of one or more of the listed exemptions may be granted exemption from the substantial development permit process.
3. All exempt development and activities within the shoreline jurisdiction shall be consistent with the provisions of the Shoreline Management Act and the Shoreline Master Program. An exemption from the substantial development permit process is not an exemption from compliance with the Act or this master program, nor from any other regulatory requirements. To be authorized, all uses and developments must be consistent with the policies and provisions of this master program and the Act.
4. A development or use that is listed as a conditional use pursuant to the local master program or is an unlisted use, must obtain a conditional use permit even though the development or use does not require a substantial development permit. When a development or use is proposed that does not comply with the bulk, dimensional and performance standards of the master program, such development or use can only be authorized by approval of a variance.
5. Applicants requesting a determination of exemption pursuant to this section shall submit a written justification and provide adequate documentation of consistency with the applicable exemption provision(s). The burden of proof that a development or use is exempt from the permit process is on the applicant.
6. Where an exemption is granted for a development or activity meeting the conditions in subsections a and b below, the City shall prepare and issue a written determination that cites the applicable exemption provision and contains the findings of the Planning Director regarding the proposal's consistency with the Shoreline Management Act and the Shoreline Master Program. This letter of exemption shall be provided to the applicant and the department of Ecology.
 - a. The activity will occur waterward of the ordinary high water mark; or
 - b. The project will require either of the following federal permits:
 - i. For a project on or over navigable waters, a U.S. Army Corps of Engineers section 10 permit under the Rivers and Harbors Act of 1899; or
 - ii. For a project involving discharge of dredge or fill material to any water or wetland, a section 404 permit under the Federal Clean Water Act.

D. Conditional Use Permit

1. The purpose of a CUP is to provide flexibility in authorizing uses in a manner consistent with RCW 90.58.020. Accordingly, special conditions may be imposed to prevent undesirable effects of the proposed use and/or to assure consistency of the project with the Act and this Program.
2. A development or use that is listed as a conditional use pursuant to this Program, or is an unlisted use, must obtain a conditional use permit even if the development or use does not require a substantial development permit.
3. A shoreline conditional use permit may be approved as provided by RCW 90.58.140, RCW 90.58.143, and WAC 173-27-160, provided the applicant can demonstrate all of the following:

- a. That the proposed use is consistent with the policies of RCW [90.58.020](#) and the master program;
 - b. That the proposed use will not interfere with the normal public use of public shorelines;
 - c. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program;
 - d. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and
 - e. That the public interest suffers no substantial detrimental effect.
4. In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if conditional use permits were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the policies of RCW [90.58.020](#) and shall not produce substantial adverse effects to the shoreline environment.
 5. Uses which are specifically prohibited by this master program may not be authorized with a conditional use permit.
 6. When a conditional use is requested, the Hearing Examiner shall be the approval authority for the City. However, shoreline conditional use permits are subject to review and final approval by the Washington State Department of Ecology per RCW 90.58.140(10) and WAC 173-27-200.
- E. Variance Permit
1. The purpose of a variance permit is strictly limited to granting relief from specific bulk, dimensional, or performance standards set forth in this Program where there are extraordinary or unique circumstances relating to the property such that the strict implementation of this Master Program will impose unnecessary hardship on the applicant or thwart the policies set forth in RCW 90.58.020.
 2. A development or use that does not comply with the bulk, dimensional and/or performance standards of this Program shall require a shoreline variance even if the development or use does not require a substantial development permit.
 3. As provided by RCW 90.58.140 and WAC 173-27-170, a shoreline variance should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.
 4. Variance permits for development and/or uses that will be located landward of the ordinary high water mark (OHWM), and/or landward of any wetland, may be authorized provided the applicant can demonstrate all of the following:
 - a. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property;
 - b. That the hardship described in (a) of this subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features

and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;

- c. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program and will not cause adverse impacts to the shoreline environment;
 - d. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;
 - e. That the variance requested is the minimum necessary to afford relief; and
 - f. That the public interest will suffer no substantial detrimental effect.
5. Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM) or within any wetland may be authorized provided the applicant can demonstrate all of the following:
 - a. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes all reasonable use of the property;
 - b. That the proposal is consistent with the criteria established under subsection (4)(b) through (f) of this section; and
 - c. That the public rights of navigation and use of the shorelines will not be adversely affected.
 6. In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW [90.58.020](#) and shall not cause substantial adverse effects to the shoreline environment.
 7. A variance from City Land Use Development Code requirements approved pursuant to Chapter 14.70 SMC shall not be construed to mean a variance from the Shoreline Master Program development regulations. Similarly, a variance from the Shoreline Master Program development regulations granted pursuant to this chapter shall not be construed to mean a variance from development standards in other chapters of Title 14 SMC.
 8. Consistent with WAC 173-27-170(5), shoreline variances may not authorize a land use that is otherwise prohibited by this Program.
 9. When a shoreline variance is requested, the Hearing Examiner shall be the approval authority for the City. However, shoreline variance permits are subject to review and final approval by the Washington State Department of Ecology per RCW 90.58.140(10) and WAC 173-27-200.
- F. Permit Revisions
1. A permit revision is required whenever the applicant proposes substantive changes to the design, terms, or conditions of a project from that which is approved in the permit. Changes are substantive if they materially alter the project in a manner that relates to its conformance to the terms and conditions of the permit, the Shoreline Management Program, and/or the policies and provisions of Chapter 90.58 RCW. Changes that are not substantive in effect do not require approval of a revision. A request to revise a Substantial Development, Conditional Use, or Variance Permit shall be accompanied by detailed plans and text describing the proposed changes to the permit.

2. If the Planning Director, or designee, determines that the proposed changes are within the scope and intent of the original permit and consistent with the Shoreline Master Program and the Shoreline Management Act, the revision may be approved. Within the scope and intent of the original permit shall mean all of the following:
 - a. No additional over-water construction is involved except that pier, dock, or float construction may be increased by five hundred (500) square feet or ten percent (10%) from the provisions of the original permit, whichever is less;
 - b. Ground area coverage and height may be increased by a maximum of ten percent (10%) from the provisions of the original permit;
 - c. The revised permit does not authorize development to exceed any standard approved by variance for the original permit;
 - d. Additional or revised landscaping is consistent with any conditions of the original permit;
 - e. The use authorized with the original permit is not changed; and
 - f. No adverse environmental impacts will be caused by the project revision.
3. If the revision, or the sum of the revision and any previously approved revisions, will violate the criteria specified in Section 2 above, a new shoreline substantial development permit, conditional use permit, or variance, as appropriate, shall be required.
4. When a shoreline permit revision is requested, the City shall make a decision to approve, approve with conditions, or disapprove the request. However, if the original permit involved a conditional use or variance, the revision shall be subject to review and final approval by the Washington State per WAC 173-27-100.

14.250.070 Nonconforming Shoreline Uses and Structures

A. General Nonconforming Provisions

1. All legally established uses and structures that do not conform to the requirements of this chapter shall be allowed to continue and remain in the form and location in which they existed prior to the effective date of this chapter.
2. All nonconforming uses authorized through a conditional use permit and nonconforming structures authorized through a variance shall be considered legal nonconforming uses and structures and the requirements of this section shall apply as they apply to pre-existing nonconformities.
3. For nonconforming situations not addressed by this chapter, the “Nonconforming use and development standards” in WAC 173-27-080 shall apply.

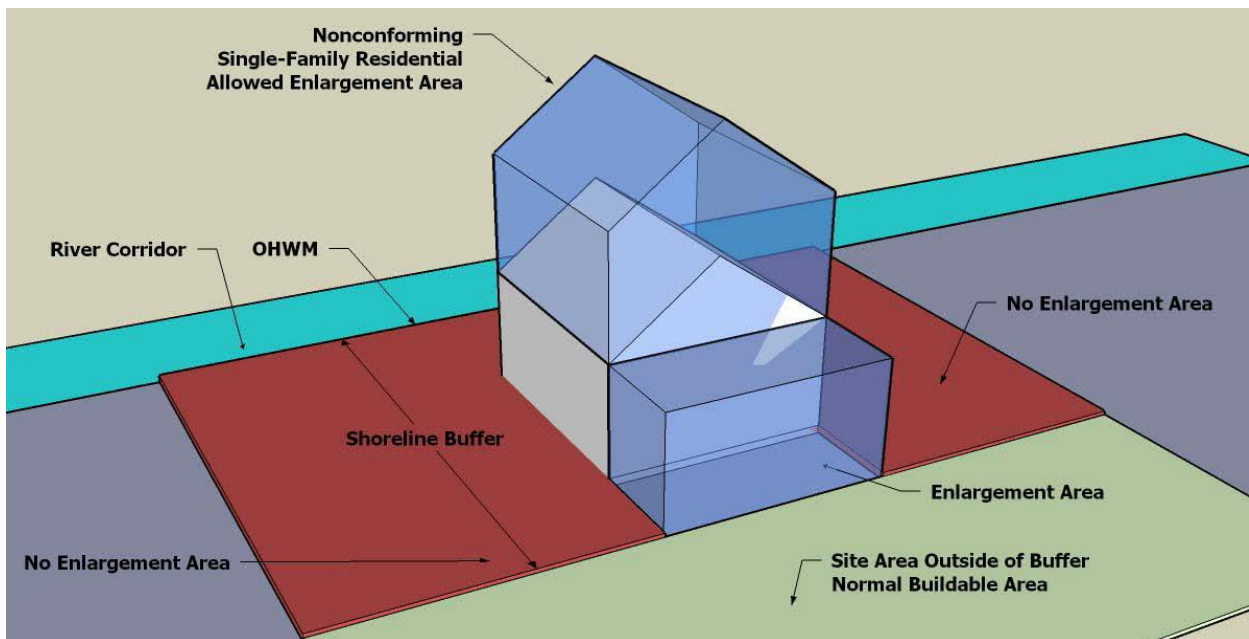
B. Nonconforming Uses

1. Uses that were legally established and are nonconforming with regard to the use regulations of this chapter shall not be expanded or intensified, with the exception of nonconforming single-family residential uses that are located landward of the ordinary high water mark.

2. For the purposes of this chapter, a nonconformity is intensified if:
 - a. The total floor area used by the nonconforming use is increased; or
 - b. The amount of floor area used for non-water oriented use is increased; or
 - c. The amount of floor area used for water-oriented use is decreased.
3. An existing nonconforming use may be replaced with another nonconforming use only upon a finding that:
 - a. No reasonable alternative nonconforming use is practical; and
 - b. The proposed use will be at least as consistent with the Snohomish Shoreline Master Program and as compatible with the uses in the area as the preexisting use.
4. If a nonconforming use is changed to a conforming use, the nonconforming use is abandoned and shall not be resumed.
5. If a nonconforming use is discontinued for twelve consecutive months the nonconforming rights shall be considered abandoned and subsequent use shall be conforming. The following shall not be included in calculating the period of discontinuance:
 - a. Normal seasonal cessation of use; and
 - b. Temporary discontinuance of a use for purposes of maintenance or improvements; and
 - c. Time when property is being marketed for sale or rent for the same nonconforming use.

C. Nonconforming Structures

1. Structures that were legally established and are nonconforming with regard to setbacks, height, or buffers described in this Program may be maintained and repaired and may be enlarged or expanded provided that the enlargement/expansion does not increase the extent of the nonconformity by further encroaching upon or extending into areas where construction or use would not be allowed for new development or uses.



2. A nonconforming structure which is moved or relocated either elsewhere on the same parcel or to another shoreland parcel shall be brought as closely as practicable into

conformance with this Program, the Shoreline Management Act, and any applicable sections of Snohomish Municipal Code.

3. If a nonconforming structure is damaged or destroyed, it may be reconstructed to the configurations existing immediately prior to the time the development was damaged or destroyed, provided that application is made for the permits necessary to restore the development within two years of the date the damage occurred.

D. Nonconforming lots

A nonconforming lot may be developed if permitted by other land use regulations of the local government and so long as such development conforms to all other requirements of the applicable master program and the act.

14.250.080 Shoreline Environments

A. Purpose.

1. The purpose of the individual shoreline environment designations is to provide for different regulations applicable to different shoreline areas in response to the specific shoreline conditions of each area such as geography, hydrology, topography, habitat, infrastructure, and existing and envisioned land uses. The purpose of each designation is as provided in the goals and polices in the City of Snohomish Comprehensive Plan's Shoreline Element.
2. The purpose of the regulations applicable to individual environment designations is to encourage development and land uses that enhance or are compatible with the desired character of the environment while establishing reasonable standards and restrictions so that the environment is not adversely impacted.

B. In order to accomplish the goals, policies, and regulations of the Shoreline Management Act and the Snohomish Shoreline Master Program, the following shoreline environment designations are hereby established:

1. Aquatic Environment.
2. Rural Utility Environment.
3. Shoreline Residential Environment.
4. Historic Riverfront Environment.
5. Urban Conservancy Environment.

C. The shoreline environment designations are depicted on the Shoreline Environment Designation Map within the Shoreline Element of the Comprehensive Plan and below (Map A). The mapped designations are based upon and implement the designation criteria provided in the Shoreline Element of the Comprehensive Plan. In the event of conflict between the Shoreline Environment Designation Map and adopted designation criteria, the criteria shall control. Any land located within the shoreline jurisdiction without a shoreline environment designation shall be regulated as Urban Conservancy environment until the Shoreline Environment Designation Map is amended.

D. Shoreline Buffers

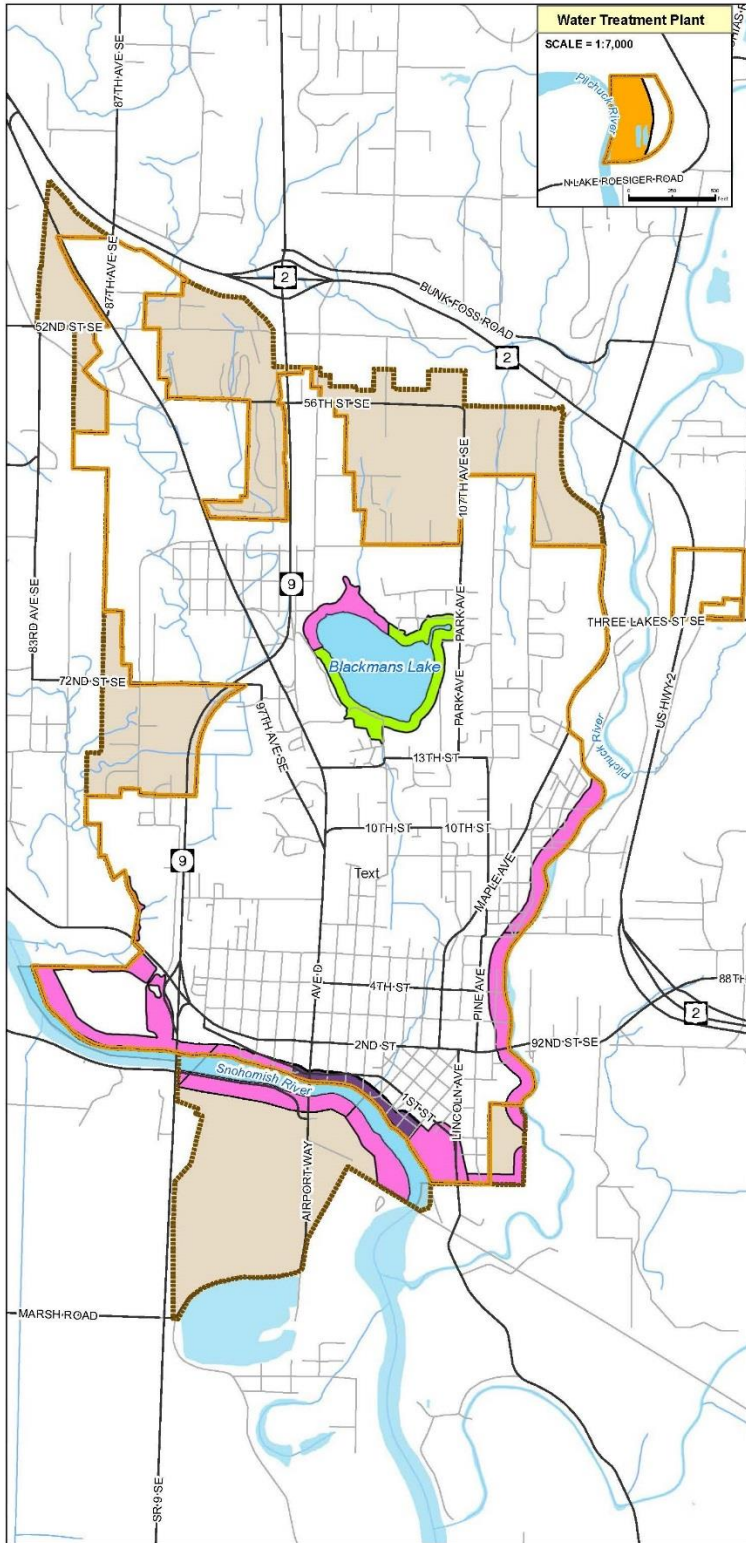
1. Shoreline buffers shall be measured perpendicularly to the OHWM. Where wetland buffers also apply as specified by this chapter, the widest buffer width shall be required.
2. Except on agricultural lands existing on the January 1, 2018, buffer restoration to meet the minimum requirements of this chapter may be required for any shoreline conditional use and shall be required as part of a substantial development if any of the following criteria apply:

- a. Removal of improvements within the minimum prescribed buffer whether through intent or natural causes, except where determined to constitute maintenance and repair of existing improvements and except where voluntary partial restoration is proposed to improve the ecological function of the shoreline.
 - b. A change of the primary use of the site in combination with construction of new building floor area within the shoreline jurisdiction.
 - c. Where disturbance of the existing buffer is unavoidable due to the requirements of the use or activity.
 - d. Where required as a condition of approval of a shoreline conditional use or variance.
3. Where the Planning Director, or designee, determines that ecological benefit of strict compliance with the buffer requirements of this chapter is negligible due to separation of sites from the shoreline by an intervening and lawfully created public road or other existing substantial off-site improvements, an intervening parcel under separate ownership, or a publicly maintained flood levee, requirements for a vegetated buffer may be modified or waived by the Planning Director, or designee, irrespective of prescribed buffer widths. A critical area report may be required to substantiate that a buffer would provide minimal or no ecological benefit.
4. Within the Rural Utility environment, a 100' shoreline buffer shall be maintained except for utility facilities and where necessary to provide direct shoreline access by water-dependent uses. Except for utility facilities necessary for the operation of a utility and for water-dependent uses within the buffer, no structures shall be closer than 10 feet to the buffer boundary.
5. Within the Urban Conservancy environment, a 100-foot shoreline buffer and 10-foot structural setback from the buffer boundary shall be maintained except:
 - a. Where direct shoreline access is necessary for water-dependent uses.
 - b. For facilities exclusively designed for public access.
 - c. Where existing pavement or other impervious surfaces encroach into the standard shoreline setback. In such cases, no further encroachment shall occur. Redevelopment of parcels with existing buffer encroachments shall maintain the existing vegetated buffer or provide a minimum 50-foot buffer, whichever is greater. In all cases where a buffer less than 100 feet is proposed, a vegetation management plan shall be submitted and implemented. No structures shall be constructed within 10 feet of a buffer boundary.
 - d. Where existing levees are maintained. In such cases, management of woody vegetation is permitted where determined by the City or flood control district to be necessary for the integrity and continued function of the levee. Unpaved maintenance roadways are allowed along the top of levees.
6. Within the Shoreline Residential environment, a 15-foot shoreline buffer shall be provided and structures and other impervious surfaces shall be set back 50 feet from the shoreline, except as follows:
 - a. On a lot containing an existing, legally-established residential structure or public recreation use, new structures and impervious surfaces may be located within the setback area without a variance, provided that if such modification adds more than 200 square feet of impervious surface within the setback, an equivalent area of the setback shall be enhanced with native vegetation. Where provided, the enhanced area shall abut the

OHWL, shall be a minimum of 10 feet from any path or structure, except fences, and shall be permanently maintained in native vegetation.

- b. Development of a lot without an existing residential structure or public recreational use may modify the buffer to provide useable area along the shoreline. A buffer so modified shall provide an equivalent in area to a standard buffer and shall abut the OHWM. Impervious surfaces may encroach into the setback provided that an equivalent area of buffer is provided in addition to the standard buffer requirement. All designated buffer area shall abut the OHWM, shall be a minimum of 10 feet from any path or structure, except fences, and shall be permanently maintained in native vegetation.
7. Within the Historic Riverfront environment, the regulated buffer shall be that area waterward of the Riverfront Trail, where applicable, and for all other areas shall be the first 100 feet from the OHWM, except where direct shoreline access is necessary for water-dependent uses or for public access to the shoreline.

Map C

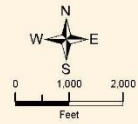


SEDs

Legend

Shoreline Environment Designations

- Aquatic
- Rural Utility
- Shoreline Residential
- Urban Conservancy
- Historic Riverfront
- Streams
- Major Roads
- Minor Roads
- City Limits
- Urban Growth Area



May 2017

SOURCE: Snohomish County, 2008.

Prepared by: ESA, 2011 (updated 2017)



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City of Snohomish

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Shoreline Master Program

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14.250.090 Shoreline Environment - Designation Change

- A. Shoreline environments established by the Shoreline Master Program may be amended by the City Council where the designation change is consistent with the provisions of Chapter 173-26 WAC, Chapter 14.15 SMC, and this chapter.
- B. A change in shoreline environment designation shall be processed and considered as an amendment of the Shoreline Master Program and the Comprehensive Plan. In conjunction with the procedural requirements of Chapter 14.15 SMC, the proposed designation change shall conform to the procedural requirements for shoreline master program amendments specified by Chapter 90.58 RCW and Chapter 173-26 WAC.
- C. Proposed shoreline environment designation changes shall include information specified by Chapter 14.55 SMC, as determined by the Planning Director, or designee. The application shall include written explanation of how the proposed change satisfies applicable criteria and written justification for such based on existing development patterns, the biophysical capabilities and limitations of the shoreline being considered, and the goals and policies of the Comprehensive Plan.

14.250.100 Development Regulations - General

- A. As provided by WAC 173-26-186(8), land development, land uses, and modifications within the shoreline jurisdiction shall not result in a net loss of shoreline ecological functions and processes. Mitigation for impacts resulting from development, uses, and modifications shall comply with the priorities specified in the Shoreline Restoration Plan and Appendices C, E and F of the City of Snohomish Shoreline Master Program.
- B. Maximum structure height in the shoreline jurisdiction areas shall be 35 feet, except in the following circumstances:
 - 1. Bridges located in any shoreline environment may exceed 35 feet.
 - 2. In the Historic Riverfront environment, structure height for buildings fronting on First Street shall not exceed 40 feet.
- C. For work at or below the ordinary high water mark, a field determination of the ordinary high water mark shall be made no more than one year prior to submittal of a complete application. The field determination may be subject to verification by the Washington State Department of Ecology.
- D. All shoreline uses and developments shall conform to the following standards:
 - 1. Consistency with the Comprehensive Plan and applicable provisions of the Land Use Development Code.
 - 2. All shoreline uses and development shall be located, constructed and operated so as to preserve and protect public health, safety and welfare.
 - 3. All shoreline uses and development shall protect the quality and quantity of surface and ground water. New permits and development shall comply with the provisions of Chapter 15.16 SMC, including the Department of Ecology Stormwater Management Manual for Western Washington, as adopted or hereafter amended.
 - 4. Shoreline uses and development shall not release solid or liquid waste, oil, hazardous materials, or untreated effluent to any water bodies or shorelands.

5. The use of chemicals to control invasive aquatic weeds is prohibited, except that milfoil and other aquatic weeds recognized as noxious weeds by the Noxious Weed Control Board of Washington State may be removed using chemicals, provided that the chemicals are applied by a licensed pesticide applicator and approved for aquatic use.
6. Heating and cooling equipment shall not be placed in waters of the state.
7. All shoreline uses and development shall be located, designed, constructed and managed to avoid and minimize adverse impacts to critical areas to the greatest extent practical consistent with the standard in SMC 14.250.330(C).
8. Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. It shall be the applicants' responsibility to obtain all required state and federal approvals prior to beginning work within wetlands or below the ordinary high water mark. To the extent practical, native vegetation and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted with appropriate native species as determined by the Planning Director or designee.
9. Shoreline uses and development shall be located, designed, constructed, and managed to minimize adverse impacts to natural shoreline processes such as water circulation, erosion and accretion.
10. All shoreline uses and development shall be located and designed to minimize reliance upon shoreline defense and stabilization measures and flood protection works such as bulkheads, bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading.
11. All development in the 100-year floodplain designated on the current flood insurance rate map issued by FEMA shall include an assessment prepared by a qualified professional regarding the potential effects of the project would have on channel migration, and shall incorporate measures to mitigate significant adverse impacts on channel migration.
12. All debris, overburden and other waste materials from construction shall be disposed of in such a way as to prevent their entry by erosion from drainage, high water or other means into any water body.
13. Navigation channels shall be kept free of hazardous or obstructing development or uses.
14. Within shoreline environments, archeological, historic, and cultural resources shall be assessed and protected as provided below:
 - a. Sites with known or suspected resources:
 - i. Disturbance of known archaeological sites shall be consistent with applicable state requirements, including Chapter 27.44 RCW, Chapter 27.53 RCW, and Chapter 68.50 RCW;
 - ii. If a development proposal may adversely impact a known or suspected archaeological, historic, or cultural resource, the Planning Director, or designee, shall require a site inspection or evaluation by a professional archaeologist and shall consult with the Washington State Department of Archaeology and Historic Preservation (DAHP) and affected tribe or tribes; and
 - iii. In considering shoreline permits or shoreline exemptions, the Planning Director, or designee, may impose conditions of approval or provide a specified period of time for the Planning Director, or designee, to consult with the DAHP and affected tribes to ensure that resources are properly assessed and protected.
 - b. Inadvertent discovery of archeological, historical, or cultural resources:

- i. Consistent with the provisions of Chapter 27.44 RCW, Chapter 27.53 RCW, and Chapter 68.50 RCW, whenever potentially-significant archeological, historical, or cultural resources are discovered in the process of development on shorelines, work on that portion of the development site shall stop immediately and the discovery shall be reported within 24 hours to the DAHP and the Planning Director, or designee. The Planning Director, or designee, shall report such discovery to affected tribes; and
 - ii. Upon consultation with the DAHP and affected tribes, the Planning Director, or designee, may require the preparation of a historic property assessment by a qualified professional, such as an archaeologist, ethnographer, historic preservation professional, etc., to determine the significance of the discovery in accordance with Chapter 27.53 RCW and Chapter 25-48 WAC. The written historic property assessment shall be provided to the Planning Director, or designee,, the DAHP, and affected tribes.
 - iii. Following the review of the historic property assessment and consultation with DAHP and affected tribes, the Planning Director, or designee, may require that a historic property management plan be prepared by a qualified professional archaeologist or other appropriate professional before construction activity is authorized to resume. The historic property management plan may include provisions for public access to the resource area.
15. Shoreline development on publicly-owned land or that is publicly funded shall include improvements to incorporate shoreline public access.

14.250.110 Use Regulations - General

- A. Within the shoreline jurisdiction, uses shall conform to all applicable provisions of this chapter.
- B. In the shoreline jurisdiction of the Snohomish River, a shoreline of statewide significance, preference shall be given, in the following order, to new uses that:
 - 1. Recognize and protect the statewide interest over local interest;
 - 2. Preserve the natural character of the shoreline;
 - 3. Result in long-term over short-term benefit;
 - 4. Protect the resources and ecology of the shoreline;
 - 5. Increase public access to publicly owned areas of the shorelines; and
 - 6. Increase recreational opportunities for the public in the shoreline.
- C. For a use to be allowed in the shoreline, it must be a permitted use or conditional use in the underlying land use designation and in this chapter. Within the shoreline jurisdiction, the provisions of this chapter may impose conditions or limitations in addition to those specified by other chapters of Title 14, SMC, Land Use Development Code.
- D. Uses not specifically addressed in the shoreline use table may be permitted as conditional uses in the shoreline jurisdiction, provided the use is not otherwise prohibited by the Program and the applicant can demonstrate that the use meets the criteria for a shoreline conditional use permit.
- E. The Shoreline Use Table provided herein specifies whether a use is permitted, allowed as a conditional use, or is prohibited in the shoreline jurisdiction.
 - 1. Permitted Use. The letter “P” at the intersection of a column and row indicates that the use specified in that row is permitted in that shoreline environment.

2. Conditional Use. The letter “C” at the intersection of a column and row indicates that the use specified in that row is allowed only upon the approval of a shoreline conditional use permit. The scope, type, and intensity of the use shall be limited to the terms of the conditional use permit.
 3. Specific Regulations Pertaining to a Use. A number specified with a “P” or “C” corresponds to a particular regulation or limitation provided as a footnote to the table. Additional use-specific regulations are specified in the sections following the Shoreline Use Table.
 4. Prohibited Use. The letter “X” at the intersection of a column and row indicates that the use specified in that row is prohibited in that shoreline environment designation.
 5. Not Applicable. The letters “NA” at the intersection of a column and the row indicate that the use specified in that row is by definition not applicable to that shoreline environment designation, and is not permitted.
- F. Utilities, roads, parking areas, and signs associated with development shall be allowed as accessory to the principal use.

14.250.120 Table 1: Shoreline Uses

P – Permitted Use C – Shoreline Conditional Use X – Prohibited Use NA – Not Applicable	Shoreline Environment				
	Historic Riverfront ¹	Shoreline Residential	Urban Conservancy	Rural Utility	Aquatic
Agriculture					
Agriculture and agricultural sales	P	P	P	P	X
Agricultural accessory uses, including agri-tourism uses	P ²	X	C ²	X	X
Feedlots	X	X	X	X	X
Aquaculture	X	X	X	X	C ³
Commercial					
General sales and service	P ⁴	X	P ⁴	X	C ⁵
Eating and drinking establishments	P ⁴	X	P ⁴	X	X
Hotels, motels, and other forms of temporary lodging; excludes recreational vehicle parks	P	X	P	X	X
Industrial					
Industrial uses, except mining, lumber mills, and log storage	X	X	P ⁶	X	C ⁶
Mining	X	X	X	X	X
Lumber mills and log storage	X	X	C	X	C
Residential Development					
Single-family dwellings	P ⁷	P ⁷	P ⁷	X	X

P – Permitted Use C – Shoreline Conditional Use X – Prohibited Use NA – Not Applicable	Shoreline Environment				
	Historic Riverfront ¹	Shoreline Residential	Urban Conservancy	Rural Utility	Aquatic
Multi-family dwellings	P ⁷	X	P ⁷	X	X
Mobile home park	X	P	P	X	X
Group residences	P	P	P	X	X
Accessory dwellings	P	P	P	X	X
Park/Recreation Uses					
Recreational/cultural facilities, except boat launches	p ⁸	p ⁹	p ⁹	p ¹⁰	P
Recreational vehicle parks	X	X	X	X	X
Boat launches and marinas	P	P	p ¹¹	C	P
Transportation Uses					
Airport/heliport or helistop	X	X	X	X	X
Facilities for water transportation of passengers	P	X	P	X	P
Highway, street, and railroad, except in-water and over water uses	p ¹²	p ¹²	p ¹²	p ¹²	p ¹²
Parking, principal use, except vehicle impound and storage	X	X	X	X	X
Utilities					
Domestic water production, except in-water uses	p ¹³	p ¹³	p ¹³	p ¹³	NA
Wastewater treatment, except in-water uses	X	X	P	X	NA
Stormwater management, except in-water uses	p ¹³	p ¹³	p ¹³	p ¹³	NA
Utility facility, except in-water uses	p ¹³	p ¹³	p ¹³	p ¹³	NA
Major communication facility	X	X	X	X	X
In-Water Uses					
In-water municipal water production, in-water wastewater treatment	C ¹⁴	C ¹⁴	C ¹⁴	C ¹⁴	C ¹⁴
New dams and new hydroelectric generation	X	X	X	X	X
Other in-water utility facilities	C ¹⁵	C ¹⁵	C ¹⁵	C ¹⁵	C ¹⁵
In-water and over-water highway and street facilities	C ¹⁶	C ¹⁶	C ¹⁶	C ¹⁶	C ¹⁶
In-water fish and wildlife management, except aquaculture	p ¹⁷	p ¹⁷	p ¹⁷	p ¹⁷	p ¹⁷
Public Facilities (other than above)	p ¹⁸	p ¹⁸	p ¹⁸	p ¹⁸	p ¹⁸

Footnotes to shoreline use table:

1. In addition to the Permitted and Conditional Uses provided for in the Shoreline Use Table, all Permitted and Conditional Uses allowed in the Historic Business District pursuant to Chapter 14.207 SMC, Land Use Tables, shall be allowed in the Historic Riverfront District
2. Where located with and accessory to ongoing agricultural uses, new agri-tourism uses including, but limited to, lodging or a farm restaurant may be permitted in the shoreline jurisdiction if designed to include patron access to the shoreline.
3. Aquaculture shall be located so as not to impede or restrict established commercial navigational lanes, and shall not materially interfere with the normal public use of the water, provided that unlimited recreational navigation over the water surface shall not be construed as normal public use.
4. Commercial uses on parcels that are physically separated from the water by a developed public roadway or a parcel under separate ownership with existing commercial, industrial or residential development shall be subject to the underlying zoning and do not have to be a water-oriented use. For all other parcels:
 - a. Water-oriented commercial uses are permitted.
 - b. Nonwater-oriented commercial uses shall be allowed if any one of the following criteria is met:
 - i. The use is part of a project that includes a water-dependent use and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and/or ecological restoration; or
 - ii. The capability of the waterbody adjacent to the site to support a water-dependent commercial use is severely limited; or
 - iii. There is not a feasible physical access point between the site and the waterbody to support a water-oriented use; or
 - iv. The commercial use will provide a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and/or ecological restoration;
 - v. The proposed use or development does not conflict with or displace existing water-oriented uses;
5. Commercial development may be located on or over water only if the portion of use that is over water is a water-dependent use.
6. Limited to water-dependent or water-related uses.
7. Residential development over water is prohibited.
8. In the Historic Riverfront environment, only water-oriented, public recreational uses such as parks, docks, and public access trails and facilities may be allowed, provided that minor, non-water-oriented, accessory uses such as children's play equipment, picnic tables, or similar equipment may also be allowed if they meet the other requirements of this chapter. All other recreational uses are prohibited in the Historic Riverfront environment.
9. Limited to parks, trails, overlooks, and athletic fields, subject to any limitations in this chapter.
10. In the Rural Utility environment, water-oriented passive and low-impact recreational uses shall be allowed. All other recreational uses are prohibited.

11. Long-term moorage and vehicular boat launches are prohibited on the Pilchuck River.
12. Highway, street, and railroad, except in-water and over water uses, may be permitted where:
 - a. There is no feasible alternate location;
 - b. The alternative would result in unreasonable and disproportionate cost; and/or
 - c. The facility is necessary to serve adjacent shoreline uses.
13. Utility facilities may be located within the shoreline jurisdiction if there is no feasible alternative location and where no net loss of shoreline ecological functions will occur. On-site utility features serving a primary use shall be considered a part of and accessory to the primary use.
14. Limited to water-dependent facilities/processes.
15. May be permitted as conditional use where: a) there is no feasible alternate location; b) the alternative would result in unreasonable and disproportionate cost; or 3) the facility is necessary to serve adjacent shoreline uses.
16. In-water or over-water transportation facilities may be permitted as conditional use where:
 - a. There is no feasible upland location;
 - b. The substantive requirements of Chapter 14.255 SMC are satisfied; and
 - c. The priorities of the City of Snohomish Shoreline Restoration Plan are addressed in the project's mitigation plan.
17. In-water structures that are part of habitat restoration projects require approved by state and federal resource agencies are permitted.
18. Public facilities other than utilities and parks as regulated herein may be permitted in the shoreline jurisdiction only if the portion of the facility located in the shoreline is water-dependent.

14.250.130 Regulations Specific to Agriculture Uses

- A. No modification to existing, legally-established agricultural activities occurring on agricultural lands shall be required for compliance with this chapter. New agricultural activities on land not meeting the definition of agricultural land, conversion of agricultural lands to other uses, and other development on agricultural land that does not meet the definition of agricultural activities shall be subject to the provisions of this chapter. In all cases, a substantial development permit shall be required for new non-exempt development.
- B. Creation of new agricultural areas and new structures for accessory uses on agricultural lands are subject to the requirements for structure setbacks and critical areas regulations specified by this chapter, and shall be located and designed to ensure no net loss of ecological function.
- C. The keeping of animals is subject to the provisions of Title 7 SMC.
- D. Agricultural plowing and cultivation, where legally established and maintained consistent with all applicable regulations, shall not be regulated as grading. Modification of land contours in a manner that alters drainage patterns, including conversion of areas not currently in cultivation, shall be regulated as grading.

14.250.140 Regulations Specific to Aquaculture Uses

- A. Applications for new aquaculture facilities or operations shall be accompanied by a report by a qualified biologist on the effects the proposal would have on the ecological functions of the shoreline.
- B. Aquaculture structures shall not detract from the aesthetic qualities of the surrounding environment.
- C. Floating aquaculture structures are prohibited.
- D. In addition to any development establishing a new aquaculture use, the following aquaculture activities require the issuance of a Substantial Development Permit:
 - 1. Construction and expansion of facilities.
 - 2. Disposal of solid or liquid wastes such as may result from confined rearing operations for salmon or other aquatic life.
 - 3. Construction of dikes or the dredging of bottom materials.
 - 4. The propagation of non-native stocks of aquatic plants and animals.
- E. The following operations/activities shall be conducted in a manner consistent with the authorizing Substantial Development Permit and Hydrologic Project Approval (HPA) and applicable provisions of this chapter.
 - 1. Propagation, cultivation, feeding.
 - 2. Harvesting provided that such harvesting does not result in a significant alteration to the natural ecosystems of the area.
 - 3. Routine maintenance activities and procedures.
- F. Processing of aquaculture products, other than on a tending boat or barge, shall be governed by applicable regulations for industrial uses.

14.250.150 Regulations Specific to Commercial Uses

- A. Except for commercial structures that are dependent on direct, contiguous access to the water, all commercial structures shall be located outside the shoreline buffer area as provided in this chapter.
- B. Applications for commercial development shall include a detailed statement explaining the nature and extent of water orientation of the proposed activity. Such statement shall include:
 - 1. Nature of the commercial activity;
 - 2. Need for shoreline frontage (where appropriate); and
 - 3. Provisions for public visual and/or physical access to the shoreline.
- C. New commercial developments and expansions of existing commercial developments shall be designed and constructed so that the site and/or building(s) provide visual or physical public access to the shoreline, except where adequate public access improvements exist between the proposed structures and the water or where the site is separated from the shoreline so that visual or physical access is infeasible. Where required, public access shall be implemented by the following means:
 - 1. A pedestrian trail with a minimum width of six feet within a public easement located between the development and the water where the improvement and associated public activities can occur without a net loss of ecological function;
 - 2. A pedestrian overlook accessible by the public that provides shoreline views. An overlook may be incorporated into a building, e.g., as an exterior deck, or may be a separate improvement; or
 - 3. An alternative measure determined by the Planning Director, or designee, to provide comparable physical or visual public access to the shoreline.

14.250.160 Regulations Specific to Industrial Uses

- A. Industrial uses in the shoreline shall provide public visual and/or physical access to the shoreline, or public access improvements in accordance with the regulations specific to commercial uses contained in SMC 14.250.150.
- B. Outdoor storage areas shall be designed in accordance with Chapter 15.16 SMC and the Snohomish Engineering Design and Construction Standards.
- C. The following regulations shall apply to lumber mills and forestry uses:
 - 1. Except where no practical alternative exists, log storage shall occur on land.
 - 2. Log storage shall not be permitted in waters of the State where water quality standards cannot be met or where log storage precludes the public's use and navigation of waters of the State.
 - 3. Free-fall dropping of logs into water is prohibited.
 - 4. Bark and wood debris from mill operations shall be kept out of water bodies.
 - 5. Logs shall not be dumped, stored, or floated in areas where grounding will occur.

14.250.170 Regulations Specific to Residential Uses

- A. Applications for subdivisions and short subdivision for land within the shoreline jurisdiction shall include the following information (in addition to the application materials required by Chapter 14.55 SMC and Chapter 14.215 SMC):
 - 1. Detailed statement (graphic and textual) of any proposed alteration of the natural character of the shoreline.
 - 2. Provisions for lot owner access to the water body (for shoreline lots).
 - 3. Provisions for public access to the shoreline as required by this chapter.

4. Delineation of the channel migration zone upon the plat, if applicable, and demonstration that shoreline stabilization or structural flood control measures will not be necessary.
 5. Demonstration that the design, configuration, and development of the subdivision or short subdivision at full build-out of all the lots will result in no net loss of ecological function.
 6. Demonstration that the subdivision or short subdivision is consistent with the underlying shoreline environment designation criteria and management policies.
 7. Demonstration that the subdivision or short subdivision is consistent with the requirements of WAC 173-26-241(3)(j).
- B. All critical areas and/or buffers shall be placed in a critical area tract or conservation easement, the purpose of which is to set aside and protect the critical area. The delineation of critical areas and their buffers shall be shown on the final recorded plat.
- C. Residential accessory structures shall meet the following standards:
1. Below-grade swimming pools shall be sited and designed so that they do not adversely affect the flow of groundwater or endanger unstable slopes.
 2. Accessory structures shall be sited to preserve visual access to the shoreline from adjacent properties and public rights-of-way to the maximum extent practical;
 3. Non-water-dependent accessory structures and facilities such as sheds, gazebos, swimming pools, and driveways shall not be located in shoreline buffer areas.
 4. Stairs and paths to a dock or beach may be allowed in the shoreline buffer areas, but shall be limited to the minimum necessary to provide pedestrian access.
- D. Subdivisions of more than four (4) lots and new multi-unit development of more than four residential units shall provide public pedestrian access to the shorelines, unless physical access to the shoreline is not feasible due to the presence of regulated critical areas such as wetlands or steep slopes. Where public access is not feasible, improvements to existing public access in the vicinity may be required in lieu of on-site public access.
- E. New residential lots created adjacent to Blackmans Lake shall provide for common or shared dock(s) in lieu of individual docks for each lot.

14.250.180 Regulations Specific to Recreation and Cultural Uses Lighting of outdoor facilities within the shoreline environment shall be designed and configured to avoid light spill into regulated critical areas and their buffers or onto adjacent properties. Where light spill cannot be avoided, such lighting shall be the minimum necessary to achieve the intended purpose.

14.250.190 Regulations Specific to Boat Launches and Marinas

- A. Boat launches, marinas, and similar uses shall be designed and operated so that there is no net loss of ecological function within the shoreline jurisdiction. Restoration and enhancement of critical habitat areas and/or Native Growth Protection Areas, preferably within the same catchment shall be required to compensate for unavoidable adverse impacts upon ecological functions.
- B. Boat launches and marinas shall be sited and designed to protect rights of navigation upon navigable waters.
- C. Boat launches and marinas shall not alter river currents such that adverse impacts would occur downstream. Boat launches and marinas shall be designed to meet criteria by the State Department of Fish and Wildlife relative to disruption of currents, restriction of tidal prisms, flushing characteristics, and fish passage.

- D. Marinas shall have facilities for handling wastes typically generated by marina patrons and visitors. Marinas shall not discharge or release any waste, treated or untreated, into the body of water on which they are located. Oil and gas handling systems shall be designed to minimize potential oil and gas spills. Marinas shall have provisions for containment and cleanup of such spills.
- E. Floating homes and live-aboards are prohibited.
- F. Marinas shall be designed to include native vegetation where feasible and practical.
- G. Marinas shall be designed to provide public access to the shoreline wherever feasible and practical.
- H. Structures for accessory uses that are not water dependent shall not be located over water.
- I. Parking for boat launches and marinas shall be located upland of shoreline buffer areas.
- J. Vehicular access to a boat launch located within a critical area buffer or habitat conservation area shall be the minimum size necessary to provide safe maneuvering of vehicles.

14.250.200 Regulations Specific to Transportation and Parking

- A. Non-water-dependent transportation uses, including accessory parking, that cannot be located outside of the shoreland area shall be located as far landward as possible. Parking facilities in shorelines are not a preferred use and shall be allowed only as necessary to support an authorized use.
- B. Major roads and railroads shall cross shoreland areas by the shortest, most direct route feasible, unless such route would cause significant adverse environmental impacts.
- C. Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive critical areas requirements of this Chapter (SMC 14.250.330) are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts.
- D. Applications for installation of transportation facilities shall include the following (at a minimum):
 - 1. Purpose and need for the project
 - 2. Demonstration that the facility is not feasible in a location outside the shoreline area;
 - 3. Location of other transportation facilities in the project vicinity;
 - 4. Proposed method(s) of construction;
 - 5. Plans for restoration of areas disturbed during construction;
 - 6. Mitigation plan for impacts to ecological functions of the shoreline; and
 - 7. Landscape plan.
- E. Bridge abutments of earthen fill shall not be located within an Area of Special Flood Hazard as delineated on Flood Insurance Rate Maps issued by FEMA.
- F. Transportation uses and facilities shall be designed to avoid or minimize placement of fill or structures that would restrict floodplain capacity or limit channel migration. Where transportation uses or facilities are proposed within floodplains, floodways, or channel migration zones; the proposal shall conform to the substantive critical areas requirements of this Chapter (SMC 14.250.330) and Chapter 14.270 SMC.
- G. New roads and off-street parking facilities shall be located where new shoreline stabilization is not required.
- H. New off-street parking shall be located outside of required shoreline and critical area buffers.
- I. Parking facilities over water shall not be permitted.
- J. Exterior lighting for parking areas shall be designed to avoid or minimize light spill into regulated critical areas and their buffers.

14.250.210 Regulations Specific to Utilities

- A. Where feasible, utility facilities shall be located in existing right-of-ways or in existing utility corridors.
- B. Where feasible, utility lines and facilities outside of existing right-of-ways or utility corridors shall be located underground unless long-term environmental benefit is demonstrated through use of aerial utility lines.
- C. Utility transmission and distribution infrastructure that cannot be located below ground or outside the shoreline jurisdiction shall be located as far landward as feasible to preserve public views.
- D. Utility facilities shall avoid and minimize crossing of water bodies and wetlands to the greatest extent feasible.
- E. Applications for installation of utility facilities shall include the following (at a minimum):
 - 1. Reason the facility must be located in a shoreline area;
 - 2. Alternative locations considered and reasons for their elimination;
 - 3. Location of other utility facilities in the project vicinity;
 - 4. Proposed method(s) of construction;
 - 5. Plans for restoration of areas disturbed during construction; and
 - 6. Plans for landscaping/screening.
- F. Minor communication facilities may be allowed subject to a determination that significant shoreline views will not be obstructed or impaired.
- G. Stream crossings for utilities shall:
 - 1. Use the best available technology and practices to protect health, safety, and the environment;
 - 2. Avoid critical habitat to the greatest extent feasible;
 - 3. If crossing beneath a river or stream, utilities shall be designed to avoid river bed/streambed mobilization and adverse environmental impacts in general. Such utility lines shall be placed in a sleeve or conduit to facilitate replacement without additional boring or excavation; and
 - 4. Mitigate adverse impacts to shoreline ecological functions.
- H. Banks and dikes where utility facilities enter or leave a body of water shall be restored to the extent feasible, shall be protected against erosion, and shall be maintained by the utility.
- I. Stormwater and sewage outfalls may be permitted in shoreline environments in accordance with the substantive critical areas requirements of this Chapter (SMC 14.250.330) and state and federal regulations.
- J. Water intakes shall comply with Washington Department Fish and Wildlife fish screening criteria.

14.250.220 Regulations Specific to In-Water Structural uses

- A. In-water structural uses may be permitted provided they conform to the substantive critical areas requirements of this Chapter (SMC 14.250.330) and the priorities of the Shoreline Restoration Plan are addressed in designing measures to mitigate project impacts. It shall be the applicants' responsibility to obtain all required state and federal approvals for work below the ordinary high water mark.
- B. Applications for installation of in-water utility facilities shall include the following (at a minimum):
 - 1. Justification that the facility must be located in a shoreline area;
 - 2. Alternative locations considered and reasons for their elimination;

3. Location of other utility facilities in the project vicinity;
4. Proposed method(s) of construction; and
5. Plans for restoration of areas disturbed during construction.

14.250.230 Regulations Specific to Public Facilities Applications for installation of government facilities shall include the following (at a minimum):

- A. Justification that the facility must be located in a shoreline area;
- B. Alternative locations considered and reasons for their elimination;
- C. Proposed method(s) of construction; and
- D. Plans for restoration of areas disturbed during construction.

14.250.240 Regulations Specific to Public Access

- A. Except as provided in this section, public access may be required for public projects and development on public lands, commercial uses, industrial uses, marinas, multifamily development of more than four residential units, and residential subdivisions containing more than four lots. Where public access is required, it shall:
 1. Where feasible, connect to other public and private public access and recreation facilities on adjacent parcels along the Snohomish River and Pilchuck River shorelines;
 2. Be sited and designed to promote public safety;
 3. Be open to the general public and accessible from a public right-of-way or public access easement; and
 4. Enhance access and enjoyment of the waterbody or shoreline and provide one or more features from the following options, listed by preference. Applicants shall justify a lower-preference option:
 - a. Public open space allowing unobstructed physical access to or near the water's edge;
 - b. Improved pathways in easements for pedestrians and bicyclists where no structures are located between the trail and the water;
 - c. Beach or water access improvements for boats, such as launch facilities for small craft, touch-and-go docks, or temporary moorage where public use is reasonably likely;
 - d. Improved seating area with benches and picnic tables affording water views unobstructed by structures on the same parcel; and/or
 - e. Platforms or similar improvements providing view points of the water or immediate shoreline habitat;
 5. Be sited and designed to minimize impacts to native habitat, critical areas and buffers.
- B. Where public access is required, the area dedicated and improved for public access shall be roughly proportional to the scale of the proposed development and its impacts in accordance with applicable State and federal law.
- C. Trails and other public access improvements are subject to the substantive critical areas requirements of this Chapter (SMC 14.250.330) and standards for recreational uses provided herein.
- D. The provisions of this section do not apply:
 1. Where public access is determined by the Planning Director, or designee, to be infeasible or impractical due to incompatible uses, safety, security, steep topography, the location or configuration of existing structures, or impact to the shoreline environment; and
 2. To commercial development which abuts the Riverfront Trail.

14.250.250 Regulations Specific to Signs

- A. All signs located within the Shoreline Jurisdiction shall be comply with the requirements of SMC 14.245 – Sign Regulations.
- B. Except non-commercial signs related to public safety, signs shall be prohibited waterward of the ordinary high water mark.
- C. Light and glare from illuminated signs shall be shielded or directed away from adjacent properties, habitat, and the water.
- D. In approving a sign permit, the Planning Director, or designee, may impose conditions as necessary to ensure consistency with the Shoreline Management Act and the Shoreline Master Program.

14.250.260 Shoreline Modifications - General

- A. A shoreline modification proposal may only be permitted if associated with a new development or redevelopment proposal as allowed by the underlying land use regulations and by this Chapter.
- B. Each category of shoreline modification is subject to the regulations for that modification, as provided by this chapter.
- C. The Shoreline Modifications Table provided in the following section specifies whether a shoreline modification is permitted, may be conditionally allowed, or is prohibited. Conditionally-allowed modifications must satisfy the criteria for shoreline conditional uses, and are processed as a conditional use permit. A number following a “P” or “C” corresponds with an additional provision or limitation provided in the Table footnotes. Additional regulations specific to shoreline modifications are provided in the sections following the Shoreline Modification Table.

14.250.270 Table 2: Shoreline Modifications

KEY P - Permitted Modification C –Conditional Modification X – Prohibited Modification NA – Not Applicable Shoreline modifications may be authorized only as part of a permitted use.	Shoreline Environment				
	Historic Riverfront	Shoreline Residential	Urban Conservancy	Rural Utility	Aquatic
Shoreline stabilization					
Shoreline stabilization facilities ¹	P ²	P ²	P ²	P ²	C ²
Repair or replacement shoreline stabilization facilities ¹	P ³	P ³	P ³	P ³	P ³
Flood protection facilities ¹	P ²	C ²	P ²	C ²	C ²
Filling, grading, and dredging					
Grading upon shorelands ¹	P	P	P	P	NA
Filling (waterward of OHWM) ¹	C	C	C	C	C
Dredging ¹	P	P	P	P	P
Disposal of dredge material ¹	P	P	P	P	P
Piers and Docks¹	P ⁴	P ⁴	P ⁴	X	P ⁴
Breakwaters, jetties, groins and weirs¹	C ⁵	C ⁵	C ⁵	C ⁵	C ⁵
Shoreline habitat and natural systems enhancement projects¹	P	P	P	P	P

Footnotes to Shoreline Modifications Table:

1. Work waterward of the ordinary high water mark and within wetlands requires state and federal authorization in addition to local approval. It shall be the applicants' responsibility to obtain all required state and federal approvals for work below the ordinary high water mark.
2. Shoreline stabilization, including bulkheads and flood protection facilities, may be permitted where such measures are necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development and restoration/mitigation improvements and when consistent with WAC 173-26-231(3)(a)(iii).
3. An existing, legally established shoreline stabilization structure may be replaced or augmented where needed to protect primary structures from erosion caused by currents, tidal action, or waves.
4. New docks and piers shall be:
 - a. Allowed only for public access or water-dependent uses, including as accessory uses to single-family residences;
 - b. Restricted to the minimum size necessary to serve a proposed water-dependent use; and
 - c. Permitted only when specific need is demonstrated, except for docks accessory to single-family residences.
5. Breakwaters, jetties, groins and weirs shall only be permitted where necessary to support water-dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the Planning Director, or designee,. No conditional use permit is required for those structures installed to protect or restore ecological functions, such as woody debris installed in streams.

14.250.280 Regulations Specific to Shoreline Stabilization

- A. Shoreline stabilization shall be designed and constructed to avoid adverse impacts affecting downstream banks.
- B. New shoreline stabilization shall not preclude river channel migration within the floodway.
- C. Shoreline stabilization shall be designed and constructed consistent with the critical areas report required by SMC 14.250.330(A)(6). Where possible, shoreline vegetation shall be preserved.
- D. In addition to the required permit application materials required by other sections of Title 14 SMC, the applicant shall provide the following materials under the stamp of a qualified professional engineer:
 1. Description of project's purpose and scope.
 2. Description of the hydraulic characteristics of the water body within one-half mile of the proposed project, before and after the stabilization/protection project.
 3. Description of existing shoreline stabilization within one-half mile of the proposed project.
 4. Proposed construction materials and methods.
- E. Using studies by qualified professionals, including a geotechnical analysis and a field determination of the ordinary high water mark done no more than one year before submittal of a complete application, the applicant shall demonstrate the following:
 1. That the structure is in danger from shoreline erosion from tidal action, waves or currents, including a description of the damage or loss that is expected to occur if stabilization is not provided, and a timeframe within which such damage or loss is anticipated to occur.

2. Erosion is not caused by upland conditions on the project site that, if corrected, would eliminate the need for shoreline stabilization;
 3. The proposal is the minimum necessary to protect existing legally-established structures; existing water-dependent development; or achieve restoration of ecological functions.
 4. Except for the protection of the shoreline requiring stabilization, the effect on natural fluvial, hydrological, and geomorphological processes will be minimized.
 5. Mitigation measures will maintain or augment shoreline processes and critical fish and wildlife habitat so that no net loss of function of riparian habitat will occur.
 6. Shoreline stabilization shall minimize the adverse impact to other properties to the maximum extent practical.
 7. Shoreline stabilization shall not interfere with surface or subsurface drainage into the water body or to or from wetlands.
- F. Replacement of an existing shoreline stabilization structure that can no longer adequately serve its purpose may be permitted without a determination of imminent need subject to the following:
1. The replacement structure shall be designed, located, sized, and constructed to ensure no net loss of ecological functions;
 2. Replacement of walls or solid bulkheads shall not encroach waterward of the OHWM or existing structure unless protecting a residence that was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure;
 3. Where stabilization would extend waterward of the OHWM, distance shall be the minimum necessary to preserve the stabilization function.
- G. New hardened shoreline stabilization shall not be permitted unless the analysis confirms that there is a significant possibility that the upland structure will be damaged within three years in the absence of hardened stabilization measures; or unless the analysis confirms that waiting until the need is immediate will foreclose on the opportunity to use measures that avoid impacts on ecological functions.
- H. Shoreline stabilization shall not be used to create new shoreland area.
- I. Material that may release hazardous substances shall not be used for shoreline stabilization.
- J. Shoreline stabilization shall be designed so as not to constitute a hazard to navigation.
- K. Shoreline stabilization shall be designed so as not to create a need for shoreline stabilization elsewhere.
- L. Shoreline stabilization measures shall not be allowed within any designated floodway except as may be necessary to protect existing development or prevent serious impairment of channel function.
- M. Shoreline stabilization measures shall be consistent with the Integrated Stream Protection Guidelines (Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003).

14.250.290 Regulations Specific to Flood Protection

- A. Flood protection facilities shall be consistent with the provisions of Chapter 14.270 SMC, the National Flood Insurance Program (NFIP), and the Integrated Stream Protection Guidelines (Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003).
- B. Flood control dikes shall be landward of the designated floodway and any shoreline associated wetlands.

14.250.300 Regulations Specific to Grading, Filling, Dredging, and the Disposal of Dredge Material

- A. Grading, dredging, and filling shall be located, designed, and conducted to protect shoreline ecological functions and ecosystem-wide processes, including channel migration, and mitigation shall employ the mitigation sequence specified by Chapter 14.255 SMC.
- B. Grading, dredging, dredge material disposal and filling shall be consistent with Chapter 14.270 SMC.
- C. Fill may be permitted below the ordinary high water mark only:
 - 1. When necessary to support a water-dependent use;
 - 2. To provide for public access;
 - 3. When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects;
 - 4. To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan;
 - 5. To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources;
 - 6. For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or
 - 7. As part of mitigation actions, environmental restoration projects and habitat enhancement projects.
- D. Dredging and disposal of dredged material below the ordinary high water mark shall be permitted only:
 - 1. When necessary for the operation of a water-dependent use;
 - 2. When necessary to mitigate conditions that endanger public safety or fisheries resources;
 - 3. For establishing, maintaining, expanding, relocating or reconfiguring navigation channels and basins when necessary to ensure safe and efficient accommodation of existing navigation uses where:
 - a. Significant ecological impacts are minimized and mitigation is provided;
 - b. The substantive requirements of Chapter 14.255 SMC are satisfied; and
 - c. Dredging is maintained to the authorized location, depth and width.
 - 4. For restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project.
 - 5. For flood risk reduction projects conducted in accordance with Chapter 14.270 SMC.
- E. Dredging and dredge material disposal shall be performed in a manner which avoids or minimizes significant ecological impacts. Impacts that cannot be avoided should be mitigated in a manner that assures no net loss of shoreline ecological functions.
- F. Maintenance dredging of established navigation channels and basins should be restricted to maintaining previously dredged and/or authorized location, depth, and width.
- G. Dredging is not allowed waterward of the ordinary high water mark for the primary purpose of obtaining fill material except where the material is necessary for the restoration of ecological functions. Where permitted, the site where the fill is to be placed must be located waterward of the OHWM and the action must be required for an approved habitat enhancement project.
- H. Disposal of dredged material shall be allowed only in approved disposal sites.

- I. Stockpiling of dredged material in wetlands and Habitat Conservation Areas and their associated buffers, and in or under water, is prohibited.
- J. No dredging may commence in any shoreline environment without the responsible person having first obtained either a substantial development permit or a determination of exemption.
- K. The removal of gravel for flood management is allowed only after biological and geomorphological studies show that extraction has a long-term benefit to flood hazard reduction, results in no net loss of ecological functions, and is part of a comprehensive flood management solution.
- L. Dredging in or the disposal of dredge spoils on known archeological sites is prohibited unless approved in writing by the Department of Archaeology and Historic Preservation in consultation with any affected tribes.
- M. Applications for dredging permits shall include the following information (at a minimum):
 - 1. Physical analysis of material to be dredged: material composition and amount, grain size, organic materials present, source of material, etc.;
 - 2. Chemical analysis of material to be dredged: volatile solids, chemical oxygen demand, (COD), grease and oil content, mercury, lead and zinc content, etc.;
 - 3. Biological analysis of material to be dredged;
 - 4. Information on stability of bedlands adjacent to proposed dredging and spoils disposal;
 - 5. Dredging procedure: time of dredging, method of dredging, and spoils disposal; and
 - 6. Dredge spoils disposal area: location, size, capacity, and physical characteristics.
- N. New dredging projects shall, in addition to the above, provide the following information with their application:
 - 1. Total initial spoils volume;
 - 2. Frequency and quantity of project maintenance dredging;
 - 3. Area proposed for initial spoils disposal; and
 - 4. Provisions for long-term/on-going disposal of maintenance spoils.
- O. Applications for dredge spoils disposal sites shall include the following, whether in the City of Snohomish shoreline jurisdiction or elsewhere:
 - 1. Disposal site area and final depth of spoils;
 - 2. Methods to control water quality from spoils, including a perimeter dike or similar control system, and methods of ingress and egress from the spoils site that will not result in off-site water quality impacts;
 - 3. A landscaping plan providing landscape screening and erosion control during the period of disposal; and
 - 4. A description of the ultimate use of the site after spoil disposal is complete.
- P. New development shall be sited and designed to avoid the need for new and maintenance dredging.

14.250.310 Regulations Specific to Breakwaters, Jetties, Groins and Weirs

- A. Breakwaters, jetties, groins, and weirs located waterward of the ordinary high-water mark shall be allowed only where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose.
- B. Applications for breakwaters, jetties, groins and weirs shall provide (as a minimum) the following information:
 - 1. Purpose of project;
 - 2. Construction material; and

3. Method of construction;
 4. Analysis of shoreline conditions demonstrating the need for the project;
 5. Assessment of the expected effects of the project on ecological functions of the shoreline; and
 6. A mitigation plan demonstrating no net loss of ecological functions in the shoreline.
- C. Applications for groins shall also include the source and destination of material proposed to be trapped by the groin(s).
- D. Breakwaters shall meet or exceed all design requirements of the State Department of Fish and Wildlife.
- E. Jetties and groins shall not result in a net adverse effect upon nearby beaches.

14.250.320 Regulations Specific to Docks and Piers

- A. Shoreline subdivisions vested with complete application after the effective date of this chapter, temporary lodging, and multi-family uses shall be served by no more than one joint use dock.
- B. Docks, piers, long-term moorage, and vehicular boat launches are prohibited on the Pilchuck River.
- C. No dock, pier, moorage, buoy, float or launching facility authorized by this chapter shall interfere with safe navigation, or normal public use of the water. All such facilities shall be located and managed in a manner that minimizes impacts to aquatic habitat.
- D. Applications for piers and docks on the Snohomish River shall include an assessment of impacts on anadromous salmon habitat, and a mitigation plan addressing any impacts expected from the project. Compensatory mitigation shall be provided for impacts that cannot be avoided through design and siting.
- E. Prior to issuance of a permit for a pier or dock on the Snohomish River, the applicant shall provide evidence of all required state and federal permits.
- F. Boat lifts may be approved by conditional use permit with a demonstration that no net loss of ecological functions or significant impacts to shoreline views will occur
- G. Docks and piers serving residential uses shall be subject to the requirements of SMC 14.250.315(F)-(I), or shall demonstrate that the project provides an equal or greater degree of protection of ecological functions and anadromous species habitat. For the purposes of meeting this requirement, the Planning Director, or designee, may require a critical area report to determine whether the project is adequately protective.
- H. Except as otherwise provided in this section, only one dock, pier, moorage, buoy, float, or launching facility may be permitted for each parcel developed with a single-family dwelling, and only if the applicant demonstrates there is no other feasible option for shared use facilities.
- I. New residential development of two or more adjacent lots or two or more residential units shall have no more than one dock and shall allow for joint use rather than one dock for each unit, unless demonstrated to be infeasible.
- J. Skirting is prohibited on any pier or dock.
- K. Water surface coverage by docks (defined by the outside dimensions of all overwater portions of the floats, ramps, and ells, regardless of surface materials used) shall be limited as follows:
1. A dock serving only one residential waterfront lot shall not exceed 480 square feet;
 2. A dock serving two residential waterfront lots shall not exceed 700 square feet; and
 3. A dock serving three or more residential waterfront lots shall not exceed 1,000 square feet.

- L. Wood treated with toxic compounds shall not be used for decking, pilings, or other in-water components. Tires shall not be used on moorage facilities. Foam material may be used if fully encapsulated.
- M. No private moorage or other structure waterward of the ordinary high water mark, including structures attached thereto, shall be closer than twelve (12) feet to any adjacent property line except when there is a mutual agreement of adjoining property owners.
- N. No covered dock, pier, covered moorage, covered float, or other covered structure is permitted waterward of the ordinary high water mark.

14.250.330 Critical Areas in Shoreline Jurisdiction

A. General

1. The provisions and regulations of Chapters 14.255 – Critical Areas; 14.265 – Critical Aquifer Recharge Areas; 14.270 – Flood Hazard Areas; and 14.275 – Geologically Hazardous Areas SMC shall be applicable to development within the shoreline jurisdiction except as exempted in SMC 14.250.020 or as may be modified in this section. If the provisions of the any of those Chapters conflict with this Chapter, or any part of the Shoreline Management Program, the provisions of this Chapter and the Program shall prevail.
2. The provisions and regulations of SMC 14.260.040, SMC 14.280.050, and SMC 14.280.060 are not applicable within the shoreline jurisdiction.
3. Activities that are exempt from the SMC 14.255, 14.265, 14.270, and 14.275 shall comply with this chapter. Such activities may require a shoreline letter of exemption, shoreline substantial development permit, shoreline variance or shoreline conditional use permit consistent with the provisions of this chapter.
4. The variance and reasonable use provisions of SMC 14.255.020 and 14.255.120-.130 shall not apply to development in the shoreline jurisdiction. Projects that propose to vary from the standards of this chapter, including the critical areas, bulk, dimensional, and performance standards of SMC 14.255 – 280 incorporated by reference, shall require a shoreline variance according to the provisions of this Chapter and WAC 173-27.
5. Critical Area Reports shall be provided consistent with requirements of SMC 14.255.080.

B. No net loss

1. To ensure there is no net loss in shoreline ecological functions from the current conditions proposed development in the shoreline jurisdiction must be designed to avoid impacting the environment.
2. If avoidance is not feasible then the development must be designed to minimize the impacts and compensate for them.
3. To ensure there is no net loss in shoreline ecological functions resulting from any individual development proposal where avoidance of environmental impacts was not feasible, the Director may require applicants to provide a special analysis that:
 - a. Describes the options that were considered to avoid impacts but were determined to be not feasible.
 - b. Demonstrates how the design of the project minimizes the effect of any unavoidable impacts; and
 - c. Shows how proposed mitigation measures will adequately compensates for the negative impacts.

C. Mitigation Sequencing

1. Adverse environmental impacts shall be avoided if feasible. Where not feasible to completely avoid environmental impacts, mitigation measures shall be applied in the following sequence of steps, in order of priority:
 - a. Avoiding the impact altogether by not taking a certain action or parts of an action;
 - b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations;
 - e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments;
 - f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.
2. Lower priority measures shall be applied only where higher priority measures are determined to be infeasible or inapplicable.
3. Application of the mitigation measures must achieve no net loss of ecological functions for each development and shall not result in required mitigation in excess of that necessary to assure that the development will result in no net loss of shoreline ecological functions.
4. When compensatory measures are appropriate pursuant to the mitigation priority sequence above, preferential consideration shall be given to measures that replace the impacted functions directly and in the immediate vicinity of the impact. However, alternative compensatory mitigation within the watershed that addresses limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans applicable to the area of impact may be authorized.

D. Wetlands

1. Wetlands shall be designated in accordance with the approved federal wetland delineation manual and applicable regional supplements as set forth in WAC 173-22-035.
2. Wetlands shall be rated according to the Washington State Department of Ecology wetland rating system found in the 2014 Washington State Wetland Rating System for Western Washington (Ecology Publication No. 14-06-029). Wetlands shall be rated based on categories that reflect the functions and values of each wetland, with categories based on the criteria provided in the 2014 Washington State Wetland Rating System for Western Washington, as follows:
 - a. Category I Wetlands: Category I wetlands are those wetlands of exceptional value in terms of protecting water quality, storing flood and stormwater, and/or providing habitat for wildlife as indicated by a rating system score of twenty-three (23) points or more. These are wetland communities of infrequent occurrence that often provide documented habitat for sensitive, threatened or endangered species, and/or have other attributes that are very difficult or impossible to replace if altered.
 - b. Category II Wetlands. Category II wetlands have significant value based on their function as indicated by a rating system score of twenty (20) to twenty-two (22) points. They do not meet the criteria for Category I rating but occur infrequently and have qualities that are difficult to replace if altered.
 - c. Category III Wetlands. Category III wetlands have important resource value as indicated by a rating system score of between sixteen (16) and nineteen (19) points.

- d. Category IV Wetlands. Category IV wetlands are wetlands of limited resource value as indicated by a rating system score of less than sixteen (16) points. They typically have vegetation of similar age and class, lack special habitat features, and/or are isolated or disconnected from other aquatic systems or high quality upland habitats.
- 3. Wetland buffer width standards within SMC 14.260.040 shall be superseded by the followings:
 - a. Wetland buffers identified in Table 3: Standard Wetland Buffer Widths table are based on the category of wetland and the habitat score as determined by a qualified wetland professional using the required wetland rating system. Wetland buffers have been established in accordance with the best available science.

Table 3: Standard Wetland Buffer Widths

Wetland Category	Buffer width (in feet) based on habitat score			
	3-4	5	6-7	8-9
Category I: Based on total score	75	105	165	225
Category I: Bogs and Wetlands of High Conservation Value	190			225
Category I: Forested	75	105	165	225
Category II: Based on score	75	105	165	225
Category III (all)	60	105	165	225
Category IV (all)	40			

- b. The use of the standard buffer widths requires the implementation of the measures in the Table 4: Required Measures to Minimize Impacts to Wetlands table, where applicable to a specific proposal, to minimize the impacts of the adjacent land uses. If an applicant chooses not to apply the mitigation measures in Table 4, than a thirty-three (33%) increase in the width of all buffers listed in Table 3 is required.

Table 4: Required Measures to Minimize Impacts to Wetlands

Disturbance	Required Measures to Minimize Impacts
Lights	<ul style="list-style-type: none"> • Direct lights away from wetland
Noise	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • immediately adjacent to the out wetland buffer
Toxic runoff	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 feet of wetlands • Apply integrated pest management
Stormwater runoff	<ul style="list-style-type: none"> • Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer • Use Low Impact Development techniques (per PSAT publication on LID techniques)
Change in water regime	<ul style="list-style-type: none"> • Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	<ul style="list-style-type: none"> • Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion • Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	<ul style="list-style-type: none"> • Use best management practices to control dust
Disruption of corridors or connections	<ul style="list-style-type: none"> • Maintain connections to offsite areas that are undisturbed • Restore corridors or connections to offsite habitats by replanting

- c. Outright reduction of wetland buffer widths shall not be allowed within shoreline jurisdiction.
 - d. No wetland buffer occurring in the shoreline jurisdiction shall be reduced in any location by more than twenty-five (25) percent of the standard buffer width, regardless of wetland category, and only when reduction occurs as part of wetland buffer averaging.
4. Identification of hydric soils and identification and delineation of wetlands shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements. For wetland delineation purposes, the definitions of ‘forested wetland’ and ‘mature forested wetland’ shall be consistent with the definitions provided within wetland identification, delineation, and rating systems required by this chapter.

5. Mitigation shall be provided consistent with this Chapter and SMC 14.260.050. Wetland mitigation ratios tables within SMC 14.260.050.J shall be superseded by the mitigation ratios in Table 5: Wetland Mitigation Ratios below. Ratios for rehabilitation and enhancement may be reduced when combined with 1:1 replacement through creation or re-establishment (see Table 1a, *Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance Version 1*; Ecology Publication #06-06-011a, Olympia, WA, March 2006 or as revised).

Table 5: Wetland Mitigation Ratios

Category and Type of Wetland	Creation or Re-establishment	Rehabilitation only	Enhancement only
Category IV	1.5:1	3:1	6:1
Category III	2:1	4:1	8:1
Category II	3:1	6:1	12:1
Category I: Based on functions	4:1	8:1	16:1
Category I: Mature and old growth forest	6:1	12:1	24:1
Category I: High conservation value / Bog	Not considered possible	Case by case	Case by case

- a. As an alternative to mitigation ratios, mitigation requirements may also be determined using the credit/debit tool described in Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Final Report (Ecology Publication #10-06-011, Olympia, WA, March 2012, or as revised) if approved by the Planning Director.
- E. Fish and wildlife habitat conservation areas
 - 1. The provisions of SMC 14.280.010 – 14.280.040 shall apply to the shoreline jurisdiction. The provisions of SMC 14.280.050 – 14.280.060 shall not apply in the shoreline jurisdiction and are replaced by the following provisions.
 - 2. Substantive Requirements
 - a. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a habitat conservation area, except with approval of a state or federal agency with expertise.
 - b. Preference in mitigation shall be given to contiguous wildlife habitat corridors.
 - c. In reviewing development proposals, the City shall seek opportunities to restore degraded riparian fish and wildlife functions such as breeding, rearing, migration, and feeding.
 - d. The City shall require buffers of undisturbed native vegetation adjacent to habitat conservation areas in accordance with SMC 14.250.330(E)(3). Buffer widths shall reflect the sensitivity of the habitat and may reflect the intensity of nearby human activity.
 - e. When a species is more sensitive to human activity during a specific season of the year, the City may establish an extra outer buffer from which human activity is excluded during said season.
 - f. No development shall be allowed within a habitat conservation area or buffer with which state or federal endangered, threatened, or sensitive species have a primary association, except in exchange for restoration as approved by the Planning Director or as provided in a management plan approved by a state or federal agency with appropriate expertise.
 - g. No development shall be permitted which degrades the functions or values of anadromous fish habitat, including structures or fills which impact migration or spawning, except in exchange for restoration.
 - h. Construction and other activities within streams shall be seasonally restricted as necessary to protect the resource. Activities shall be timed to occur during work windows designated by the Washington Department of Fish and Wildlife for applicable fish species and shall be consistent with the required state and federal approvals. It shall be the applicants' responsibility to obtain the required state and federal approvals.
 - i. Shoreline erosion control shall use bioengineering methods or soft armoring in accordance with an approved critical area report.
 - j. Relocation of streams is not permitted unless it is part of a stream restoration project and it will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream. It shall be the applicants' responsibility to obtain the required state and federal approvals.
 - k. The following requirements shall apply to culverts:
 - i. Culverts may be allowed in streams only if they are necessary for the development to occur, if they are designed according to the Washington Department of Fish and Wildlife criteria for fish passage, and if a state hydraulic project approval has been issued.
 - ii. The applicant or property owner shall keep every culvert free of debris and sediment at all times to allow free passage of water and, if applicable, fish.

- iii. The City may require that a stream be removed from an existing culvert as a condition of approval, unless the culvert is not detrimental to fish habitat or water quality, or removal and/or replacement would be detrimental to fish or wildlife habitat or water quality on a long-term basis.
 - iv. It shall be the applicants' responsibility to obtain the required state and federal approvals.
 - I. Clearing and grading, when permitted as part of an authorized development activity or as otherwise allowed in these standards, shall comply with the following:
 - i. Grading shall be allowed only during the designated dry season, beginning April 1st and ending October 31st of each year; provided that the City may extend or shorten the designated dry season on a case-by-case basis to reflect actual weather conditions and the incorporation of best management practices to control stormwater.
 - ii. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, any soil disturbed shall be redistributed to other areas of the site, provided that such redistribution shall not constitute authorized fill.
 - iii. The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.
 - m. To the extent facilities are allowed in habitat conservation areas, the following regulations shall apply.
 - i. Trails shall be on the outer 25% edge of the stream buffer except for limited viewing platforms and crossings. Trails and platforms shall be of pervious materials.
 - ii. Road bridges and culverts shall be designed according to the Washington Department of Fish and Wildlife Fish Passage Design at Road Culverts, 1999, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000.
 - iii. Utility lines shall be accomplished by boring beneath the scour depth and hyporheic zone (the saturated zone beneath and adjacent to streams that filters nutrients and maintains water quality). Utilities shall avoid paralleling streams or changing the natural rate of shore or channel migration.
 - iv. New and expanded public flood protection measures shall require a biological assessment approved by the agency responsible for protecting federally listed species.
 - v. In-stream structures such as high-flow bypasses, sediment ponds, instream ponds, retention and detention facilities, tide gates, dams, and weirs shall be allowed only as part of an approved restoration project. It shall be the applicants' responsibility to obtain the required state and federal approvals.
 - vi. Stormwater conveyance structures shall incorporate fish habitat features and the sides of open channels and ponds shall be vegetated to retard erosion, filter sediments, and shade the water.
 - vii. Watercourse alterations shall be in accordance with SMC 14.270.030.H.
- 3. Habitat Conservation Area Buffers
 - a. Table 6 below establishes the standard width of required stream buffers (also known as riparian habitat areas):

Table 6. Habitat conservation area buffer widths for specified rivers/streams

River/Stream	Habitat buffer width
<ul style="list-style-type: none"> • Snohomish River • Pilchuck River 	<p>100 feet, provided that:</p> <ul style="list-style-type: none"> • limited public access is allowed in the 50 feet nearer the river, and • water-dependent and water-related uses are allowed in the 50 feet further from the river, if mitigation measures result in the uses contributing toward projects that enhance salmonid rearing habitat as identified in the Snohomish ESA Strategy and if, as further mitigation, public access is permitted across the waterfront portion of the site when such a mitigation measure is supported by the particular circumstances and the purposes of the Critical Areas Code. • the buffer shall not extend landward of the Riverfront Trail, where the trail acts as a permanent interruption in the Historic Riverfront SED.
<ul style="list-style-type: none"> • Cemetery Creek downstream of Fobes Road, Bunk Foss Creek, and any tributaries thereof containing salmonids • All streams flowing into Blackman’s Lake, including that part of Swifty Creek above Blackman’s Lake 	<p>100 feet, provided that limited public access is allowed in the first 50 feet of buffer.</p>
<ul style="list-style-type: none"> • Swifty Creek below Blackman’s Lake • Myrick’s Fork in the Cemetery Creek basin • Collins Creek in the Bunk Foss Creek basin (upstream of salmon spawning and rearing areas) 	<p>50 feet, provided that limited public access is allowed in the first 25 feet of buffer.</p>

b. If Table 6 does not cover a particular stream, the following Table 7 shall apply:

Table 7: Habitat conservation area buffer widths for non-specified rivers/streams

Stream type	Standard buffer width
Type F (fish-bearing other than S)	75 feet
Type Np (non-fish, perennial)	50 feet
Type Ns (non-fish, seasonal)	35 feet

- c. Widths shall be measured perpendicular outward in each direction, on the horizontal plane, from the ordinary high water mark, or from the top of bank if the ordinary high water mark cannot be identified, or from the outer edge of the channel migration zone when present. Upon the presence of one or more types of critical areas and buffers the buffer shall be measured from the delineated critical area boundary as determined by a qualified professional as defined by WAC 365-195-905(4).
- d. The Planning Director may modify the buffer widths in the above tables in accordance with the following:
- i. Buffer widths may be increased as necessary to fully protect riparian functions. For example, the buffer may be extended to the outer edge of the floodplain or windward into an area of high tree blow-down potential.
 - ii. If the stream enters an underground culvert or pipe, and is unlikely to ever be restored aboveground, the Planning Director may waive the buffer along the under grounded stream, provided that where the stream enters and emerges from the pipe the opposite outer edges of the buffer shall be joined by a radius equal to the buffer width, with said radius projecting over the piped stream.

F. Uses in Buffer Areas

1. The following table establishes the allowed uses in buffer areas.

Table 8: Allowed Uses in Habitat Conservation Area and Wetland Buffers

Uses that may be permitted (P) in buffer, provided there is no net loss of ecological function	Habitat Conservation Area Buffer	Wetland Buffer			
	All shorelines	Category IV	Category III	Category II	Category I
Water-dependent and water-related uses	P				
Public parks and public water enjoyment uses	P				
Bio-retention facilities, percolation trenches, and similar non-structural stormwater facilities, excluding detention ponds.	P	p ¹	p ¹		
Utility poles, lines, and other facilities that do not require clearing and cannot be placed in another location due to the function of the utility	P	P	P	P	P
Pedestrian trails, minimal wildlife viewing structures, and other limited public access	p ²	p ²	p ²	p ²	p ²

1. Stormwater outfalls/dispersion facilities may only be located in the outer 25% of the standard buffers for Category III and Category IV wetlands. Such facilities shall not be allowed in the buffers for Category I and Category II wetlands.
2. Pedestrian trails must:
 - i. Be located in the outer 25% of the buffer area;
 - ii. Have a permeable surface; and
 - iii. Be no more than five (5) feet in width

G. Vegetation Management in Shoreline Jurisdiction

1. Vegetation and vegetated areas within designated critical areas and their required buffers shall be preserved, enhanced, and restored in compliance with this chapter so as to protect or improve shoreline ecological processes and functions. Such measures shall be as prescribed herein and/or by a critical areas report prepared pursuant to Chapter 14.255 SMC.
2. Except as specifically permitted by this chapter, no disturbance to vegetation within a prescribed buffer or a buffer approved pursuant to this chapter shall occur without prior written approval of the City.
 - a. Where unapproved disturbance occurs, the property owner, if private land, or responsible party, if public land, shall provide a critical area report and vegetation management plan to determine whether and what restoration steps shall be implemented and maintained to restore prior ecological functions.

- b. The restoration plan must be approved by the Planning Director and implemented by the property owner/responsible party.
3. Invasive species and State recognized noxious weeds, as designated by the Planning Director, may be removed from critical area buffers without a permit as part of a buffer restoration or enhancement project if such activities are performed without increasing sediment transport to a water body and if replacement plantings will provide greater benefit to shoreline ecological processes.
 - a. Buffer restoration projects shall not reduce the existing buffer width.
 - b. Unless plans are approved by the City for alternative methods, plant removal shall consist of physical uprooting by hand or light equipment, chemical treatment of individual plants, or shallow excavation of no more than one thousand (1,000) square feet of dense infestations.
4. In the absence of a development proposal, existing, lawfully established residential landscaping and gardens within a shoreline buffer may be retained, replaced, and maintained to continue the condition, appearance, and extent of such areas as they existed prior to the adoption of this code. However, this exception does not apply to unmaintained buffer areas, native growth protection areas, mitigation sites, or other areas protected by conservation easements or similar restrictions, and as further provided in this chapter.
5. Trees in excess of six inches in diameter measured four feet above surrounding grade shall only be removed from a critical area or critical area buffer within the shoreline jurisdiction with justification of improvement to ecological functions and processes and with prior written approval of the Planning Director.
 - a. Any tree within a critical area or buffer deemed by a certified arborist to be a hazard to structures or public safety may be pruned or removed to protect public health and safety consistent with a plan prepared by a certified arborist.
 - b. Trees that pose an immediate threat to property or safety may be removed if a report with photographic documentation from a certified arborist justifying such removal is submitted and approved by the Planning Director within 30 days following removal.
 - c. Trees removed from buffer areas shall be replaced at a two to one (2:1) ratio.
 - i. Proposals for replacement trees shall be approved prior to tree removal unless emergency removal is justified due to an imminent threat posed by a hazard tree, in which case the tree replacement plan shall be submitted within 30 days following removal.
 - ii. Replacement trees in a shoreline buffer shall be planted within 30 feet of the OHWM and should be selected to thrive in a shoreline environment.
 - d. Portions of dead or dying trees not representing a risk to public health and safety shall be retained as snags for wildlife. Cut portions of trees shall be left in the critical area or its buffer unless removal is recommended by as determined by a qualified professional as defined by WAC 365-195-905(4).
 - e. Trees may be selectively pruned for safety and view maintenance where pruning is conducted in a manner that does not harm the health of the trees. Pruning shall only occur according to a plan prepared by a certified arborist and approved by the Planning Director.
6. Vegetation management plans shall be provided as part of a critical area report for required shoreline buffer areas.
 - a. Vegetation management plans shall be prepared by a qualified professional as defined by WAC 365-195-905(4).
 - b. Vegetation management plans shall evaluate the ecological value of existing vegetation in the buffer and propose actions to ensure that buffer areas provide ecological functions

equivalent to a dense native vegetation community to the extent possible. Required vegetation shall be maintained over the life of the development.

- c. For private development, recording of a conservation easement or similar legal restriction may be required to ensure preservation of vegetation within the buffer.
- d. Where consistent with the intent of buffer functions, vegetation management plans shall minimize impairment of views of the waterbody or shoreline from public streets, parks, overlooks, and other adjacent public places.

7. Alternative Restoration Plan

- a. Proposals to implement an Alternative Restoration Plan may be requested by an applicant:
 - i. Where mitigation of ecological impacts is required; or
 - ii. Where a critical area report or other information demonstrates buffer enhancements consistent with this chapter would be ineffective or pose a greater ecological risk than preserving existing conditions.
- b. Proposals for alternative habitat restoration shall focus on restoring the most-critical ecological functions and shall include plans for some habitat restoration or enhancement. In approving an alternative habitat restoration plan, the Planning Director shall consider factors such as changes in surface water runoff rates and water quality, current vegetative conditions, and imposing conditions to limit negative impacts including, but not limited to, ambient noise, light and glare, and activity levels.
- c. Habitat enhancements should:
 - i. First focus on offsetting the project's negative impacts on habitats;
 - ii. But, if that is not possible, may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished.
- d. Habitat enhancements can include, but are not limited to:
 - i. Placement of large woody debris in water;
 - ii. Off-site buffer vegetation management;
 - iii. Or implementation of other projects identified in the Shoreline Restoration Plan.
- e. Where a restoration project is proposed as alternative mitigation, the critical areas report shall evaluate ecological value provided by the proposed improvements relative to the impact of the encroachment.
- f. Alternative Restoration Plans shall be approved at the Planning Director's discretion. In approving an Alternative Restoration Plan, the Planning Director must determine the mitigation measures proposed will provide broad ecological benefits over a wider area than would a mitigation plan that would only offset the impacts of an individual development.

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APPENDIX A: Shoreline Inventory & Characteristics

CITY OF SNOHOMISH SHORELINE MASTER PROGRAM

Shoreline Inventory and Characterization

Prepared for
City of Snohomish

June 2010, updated May 2017





City of Snohomish Shoreline Master Program

Shoreline Inventory and Characterization

Prepared for
City of Snohomish

June 2010, updated May 2017



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1 INTRODUCTION

1.1 Background and Purpose

The City of Snohomish (City) is updating its Shoreline Master Program (SMP) to comply with the requirements of the Washington State Shoreline Management Act (SMA or the Act) (Revised Code of Washington [RCW] 90.58) and the state's shoreline guidelines (Washington Administrative Code [WAC] 173-26, Part III), which were amended in 2003.

As a baseline characterization and inventory, this document sets the stage for a more in-depth and detailed analysis of the type and scale of actions available for the City through administration of its SMP. It provides a basis for setting priorities and a benchmark for measuring change.

The purpose of this report is to provide a baseline inventory and characterization of the City's designated shoreline areas—Snohomish River, Pilchuck River, and Blackmans Lake (Map 2). The report addresses ecosystem-wide processes (also referred to as watershed or landscape processes) and shoreline ecological functions in accordance with the state shoreline guidelines (referred to as “the guidelines”) in WAC 173-26-201(3)(c) and (d). The information provided herein will be used to characterize shoreline functions, establish existing shoreline conditions, and ultimately develop goals, policies, and regulations for shoreline management. Other steps to be completed during subsequent phases of the SMP update process will include:

1. Determining shoreline environment designations (SEDs);
2. Assessing cumulative impacts of shoreline development; and
3. Preparing a restoration plan.

This work was funded in part through a grant from the Washington State Department of Ecology (Ecology), Grant #G100030.

1.2 Report Organization

This inventory and characterization report is organized into 10 chapters. The first provides a regulatory overview of state and local plans and requirements for structuring and instituting the City's SMP update. The second chapter provides the technical methods used to identify areas and reaches within the shoreline jurisdiction in the City of Snohomish, and the assessment tools used to determine the baseline ecological conditions of the identified reaches.

Chapter 3 provides an overview of the Snohomish River watershed environment—the physical and biological setting, general land uses, and ecosystem-wide processes. Chapter 4 describes trends in land use in the city and potential use conflicts.

The City's shorelines are discussed specifically in Chapters 5, 6, and 7 (Snohomish River, Pilchuck River, and Blackmans Lake, respectively). For each of these water bodies, the chapter first describes the overall physical, biological, and land use setting, then describes information

unique to reaches along the shoreline. Opportunities for restoration and public access are also included. Chapter 8 then synthesizes the information presented in the previous three chapters.

Chapter 9 describes gaps in available data about the shorelines, and Chapter 10 lists the references used in preparing this report.

Appendix A, the map folio, contains maps which are referenced in the report as Maps 1 through

12. In addition, this report contains figures that are embedded in the text. Photos of the City's shoreline are provided in Appendix B.

1.3 Overview of the Washington State Shoreline Management Act

The purpose of the SMA is to "...provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses" (RCW 90.58.020). The Ecology administers the Act but gives primary permitting authority for shoreline development to local governments. Local governments are also charged with developing SMPs in accordance with the guidelines developed by Ecology. The guidelines give local government discretion to adopt SMPs that reflect local circumstances and to develop other local regulatory and non-regulatory programs related to the goals of shoreline management as provided in the policy statements of RCW 90.58.020, WAC 173-26-176, and WAC 173-26-181.

Shoreline Master Programs have a planning function as well as a regulatory function. Master programs balance and integrate the objectives and interests of local citizens and the people of Washington State, and address the full variety of conditions on the shoreline. Master programs also establish a classification system for specific shoreline environments that is based on the biological and physical character of the shoreline, the existing use pattern, and the goals and aspirations of the community as expressed through the comprehensive plan (WAC 173-26-191 and 173-26-211).

The SMA requires that local governments and state agencies review their plans, regulations, and ordinances that apply to areas within the shoreline jurisdiction, and then modify those plans, regulations, and ordinances so they "achieve a consistent use policy" in conformance with the Act and the SMP (RCW 90.58.340). This means that the Shoreline Element of the City of Snohomish comprehensive plan and the City's development regulations must be consistent with the SMA.

The SMA also regulates development in designated critical areas as defined by the Washington State Growth Management Act (GMA) (RCW 36.70A). Although critical areas in shoreline jurisdiction are to be identified and designated under the GMA, they

must also be protected under the SMA. The Washington State Legislature and the Growth Management Hearings Board have determined that local governments must adopt master programs that protect critical areas within the shoreline at a level that is “at least equal” to the level of protection provided by the local critical areas ordinance (CAO). The Legislature clarified that although Washington’s shorelines may contain critical areas, designated shorelines of the state themselves are not by default critical areas as defined by GMA.

1.4 Shoreline Management Act Jurisdiction and Study Area Boundary

Under the SMA, the shoreline jurisdiction includes waters that have been designated as “shorelines of statewide significance” or “shorelines of the state.” These designations were established in 1972, and are described in Washington Administrative Code (WAC) 173-18.

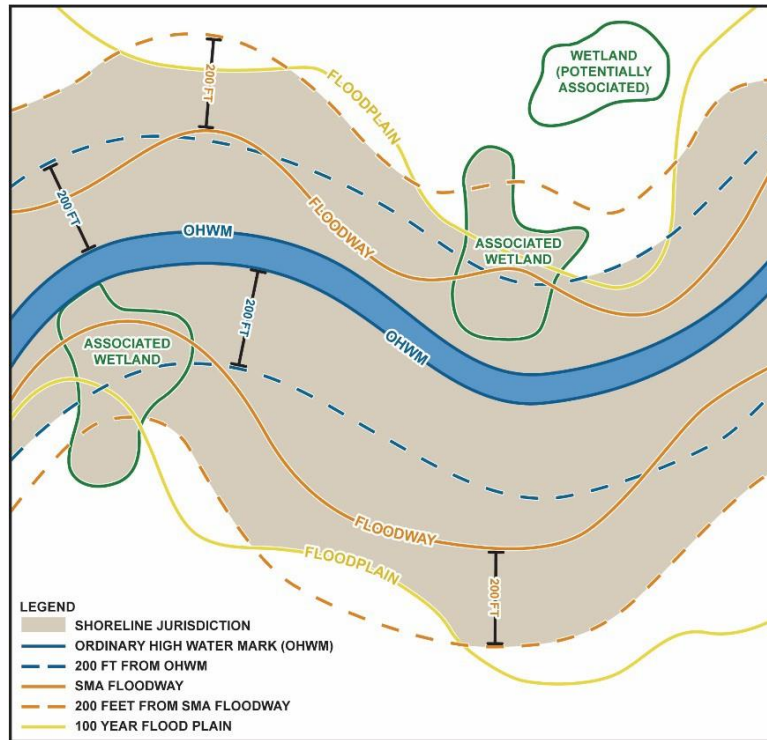
- “Shorelines of statewide significance” are generally described as including portions of Puget Sound and other marine water bodies, rivers west of the Cascade range that have a mean annual flow of 1,000 cubic feet per second (cfs) or greater, rivers east of the Cascade range that have a mean annual flow of 200 cfs or greater, and freshwater lakes with a surface area of 1,000 acres or more.
- “Shorelines of the state” are generally described as all marine shorelines and shorelines of all other streams or rivers having a mean annual flow of 20 cfs or greater and lakes with a surface area greater than 20 acres.

In Snohomish, the designated shorelines of the state are the portions of the Snohomish River, Pilchuck River, and entirety of Blackmans Lake that fall within the Snohomish city limits and urban growth area (UGA) (Map 2). The Snohomish River is also designated as a shoreline of statewide significance.

The shoreline jurisdiction under SMA also includes “shorelands” adjacent to shorelines of the state. “Shorelands” or “shoreland areas” means those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark (OHWM); floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with such streams, lakes, and tidal waters (see Figure 1-1). “Associated wetlands” means those wetlands, that are in proximity to and either influence or are influenced by tidal waters or a lake or stream subject to the SMA (WAC 173-22-030 (1)). These are typically identified as wetlands that physically extend into the shoreline jurisdiction, or wetlands that are functionally related to the shoreline jurisdiction through surface water connection and/or other factors.

Unless otherwise stated, generalized references to the city or the city’s shoreline jurisdiction include shorelines in the UGA and the study area boundary as described above.

Figure 1-1. Schematic of Shoreline Jurisdictional Areas.



1.5 Current Regulatory Framework

This section briefly discusses some of the regulations besides the SMP that control or affect development in the shoreline jurisdiction.

1.5.1 Existing Shoreline Master Program

The existing SMP was adopted by the City in 1976, and has been amended from time to time, with the most recent amendment in 2000. The development regulations are adopted by reference in section 14.250.010 of the Snohomish Municipal Code (SMC) but the standards themselves have not been codified. The City's existing SEDs are shown on Map 12.

1.5.2 Comprehensive Planning and Zoning

The City's current Comprehensive Plan was adopted in 1995, and has been amended from time to time, with the most recent amendment in 2016. The Comprehensive Plan contains policies supporting the City's future growth and development.

Development regulations that apply in the shoreline regulate allowable uses and the physical dimensions of structures, parking areas, and required landscaping. These regulations are found in SMC 14-205.

1.5.3 Critical Areas Regulations

The City's critical areas regulations (SMC 14.255 through 14.280) were adopted in 2005. These regulations govern the development in the following areas:

- Wetlands
- Critical Aquifer Recharge Areas
- Flood Hazard Areas
- Geologically Hazardous Areas
- Habitat Conservation Areas

1.5.4 State and Federal Regulations

Many state and federal regulations apply in the shorelines. The following are the most common regulations that apply to shoreline development:

- Hydraulic Project Approval (State Hydraulic Code)
- Section 404 (Clean Water Act) Permit
- Section 401 (Clean Water Act) approval
- Section 10 (Rivers and Harbors Act) Permit

2 METHODS AND DATA INVENTORY

2.1 Data Sources

Existing data sources, geographical information system (GIS) data, and published technical reports were reviewed and evaluated during the process of preparing this inventory and characterization. The project team compiled data using resources from City of Snohomish, Snohomish County, other local jurisdictions, scientific researchers, and state and federal agencies. This includes information sources pertaining to overall watershed conditions and ecosystem-wide processes as well as ecological functions of the City of Snohomish shorelines. Among the main information sources reviewed for this report were the technical analyses and planning documents prepared for salmon recovery in Water Resource Inventory Area (WRIA) 7, and the *Summary of Shoreline Ecological Functions and Conditions in Snohomish County* report, prepared by Snohomish County in 2006. These reports, and other information sources, are listed in Chapter 10.

Mapping and aerial photographs of the study area were also consulted. Primary mapping sources included:

- FEMA floodplain mapping (2005);
- Snohomish County GIS mapping (2004 – 2007);
- City of Snohomish GIS mapping (2004, 2009);
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species database (2008) and SalmonScape mapping (2010); and
- Washington Department of Natural Resources geologic hazard GIS mapping (2000 – 2004).

2.2 Establishing Shoreline Jurisdiction

This inventory focuses on shorelines of the state within the municipal limits of the City of Snohomish and the City's UGA (Maps 1 and 2). The shoreline planning areas shown on Map 2 generally represent lands within 200 feet of the mapped edges of the Snohomish River, Pilchuck River, and Blackmans Lake, as well as associated wetlands, within the city limits of Snohomish and its UGA. There are also two other parcels within the shoreline planning area, owned by the City but are not contiguous with the main city limits. One parcel is located northeast and well upstream of the city proper at the location of the city's water treatment plant on the Pilchuck River. The other parcel, located east of the city proper, lies within an optional shoreline planning area in the Pilchuck River floodplain. The shoreline planning area covers approximately 4.6 linear miles, including 1.7 miles along the Snohomish River, 1.3 miles along the Pilchuck River, and 1.5 miles around Blackmans Lake. The acreages of the shoreline planning area by water body are shown in Table 2-1.

Table 2-1. Shoreline Planning Areas, City of Snohomish

Water Body and General Shoreline Planning Boundaries	Land Area (acres)¹		% of City's Shoreline Planning Area
	City Limits	UGA	
<u>Snohomish River</u> 1.7 miles of mainstem river along southern boundary of city and within UGA; from approx. 0.5 miles upstream of Pilchuck River confluence, extending northwest to the western boundary of City's wastewater treatment plant property	53	38	56%
<u>Pilchuck River²</u> 1.3 miles of mainstem river just inside eastern city boundary; from approx. 1.3 miles upstream of Snohomish River confluence to the approximate alignment with 10th Street	27	2	18%
<u>Blackmans Lake</u> Entire lake and associated wetlands (approx. 1.5 miles OHWM perimeter)	42	0	26%

Planning area boundaries were developed using the existing GIS information sources listed above. For purposes of this report, the mapped edges of the lake and stream shorelines are assumed to generally correspond to the OHWM, but field inspection is required to identify the OHWM location on a specific property and to determine regulatory setbacks. Similarly, mapped wetlands that are adjacent to or within 200 feet of the OHWM are assumed to be “associated” wetlands, but generally a wetland’s relationship to the shoreline must be determined in the field by on-site inspection.

The inventory area is intended for planning purposes only. As a result, the actual regulated boundaries of shoreline jurisdiction may differ from the area shown on Map 2 depending on information gathered on the ground at any specific location.

For this inventory, the 200-foot shorelands and associated wetlands (minimum jurisdictional limits) have been assessed in detail. Because the City has not historically regulated the 100-year floodplain (optional jurisdictional limits) and does not anticipate adding them, the optional floodplain areas are assessed more generally. Map 2 distinguishes the minimum and optional jurisdictional limits.

2.3 Approach to Inventory and Reach-scale Analysis

The inventory of the Snohomish River, Pilchuck River, and Blackmans Lake at the shoreline reach scale is intended to characterize the existing physical environment, biological resources, cultural resources, land use and public access.

2.3.1 Analysis and Mapping

GIS data were used to quantitatively inventory and characterize shoreline conditions wherever possible. Aerial photography and existing reports and planning documents were reviewed to further qualitatively describe and illustrate conditions in the shoreline planning area. Analysis and mapping was conducted at the water body and reach scale. Nine distinct shoreline reaches were defined and evaluated.

Data were used to visually display over 30 mapping themes (e.g., flood hazards, fish distribution, wetlands, and land use/planning) related to individual shoreline reaches. In addition, GIS overlay analysis was used to quantify certain conditions (e.g., spatial extent of wetlands, land use designations) in the shoreline planning area. Mapping the shoreline to visually discern detailed conditions within the SMP jurisdiction (200 feet from OHWM) is referred to as “reach-scale mapping.”

2.3.2 Determining Reach Breaks

Reaches (also referred to as shoreline planning areas) were delineated based on significant changes in the physical and biological composition of the regulated waterbody’s shoreline. The Snohomish River shoreline was divided into three reaches, the Pilchuck River shoreline into five reaches, and the Blackmans Lake shoreline into one reach (Table 2-2). See Map 2 for reach locations.

Table 2-2. Shoreline Reach Breaks, City of Snohomish

Reach Code	Reach Size (miles / acres) ¹	Reach Boundary Description
Snohomish River		
SNO_RV_01	0.4 miles 42.7 acres	Southern end of city limits/UGA boundary west to Swifty Creek confluence including both north and south riverbanks
SNO_RV_02	0.5 miles 58.9 acres	Swifty Creek west to SR 9 including both north and south riverbanks
SNO_RV_03	0.8 miles 55.0 acres	SR 9 west to city limits/UGA boundary including both north and south riverbanks
Pilchuck River ²		
PIL_RV_01	0.3 miles 7.2 acres	Southern end of city limits/UGA boundary north to 92 nd Street SE crossing, including west riverbank only
PIL_RV_02	0.4 miles 10.6 acres	92 nd Street SE crossing north to north end of Pilchuck Community Park, including west riverbank only
PIL_RV_03	0.6 miles 11.9 acres	Pilchuck Community Park north to city limits, including west riverbank only
PIL_RV_04	-- ²	Pilchuck River floodplain east of river near Three Lakes St. SE
PIL_RV_05	0.02 miles 2.5 acres	Both banks of Pilchuck River near N. Lake Roesiger Rd.
Blackmans Lake		
BLK_LK_01	1.5 miles 109.6 acres	Entire lake plus associated wetlands

¹ Acreages include land plus open water areas.

² Reach PIL_RV_04 is an optional shoreline area located in the floodplain.

2.4 Approach to Assessment of Shoreline Functions

SMA guidelines require local jurisdictions to evaluate ecosystem-wide processes during SMP updates. Watershed processes that create, maintain, or affect the City's shoreline resources were characterized using an adapted version of the five-step approach to understanding and analyzing watershed processes described in *Protecting Aquatic Ecosystems: A Guide for Puget Sound Planners to Understand Watershed Processes* (Stanley et al., 2005). This approach defines watershed processes as the delivery, movement, and loss of water, sediment, nutrients, toxins, pathogens, and large woody debris. Only limited detailed information about these watershed processes is available for the City of Snohomish shorelines.

Discussion of watershed processes in this report focuses on geology, climate, and topography. These watershed processes control the amount, type and extent of the smaller scale ecosystem processes at work in the City's shoreline planning area. Ecosystem processes include hydrology, sediment generation and transport, and water

quality (see further discussion on the approach to characterizing ecosystem processes in Section 3.5 below). Watershed processes are qualitatively

described using available reports and spatial information. Process components, as identified by Stanley et al. 2005, that are not directly called out within this report are discussed under other headings (for example, available information about toxins, pathogens, and nutrients is discussed within Section 3.53, Water Quality) and/or identified in Chapter 9 as a data gap.

Analyzing conditions and processes at the watershed scale informs local planning by providing a broad understanding of the influences on shoreline conditions and functions. Natural processes, and alterations to those processes, are described at a variety of geographic scales based on existing reports and readily available mapping information. No new quantitative analyses were performed to develop the characterization of watershed processes included in this document.

3 ECOSYSTEM PROFILE

This chapter provides an overview of the regional watershed surrounding the city of Snohomish and describes how watershed-scale processes affect shorelines and their functions. In accordance with WAC 173-26-210(3)(d), the City must analyze the “ecosystem-wide processes” that affect the shorelines within the local jurisdiction as part of the shoreline analysis. Information is presented here at a watershed scale and provides a basis for understanding shoreline management in relation to the broader landscape context. This watershed-scale overview is intended to provide context for the reach-scale discussion provided in Chapters 5, 6, and 7.

This chapter is organized to provide:

- An overview of the regional landscape, including physical description, land use changes, and existing habitats;
- A discussion of the process controls that influence the form and ecological functioning of the Snohomish River, Pilchuck River, and Blackmans Lake watersheds; and
- A discussion of key ecosystem processes.

This watershed analysis and overview is based upon the methods outlined in Ecology’s guidance document, *Protecting Aquatic Ecosystems: A Guide for Puget Sound Planners to Understand Watershed Processes* (Stanley et al., 2005). Landscape analysis, as described in this methodology, focuses primarily on the role of water movement across the landscape and how water flow in the greater watershed shapes the form and functions of the shorelines. This guidance document recognizes two major types of factors acting upon a watershed: (1) process controls and (2) ecosystem-wide processes.

Process controls are foundational environmental factors (i.e., climate, geology) that form the basis for process interactions at the watershed scale. The combined influence of these process controls in large part determines ecosystem interactions, particularly the movement of water across and through a landscape. For example, the climate of a region, such as the duration and seasonal variability of rainfall, will combine with the geology to influence the surface hydrology of a watershed.

Ecosystem-wide processes are the processes within a watershed that relate to hydrology, sediment transport, water quality, and habitat. These ecosystem processes control the physical form of the landscape and the types of habitats that occur throughout the ecosystem. For example, the flow regime of a river, including modifications to natural flow such as placement of levees, weirs, dams, and other devices, will determine the habitats and shoreline types in that system. Ecosystem processes are formed and function at multiple scales, from the watershed to site-specific or habitat scale.

3.1 Regional Overview

The mainstem Snohomish River forms south of Monroe, where the Skykomish and Snoqualmie Rivers join together. These three rivers—Snohomish, Skykomish, and Snoqualmie—and their

tributaries together drain a watershed of 1,856 square miles located in both Snohomish and King Counties (Snohomish County, 2006).

Along with the City of Snohomish, other communities in the Snohomish County portion of the watershed include Everett, Monroe, Lake Stevens, Marysville, Sultan, Gold Bar, Index and the Snohomish and Tulalip Tribes. Over 80% of the population of Snohomish County lives in cities and Urban Growth Areas, with less than 20% in rural areas. Most existing population and development is located in cities and Urban Growth Areas in the western portion of the County (Snohomish County, 2006).

The City of Snohomish is located on the north side of the lower Snohomish River valley, approximately 11 miles upstream from where the river enters Puget Sound at Everett. The city is bordered by the Snohomish River to the south and the Pilchuck River to the east. The Pilchuck River enters the Snohomish River 0.5 miles south of the city limits.

Prior to European settlement, the Snohomish River valley was used by several Coast Salish Indian tribes, including the Tulalip, Pilchuck, Snohomish, and Snoqualmie. Large, permanent winter villages were located along the Snohomish River where people made a living by fishing, hunting, and gathering (City of Snohomish, undated).

European settlers were first drawn to the Snohomish River valley in the 1850s by the deep, fertile soils which were suitable for farming. During the late 1880s, the construction of railroad lines allowed the timber industry to become established in the area. The town of Cadyville, later renamed Snohomish, was founded in 1859 and became the county seat in 1861 (a designation lost to the city of Everett in 1895). Major industries included sawmills, lumber finishing, agricultural and dairy processing, canneries, meatpacking, and railroad services. The city endured several catastrophes over the years, including large fires and recurring floods (City of Snohomish, undated).

Today, resource industries such as timber are still important for the city, but it has become an important residential and historical center of the county as well. Evidence of the city's history is apparent along its shorelines. For example, levees and dikes along the Snohomish River speak to efforts to control flooding along the city's historic downtown area and to protect municipal facilities such as the city's wastewater treatment plant. Residences, docks, and parks around Blackmans Lake exhibit residents' desires to live and recreate in a lakeshore setting.

The Snohomish River watershed supports a variety of fish and wildlife species. Wildlife habitat types that are common in the city of Snohomish and vicinity include freshwater aquatic areas and associated riverine habitats; wetlands and associated riparian areas; lowland conifer-hardwoods; agricultural and pasture areas; and urban areas. In the city of Snohomish and vicinity, wildlife habitats are most suited to species that tolerate some level of human disturbance.

The Snohomish River watershed supports Chinook, chum, coho, and pink salmon; bull trout and Dolly Varden; cutthroat, steelhead, rainbow, and brook trout; and warmwater fish such as smallmouth and largemouth bass, yellow perch, bluegill, and green sunfish (Pentec, 1999; Snohomish County, 2006).

Federally and state listed species known or presumed to occur in Snohomish County include orca whale, spotted owl, gray wolf, grizzly bear, Oregon spotted frog, sandhill crane, bald eagle, marbled murrelet, bull trout, and Chinook salmon (Snohomish County, 2006).

3.2 Process Controls

3.2.1 Climate and Geology

Western Snohomish County has a temperate, maritime climate. Winters are cool and wet, while there is typically a drought period in the summer and early fall. The climate is influenced by Puget Sound to the west and the Cascade Mountains to the east. Average annual precipitation ranges from approximately 30 inches near Puget Sound to 90 inches in the Cascade foothills (Golder, 1999).

The geology of western Snohomish County consists of bedrock underneath layers of glacial sediments deposited by glaciers, as well as sand and gravel (alluvium) deposited recently by modern rivers (Snohomish County, 2006). During the most recent ice age, the Frasier Glaciation approximately 20,000 years ago, a continental ice sheet several thousand feet thick covered all of Puget Sound and extended as far south as Tenino (south of Olympia). The glaciers carved hills and valleys, and left massive deposits of boulders, gravel, and clay across the landscape (Krukeberg, 1991). Today, major rivers drain from the Cascade Mountains to Puget Sound, carving and eroding the glacially formed plateaus of western Snohomish County. Soils in Snohomish County range from poorly drained alluvium in river valleys and floodplains, to well drained soils over compacted glacial till in upland areas (Snohomish County, 2006).

The floodplain of the Snohomish River is widest from its confluence with the Skykomish River to its delta at Puget Sound by Everett and Marysville. The river within this portion of the floodplain has a relatively low gradient, and the river has been channelized and diked over the years to prevent flooding. These measures have limited the river's ability to meander or migrate within its floodplain (Snohomish County, 2006).

3.2.2 Vegetation

The Snohomish River watershed contains a wide range of vegetation types, from marine nearshore areas in the Snohomish River delta to forests in the Cascade foothills. In general, the largest undeveloped areas are located at higher elevation in the eastern part of the watershed, while lower areas toward Puget Sound tend to be the most urbanized.

European settlement, logging, and development have removed much of the native vegetation in the watershed. In the lower valleys and urbanized areas, riparian vegetation is often absent or sparse, consisting mainly of agricultural fields or scattered stands of trees. Vegetation in the vicinity of the city of Snohomish is consistent with the

“Eastern Puget Riverine Lowlands” vegetation type described in the *Summary of Shoreline Ecological Functions and Conditions in Snohomish County* (Snohomish County, 2006). This type historically consisted of forests of western red cedar and western hemlock along with wetlands that were cleared and drained for farming and development. These lands are now dominated by agricultural fields, remnant forest, and urban areas. Common native tree species still remaining include western red cedar, western

hemlock, red alder, black cottonwood, big leaf maple and Sitka spruce (Snohomish County, 2006).

3.2.3 Land Cover

Since the founding of the City of Snohomish in the 1800s, the city has changed the natural landscape, as is typical of conditions encountered throughout the Puget Sound Lowlands. The Snohomish River floodplain was historically an area of extensive large conifer stands, wetlands, and woody debris. Following European settlement, forests were cleared, large quantities of wood removed to allow navigation, channels straightened, and dikes and tide gates constructed to allow for agriculture (Pentec, 1999).

Today the city of Snohomish is located in a transitional area between rural, agricultural and forestlands to the east, and developed areas such as Everett to the west. Much of the land use in the city is single-family residential, with many residents working in Everett or other surrounding communities.

The city's downtown historic district runs along the north side of the Snohomish River and is a focus of tourist activity. Industrial uses such as lumber processing and the Harvey Field Airport are located on the south side of the river in the city's UGA (Map 10). Modern commercial businesses such as chain restaurants, retail stores, and auto dealerships are focused along the Avenue D/Bickford Avenue corridor. City parks and open space are located largely near Blackmans Lake, on the west bank of the Pilchuck River, and in the southeastern portion of the city (Map 10).

3.3 Ecosystem Processes

The following section describes the landscape-scale processes that shape and influence the freshwater shoreline environments of the city of Snohomish. These processes include the delivery, movement, and loss of water, sediment, nutrients, toxins, pathogens, and large woody debris through the watershed (Stanley et al., 2005). For purposes of discussion, these processes are grouped into the topics of hydrology, sediment, water quality, and organic materials.

Table 3-1 summarizes the key factors or natural controls that typically contribute to these processes under natural conditions. Important locations where these controls occur are also summarized. The sections following the table then discuss how changes to these processes have occurred in the Snohomish River watershed as a result of human activities. This will provide a basis for understanding management issues and priorities, and identifying potential areas for restoration.

Table 3-1. Summary of Landscape-Scale Processes – Controls and Important Areas

Process	Natural Controls	Types of Important Areas
Hydrology (surface and ground water)	Climate and precipitation patterns Timing of snowmelt Soils and geology Vegetation	Recharge areas Rain-on-snow or snow dominated zones Saturated areas Low gradient areas, slope breaks Floodplains Geologic deposits of low or high permeability and contacts between them
Sediment	Topography Soil erodibility Vegetation cover	Steep slopes with erodible soils Landslide hazard areas Unconfined channels Depressional wetlands Lakes Floodplains
Water quality (nutrients, toxins, pathogens)	Climate patterns Geology and soil characteristics Hydrologic regime Biotic cover and composition Wildlife Factors that kill pathogens (UV radiation, pH, etc.)	Steep slopes with erodible fine soils Depressional wetlands Lakes, floodplains, depositional channels Upland areas near water bodies Headwater streams Riparian areas with constant groundwater Geologic deposits of low or high permeability
Organic materials (large wood)	Water energy Riparian vegetation Soil erodibility Topography Climate Biotic interactions	Unconfined channels Mass wasting areas Low gradient channels Forest within 100 ft of water bodies

Source: Summarized from Stanley et al. (2005)

3.3.1 Hydrology (Surface and Groundwater)

Lakes and rivers in Snohomish County receive water via precipitation and groundwater. Water moves through and leaves the watershed through surface flows, evaporation, transpiration from plants, and groundwater movement. In the city of Snohomish and vicinity, major types of alterations to this natural water movement process include: river channelization, diking of floodplains, loss of wetlands, clearing of forests, increased impervious surface, flow diversions, and municipal water withdrawals.

In the past, the Snohomish River migrated across its floodplain through an area of large wetlands. Over the past century, however, the lower Snohomish has been channelized and diked, disconnecting the river from its floodplain. Almost all of the major wetlands in

the lower basin have been drained. Out of 107 miles of streambank surveyed in the Snohomish basin, Pentec

(1999) found that 35 percent had been diked. These alterations have reduced the capacity of the watershed to store and moderate the flows of surface water (Snohomish County, 2006).

Historical clearing of forests and construction of impervious surfaces have also changed the movement of water through the watershed. Both of these alterations reduce infiltration and change the timing of surface runoff. Most of the subbasins in the Snohomish watershed have peak flows that are considered unhealthy for salmon conservation, based on analyses of forest cover, road density, and impervious surface (Snohomish County, 2006).

Compounding these alterations are the naturally low flows in the Snohomish watershed in the summer, which affect salmonid productivity. In the lower basin, the groundwater table is relatively shallow and connected to surface water. “This means that groundwater withdrawals and other land uses that affect aquifer water levels have the potential to affect peak and low flows. Since impervious areas reduce aquifer recharge, land uses with high impervious surface areas are likely result in reduced flows in rivers and streams in the basin” (Snohomish County, 2006).

The only river in the Snohomish watershed where water withdrawals are known to cause low flows is the Pilchuck River (Snohomish County, 2006). During summer months, it is estimated that withdrawals by the City of Snohomish can remove 5 to 20 percent of the summer low flows from the river (Pentec, 1999; Steward and Associates, 2004). Potential low instream flow is a factor affecting aquatic habitat degradation in the Pilchuck River (Snohomish County, 2006).

The hydrology of Blackmans Lake has been significantly altered to maintain desired water levels in the lake. The lake historically discharged to Swifty Creek, which runs south through the city into the Snohomish River (Map 4). In the 1980s, a flow splitter was installed to direct high flows in Swifty Creek through a pipe system that discharges into the Pilchuck River. Low flows discharge to the Snohomish River, while flows above 1 to 2 cfs discharge to the Pilchuck River bypass pipe.

3.3.2 Sediment

“Sediment delivery to aquatic ecosystems is a natural phenomenon with a natural range of variability; however, excessive amounts of sediment can undermine the condition of many types of aquatic ecosystems” (Stanley et al., 2005). Under natural conditions, sediment reaches aquatic ecosystems through surface erosion, mass wasting, and erosion from within the stream channel. Excess sediment can result from human activities that expose soils and increase runoff without providing adequate erosion control measures.

Sediment is generally transported through high gradient (steeply sloping) streams and deposited in lower gradient reaches. Diking prevents flood waters from redistributing sediment across the floodplain, affecting soils, vegetation, and floodplain habitat (Snohomish County, 2006).

Bank erosion above a natural background level can indicate hydrologic or sediment conditions that are out of balance. Surveys by Snohomish County found many streambanks to be unstable, with some potentially sources of excess sediment. Clearing of riparian vegetation, and diking and channelization that alter flow patterns, were suspected as causes (Snohomish County, 2006).

3.3.3 Water Quality (nutrients, toxins, pathogens)

A complex array of chemical and physical processes governs the movement of nutrients (phosphorous and nitrogen), toxins, and pathogens through the watershed. Human activities can directly affect how much of these materials are delivered to the watershed (e.g., overapplication of fertilizers resulting in excess nutrients). Human alterations also indirectly influence how these materials are stored or released in the environment (e.g., draining or filling of wetlands changes adsorption to soil particles or reduces areas available for denitrification).

Runoff from agricultural and residential areas is a significant source of fecal coliform bacteria and nutrients entering rivers and streams in the Snohomish watershed. The contribution of excess nutrients and pathogens is exacerbated by the removal of riparian vegetation and loss of wetlands that would otherwise capture or slow the entry of these pollutants into waterbodies. "Water quality is the poorest in the mainstems of the Stillaguamish and Snohomish rivers where the greatest alterations to forest cover, channel complexity, riparian vegetation, and wetlands have occurred." (Snohomish County, 2006)

Heavily developed lakes in Snohomish County have high levels of fecal coliform bacteria and phosphorous due to runoff from residential areas and agricultural activities. Excess waterfowl can also contribute to poor water quality (Snohomish County, 2006).

3.3.4 Organic Materials (large wood)

Large woody debris (LWD) reaches water bodies as trees are transported via landslides, windthrow, and bank erosion (Stanley et al., 2005). Large wood provides habitat structure, shade, and nutrients to aquatic systems. Human activities in the Snohomish area that have altered the process of moving organic materials (large wood) through the watershed include clearing of riparian vegetation, removal of debris jams, and diking of floodplain areas.

Historical clearing of forests from the Snohomish River floodplain removed a major source of woody debris. Out of 107 miles of riparian area surveyed in the Snohomish basin, Pentec (1999) found that nearly two-thirds of the riparian vegetation consisted of grass, brush, or sparse trees.

Diking and channelization of streams, as on the lower Snohomish River, reduces bank erosion and subsequent tree fall (Stanley et al., 2005). Dikes and levees are often maintained to prevent tree growth that would weaken the flood control structure, leading to further loss of potential wood contribution to the stream. In addition, large woody debris jams are often removed from river channels to allow for safe navigation and flood protection (Snohomish County, 2006).

Fallen trees also provide aquatic habitat in lakes. Construction of docks and bulkheads often requires removal of existing wood from the lake and shoreline. On lakes (and rivers) where shoreline vegetation helps to filter stormwater runoff, removal of riparian vegetation can contribute to poor water quality (Snohomish County, 2006).

The loss of riparian vegetation on the Snohomish River has impacted salmonid habitat by reducing the food supply for fry, increasing solar heating of the water, and reducing cover and refuge habitat (Pentec, 1999). Fish habitat features such as complex channels, overhanging cover, and pools have declined in the lower Snohomish River basin. This is due in part to the

loss of LWD in the river, which helps to create pools and to collect sediment and gravels (Snohomish County, 2006).

Terrestrial wildlife is also affected because many species depend on wetlands and riparian zones. For example, riparian forests are used by songbirds for nesting and foraging, by big game for forage and calving areas, and by other forest species as movement corridors between rivers and upland habitats (Pentec, 1999).

4 LAND USE ANALYSIS

This chapter describes land use trends and plans in and near the shorelines of the city of Snohomish.

4.1 Trends and Future Demand

State guidelines for SMP updates require that local jurisdictions analyze current and projected shoreline use patterns and trends and identify potential conflicts (WAC 173-26-2013)(d)(ii)). This section focuses on trends and projected demand for shoreline uses.

The City of Snohomish encompasses an area of approximately 3.25 square miles, with another

4.7 miles of unincorporated land within the Snohomish UGA (City of Snohomish, 2010a). As of April 2016, the population within the city was estimated to be 9,625, not including those areas within the UGA. Population growth in Snohomish has averaged approximately 0.5% a year since 2000, which is somewhat lower than the county average of 1.7% per year (OFM, 2016).

The *City of Snohomish Comprehensive Plan*, last revised in March 2016, was developed in conjunction with the *Countywide Planning Policies* adopted by Snohomish County Tomorrow (SCT). SCT is an interjurisdictional forum whose “mission is to adopt a publicly shared vision, including goals and policies, to guide effective growth management and to preserve Snohomish County's unique quality of life” (Snohomish County, 2010).

For the purposes of comprehensive growth planning, the City uses the target population and employment projections developed by SCT for the planning horizon year of 2035. According to this data, the city of Snohomish will have a population of 12,139 within its current city limits by the year 2035, or an average increase of 1.2% per year. Growth within the unincorporated portion of the UGA is estimated to increase to a population of 2,354 in 2035, an increase of approximately 0.4% (Snohomish County, 2016).

4.1.1 Shoreline Development Trends

The city of Snohomish’s orientation to the Snohomish River has a long history, and was in fact, the basis for establishment of the community in 1859 (City of Snohomish, 2007). Snohomish developed as a port city, and then as a center for agriculture and industry. A lumber mill was established on the south bank of the Snohomish River in 1900, in the same location that the Seattle Snohomish Mill Company operates today (City of Snohomish, 2010b).

Industrial and commercial businesses continued to develop along the shorelines and in the floodplains of the Snohomish and Pilchuck Rivers over the years, which became an evident problem with the first major flood in 1921. By the 1950s, the City began implementing flood control measures to protect those businesses and homes in the low-lying areas (City of Snohomish, 2010b). Although flooding problems have continued, and the commercial focus has moved away from the water-dependent uses of the past, the focus and heart of the City of Snohomish has remained connected to the rivers.

Today, little remains of the agricultural uses within the city limits, with the few remaining farms in the north and south UGA areas. The City's shoreline planning areas currently contain a mix of industrial, commercial, residential, horticultural, and parks and open space uses. The waterfront areas along the Snohomish River are dominated by industrial and commercial uses, including the Downtown Historic Business District and the Seattle Snohomish Mill Company (currently not operating). The Pilchuck River and Blackmans Lake shorelines are predominantly residential areas interspersed with many parks and open spaces.

4.1.2 Demand for Water-Dependent Uses

Water-dependent uses in Snohomish have historically included commerce, transportation, sustenance, and recreation (City of Snohomish, 2008). The demand for water-dependent uses has decreased with the change in the economic basis of the community. Where the City of Snohomish once depended on the river as a source of transportation and commerce, it has now become a destination for recreation and tourism.

The City adopted *Imagine Snohomish* in 2007 as a five-year plan "to help promote both community vitality and character" (City of Snohomish, 2007). This strategic plan set five goals intended to work together to help the City manage its financial and planning objectives. Among the specific steps identified to obtain these goals are several relating to the City's shorelines.

Strengthening and further developing the downtown area's orientation to the Snohomish River is key, as well as promoting both rivers and Blackmans Lake for tourism and increased public access.

Based on recommendations in the *Snohomish Riverfront Master Plan* (1998) and the *Master Plan 2002 Update*, additional redevelopment of the Snohomish River shoreline, west of the Avenue D Bridge, has been identified as a priority area. Although this area has been developed with commercial and industrial uses for many years, the City would like to see the shorelines redeveloped with more opportunities for public access while at the same time keeping those existing businesses economically viable (City of Snohomish, 2002).

4.1.3 Parks, Recreation, and Open Space

The City of Snohomish Parks, Recreation, and Open Space (PROS) Long-Range Plan provides an analysis of the recreation trends within the city and the region (City of Snohomish, 2007c). This analysis is based on regional information provided in the Statewide Comprehensive Outdoor Recreation Plan, and on estimated demographic and population data. According to the data provided, the average resident participates in the following activities per year:

- Walking/hiking – 26 times;
- Bicycle riding – 9 times;
- Activities at indoor community facilities – 6 times;
- Picnicking – 5 times;
- Water-based activities (fishing) – 5 times;
- Water-based activities (excluding fishing) – 5 times (City of Snohomish, 2007c).

These current use numbers, along with population estimates, were then used to estimate future trends in recreational participation. Overall, participation in most outdoor recreational activities is expected to increase in proportion with population increases.

During the planning process for the current PROS Long-Range Plan, the City of Snohomish updated the way recreation level-of-service (LOS) is determined. The LOS standards now required within the city limits are shown in Table 4-1.

Table 4-1. Parks, Recreation and Open Space LOS Standards

Park Type	LOS Standard
Neighborhood	75% of population within ½ mile of a neighborhood park
Community	90% of population within 1½ miles of a community park
Non-motorized Trails	90% of population within 1½ miles of a trail
Open Space	10% of the City maintained as open space

Source: City of Snohomish, 2007c.

All shoreline planning areas in the City of Snohomish are within areas that meet the LOS standard for community parks; all shoreline planning areas, except for the portion of the Snohomish River west of SR 9, are within areas that meet the LOS standard for non-motorized trails. There is currently only one neighborhood park in Snohomish, which lies on the Pilchuck River shoreline. At the time the PROS Long-Range Plan was adopted, 4% of the City of Snohomish was maintained as open space (City of Snohomish, 2007c).

The Master Plan 2002 Update outlines the City's plan to address "long-term use and preservation of the Snohomish River's north shore" (City of Snohomish, 2002). First and foremost in the plan is development of the City's trail system to enhance the orientation of the downtown area to the Snohomish River and to connect to the regional Centennial Trail system. Public support of and demand for multi-purpose trails have increased in the area over the years, both as a form of recreation and as a non-motorized transportation corridor. Many of the City's planning efforts include components to support the construction of new trails, connections to the existing system, and enhancement of the City's orientation to the riverfront area (City of Snohomish, 1998, 2001, 2002, 2005, 2007a-c, 2008).

Additional information about specific planned facilities in each of the shoreline planning areas is given in the following sections.

4.2 Potential Use Conflicts

As stated in Section 4.1, the SMA requires local jurisdictions to identify potential conflicts between current and projected development trends and SMA objectives. Potential conflicts in this context are focused on competing planning priorities inherent in the overall SMA policy intent, such as the preference for water-dependent uses and for ecological protection. Potential

conflicts may also address conflicts between SMA policy objectives and other interests or regulatory requirements affecting shoreline resources.

The City of Snohomish has identified a desire to visually enhance the riverfront in the downtown area. The water-sides of many of the businesses along the shoreline are not maintained as well as the street sides, and the City's Pest Management Plan makes maintenance of the landscaping labor-intensive and expensive. In addition, shoreline management requirements for the maintenance of riparian vegetation are not conducive to some shoreline improvements (City of Snohomish, 2008).

Replanting riparian vegetation is identified as an important restoration opportunity in the Snohomish River watershed. However, woody vegetation is often removed during levee maintenance. Planting native trees on top of levees or dikes may be in conflict with the need to maintain these flood control facilities.

Lakeshore landowners often maintain their properties as lawns or with ornamental landscaping that allows views and access to the water. This type of vegetation maintenance can be in conflict with restoring native woody vegetation along the shoreline to improve lakeshore ecological functions.

Restoration projects in the vicinity of Harvey Field airport will need to consider the potential to attract birds that may result in birdstrike hazards for aircraft.

The city currently receives drinking water from both the City of Everett and via withdrawals from the Pilchuck River. If larger withdrawals from the Pilchuck River occur, as allowed under the City's water right and to accommodate a growing population, this may be in conflict with the need to protect fish habitat during summer low flows.

5 SNOHOMISH RIVER

5.1 Physical and Biological Characterization

5.1.1 Process and Channel Modifications

The major process and channel modifications to the lower Snohomish River in the vicinity of the city of Snohomish include:

- Construction of levees and dikes, which disconnected the river from its floodplain and reduced off-channel habitat;
- In-stream gravel mining;
- Clearing of forest from the floodplain and riparian areas;
- Increased surface runoff, stormwater pollution, and sedimentation due to increased impervious surfaces in developed areas;
- Filling and draining of wetlands;
- Removal of large wood from the river to allow for navigation and protect structures; and
- Fecal coliform and excess nutrients in runoff from agricultural and residential areas.

The Snohomish River valley was historically a mosaic of wetlands and forests, and the river transported large quantities of woody debris. In 1864, logging began along the mainstem, and logging companies used the river to store and transport timber. Beginning in the 1860s and continuing to the present, thousands of snags have been removed from the river to remove boating hazards and protect bridges (Haas and Collins, 2001).

Settlers began to build levees in the Snohomish River valley before the turn of the century. Formal diking and drainage districts were formed in the early 1900s. Currently over 40 miles of levees protect almost 20,000 acres in the Snohomish River valley from flooding (Snohomish County Public Works, 1991). Approximately 53% of the Snohomish River banks between Port Gardner Bay and French Creek (just upstream of the Pilchuck confluence) are armored (Snohomish County Public Works, 2009a). The area of side-channel sloughs accessible to juvenile salmonids has decreased by 55% compared to historic conditions (Haas and Collins, 2001).

Between 1962 and 1991, approximately 5,000 to 6,000 cubic yards of gravel were mined each year from the Snohomish River channel just upstream of the city (river mile 13.7). Additional gravel mining is known to have occurred along the river both upstream and downstream of the city limits. The effects of gravel mining on river systems have recently begun to be studied and better understood. It is known that removing material from a river channel can lead to channel incision (downcutting) for a considerable distance downstream. A change in the channel elevation can affect the local

groundwater table and alter base flows. Instream gravel mining can change the shape and elevation of the channel, and reduce the formation of gravel bars downstream. Mining may involve clearing riparian vegetation and removing large wood from the channel. During mining operations, increased fine sediment may infiltrate fish spawning

gravels and fill pools. Together these changes can negatively impact fish habitat (Kondolf, 2001). The degree to which the shorelines of Snohomish were affected by mining is not known.

5.1.2 Drainage Basin, Tributary Streams and Associated Wetlands

The Snohomish River drains 342 square miles (Pentec, 1999). The mainstem Snohomish River extends from Port Gardner Bay upstream to the confluence of the Snoqualmie and Skykomish Rivers at river mile (RM) 20.5 (Haring, 2002). The lower portion of the river, up to approximately RM 8.1, flows through estuarine habitat. The city of Snohomish is located upstream of the estuarine area, on the north bank of the Snohomish River at approximately RM

12.6. From approximately RM 8.1 to RM 15.3, the river channel is diked and armored. Daily tidal fluctuations in this part of the river are up to 11 feet (Steward and Associates, 2004).

Tributaries to the Snohomish River within the city's shoreline planning area include Swifty Creek, which enters the river at RM 12.9, and the Pilchuck River, which enters the Snohomish at RM 13.4 (Haring, 2002). Swifty Creek is the outlet stream from Blackmans Lake.

A large wetland complex is located adjacent to the City's wastewater treatment plant in reach SNO_RV_03 (Map 4). This wetland includes palustrine emergent, scrub-shrub, and forested vegetation communities. The wetland covers approximately 18 acres, or 33% of reach SNO_RV_03. Cemetery Creek meanders through this wetland system and discharges to the Snohomish River at a point just north and west of the city limits (Map 4). This wetland is believed to be part of a historical meander of the Snohomish River that was cut off when the river was channelized. Tides now create large off-channel pools in the wetland that may provide salmonid juvenile rearing and adult holding habitat (Steward and Associates, 2004).

5.1.3 Geologic and Flood Hazard Areas

The floodplain of the Snohomish River is mapped as an aquifer recharge area (Map 4). The aquifer is fairly shallow and therefore may be sensitive to groundwater pollution.

Localized steep slopes are present in the shoreline planning area (Map 6). These slopes are typically associated with armored riverbanks. Mapping data for erosion and landslide hazards is currently being developed by the City including review of existing State Department of Natural Resources data sources use of digital elevation model / LiDAR data. This review and mapping will likely identify the riverbank along the city's downtown area (from Avenue D to Cady Park), where a history of bank failures suggests potential for reoccurrence in the future due to flooding, heavy rains, or major

seismic events (City of Snohomish, 2002). The downtown shoreline area and the river floodplain are mapped as having moderate to high susceptibility to liquefaction (Map 7). The design and construction of the City's new Riverfront Trail includes measures to minimize the risk of future slope failures along this portion of the riverbank.

The Snohomish River shoreline planning area is located within the mapped floodway and the 100-year floodplain (Map 8). Numerous large and destructive floods have occurred in the city over the years. Like other major rivers in the watershed, the Snohomish River experiences two periods of peak flows each year: during the heavy rains of November – January, and during snowmelt in May and June. Flows are typically lowest in August when there is little rain and the snowpack in the Cascades has melted (Pentec, 1999).

The Snohomish River mainstem channel is currently stable as a result of extensive diking and bank armoring. Channel migration was likely more significant in the past, when the channel could meander across a broad floodplain (Haas and Collins, 2003).

5.1.4 Critical or Priority Habitat and Species

The Snohomish River in the vicinity of the city supports several salmonid species, including Chinook salmon (federally listed threatened), coho salmon, chum salmon, pink salmon, sockeye salmon, bull trout/Dolly Varden (federally listed threatened), and steelhead (federally listed threatened). Of these species, summer Chinook salmon are documented to spawn in this portion of the river (WDFW, 2017a).

The mainstem Snohomish River upstream of the city provides good fish habitat, with features such as gravel bars, riffles, pools, and side channels. The portion of the river from Thomas' Eddy up to the confluence of the Skykomish and Snoqualmie Rivers provides spawning habitat for Chinook, pink salmon, and steelhead; rearing and holding habitat for Chinook; and overwintering habitat for bull trout. Downstream of Thomas' Eddy, the river gradient decreases and the substrate becomes sandy and silty. Dikes and two pump stations protect adjacent farmland from flooding. Because the extensive diking and channelization severely limit overbank flows, finer materials such as sand, silt, and clay tend to be deposited in the flatter, slower moving portions of the lower river channel rather than being distributed across the floodplain. Spawning habitat in this lower reach of the Snohomish River is limited and it serves mainly as a fish migration corridor (Pentec, 1999; Snohomish Basin Salmon Recovery Forum, 2005; Steward and Associates, 2004).

Rearing habitat for Chinook and coho has been degraded by the reduction in floodplain area due to dikes and levees. It is estimated that the Snohomish River floodplain could support 1.2 million pre-smolt Chinook in the mid-19th century but only 36,000 in 1998. The production potential for coho smolt dropped to similar low levels. Drops in salmon productivity are attributed to the disconnection off-channel sloughs and the large Marshland and French Creek

marshes (Haas and Collins, 2001). Restoration currently being planned for the mouth of the Snohomish River will reopen some floodplain areas in an effort to reverse this trend.

The Washington Department of Fish and Wildlife (WDFW) maintains a list and mapping of priority habitats and species throughout the state. Priority habitats are those that have a high value to many fish and wildlife species and may be limited or vulnerable. Priority species are those requiring protection or management to ensure their survival (WDFW, 2017b). Priority wildlife habitats mapped in the shoreline planning area of the Snohomish River and the adjacent floodplain include wetlands and riparian zones (Map 5). The wetlands, open water areas, and shoreline trees provide foraging and nesting habitats for priority species such as waterfowl, bald eagle, bats, great blue heron, and pileated woodpecker.

5.1.5 Water Quality

Water quality issues in the lower Snohomish River have recently included low dissolved oxygen, high temperatures, elevated fecal coliforms, and toxins such as metals, phenols, and PCBs (Pentec, 1999). The Snohomish River near the city is included on Ecology's 303(d) list of

impaired water bodies due to elevated fecal coliform levels, and is a water of concern for temperature (Ecology, 2008). Water temperature measurements by Steward and Associates near the SR 9 crossing found temperatures above the state standards for salmonids in July and August 2003 (Steward and Associates, 2004).

The City’s wastewater treatment plant discharges treated effluent to the Snohomish River within reach SNO_RV_03. On average the plant treats one million gallons of wastewater per day, but this can reach as much as 10 million gallons per day due to combined sewer and stormwater inputs from older parts of the city. The City has plans to separate the stormwater from sewage flows. The City operates the plant under an NPDES permit that sets conditions on plant operation to ensure that federal Clean Water Act requirements are met. The City performs sampling and testing of the quality of effluent discharged into the Snohomish River (City of Snohomish Public Works, undated).

5.2 Shoreline Use Patterns

5.2.1 Existing Land and Shoreline Uses

Table 5-1. Land Uses– Snohomish River

Reach Name	Length (Miles)	Current Shoreline Environment Designation	Land Use Designation* (shows percent of segment)				Historic or Cultural Resources
			City of Snohomish		UGA		
SNO_RV_01	0.37	Urban Suburban Rural	Hist. Business HDR Park Urban Hort.	1% 6% 24% 69%	Industrial O/S	38% 62%	n/a
SNO_RV_02	0.59	Urban	Commercial Hist. Business HDR MDR Parks	65% 26% <1% 1% 8%	Industrial	100%	Snohomish City Historic District (WHR/NRHP**)
SNO_RV_03	0.77	Urban	Commercial O/S Parks SFR	7% 6% 81% 6%	Industrial	100%	n/a

* Land Use Designation definitions: HDR=High-Density Residential; MDR=Medium-Density Residential; SFR=Single-Family Residential; O/S=Open Space; Urban Hort.=Urban Horticulture.

** WHR = Washington Historic Register; NRHP = National Register of Historic Places.

5.2.2 Shoreline Modifications

Shoreline modifications refer to structural alterations of the shoreline’s natural bank or construction of a physical element. Such modifications are typically used to stabilize the

shoreline and prevent erosion, or to prepare the shoreline for a specific use. These modifications can include levees, dikes, floodwalls, riprap, docks, piers, or other in-water structures, but they

can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal (WAC 173-26-231(1)).

The most commonly occurring shore modification is termed shoreline armoring, which typically refers to shore parallel structures such as armoring or riprap used to protect coastal property from erosion (Johannessen and MacLennan 2007). These modifications also alter natural process dynamics. Shoreline armoring typically impedes sediment supply to downstream areas and nearshore habitats. This sediment starvation can cause or heighten erosion along downstream shorelines, and can lead to changes in nearshore substrate composition from sand or mud to coarse sand, gravel, and finally hardpan. This may, in turn, alter the habitat conditions and composition. Construction of shoreline armoring may cover or destroy habitat and overwater structures may deprive vegetation of light. Bulkheads and piers may also affect fish life by diverting juvenile salmonids away from shallow shorelines into deeper water, thereby increasing their potential for predation (Nightingale et al, 2001).

The Snohomish River shoreline planning area has been modified by decades of industrial and commercial uses. In Snohomish, the river is confined on both the north and south by levees. On the north shore is a levee that runs from the western extent of the city limits to just east of SR 9. From there to the eastern extent of the city, the shoreline has been fortified in places with rip rap, such as along the Riverside Trail to the Cady Park boat ramp (an older boat ramp which will be retained as an access and launch point for hand launch of non-motorized boats), and the river subsequently channelized by nearshore development. Similarly, the south shore has also been developed with industrial, agricultural, and residential uses and rip rap in most areas. Lowell Snohomish River Road runs adjacent to the shoreline from the western extent of the city limits to 99th Avenue SE and acts as a levee. Historic floodplains have had most native vegetation removed and have been developed with agricultural, industrial, and commercial uses. Over 60% of the Snohomish River's banks (including areas both within and outside of the city) contain little or no riparian forest (Haas and Collins, 2001).

There are three over-water structures within the Snohomish River shoreline planning area: the SR 9 and Avenue D bridges, and the railroad trestle. The boat launch at 20 Lincoln Avenue, the hand launch ramp at Cady Park, and the unnamed beach access at the east end of the city are the only water access points along this stretch of the river. There are no functional piers or docks in the Snohomish River shoreline planning area.

5.2.3 Shoreline Environment Designations and Land Use

The current SEDs and land use designations for the Snohomish River shoreline planning area are shown in Table 5-1. The current SEDs include a small Rural-designated area on the southeast end of the river and a small area designated as Suburban on the northeast end. The remainder of the Snohomish River shoreline

planning area has a designation of Urban (Map 12). The land use designations, established in the Comprehensive Plan, show a mix of commercial, historic business, residential, and parks and open space (Map 10). Land use within the City of Snohomish UGA is predominantly industrial, with some open space. The downtown Historic Business district is described further in Section 5.2.6.

5.2.4 Existing Public Access

A large portion of the Snohomish River shoreline is accessible to the public within the city limits (see Map 11). Along with the current parks and trails in the downtown area, there is also an informal water access point for fishing, and other proposed access points west of the bridge at Avenue D. A summary of the parks and public access facilities within the Snohomish River shoreline planning area is shown in Table 5-2.

Table 5-2. Parks and Public Access – Snohomish River

Reach Name	Public Access Facility Name	Water Access	Comments
SNO_RV_01	20 Lincoln Avenue	<input checked="" type="checkbox"/>	Boat launch
	Cady Park	<input checked="" type="checkbox"/>	Boat ramp for hand launched, non-motorized boats
	Willow ROW	<input checked="" type="checkbox"/>	Unimproved open space
	Unnamed beach access		Unimproved open space
SNO_RV_02	Kla Ha Ya Park	<input type="checkbox"/>	Collectively, the Riverfront Trail, Cady & Kla Ha Ya Parks and the Gazebo are referred to as the Riverfront Community Park
	Avenue A Gazebo	<input type="checkbox"/>	Viewpoint
	Riverfront Trail	<input type="checkbox"/>	ADA accessible
	Visitor's Center	<input type="checkbox"/>	
SNO_RV_03	None	<input type="checkbox"/>	

5.2.5 Historical and Cultural Resources

Historic and cultural resources are documented through a variety of sources. Official registers include the National Register of Historic Places and the Washington State Heritage Register. In 1973, the City adopted an ordinance to protect historic buildings and structures. New construction and remodels are encouraged to retain the historic character within the district. To aid in this, the City developed Historic District Design Standards for this area, which are outlined in SMC 14.225. In 1974, the Historic Business District was placed on the National Register of Historic Places (NRHP). There are approximately 50 historic buildings within this 26-block area. The Historic Business District is known regionally as “The Antique Capital of the Northwest” (City of Snohomish, 2010b).

Previous investigations for cultural resources along the Snohomish River within the city have revealed the presence of historic and prehistoric artifacts. Several debris and lithic (prehistoric rock) scatter sites have been identified within and near the

Snohomish River shoreline planning area. These sites are indicative of Native American and Euro-American settlements (Landau Associates, 2008).

5.2.6 Areas of Special Interest

According to Ecology guidelines, areas of special interest to be inventoried include priority habitats, eroding shorelines, developing or redeveloping harbors or waterfronts, dredge disposal sites, and toxic or hazardous waste clean-up sites (WAC 173-26-201(3)(c)(iv)). Priority habitats are discussed above in Section 5.1.4. Eroding shorelines are described in the context of regulated geological hazard areas above. Other elements are described below.

There is only one property listed on any state or federal list for contaminated sites within the Snohomish shoreline planning area that is currently active. The Carterman Property site, on the south bank of the Snohomish River in the City of Snohomish UGA, was reported to have soils contaminated by metals and petroleum products. Ecology reports the status of this site as awaiting a site hazard assessment (Ecology, 2010).

5.3 Reach Scale Assessment

Table 5-3 summarizes the major features of each reach on the Snohomish River.

Table 5-3. Reach Assessment for the Snohomish River

Reach No.	Reach Location	Reach Length (miles)	Land Use	Modifications	Unique Features	Riparian Zones and Wetlands
SNO_RV_01	Cedar Avenue to the BNSF railroad trestle	0.37	Agriculture, open space	Levees, riprap, vegetation removal Substantial impervious areas in downtown Snohomish (Map 9) 35% of reach in low to high intensity development and developed open space (NOAA, 2006)	Significant amount of public land potentially available for public access development (Map 11)	West end of reach has a significant riparian buffer area on north shore
SNO_RV_02	Just east of the SR 9 bridge to Cedar Avenue	0.59	Commercial, industrial, trail access, residential	Levees, riprap, vegetation removal Substantial impervious areas in downtown Snohomish (Map 9) 48% of reach in low to high intensity development and developed open space (NOAA, 2006)	Riverfront Community Park (Map 11) Industries and airport located in large floodplain area south of river	Sparse riparian trees; invasive vegetation along shoreline
SNO_RV_03	Western extent of city limits to just east of the SR 9 bridge	0.77	Public Utility, agriculture, commercial, residential	Levees, riprap, vegetation removal 12% of reach in low to high intensity development and developed open space (NOAA, 2006)	City wastewater treatment plant facility (Map 4)	Large wetland system associated with river and Cemetery Creek

5.4 Opportunity Areas

5.4.1 Restoration

Restoration opportunities for the Snohomish River shoreline are limited by the existing dikes and levees. Where possible, riparian zones could be restored by controlling invasive vegetation and replanting native conifer trees. Techniques in the *Integrated Streambank Protection Guidelines* could be used to incorporate vegetation and large wood into flood control structures (Washington State Aquatic Habitat Guidelines Program, 2003). Removing or setting back dikes would increase wood availability, shade, habitat complexity, and off-channel rearing areas. Engineered logjams could also be added to help accumulate wood and form pools. Fencing to prevent livestock access to the river would also improve water quality (Tulalip Tribes and Snohomish County, 2001).

City-owned properties may present the best opportunities for restoration in areas where shoreline vegetation has been impacted by recreation or other uses. Potential restoration sites include the city's wastewater treatment plant property, city shop yard, Cady Park, Kla Ha Ya Park, urban horticulture property (north bank of river in reach SNO_RV_01 and adjacent floodplain), and open space located on the south bank of the river in reach SNO_RV_01 (see Figure III-2, Steward and Associates, 2004).

5.4.2 Public Access

Several of the city's planning documents have identified public access opportunities that have received support from the community. The *Snohomish Riverfront Master Plan* and the *PROS Long-Range Plan* identified the area on the west end of the city, north of the Snohomish River, as City-owned land that could be redeveloped with new parks and trails (City of Snohomish, 1998, 2002, and 2007c). A draft prospectus was written specifically for this possibility. The prospectus analyzed the potential for property acquisitions/trades, creation of a new trail that would tie into the Riverfront Trail, and construction of a river-servicing location (City of Snohomish, 2005).

Additional projects for parks and recreation are identified in the *Riverfront Master Plan*, the *Riverfront Master Plan Update* and the *PROS Long-Range Plan* (City of Snohomish, 1998, 2002 and 2007c). Included are tie-ins to the regional Centennial Trail, which would create optional "loop trails" within the city. Although none of the proposed tie-ins are located within shoreline planning areas, having a complete, connected trail network would create greater opportunities for access to the existing Riverfront Trail and the Snohomish River shorelines.

6 PILCHUCK RIVER

The shoreline planning area for the Pilchuck River is limited to the west side of the river (Map 2). The city of Snohomish boundary lies along the lower portion of the Pilchuck River, from the approximate alignment with Grove Street in the south, to the approximate alignment with 11th Street in the north (approximately RM 1.3 to RM 2.4 on the Pilchuck River). North and south of this area, the city boundary veers west, outside of the shoreline planning area. The exceptions to

this are two parcels owned by the City that are not contiguous with the main city limits (Map 2). One parcel is located northeast and well upstream of the city proper on N. Lake Roesiger Road, at the location of the city's water treatment plant on the Pilchuck River (approximately RM 26). The other parcel, located east of the city proper on Three Lakes Street SE, lies within an optional shoreline planning area in the Pilchuck River floodplain (RM 3.3).

6.1 Physical and Biological Characterization

6.1.1 Process and Channel Modifications

The major process and channel modifications to the lower Pilchuck River in the vicinity of the City of Snohomish include:

- Diking and armoring, which disconnect the river from its floodplain;
- Removal of native riparian vegetation;
- Gravel mining from the channel, gravel bars, and floodplain; and
- Low flows potentially exacerbated by municipal water withdrawals.

Much of the streambank on the lower Pilchuck River has been armored, and native riparian vegetation is lacking along the lower reaches. Large woody debris is lacking, and the river channel lacks habitat complexity such as pools and off-channel areas. Invasive vegetation such as reed canarygrass, Himalayan blackberry, and knotweed is dominant along the river. (Snohomish County Public Works, 2002; Haring, 2002).

Mining of in-channel gravel bars has occurred along much of the lower Pilchuck River. From 1969 to 1972, approximately 45,800 cubic yards of gravel were removed from the river each year. From 1972 through 1991, in-channel mining removed approximately 14,400 cubic yards of gravel from the Pilchuck each year. Floodplain gravel mining has also occurred along the upper Pilchuck River (Kondolf, 2001). The potential effects of gravel mining on river systems and fish habitat are discussed in Section 5.1.1.

The City water treatment plant is located approximately 16 miles northeast of Snohomish at RM

26.4 on the Pilchuck River. A dam diverts river water to the treatment plant. The plant produces approximately one million gallons of potable water a day at full operation. A fish ladder at the dam provides passage for migrating fish. However, constant maintenance of the ladder is required to keep it free of debris and sediment. (City of Snohomish Public Works, undated). In 2016, the City Council passed a resolution to conditionally close the water treatment plant and remove the diversion dam. Current projections estimate the earliest removal of the dam would be 2020.

There are numerous other private water withdrawals on the river for agriculture, irrigation, and other uses (Haring, 2002).

6.1.2 Drainage Basin, Tributary Streams and Associated Wetlands

The Pilchuck River drains an area of approximately 84,000 acres (Haring, 2002). The upper watershed is located in the forested foothills of the Cascades, while the lower portion flows through rural agricultural and residential areas. Along with Snohomish, the cities of Granite Falls and Lake Stevens are located in the Pilchuck River watershed. The Pilchuck River confluence is at RM 13.4 on the Snohomish River. The watershed of Bunk Foss Creek, a major tributary to the Pilchuck River, includes areas in the northeastern portion of the city and northern UGA.

No wetlands are mapped within the Pilchuck River shoreline planning area. The river's floodplain is constrained by steep bluffs on the western bank, and levees along the eastern bank.

6.1.3 Geologic and Flood Hazard Areas

The floodplain of the Pilchuck River is mapped as an aquifer recharge area (Map 4). The aquifer is fairly shallow and therefore may be sensitive to groundwater pollution.

The west bank of the Pilchuck River in the shoreline planning area consists of steep bluffs (Map 6). As a result, the river floodway and 100-year floodplain are constrained to the west and extend mainly to the east and outside of the city limits. Ecology technical assistance staff, however, note that levees and hardening on the east side of the river likely increase river energy and erosion along the steep banks on the City's side of the river. Potential for erosion and associated channel movement (migration) on the west bank of the Pilchuck River should be considered with City's implementation of shoreline management and integrated geologically hazardous areas standards (Olsen, 2010). The floodplain widens in reach PIL_RV_01 near the confluence with the Snohomish River; in this area, Ecology's Floodplain Management group support staff have noted past flood damage occurring in City limits (Steele, 2010; Map 8).

The Pilchuck River shoreline planning area is mapped within an area of moderate to high liquefaction susceptibility (Map 7).

6.1.4 Critical or Priority Habitat and Species

The Pilchuck River in the vicinity of the city supports several salmonid species, including Chinook salmon (federally listed threatened), coho salmon, chum salmon, pink salmon, sockeye salmon, bull trout/Dolly Varden (federally listed threatened), steelhead (federally listed threatened), whitefish, and rainbow and cutthroat trout (Steward and

Associates, 2004). The lower Pilchuck River provides spawning habitat for fall Chinook and winter steelhead, and rearing habitat for coho and bull trout/Dolly Varden (WDFW, 2017a; Avery and Hook, 2003).

Salmon habitat in the river is affected by changes in river flows, bank armoring, lack of habitat complexity in the channel, lack of off-channel habitat, and high water temperatures (Avery and Hook, 2003). Gravel mining and bank erosion have contributed to excess sediment in the river. Because the river is cut off from its floodplain, sediments become deposited within the channel.

Pool habitats in the downstream portions of the Pilchuck River are sparse and the substrates embedded with sediment (Steward and Associates, 2004).

The Washington Department of Fish and Wildlife (WDFW) maintains a list and mapping of priority habitats and species throughout the state. Priority habitats are those that have a high value to many fish and wildlife species and may be limited or vulnerable. Priority species are those requiring protection or management to ensure their survival (WDFW, 2017b). Priority wildlife habitats mapped in the shoreline planning area of the Pilchuck River and the adjacent floodplain include wetlands, riparian zones, and urban natural open space (Map 5). The wetlands, open water areas, and shoreline trees provide habitat for priority species such as waterfowl, bald eagle, bats, and pileated woodpecker.

6.1.5 Water Quality

The Pilchuck River is included on Ecology's list of impaired waters as a water of concern for elevated temperatures (Ecology, 2008). Steward and Associates (2004) measured water temperatures above state standards for salmonids near the confluence of Bunk Foss Creek in 2003. However, temperatures they measured in a pool between the Second Street Bridge and the soccer fields were within the standards.

The other major water quality concern for the river is fecal coliform bacteria. The Pilchuck River is included in Ecology's Total Maximum Daily Load (TMDL) plan for fecal coliforms. Pollution sources in the watershed appear to be livestock access to the river, poor pasture management, failing on-site septic systems, and bacterial contributions from urbanized tributary areas (Ecology, 2003).

The river receives high flows from Swifty Creek, the outlet stream from Blackmans Lake (see discussion in Section 7.1.2).

6.2 Shoreline Use Patterns

6.2.1 Existing Land and Shoreline Uses

Table 6-1. Land Uses– Pilchuck River

Reach Name	Length (Miles)	Shoreline Env. Designation	Land Use Designation (shows percent of segment)		UGA		Historic or Cultural Resources
PIL_RV_01	0.32	Urban Rural	Parks	100%	O/S	100%	None
PIL_RV_02	0.43	Urban	Commercial Mixed Use Parks	15% 79% 6%	n/a		None
PIL_RV_03	0.55	Urban Suburban	MDR Mixed Use Parks SFR Urban Hort.	>1% 7% 40% 48% 5%	n/a		None
PIL_RV_05	0.02	n/a	Industrial	100%	n/a		None

* Land Use Designation definitions: MDR=Medium-Density Residential; SFR=Single-Family Residential; O/S=Open Space; Urban Hort.=Urban Horticulture.

6.2.2 Shoreline Modifications

Shoreline modifications along the Pilchuck River are predominantly due to adjacent development resulting in channelization. Areas of near-shore vegetation removal are evident at Pilchuck Park, between 4th and 5th Streets, and sporadically near some single-family homes.

Most back-shore vegetation has been removed for residential, parks and commercial development. Other than the road crossings at 2nd Street and 5th Street, there are no other over- water structures. Rip rap and other types of shoreline armoring are evident in places, especially beneath the bridges. There are water access points at both Pilchuck Park and Morgantown Park for swimming; however, there is no boat access.

6.2.3 Shoreline Environment and Land Use Designations

The current SEDs and land use designations for the Pilchuck River shoreline planning area are shown in Table 6-1. Current SEDs include a small Rural-designated area on the south end of the river, an Urban designation from the south end of Pilchuck Park to 7th Street, and a Suburban designation from 7th Street to just north of 11th Street (Map 12). Land uses on the south end of the planning area are dominated by parks and recreation uses, including Pilchuck Park and the privately-owned Stocker Field soccer facility. From 2nd Street to 6th Street, land use designations are mostly commercial and

mixed use. North of 6th Street, the majority of the area has residential land use designations, with another large portion designated as Parks. In addition, the City of Snohomish owns and has jurisdiction another parcel on the Pilchuck River that is not

contiguous with the rest of the city. This parcel, used for the City’s water treatment facility, has a land use designation of industrial. Land use designations are shown on Map 10.

6.2.4 Existing Public Access

There are several parks and open space areas along the Pilchuck River, including the City’s only neighborhood park and portions of the regional Centennial Trail (Map 11). Although not within the city limits, there are other existing and planned public access facilities along the east bank of the Pilchuck River that provide tie-ins to city facilities, such as the County proposed Pilchuck Community Park and the levy trail that runs south from the 6th Street Bridge. Table 6-2 lists all of the existing public access facilities within the Pilchuck River shoreline planning area.

Table 6-2. Parks and Public Access – Pilchuck River

Reach Name	Public Access Facility Name	Water Access	Comments
PIL_RV_01	Pilchuck Park	<input checked="" type="checkbox"/>	Community park; Swimming access
PIL_RV_02	None	<input type="checkbox"/>	
PIL_RV_03	Pilchuck Riverbank - Sixth St.		Community open space; Proposed to be combined with Old Pump House Site as the Pilchuck River Trail*
	Morgantown Park	<input checked="" type="checkbox"/>	Neighborhood park; Swimming access; ADA accessible trail
	Centennial Trail	<input type="checkbox"/>	Regional ADA access trail
	Old Pump House Site	<input type="checkbox"/>	Community open space
PIL_RV_05	None	<input type="checkbox"/>	Restricted access public water intake site

*PROS Long-Range Plan (City of Snohomish, 2007c)

6.2.5 Historical and Cultural Resources

There are two identified cultural resource sites within the Pilchuck River shoreline planning area. The first, found in the general vicinity of PIL_RV_01 and PIL_RV_02, was a stone artifact estimated to be from pre-historic times. The second site is the old City of Snohomish cemetery. Long since abandoned, this site was recorded as an historic site in 1976.

6.2.6 Areas of Special Interest

According to Ecology guidelines, areas of special interest to be inventoried include priority habitats, eroding shorelines, developing or redeveloping harbors or waterfronts, dredge disposal sites, and toxic or hazardous waste clean-up sites (WAC 173-26-201(3)(c)(iv)). Priority habitats are discussed above in Section 6.1.4. Eroding shorelines are described in the context of regulated geological hazard areas above.

There were no contaminated or hazardous waste sites identified within the Pilchuck River shoreline planning area.

6.3 Reach Scale Assessment

Table 6-3 summarizes the major features of each reach on the Snohomish River.

Table 6-3. Reach Assessment for the Pilchuck River *

Reach No.	Reach Location	Reach Length (miles)	Land Use	Modifications	Unique Features	Riparian Zones and Wetlands
PIL_RV_01	Just south of the SE city limit, within the UGA, north to 2 nd St	0.32	Parks	Bridge crossing for 2 nd /92 St. Severe bank erosion downstream of bridge 75% of reach in low to medium intensity development or developed parks (NOAA, 2006)	Open space areas within adjacent floodplain (Pilchuck Park)	Between 0 – 100 feet of riparian vegetation present
PIL_RV_02	2 nd St to 6 th St	0.43	Residential, Mixed-use, Commercial	Commercial development and impervious surfaces (Map 9) Native vegetation removal, shoreline armoring, invasive vegetation 98% of reach in low, medium, or high intensity land use (NOAA, 2006)	Steep bluff on west riverbank	Approximately 50 feet of riparian vegetation in most places, ranging between 0 – 100 feet present
PIL_RV_03	6 th St to the approximate alignment with Ivy St	0.55	Residential, Parks	Residential development and impervious surfaces (Map 9) 84% of reach in low to medium intensity development (NOAA, 2006)	Steep bluff on west riverbank Morgantown Park	Between 50 – 170 feet of riparian vegetation present
PIL_RV_04*	North of Three Lakes St. SE, spanning US Hwy 2	--	Open space along US Hwy 2	Heavily disturbed by major highway traffic and ongoing road maintenance	Outer portion of mapped river floodplain	Reach is separated from river (see Map 2); mostly mowed grass with scattered trees
PIL_RV_05	One City-owned parcel on N Lake Roesiger Rd	0.02	Public utility	Water intake and treatment facility 36% of reach developed (NOAA, 2006)	Diversion dam and City water treatment plant	Riparian vegetation present

* Reach PIL_RV_04 is an area of optional shoreline jurisdiction within the Pilchuck River floodplain, on the east side of the river.

6.4 Opportunity Areas

6.4.1 Restoration

Restoration opportunities for the Pilchuck River include creating off-channel habitat by replacing levees to allow controlled flooding, and restoring riparian zones by controlling invasive vegetation and replanting a mix of native hardwood and conifer trees. Engineered logjams could be added in the channel to help accumulate wood and form pools (Snohomish County Public Works, 2002; Avery and Hook, 2003). Techniques in the *Integrated Streambank Protection Guidelines* could be used to incorporate vegetation and large wood into flood control structures (Washington State Aquatic Habitat Guidelines Program, 2003).

City-owned properties such as those listed in Table 6-2 may present the best opportunities for restoration in areas where shoreline vegetation has been impacted by recreation or other uses.

Steward and Associates (2004) identified potential methods to reduce the effects of the City's water diversion dam on fish passage in the Pilchuck River. These included, for example, creating step pools in the river channel, moving the fish ladder to the opposite side of the dam, removing the dam and converting to groundwater withdrawal, installing an electronic fish monitoring device, and making changes to the existing fish ladder.

In 2016, the City Council decided to start the process to close the city's water treatment plant if certain conditions are realized. The closure would include removal of the dam, fish ladder and intake structure.

6.4.2 Public Access

Additional projects for parks and recreation are identified in the *Riverfront Master Plan*, the *Riverfront Master Plan Update* and the *PROS Long-Range Plan* (City of Snohomish, 1998, 2002 and 2007c). Included are tie-ins to the regional Centennial Trail, which would create optional "loop trails" within the city. Although none of the proposed tie-ins are located within shoreline planning areas, having a complete, connected trail network will create greater opportunities for access to the existing trails and the Pilchuck River shorelines. Future plans could include tie-ins that lead to water access points. Also included in the City's plans is the creation of a new regional park south of Stocker Field (City of Snohomish, 1998, 2002 and 2007c).

7 BLACKMANS LAKE

7.1 Physical and Biological Characterization

7.1.1 Process and Channel Modifications

The major process modifications to Blackmans Lake include:

- Excess nutrients contributed by runoff from residential areas, stormwater runoff drains, waterfowl, pets, and livestock;
- Removal of large wood and shoreline vegetation for construction of docks, bulkheads, and landscaping; and
- Development of the watershed with an associated increase in impervious surfaces.

The Blackmans Lake watershed was historically forested and then logged and used for farming. The watershed experienced a dramatic increase in development between the 1970s and 1990s. Agricultural areas were replaced by residences and other developments, and by the mid-1990s half of the watershed had been urbanized (Snohomish County Public Works, 2003; GeoEngineers, 2007).

The lake experiences seasonal fluctuations in water levels that have led to wintertime flooding and summertime low water. The city has undertaken a project to stabilize the water levels.

7.1.2 Drainage Basin, Tributary Streams and Associated Wetlands

Blackmans Lake has a surface area of approximately 57 acres and a watershed area of 445 acres. The lake's maximum depth is 29 feet (Snohomish County Public Works, 2002, 2003).

Blackmans Lake Creek and Grassy Bottom Creek enter the north side of the lake. Swifty Creek is the outlet stream from Blackmans Lake and discharges to the Snohomish River near Cady Park and the Pilchuck River at 6th Street.

A narrow, blind channel known as Champagne Lane extends from the northeastern side of the lake. This channel is maintained by local homeowners. It is included within the Blackmans Lake shoreline planning area (Map 2).

Swifty Creek was historically a tributary to the Snohomish River at RM 20.8 (Steward and Associates, 2004). In the 1980s, a flow splitter was installed to direct high flows in Swifty Creek through a pipe system installed along 6th Street, to discharge into the Pilchuck River. Low flows discharge to the Snohomish River, while flows above 1 to 2 cfs discharge to the Pilchuck River bypass pipe. Much of the Swifty Creek channel has

been piped along its course through the city (Snohomish County Public Works, 2002, 2003; TetraTech, 2008).

Approximately 21 acres of wetland are mapped in the Blackmans Lake shoreline planning area (Map 4). These include palustrine emergent, scrub-shrub, and forested vegetation communities located near the lake's inlet and outlet streams. These wetlands cover 19% of the lake's shoreline planning area.

7.1.3 Geologic and Flood Hazard Areas

Moderately steep slopes are located around Blackmans Lake (Map 6). The lake is located in an area with low susceptibility to liquefaction (Map 7).

No flood hazard areas are mapped by FEMA around the lake (Map 8). However, water levels in Blackmans Lake fluctuate seasonally and during wet winter months the lake occasionally floods lakeside properties. High water levels result in part from the lake's constricted outlet through a set of culverts on the south side of the lake. An outlet improvement project completed in 2016 removed accumulated sediment and encroaching invasive vegetation along 370 lineal feet of the existing outlet channel, constructed an additional 580 lineal feet of new channel, and replaced 150 lineal feet of 24-inch culvert. The project included habitat restoration along the outlet channel, including native tree and shrub plantings. By stabilizing the water level of the lake the shoreline ecology should benefit.

In the summer, lake levels drop and affect recreational uses (GeoEngineers, 2007; TetraTech, 2008). The City worked with Snohomish County to install a lake level gauge at Hill Park in 2014. Lake level data will be collected and if the data shows that Blackmans Lake level drops below the recommended minimum elevation, then a new or modified outlet weir would be considered in the future as a means of controlling water levels in the lake.

7.1.4 Critical or Priority Habitat and Species

The Blackmans Lake/Swifty Creek system was historically used by coho salmon, chum salmon, and cutthroat (Snohomish County Public Works, 2002). However, no salmonid use of these water bodies is documented on current Salmonscape mapping (WDFW, 2017a). Barriers such as perched culverts, long pipes, and poor water quality in Swifty Creek prevent fish passage into the stream from the Snohomish and Pilchuck Rivers (Steward and Associates, 2004).

Blackmans Lake supports game fish such as rainbow trout, largemouth bass, yellow perch, and brown bullhead. WDFW stocks the lake with rainbow trout (Snohomish County Public Works, 2003).

The Washington Department of Fish and Wildlife (WDFW) maintains a list and mapping of priority habitats and species throughout the state. Priority habitats are those that have a high value to many fish and wildlife species and may be limited or vulnerable. Priority species are those requiring protection or management to ensure their survival (WDFW, 2017b). Priority wildlife habitats mapped in the shoreline planning area of Blackmans Lake include wetlands and waterfowl concentrations (Map 5). Priority species that are listed as occurring within the vicinity of Blackmans Lake is the little brown bat (*Myotis Lucifungus*), which has a communal roost site in the vicinity of the lake (WDFW, 2017).

7.1.5 Water Quality

Water quality monitoring in the 1990s for tributaries to Blackmans Lake indicated seasonally high stream temperatures, low dissolved oxygen, and high nutrient concentrations (Snohomish County Public Works, 2002).

Between 1996 and 2009, the levels of phosphorous in the upper waters of the lake were moderate but increasing, indicating that nutrients are being carried into the lake from the surrounding watershed. Phosphorous levels in the deeper waters have been decreasing. Phosphorous is a key nutrient for excess algal growth (Snohomish County Public Works, 2010). Ecology’s data indicate the lake has recently met water quality standards for total phosphorous (Ecology, 2008). However, the lake has experienced toxic blue-green algae blooms, including a bloom in December 2008 that tested above Washington State Department of Health recreational standards for toxins. There was an additional blue-green algae bloom in fall 2009 which tested positive for toxins but at low levels (Snohomish County Public Works, 2010).

A survey of aquatic plants in Blackmans Lake in September 2009 identified both native and invasive water lilies. Patches of the invasive species, fragrant water lily, were dominant on the northern shore of the lake, while the native species, yellow water lily, was prevalent on the southern shoreline (Snohomish County Public Works, 2010).

Blackmans Lake is included on Ecology’s 303(d) list of impaired water bodies due to elevated fecal coliform levels. Blackmans Lake Creek (inlet to the lake) is considered a water of concern for fecal coliforms. Sources of fecal coliforms include abundant waterfowl on the lake and livestock in pastures upstream of the lake. Swifty Creek was found to have *E. coli* concentrations above state standards for primary contact recreation in 2003 (Steward and Associates, 2004; Ecology, 2008).

7.2 Shoreline Use Patterns

7.2.1 Existing Land and Shoreline Uses

Table 7-1. Land Uses– Blackmans Lake

Reach Name	Length (Miles)	Shoreline Env. Designation	Land Use Designation (shows percent of segment)		UGA	Historic or Cultural Resources
BLK_LK_01	1.52	Suburban Rural	O/S Parks SFR	16% 7% 77%	n/a	n/a

* Land Use Designation definitions: SFR=Single-Family Residential; O/S=Open Space.

7.2.2 Shoreline Modifications

The majority of the Blackmans Lake shoreline planning area has been modified for development. Most natural vegetation has been removed in areas of residential and park development to provide views of and access to the water. There are approximately 28 docks and piers on Blackmans Lake.

7.2.3 Shoreline Environment and Land Use Designations

The current SEDs and land use designations for the Blackmans Lake shoreline planning area are shown in Table 7-1. The lake currently has a Rural designation at Ferguson Park and in the wetland areas in the north and northwest. The remainder of the shoreline area has an SED of Suburban (Map 12). Land use designations in this area are a mix of single-family residential, parks, and open space (Map 10). All residences, as well as the parks, are situated to take advantage of lake access.

7.2.4 Existing Public Access

Blackmans Lake is a popular spot for water recreation, including fishing, wildlife viewing, non-motorized boating, and swimming. Two community parks provide formal recreation facilities, and there are two open space areas for informal recreation, hiking, and lake access. Table 7-2 and Map 11 show the parks and public access opportunities on Blackmans Lake.

Table 7-2. Parks and Public Access – Blackmans Lake

Reach Name	Public Access Facility Name	Water Access	Comments
BLK_LK_01	Ferguson Park	<input checked="" type="checkbox"/>	Boat launch; Swimming access; Fishing pier
	Hill Park	<input checked="" type="checkbox"/>	Swimming access; Fishing piers; ADA accessible trail
	Lake Mount Site	<input checked="" type="checkbox"/>	Community open space
	Casino Royale – Powerline Trail	<input type="checkbox"/>	Community open space; Trail

7.2.5 Historical and Cultural Resources

There are no historical or cultural resources identified within the Blackmans Lake shoreline planning area.

7.2.6 Areas of Special Interest

According to Ecology guidelines, areas of special interest to be inventoried include priority habitats, eroding shorelines, developing or redeveloping harbors or waterfronts, dredge disposal sites, and toxic or hazardous waste clean-up sites (WAC 173-26-201(3)(c)(iv)). Priority habitats are discussed above in Section 7.1.4. Other elements are described below.

There were no contaminated or hazardous waste sites identified within the Blackmans Lake shoreline planning area.

7.3 Reach Scale Assessment

Table 7-3 summarizes the major features of the Blackmans Lake shoreline planning area.

Table 7-3. Reach Assessment for Blackmans Lake

Reach No.	Reach Location	Reach Length (miles)	Land Use Description	Modifications	Unique Features	Riparian Zones and Wetlands
BLK_LK_01	Shoreline of Blackmans Lake and associated wetlands	1.52	Residential, parks, open space	Vegetation removal, docks and piers, impervious surfaces (Map 9) 34% of shoreline in medium or low intensity development and developed parks (NOAA, 2006)	Ferguson and Hill Parks Boat launch	Large wetlands near lake inlet and outlet streams

7.4 Opportunity Areas

7.4.1 Restoration

Restoration opportunities for Blackmans Lake include restoring degraded shoreline areas by replanting native vegetation and controlling invasive species such as English ivy and Himalayan blackberry. Problems with excess waterfowl could be addressed in part by posting “no waterfowl feeding” signs at public access areas. The City owns a substantial portion of the Blackmans Lake shoreline, including Ferguson Park and Hill Park, where restoration could be undertaken. In 2016, the City completed Blackmans Lake Outlet Control Project efforts, which included constructing a new parallel overflow channel along Ferguson Park Road and Avenue A; cleaning the existing channel downstream of the Woodlake Manor driveway; and constructing a gravel shoulder along Ferguson Park Road and Avenue A to function as a pedestrian path and access for maintenance equipment to clean the overflow channel as needed. The overflow channel, along with 150 lineal feet of replaced 24-inch culver along Ferguson Park Road, are intended to address the high lake levels and decrease incidents of flooding. Previously in late 2013, sediment and debris were removed from the culverts at the Woodlake Manor driveway, 13th Street and Smithson Place. At that time the culverts were inspected and it was determined that they were in acceptable condition and would not be replaced presently. Other improvements that were completed as part of the Blackmans Lake Outlet Control Project include: construction of an earth berm, enhancing the outlet channel riparian zone with invasive species control and native plantings and removal of structures and obstructions.

The wetland on the north side of the lake, at the confluence of Blackmans Lake Creek, is important in removing pollutants from surface flows before they enter the lake.

Restoration

opportunities for this wetland system include planting native vegetation and creating a more sinuous stream channel (Steward and Associates, 2004).

There are also opportunities to educate landowners in the watershed about ways to minimize nutrient inputs to the lake. Measures landowners can take include avoiding use of fertilizers, or using zero-phosphorus fertilizers; preventing erosion from construction sites; repairing failing septic systems; controlling stormwater runoff to the lake; planting buffers of native vegetation along the shoreline; and cleaning up pet wastes (Snohomish County Public Works, 2010).

7.4.2 Public Access

The PROS Long-Range Plan proposed development of a trail that would create a loop route around Blackmans Lake, and would include both on- and off-road segments. Another proposed trail would make use of an existing transmission line right-of-way to connect the neighborhood south of 56th Street SE to the existing Casino Royale open space and trail. As the transmission line is located on private property, creation of this trail would require obtaining an access easement. Although this proposed section does not lie within the shoreline planning area, the connections would enhance public access to Blackmans Lake for the residents to the north.

8 SHORELINE ANALYSIS SUMMARY

This section synthesizes the area-specific issues and opportunities identified in the previous chapters, and provides shoreline management recommendations in the context of other local and regional planning activities.

The City of Snohomish is a smaller community located in the lower portion of the 342-square-mile Snohomish River watershed, at the lower end of the Pilchuck River basin. The ecological functions associated with waters regulated by the City's SMP have been and continue to be caused by conditions largely outside of the control of the City. However, shoreline uses in the city affect the cumulative condition of these waters and are therefore part of comprehensive solutions to these watershed issues. Table 8.1 summarizes the impairments to ecosystem processes described in this inventory, and indicates whether the impairments are primarily at the large (basin) scale, or if they are primarily local, as in at the scale of a specific reach of the shoreline. In some cases, the impairments may be at both the basin and the reach scales.

Table 8-1 also includes some initial recommendations on how these impaired processes can be addressed. These recommendations are intended to inform the update to the City's shoreline master program by identifying: 1) opportunities for ecological conservation and restoration, and

2) policy issues related to future shoreline use and development.

Table 8-1. Impairments to Shoreline Ecosystem Processes and Management Opportunities

Ecosystem Process	Causes of Impairment to Ecosystem Process	Scale of Alterations	Protection and Restoration Opportunities
Snohomish River			
Water Quality	<p>Loss of riparian canopy has affected river temperature.</p> <p>Changes in land use have increased input of pollutants to the river, including metals, phenols, and PCBs.</p> <p>Fecal coliform and excess nutrients in runoff from agricultural and residential areas issues in the river are likely due to livestock and possibly septic system sources outside of the city.</p>	Basin and Reach	<ul style="list-style-type: none"> • Encourage low impact development. • Continue to seek funding for upgrades to the City's stormwater and wastewater utilities. • Provide education and incentives to address water quality issues. • Protect and restore riparian vegetation by enforcing critical areas regulations and implementing protection incentives and flexible development tools. • Require fencing to prevent livestock access to the river.
Biological Resources	<p>Historic and current development and bank stabilization have reduced shoreline vegetation and large wood debris.</p> <p>Loss of riparian canopy upstream has affected river temperature and limited salmonids.</p> <p>Water quality problems and physical barriers have reduced fish access to tributaries.</p> <p>Filling and draining of wetlands has reduced fish refuge habitat as well as habitat for amphibian and terrestrial species associated with the river.</p> <p>Construction of levees and dikes, has disconnected the river from its floodplain and reduced off-channel habitat.</p>	Basin and Reach	<ul style="list-style-type: none"> • Riparian zones could be restored by controlling invasive vegetation and replanting native conifer trees. • Techniques in the Integrated Streambank Protection Guidelines could be used to incorporate vegetation and large wood into flood control structures. • Removing or relocating dikes would increase wood availability, shade, habitat complexity, and off-channel rearing areas. • Engineered logjams could help accumulate wood and form pools. • Remaining wetlands could be protected and wetland restoration encouraged through regulations and incentives
Hydrology	<p>In-stream gravel mining may have caused incision of the riverbed.</p> <p>Increased impervious surfaces in developed areas have increased surface runoff and sedimentation.</p> <p>Construction of levees and dikes has disconnected the river from its floodplain and reduced off-channel habitat.</p>	Basin	<ul style="list-style-type: none"> • Prohibit instream gravel mining. • Protect and restore riparian and upland wetlands by enforcing critical areas regulations and implementing protection incentives and flexible development tools

Ecosystem Process	Causes of Impairment to Ecosystem Process	Scale of Alterations	Protection and Restoration Opportunities
Sediment Generation and Transport	Disconnection of river from its floodplain and some associated wetlands has altered sediment transport. Changes in land use have increased input of sediment to the river.	Basin	<ul style="list-style-type: none"> Update shoreline development standards to control erosion Protect and restore riparian and upland wetlands by enforcing critical areas regulations and implementing protection incentives and flexible development tools
Pilchuck River			
Water Quality	Removal of native riparian vegetation has adversely affected temperature in the river. Fecal coliform levels are high and are likely due to livestock sources outside of the city.	Basin	<ul style="list-style-type: none"> Protect and restore existing wetlands by enforcing critical areas regulations and implementing protection incentives and flexible development tools. Require fencing to prevent livestock access to the river.
Biological Resources	Removal of native riparian vegetation has adversely affected temperature in the river. Diking and armoring, disconnect the river from its floodplain and off-channel habitat for fish	Basin and Reach	<ul style="list-style-type: none"> Protect and restore existing wetlands by enforcing critical areas regulations and implementing protection incentives and flexible development tools. Require new development to incorporate restoration of native vegetation communities. Continue to evaluate and secure funding for improvements at the City's dam and fish ladder or removal of both.
Hydrology	Low flows could potentially be exacerbated by municipal water withdrawals. Diking and armoring disconnect the river from its floodplain.	Reach	<ul style="list-style-type: none"> Encourage water conservation measures and to minimize demand for water during low flow months.
Sediment Generation and Transport	Gravel mining from the channel, gravel bars, and floodplain may have reduced gravel and altered channel profile.	Reach	<ul style="list-style-type: none"> Prohibit gravel mining in the river bed and floodway.

Ecosystem Process	Causes of Impairment to Ecosystem Process	Scale of Alterations	Protection and Restoration Opportunities
Blackmans Lake			
Water Quality	<p>Excess nutrients contributed by runoff from residential areas, stormwater runoff drains, waterfowl, pets, and livestock.</p> <p>Fecal coliform issues from upstream rural land uses, waterfowl, and pets.</p> <p>Low dissolved oxygen, possibly due to breakdown of emergent vegetation.</p> <p>Toxic algae blooms likely caused by elevated phosphorus levels, which have been increasing in recent years in shallow waters</p>	Basin	<ul style="list-style-type: none"> • Conduct public education on environmentally friendly lakeside living, such as restoring some native vegetation at the lake edge and reducing fertilizer use. • Conduct public education on environmentally friendly watershed living. • Encourage low impact development in basin. • Manage water lilies and other emergent vegetation to reduce artificial buildup of organic debris in lake. • Consider measures for managing waterfowl population and reducing fecal coliform input from livestock and pets.
Biological Resources	<p>Removal of large wood and shoreline vegetation for construction of docks, bulkheads, and landscaping.</p> <p>Fragrant water lily, an invasive, non-native plant species, dominates the north portion of the lake.</p> <p>Barriers such as impassable culverts, long pipes, and poor water quality in Swifty Creek prevent fish passage into the lake from the Snohomish and Pilchuck Rivers.</p> <p>Introduced carp prey upon and displace other fish species.</p>	Reach	<ul style="list-style-type: none"> • Conduct public education on environmentally friendly lakeside living, such as restoring some native vegetation at the lake edge. • Include construction design standards and standards for overwater structures. • Manage invasive fish populations, through education and, if necessary, eradication programs.
Hydrology	Development of the watershed including an increase in impervious surfaces and stormwater runoff.	Basin	<ul style="list-style-type: none"> • Encourage low impact development in basin. • A weir could be considered in the future as a means of controlling water levels in Blackmans Lake if the level drops below the recommended minimum.
Sediment Generation and Transport	Removal of emergent vegetation from lake may have caused erosion of shoreline beach on south side of lake.	Reach	<ul style="list-style-type: none"> • Consider emergent vegetation management practices or other methods to reduce erosion.

The land use trends described in previous chapters also pose challenges, especially taken together with addressing impaired ecological functions as required in the guidelines for shoreline master program updates (WAC 173-26). The following recommendations provide a starting point for those policy discussions:

The City should consider a community education and/or incentive program to identify and develop restoration opportunities on private property that support the overall goals of shoreline management. For example, residents along Blackmans Lake could be encouraged to create native vegetation buffers, reduce the use of fertilizers and pesticides, and/or control or eliminate livestock use, as means to improving lake water quality. To be most effective, this program should extend upstream from the lake as well, and include property owners outside of the shoreline jurisdiction.

This inventory has not identified the need for shorelands to support any specific water dependent uses other than public access to the water. While planning for the shorelines should still allow and support such uses in appropriate locations, the SMP guidelines provide that non-water-dependent uses may be allowed in mixed-use developments. The City should consider requiring any non-water-dependent or non-water-related development in the shoreline to provide for public access improvements, either directly through easements and improvements, or indirectly through a fee-in-lieu program.

The City should consider ways to link improvements in public access with specific areas targeted for shoreline habitat enhancement to offset impacts that public access improvements might have on habitat functions. By establishing a specific plan and formula, the City can facilitate the community's vision of increased connection of the historic downtown business district with the river, such as through view corridors, additional signage and amenities along the riverfront trail, and encouragement of outdoor seating at riverside businesses. For example, the City may want to establish another shoreline area along the Snohomish River outside of the downtown district, or specific areas near downtown where ecological restoration is the primary objective. Applicants for redevelopment of downtown shoreline properties could then provide for restoration of this designated area in lieu of revegetating their own properties. If such a program is instituted, it should also consider public access improvements the City might make, and how the impacts should be offset.

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The City should coordinate with the County regarding public access to the Pilchuck River. Public access improvements on the City's side of the river are limited because the river runs adjacent to steep slopes in much of the City jurisdiction, but the east side of the river may be better suited for a low-intensity trail system that would allow the public to enjoy the salmon and steelhead runs and other pleasures of this area. The City should protect this resource through

enforcement of its critical areas buffers, including in parks. There may also be opportunities for restoration that the City could sponsor or support.

Standards for management of vegetation, fish, and waterfowl at Blackmans Lake should be carefully reviewed to ensure that they allow flexibility to effectively control invasive non-native species and support long-term ecological restoration, a viable sport fishery, and safe recreational use of the lake.

Standards for all over-water structures could be explored to increase light penetration to the water below. Options may include increasing the structure height over the water, modifying the structure orientation, minimizing the structure size, using grating as a surface material, placing floating docks in deeper water to avoid grounding during low water levels, and considering the potential for carefully placed community docks.

For new shoreline stabilization projects, demonstration of the need for engineered armoring approaches to shoreline stabilization should be required before approval. The use of bioengineering, alternative bank stabilization, and/or soft-shore armoring techniques could be encouraged in the City's shoreline master program.

Incentive programs could be put in place to encourage property owners to replace existing hard armoring with habitat-friendly erosion control structures or to remove existing structures when shore armoring is unnecessary. Similar incentives could be offered to property owners who revegetate shorelines with native woody plant species. Incentives could include allowing reduced setbacks or expansion or reconstruction of a non-conforming structure.

As the City evaluates the feasibility of removing the Pilchuck River Dam or upgrading the existing fish ladder, the City could itemize the benefits to the functions and values of the riparian environment that could be realized.

9 DATA GAPS

The City is currently completing updates to critical areas inventory mapping layers for geologically hazardous areas (including landslide hazard areas and areas with steep slopes), wetlands, streams, and other designated critical areas, based on updates made to the Critical Areas Ordinance (CAO). The updated critical areas inventory mapping layers will support the City in implementing integrated critical areas standards within the updated SMP.

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**APPENDIX A. MAP FOLIO AND GIS
MAPPING DATA SOURCES**

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Designations

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Note: For maps presenting critical areas inventory data layers, see also updated critical areas inventory figures prepared for the City in May 2017. Critical areas data layers are presented on Maps 4, 5, 6, 7 and 8.

Preliminary Shoreline Inventory GIS Mapping Data Sources

The following represents a preliminary draft list of GIS datasets and data sources. The list is a work in progress and future deletions, additions, or alterations may be made upon acquisition, discovery, or creation of additional GIS datasets and materials.

Layer	GIS Layer name	Source	Date	Comments
1% Chance Annual Flood (Floodplain)	Dfirm_snoco	FEMA	2005	Preliminary FEMA DFIRMs for Snohomish County
100 Ft Index Contours	contour_100	Snohomish County	2000	USGS DEM derived 100 ft contours
20 Ft intermediate Contours	contours	Snohomish County	2000	USGS DEM derived 20 ft contours
Airports	runways	Snohomish County	2000	Displays the paved surfaces of airports in Snohomish County
Aquifer Recharge Area	aquifer_recharge	USGS	2006	Downloaded from Snohomish County Website
Basin	basins	Snohomish County	2004	Contains 108 subbasins
County Boundaries	Counties	WSDOT	1995	
Critical Areas	Critical areas Seward and Assoc 2004	City of Snohomish (prepared by Seward and Assoc.)	2004	CAD File - Wetlands, Enhanced Riparian Areas and recommended buffers prepared by Seward and Assoc.
Easements	easements	Snohomish County	2007	Created as part of Snohomish County's cadastral conversion project
Elevation	snoDEM, snoHILL	Puget Sound LiDAR Consortium	2005	LiDAR (bare earth) elevation data for the City of Snohomish (q47122h11be and 13be)
Erodible Soils	erodible_soils	WDNR	2000	Derived from Private Forest Land Grading (PFLG) system and subsequent soil surveys
ESA Bull Trout and Chinook	ChinBullVer3arcs (polys)	Snohomish County	200?	ESA listed bull trout and Chinook distribution (lines and polygons) countywide
Floodway	Dfirm_Snoco	FEMA	2005	Preliminary FEMA DFIRMs for Snohomish County
Geology	geology	WDNR	2002	Provided by Washington Division of Geology and Earth Resources Division, WDNR
Hillshade	snohomishhill	WDNR	2002	Derived resampling USGS 30-meter DEMS (Digital Elevation Models)
Impervious Surfaces	impervious1_091406	NOAA CCAP	2006	Companion impervious surface layer to CCAP land cover layer

Layer	GIS Layer name	Source	Date	Comments
Joint Planning Area	snojcpa	Snohomish County	2000	Defines that area of land outside of the Urban Growth Area in which the city and county have identified common interests
Land Cover	wa_wa2006	NOAA CCAP	2006	
Land Use (Current)	LAND USE map_layers_2009	City of Snohomish	2009	CAD data layer obtained from City as Official Land Use
Land Use (Future)	futurelanduse	Snohomish County	2000	Information contained in the dataset is used for the planning of future development activities in the County
Landslide Areas	landslide_hazard	WDNR	2004	Inventory of landslides
Major Roads	arterial_circ	Snohomish County	2006	Data source for the Arterial Circulation Map including freeways, state routes, and unconstructed roads (planned)
Municipal Boundaries	cities	Snohomish County	2002	Contains city limits for municipalities within Snohomish County
Ortho Imagery (1 M)	naip_1- 1_1n_s_wa061 _2006_1	USDA (NAIP)	2009	
Ortho Imagery (1:10000)	Snohomish_1933	Puget Sound River History Project	1933	Historic aerial photo of Snohomish River extent from 1933
Parcels	allparcels	Snohomish County	2007	
Parks	county_parks	Snohomish County	2004	Contains County Parks, Parks Dept. properties, and the two major trail properties
Parks	parksland	Snohomish County	2004	Shows land areas managed by Snohomish County Parks Department.
Parks	snofpark	Snohomish County	2000	These sites are designated by the City of Snohomish as locations for local neighborhood play grounds serving future subdivision development.
Priority Fish Distribution	fishdist_sv	WDFW	2008	Data part of Washington Lakes and Rivers Information System (WLRIS) database; data compiled using Limiting Factors Analysis criteria to define documented, presumed, potential, or undetected fish distribution.
Priority Habitat Species Polygon	phs_poly	WDFW	2006	

Layer	GIS Layer name	Source	Date	Comments
Railroads	railroads	Snohomish County	2004	Shows the location and owner of existing major rail lines in Snohomish County
Reaches	Reaches	ESA Adolfson	2010	Dataset created and derived through SMP inventory process
Rights of Way	rows	Snohomish County	2002	Cartographic layer depicting rights of way holding boundaries
Riverbank Survey	bigriver_survey	Snohomish County	2004	includes information on riverbank condition (natural vs. modified), bank stability, and toe class
Roads	centerlines	Snohomish County	2007	Represents center of right-of-ways and easements
Roads	streets	Snohomish County	2007	Displays connected linear network of streets
Roads (Major)	majorroads	Snohomish County	2007	Includes interstate freeways, state highways, and major roads
Seismic Hazard	snohomish_liqfial	WDNR	2004	Provided by Washington Division of Geology and Earth Resources Division, WDNR
Shoreline Planning Area	shoreline_planning_area	ESA Adolfson	2010	Dataset created and derived through spatial analysis. Union of floodplain, 200 ft stream buffer, and intersecting wetlands.
Slope	Sno_slope	Puget Sound LiDAR Consortium	2005	Raster data layer derived from BE LiDAR data for identification of steep slopes
Soils (NRCS)	soilmu_a_wa661	NRCS (USGS)	2006	Natural Resources Conservation Service (NRCS)
Storm water	Storm water map system map layers 2009	City of Snohomish	2009	CAD data layer obtained from the City depicting stormwater system
Streams	wtrcrs	Snohomish County	2007	Derived from LiDAR and survey data
Trails	countytrails	Snohomish County	2004	Shows recreational Trails within County Parks, the Interurban Trail, and Centennial Trail. Not all county trails are shown
Urban Growth Areas	urbangrowth	Snohomish County	2000	Shows where urban growth will be encouraged and supported by public facilities and services for the next 20 years
Urban Growth Area (Snohomish)	snohuga	Snohomish County	2000	Shows the future land use designations for the unincorporated urban growth area surrounding the City of Snohomish.

Layer	GIS Layer name	Source	Date	Comments
Wastewater system	Wastewater system map_Layers 2009	City of Snohomish	2009	CAD data layer obtained from the City depicting wastewater system
Water system	Water system map_layers 2009	City of Snohomish	2009	CAD data layer obtained from the City depicting water system
Waterbodies	wtrbdy	Snohomish County	2008	Includes rivers, large streams, lakes, ponds, and reservoirs
Wells	Wellhd_p	Snohomish County (via City of Snohomish)	2008	Well head locations for the City of Snohomish
Wetlands	wetlands	Snohomish County	2004	Created from county sponsored wetland projects from 1986 and 2002, wetlands primarily in UGAs
Wetlands	nwi	National Wetlands Inventory (NWI) (USFWS)	2000	Downloaded by County from NWI website in 2000
WRIA	WRIA	WA Dept of Ecology	2000	WRIA polygons at 1:24000 scale
Zoning	zoning	City of Snohomish	NA	TBD - Dataset to be obtained from city and/or digitized from available official maps

APPENDIX B. PHOTOGRAPHS

SNOHOMISH RIVER



Cady Park and railroad bridge



Cady Park boat launch



Downtown Snohomish historic district



Riverfront Trail



Railroad trestle bridge



Seattle Snohomish Mill

SNOHOMISH RIVER



Looking north toward city WWTP property
from Lowell-Snohomish River Road



Looking north toward city WWTP property
and Cemetery Creek confluence
wetland



Harvey Field airport facilities in
mapped floodplain south of
river



Avenue D bridge over Snohomish River

PILCHUCK RIVER



Centennial Trail



Bank erosion south of 2nd St/ 92nd St bridge



Morgantown Park



Pilchuck Park



River access at Pilchuck Park



Looking north toward 2nd St/ 92nd St bridge

BLACKMANS LAKE



Residences and docks



Ferguson Pier with Hill Park in the distance



Ferguson Park boat launch on south side of lake



Ferguson Park signs on south side of lake

CITY OF SNOHOMISH SHORELINE MASTER PROGRAM Restoration Plan

Prepared for
City of Snohomish

October 2011, updated May 2017



City of Snohomish Shoreline Master Program Restoration Plan

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October 2011, updated May 2017

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ABBREVIATIONS

CIP	Capital Improvement Program
CLC.....	Cascade Land Conservancy
OHWM	Ordinary High Water Mark
RCW	Revised Code of Washington
SCD.....	Snohomish Conservation District
SMA.....	Shoreline Management Act
SMP.....	Shoreline Master Program
SWM.....	Surface Water Management
UGA.....	Urban Growth Area
WAC	Washington Administrative Code

1.0 INTRODUCTION AND BACKGROUND

The City of Snohomish (City) is updating its Shoreline Master Program (SMP) to comply with the requirements of the Washington State Shoreline Management Act (SMA or the Act) (Revised Code of Washington [RCW] 90.58) and the state's shoreline guidelines (Washington Administrative Code [WAC] 173-26, Part III), which were amended in 2003.

The SMP guidelines require that local governments develop SMP policies that promote “restoration” of impaired shoreline ecological functions and a “real and meaningful” strategy to implement restoration objectives. The City's Shoreline Inventory and Characterization Report (ESA, 2010, updated 2017) identifies which shoreline ecological functions and ecosystem processes have been impaired. In updating its SMP, the City is required to identify and plan for ways to restore or enhance those functions and processes that have been impaired.

Restoration planning provides an opportunity for the City and its citizens to evaluate ways to make ecological improvements to their shorelines. In the context of the SMP, planning for shoreline restoration includes establishing goals and policies, working cooperatively with other regional entities, and supporting restoration through other regulatory and non-regulatory programs. Substantial restoration work is already occurring throughout the Snohomish River basin. Efforts to recover salmon habitat are a high priority for agencies and organizations; however, resources for restoration are limited and competition for grant funding is intense. The objective of this restoration plan is to help the City and the public understand the specific shoreline restoration opportunities in Snohomish and how these opportunities might be prioritized in order to maximize the available resources.

1.1 Shoreline Planning Jurisdiction

The City of Snohomish is located on the north side of the lower Snohomish River valley, approximately 11 miles upstream from where the river enters Puget Sound at Everett (Map 1). The City is bordered by the Snohomish River to the south and the Pilchuck River to the east. The Pilchuck River enters the Snohomish River 0.5 miles south of the city limits.

In Snohomish, the designated shorelines of the state are the portions of the Snohomish River, Pilchuck River, and entirety of Blackmans Lake that fall within the Snohomish city limits. This plan also includes shorelines within the Snohomish urban growth area (UGA). The Snohomish River is also designated as a shoreline of statewide significance, meaning that planning for the Snohomish River must consider statewide interests over local interests.

The shoreline jurisdiction under SMA also includes “shorelands” adjacent to shorelines of the state. “Shorelands” or “shoreland areas” means those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark (OHWM); floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with such streams, lakes, and tidal waters (see Map 2). “Associated wetlands” means those wetlands, that are in proximity to and either influence or are influenced by tidal waters or a lake or stream subject to the SMA (WAC 173-22-030 (1)). These are typically identified as wetlands that physically

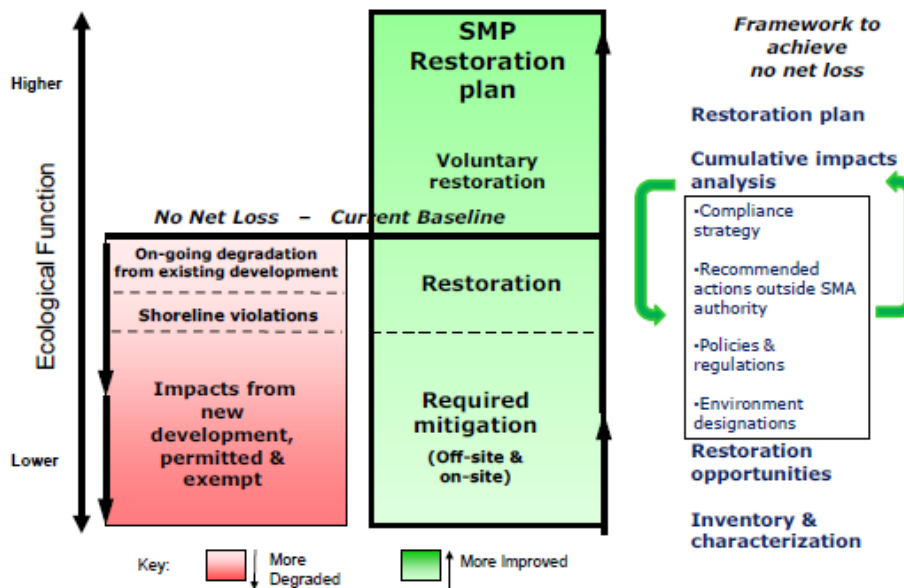
extend into the shoreline jurisdiction, or wetlands that are functionally related to the shoreline jurisdiction through surface water connection and/or other factors.

1.2 Regulatory Background

The State has directed local governments to develop SMP provisions “...to achieve overall improvements in shoreline ecological functions over time when compared to the status upon adoption of the master program.” This overarching goal is accomplished primarily through two distinct objectives:

- **Protection** of existing shoreline functions through regulations and mitigation requirements to ensure “no net loss” of ecological functions from baseline environmental conditions; and
- **Restoration** of shoreline ecological functions that have been impaired from past development practices or alterations.

The figure below illustrates the role of the SMP update in achieving no net loss both through mitigation and restoration.



Source: Department of Ecology

Achieving No Net Loss of Ecological Function

The concept of no net loss of shoreline ecological function is embedded in the SMA and in the goals, policies and governing principles of the shoreline guidelines. The State’s general policy goals for shorelines of the state include the “protection and restoration of ecological functions of shoreline natural resources.” This goal derives from the SMA, which states, “permitted uses in the shoreline shall be designed and conducted in a manner that minimizes insofar as practical, any resultant damage to the ecology and environment of the shoreline area.” The governing principles of the guidelines further clarify that protection of shoreline ecological functions is accomplished through the following (WAC 173-26-186):

- a) Meaningful understanding of the current shoreline ecological conditions;
- b) Regulations and mitigation standards that ensure that permitted developments do not cause a net loss of ecological functions;
- c) Regulations that ensure exempt developments in the aggregate do not result in net loss of ecological functions;
- d) Goals and policies for restoring ecologically impaired shorelines;
- e) Regulations and programs that fairly allocate the burden of mitigating cumulative impacts among development opportunities; and
- f) Incentives or voluntary measures designed to restore and protect ecological functions.

The restoration planning component of the SMP is focused on voluntary mechanisms, not regulatory provisions. Restoration planning is focused on economic incentives, available funding sources, volunteer programs, and other programs that can contribute to a no net loss strategy. However, the restoration framework developed for these non-compensatory mitigation projects can also be applied to compensatory mitigation projects. In this way, all efforts to improve ecosystem functioning are coordinated and will be designed to work together.

1.3 Defining Restoration

There are numerous definitions for “restoration” in scientific and regulatory publications. Specific elements of these definitions often differ, but the core element of repairing damage to an existing, degraded ecosystem remains consistent. In the SMP context, the WAC defines “restoration” or “ecological restoration” as:

“...the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions” (WAC 173-26-020(27)).

Using the WAC definition of restoration in regard to state shorelines, it is clear the effort should be focused on specific shoreline areas where natural ecological functions have been impaired or degraded. The emphasis in the WAC is to achieve overall improvement in existing shoreline processes or functions, if these functions are impaired. Therefore, the goal is not to restore historically natural conditions, but rather to improve on existing, degraded conditions. In this context, restoration can be broadly implemented through a combination of programmatic measures (such as surface water management; water quality improvement; public education) and site-specific projects (such as bulkhead replacement and/or riparian plantings). The guidelines do not state that local programs should or could require individual permittees to restore past damages to an ecosystem as a condition of a permit for new development. For these reasons, restoration planning focuses on the city as a whole rather than parcel by parcel, or permit by permit.

1.4 Key Elements of Restoration Planning in the SMP Update Process

The State guidelines provide six key elements for shoreline restoration planning as part of a local jurisdiction’s master program, as outlined in WAC 173-26-201(2)(f). Table 1 summarizes how these elements are addressed in the organization and content of this report.

Table 1. Restoration Planning Structure

<i>Key elements for the shoreline restoration planning process WAC 173-26-201(2)(f)</i>	<i>Section in this report</i>
Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration.	Sections 2 and 4
Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions.	Section 4
Identify existing and ongoing projects and programs that are currently being implemented that are designed to contribute to local restoration goals (such as capital improvement programs (CIPs) and watershed planning efforts (WRIA habitat/recovery plans).	Section 3
Identify additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs.	Sections 4 and 5
Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals.	Section 6
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 (e.g., monitoring of restoration project sites).	Section 6

2.0 DEGRADED SHORELINE AREAS AND FUNCTIONS

Shoreline restoration planning begins with the identification of “degraded areas” or areas with “impaired ecological functions.” The following discussion of existing degraded areas and functions is summarized from the *City of Snohomish Draft Shoreline Inventory and Characterization Report* (ESA, 2010, updated 2017).

2.1 Snohomish River

The Snohomish River valley was historically a mosaic of wetlands and forests where the river meandered across a broad floodplain. Beginning in the 1800s and continuing to the present, human activities have resulted in numerous changes in the valley in and around the city:

- Construction of levees and dikes;
- In-stream gravel mining;
- Clearing of forest from the floodplain and riparian areas;
- Increased impervious surfaces in developed areas;
- Filling and draining of wetlands;
- Removal of large wood from the river to allow for navigation and protect structures; and
- Fecal coliform and excess nutrients in runoff from agricultural and residential areas.

The Snohomish River has been divided into three shoreline planning reaches within the City (Map 2). Table 2 summarizes the major alterations to ecosystem functions by reach.

Table 2. Snohomish River - Alterations to Ecosystem Functions

Alteration	Effect on Functions	Affected Reaches		
		SNO_RV_01	SNO_RV_02	SNO_RV_03
Changes in land use to residential, commercial, agricultural have increased impervious surfaces and stormwater runoff	Increased stormwater pollution in the river (fecal coliforms, sediment, metals, phenols, PCBs)	X	X	
Livestock access to river	Increased bank erosion and fecal coliform contamination	X		
Levees and riprap installed to stabilize riverbanks and protect structures from flooding	River disconnected from its floodplain Reduction in off-channel habitat for salmon Changes in natural sediment supply to river, affecting composition of riverbed substrate	X	X	X
Vegetation removed from riverbanks and floodplains	Reduction in shading and organic debris formerly provided to river by riparian vegetation	X	X	X

Alteration	Effect on Functions	Affected Reaches		
		SNO_RV_01	SNO_RV_02	SNO_RV_03
	Reduction in habitat for native wildlife species Loss of source of large woody debris to river channel (important for fish habitat) Decrease in bank protection causing increase in erosion and sediment deposited in river			
Filling and draining of wetlands	Reduction in off-channel fish habitat Loss of floodplain water storage capacity	X	X	X
In-stream gravel mining	May have caused incision of the riverbed	X	X	X

2.2 Pilchuck River

The major human modifications to the lower Pilchuck River in the vicinity of the City include:

- Diking and armoring of the riverbank;
- Increased impervious surfaces;
- Livestock access to the river;
- Removal of native riparian vegetation;
- Gravel mining from the channel, gravel bars, and floodplain; and
- Low flows potentially exacerbated by municipal water withdrawals.

The Pilchuck River has been divided into five shoreline planning reaches (Map 2). Table 3 summarizes the major alterations to ecosystem functions by reach.

Table 3. Pilchuck River - Alterations to Ecosystem Functions

Alteration	Effect on Functions	Affected Reaches				
		PIL_RV_01	PIL_RV_02	PIL_RV_03	PIL_RV_04	PIL_RV_05
Diking and armoring of the riverbank	River disconnected from its floodplain Reduction in off-channel habitat for salmon Changes in natural sediment supply to river	X	X	X		
Removal of native riparian vegetation	Reduction in shading and organic debris formerly provided to river by riparian vegetation Reduction in habitat for native wildlife species Lack of large wood in channel; loss of fish habitat complexity	X	X	X		
Changes in land use to residential and agricultural uses	Increased surface runoff, stormwater pollution (fecal coliform, elevated temperature, excess sedimentation)	X	X	X	X	
Diversion dam and City water treatment plant	Low river flows could be exacerbated by water withdrawals					X

2.3 Blackmans Lake

The Blackmans Lake watershed was historically logged and used for farming. Between the 1970s and 1990s, agricultural areas were replaced by residences and other developments, and by the mid-1990s half of the watershed had been urbanized. The shoreline functions of the lake have been degraded by:

- Excess nutrients contributed by runoff from residential areas, stormwater runoff drains, waterfowl, pets, and livestock;

- Removal of large wood and shoreline vegetation for construction of docks, bulkheads, and landscaping; and
- Development of the watershed with an associated increase in impervious surfaces and runoff.

Wintertime flooding and low summertime water levels in the lake have been an ongoing issue for residents. In the 1980s, a flow splitter was installed on Swifty Creek, the outlet stream from the lake, to discharge high flows to the Pilchuck River. Low stream flows continue to discharge to the Snohomish River. In 2016, an outlet improvement project removed accumulated sediment and encroaching invasive vegetation along 370 lineal feet of the lake’s outlet channel, constructed an additional 580 lineal feet of new channel, and replaced 150 lineal feet of 24-inch culvert. The project included habitat restoration along the outlet channel, including native tree and shrub plantings.

Blackmans Lake is considered as one shoreline planning reach (Map 2). Table 4 summarizes the major alterations to ecosystem functions.

Table 4. Blackmans Lake - Alterations to Ecosystem Functions

Alteration	Effect on Functions
Runoff from residential and agricultural areas	Elevated levels of phosphorous in the lake, leading to toxic algae blooms Elevated fecal coliform levels in the lake, a health concern for recreational users
Removal of native lakeshore vegetation and large wood for residences and park development	Reduction in shading and organic matter provided to the lake Loss of habitat structures for aquatic species Change in wildlife habitat to favor waterfowl species that use lawns and parks; excess waterfowl contribute to water pollution
Introduction of non-native invasive species	Change in lake plant community from native species to invasive species such as fragrant water lily Invasive aquatic plants can cause water quality changes and inhibit recreational uses Introduced carp prey on and displace other fish species
Removal of emergent vegetation from lake	May have caused erosion of shoreline, reduced habitat for fish and amphibians

3.0 EXISTING RESTORATION PROGRAMS

A number of local and regional planning efforts have been developed to address water resource management, water quality, and salmon habitat recovery in the Snohomish River watershed. These existing plans and programs provide a framework of goals, policies, and in some cases, funding mechanisms. The goals, policies, and actions identified in this restoration plan should coordinate and be consistent with this broader framework of conservation and restoration work in the region.

3.1 City of Snohomish

The City of Snohomish is a Phase II municipality under the National Pollutant Discharge Elimination System (NPDES) program. As part of its NPDES permit, the City prepares an annual Stormwater Management Program that addresses public education and outreach, management of construction site runoff, and other topics related to protection of water quality. The City has recently partnered with Snohomish County and Environmental Coalition of South Seattle on public outreach programs related to pet waste, natural yard care, and septic system operation and maintenance (City of Snohomish, 2017).

The City's stormwater management regulations require the use of the 2012 Stormwater Management Manual for Western Washington for all new construction and redevelopment within the City's jurisdiction. In 2009 and 2016 the City adopted ordinances encouraging the use of low impact development techniques (Ordinance No. 2173 and Ordinance No. 2315).

The City operates its wastewater treatment plant under an NPDES permit issued by the State of Washington. The plant is currently subject to peaks in wastewater volume during storms because of combined sewer and stormwater systems in the older part of the City. The City plans to separate these sewer and stormwater systems in the future.

3.2 Snohomish County

3.2.1 Snohomish County Noxious Weed Control Board

State law requires all landowners (private or agency) to manage weeds on their properties (RCW 17.10.140). The Snohomish County Noxious Weed Control Board oversees county-wide management of noxious weeds in an effort to ultimately prevent establishment of invasive vegetation and preserve native species and habitat. Weed Control Board meetings occur in seven months out of the year to refine regulations, the noxious weed list, and provide guidance on methods of control (SCNWCB, 2011).

3.2.2 Snohomish Conservation District

Guided by the Washington State Conservation Commission, the Snohomish Conservation District (SCD) is a natural resources assistance agency whose mission is to work with landowners promoting conservation and responsible land use. SCD has programs and information to help with stream and wetland restoration, including urban streams; revegetation with native trees and shrubs; low impact development practices such as rain gardens and bioswales; and they hold an annual plant sale (SCD, 2011).

3.2.3 Snohomish County Surface Water Management

The Surface Water Management (SWM) Division of Snohomish County Public Works is responsible for management of urban drainage, river flooding and erosion, water quality, and community outreach and education. SWM has a Habitat and Rivers Capital Improvement Program that prioritizes projects for funding approval by the Snohomish County Council. The Six-Year Detailed Capital Improvement Program – 2008 through 2013 identifies 90 projects, including 75 site-specific projects. Additional restoration projects identified in the County's 2010 Shoreline Restoration Element could be incorporated into a future SWM Habitat and Rivers CIP 6-Year Detailed Improvement Program (SWM, 2011; Snohomish County, 2010).

3.2.4 Snohomish Basin Salmon Recovery Forum

The Snohomish Basin Salmon Recovery Forum is the lead entity for restoration of salmon in the Snohomish River basin. The Forum includes representatives of local government (including the City of Snohomish), Tribes, recreationists, agriculture, business, environmental organizations, and others. In 2005 the Forum published the *Snohomish River Basin Salmon Conservation Plan* outlining salmon recovery actions throughout the watershed, from the estuary to headwater streams. The Forum publishes annual three-year work plans that prioritize restoration projects in the basin. The 2011 work plan includes large wood and riparian planting projects on the Pilchuck River upstream of Snohomish, as well as the Everett Marshlands levee setback project, a major project in the estuary downstream of the City (SBSRF, 2011).

3.3 Non-profit Organizations

3.3.1 Forterra

Forterra seeks to conserve urban and rural natural spaces and “Keystone” places within the Puget Sound, Olympic Peninsula, and Central Washington regions. Forterra conservation strategies have included securing lands along streams, rivers, estuaries, and other natural areas through purchase and donation, conservation easements, and ownership agreements. In addition, the Green Cities Program consists of public-private partnerships between Forterra, municipal agencies, and citizens to develop civic-based stewardship programs for forested parklands and other green infrastructure (Forterra, 2017).

3.3.2 Audubon Society

Audubon Society staff and volunteers work for the protection, restoration and preservation of natural habitat for birds and other wildlife. The Pilchuck Audubon chapter serves Snohomish County and Camano Island, and runs a native plant demonstration garden in Edmonds (Pilchuck Audubon, 2011).

3.3.3 Stewardship Partners

Stewardship Partners is a 501(c) 3 non-profit organization that helps private landowners restore and preserve the natural landscapes of Washington State. Major projects include

the promotion of low impact development techniques and rain gardens. Stewardship Partners runs free rain garden workshops in communities around the Puget Sound region, in partnership with Washington State University, to teach homeowners how to build their own rain gardens, helping minimize stormwater runoff impacts by absorbing rainwater from downspouts, driveways, and sidewalks (Stewardship Partners, 2011).

3.3.4 Stilly-Snohomish Fisheries Enhancement Task Force

The mission of the Task Force is to ensure the future of salmon in the Stillaguamish and Snohomish River and Island County watersheds. The Task Force provides educational programs and leads restoration projects along the Snohomish, Pilchuck, and other rivers. Examples of restoration projects include large wood placement, riparian planting, livestock fencing, and weed control. The Task Force works in partnership with volunteers, granting agencies, and government.

(http://www.stillysnofish.org/who_we_are/active_projects.html)

3.3.5 Adopt-A-Stream Foundation

The mission of the Adopt-A-Stream Foundation (AASF) is to teach people how to become stewards of their watersheds. AASF provides educational programs and performs restoration work on streams and wetlands. Examples of restoration projects include daylighting streams, installing fish ladders, installing riparian plantings, adding large wood to streams, and public outreach.

(<http://www.streamkeeper.org/aasf/Welcome.html>)

3.3.6 WSU Snohomish County Extension Beach Watchers

The WSU Snohomish County Extension Beach Watchers program is dedicated to the protection of local natural resources, especially focusing on Puget Sound. Participants have volunteered many hours to Salish Sea research, education and stewardship projects. The program works through the entire landscape, not just beaches, to protect waters, wildlife, and landscapes.

(<http://extension.wsu.edu/snohomish/naturalresources/beachwatchers/>)

4.0 RESTORATION GOALS, PRIORITIES, AND AREAS

The City of Snohomish has developed the following restoration goals for its shorelines:

- **Snohomish River:** Enhance native riparian vegetation along the shoreline while improving the aesthetic appeal of the riverfront, particularly within downtown Snohomish.
- **Pilchuck River:** Improve habitat for salmon and trout; partner with other agencies and organizations involved in salmon habitat restoration projects.
- **Blackmans Lake:** Improve ecological functions and recreational opportunities by stabilizing lake water levels, improving water quality, and restoring native vegetation.

There are several restoration programs the City could implement to involve residents and private property owners in shoreline restoration:

1. The City should consider a community education and/or incentive program to identify and develop restoration opportunities on private property that support the overall goals of shoreline management. For example, residents along Blackmans Lake could be encouraged to create native vegetation buffers, reduce the use of fertilizers and pesticides, and/or control or eliminate livestock use, as means to improving lake water quality. To be most effective, this program should extend upstream from the lake as well, and include property owners outside of the shoreline jurisdiction.
2. The City should consider ways to link improvements in public access with specific areas targeted for shoreline habitat enhancement to offset impacts that public access improvements might have on habitat functions. By establishing a specific plan and formula, the City can facilitate the community's vision of increased connection of the historic downtown business district with the river, such as through view corridors, additional signage and amenities along the riverfront trail, and encouragement of outdoor seating at riverside businesses. For example, the City may want to establish another shoreline area along the Snohomish River outside of the downtown district, or specific areas near downtown where ecological restoration is the primary objective. Applicants for redevelopment of downtown shoreline properties could then provide for restoration of this designated area in lieu of revegetating their own properties. If such a program is instituted, it should also consider public access improvements the City might make, and how the impacts should be offset.
3. The City should coordinate with the County regarding public access to the Pilchuck River. Public access improvements on the City's side of the river are limited because the river runs adjacent to steep slopes in much of the City jurisdiction, but the east side of the river may be better suited for a low-intensity trail system that would allow the public to enjoy the salmon and steelhead runs and other pleasures of this area. The City should protect this resource through enforcement of its critical areas buffers, including in parks. There may also be opportunities for restoration that the City could sponsor or support.

4. Standards for management of vegetation, fish, and waterfowl at Blackmans Lake are being carefully reviewed to ensure that they allow flexibility to effectively control invasive non-native species and support long-term ecological restoration, a viable sport fishery, and safe recreational use of the lake.

Table 5 provides a list of specific restoration opportunities and sites in the City's shoreline planning area. Generalized locations for the projects are shown on Map 3. Exact locations for each type of restoration would be determined during the design of specific projects. The table summarizes how each opportunity would affect shoreline ecological functions, and assigns a general priority level and timeline for each project. Restoration opportunities are generally divided into low and high priority projects. High priority projects are those that meet at least some of the following criteria:

- The project would increase functional connectivity or link existing habitats.
- Public property or willing private property owners are involved.
- The project is compatible with adjacent land uses.
- Public support is likely.
- The project has a good likelihood of success based on ecological processes and functions in the watershed.
- The project is likely to be eligible for grant funding and/or partnerships with other agencies or organizations.

Table 5 lists the recommended timing for each restoration opportunity as “short-term” or “long-term.” **Short-term** (approximately 1-5 years) restoration projects include those that could be implemented by local landowners and volunteers and that would benefit the areas that are most in need. Short-term restoration efforts include habitat restoration and enhancement efforts in publicly owned areas of the shorelines. These projects could be implemented in the near term, depending on grant cycles and coordination with volunteer and community organizations. **Long-term** (approximately 5-10 years) restoration projects could be those that require coordination with other jurisdictions or that cover larger land areas. These projects may be more difficult to implement and would likely require more planning and permitting.

Table 5. City of Snohomish Restoration Opportunity Areas

Opportunity Area (General Location)	Restoration Opportunity	Benefits to Shoreline Ecological Functions	Priority Level and Timeline
Snohomish River			
City owned properties: - wastewater treatment plant property - City shop yard - Cady Park - Kla Ha Ya Park - Riverfront Trail along downtown - urban horticulture property (north bank of river in reach SNO_RV_01 and adjacent floodplain) - open space located on the south bank of the river in reach SNO_RV_01	Control invasive vegetation and replant native trees and shrubs Along Riverfront Trail, limit vegetation plantings to widely spaced trees to allow for river views	Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for spreading Improved shading and incremental reduction of stream temperatures	High priority Short-term for revegetation
To be determined as flood control structures are proposed for replacement.	Incorporate vegetation and large wood into flood control structures	Increased wood availability Improved shading and incremental reduction of stream temperatures Increased area for juvenile salmon refuge	Low priority Long-term
Installation of large logjams on main river channel likely not feasible; however, smaller structures (groins, rootwads) could potentially be anchored near the banks.	Add small engineered logjams	Increased large wood and nutrient inputs to river Improved refuge and cover for salmon	Low priority Long-term
Urban horticulture area east of downtown	Install fencing to prevent livestock access to the river	Improved water quality Reduced bank erosion	High priority Short-term

Pilchuck River			
Pilchuck Park	Replace levees to allow controlled flooding	Restore off-channel fish habitat	Low priority Long-term
Locations for log placement would be determined by a fish biologist and hydrologist to maximize habitat benefit and account for hydraulics, movement of gravel and sediment, etc.	Add engineered logjams	Increased wood accumulation and pool formation Improved refuge and cover for salmon	High priority Long-term
Pilchuck Park; exact locations to be determined as flood control structures are proposed for replacement.	Incorporate vegetation and large wood into flood control structures	Increased wood availability Improved shading and incremental reduction of stream temperatures Increased area for juvenile salmon refuge	High priority Long-term
West bank residential areas and City parks	Control invasive vegetation and replant native trees and shrubs Limit plantings to widely spaced trees in areas where views are desired	Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for spreading Improved shading and incremental reduction of stream temperatures Reduced bank erosion	High priority Short-term

At City's water diversion dam	Remove the dam and restore the aquatic habitat	Improved fish passage Reduced impact on summer low flows in river	Low priority Long-term
Blackmans Lake			
City parks and private residential properties	Replant native vegetation and control invasive species such as English ivy and Himalayan blackberry	Reduction of invasive plant species extent and potential for spreading Improved wildlife habitat Increased input of detritus and insects from shoreline vegetation	High priority Short-term
Ferguson Park, Hill Park	If monitoring reveals lake levels drop below the recommended minimum elevation, then consider an outlet weir to control summer season low water levels. Post "no waterfowl feeding" signs at public access areas	Maintain lake hydrology, supporting associated wetland vegetation and habitats. Reduced excess waterfowl Improved water quality	High priority Short-term
Wetland on north side of lake	Plant native vegetation, control invasive species Create a more sinuous stream channel	Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for spreading Improved aquatic habitat	Low priority Long term
Hill Park	Explore options to restore native emergent vegetation and sandy swimming beach	Greater diversity of aquatic habitat Reduced shoreline erosion	High priority Long-term

5.0 IMPLEMENTATION STRATEGIES AND FUNDING SOURCES

As a long-range planning effort without dedicated funding, it is difficult to articulate a firm strategy for accomplishing the goals of this plan. Under the Shoreline Management Act, the City of Snohomish is required to review, and amend if necessary, its SMP once every seven years (RCW 90.58.080(4)). At the time of the update, the City is required to report progress toward meeting its restoration goals, but there is no requirement or timeframe for specifically *implementing* the Restoration Plan.

The City intends to adhere as closely as possible to the timelines and benchmarks described in Section 6, depending on the availability of staff and funding. One way the City can leverage its resources for restoration projects is to include measures such as vegetation enhancement or the addition of in-channel habitat features with recreation improvements or public works projects. Another key strategy is to partner with other agencies and organizations on large or complex projects that have regional benefits to salmon recovery.

5.1 Sources of Funding and Technical Assistance

A number of state and federal agencies provide opportunities for grant funding, particularly efforts related to salmon recovery. Technical assistance is also available for programs such as buffer planting on agricultural lands. Appendix A provides a summary of the major funding and technical assistance resources available to the City of Snohomish and its residents.

5.2 Voluntary Restoration on Private Lands

Portions of the shoreline area in the City lie within private properties. Public outreach and voluntary restoration actions are a key component of the success of this plan. Private property owners often serve as the best stewards for their land and will voluntarily enhance or restore conditions. As stated in Chapter 1, the Shoreline Restoration Plan is a non-regulatory and voluntary program undertaken by the City and environmental partners willing to improve habitat and existing conditions within the shoreline jurisdiction. Voluntary actions may include citizens assisting a public agency or stewardship group with plantings or other measures on public lands such as parks or open space. Voluntary actions may also include restoration undertaken on private properties by land owners to improve habitat and water quality or stabilize streams. This section addresses the types of actions that a private property owner can undertake to restore conditions in the shoreline jurisdiction.

Voluntary restoration on private properties may range from minor projects that do not require permitting in and of themselves (such as removal of weeds) to larger-scale improvements that require permit approval (such as grading, culvert removal, or streambank stabilization). Expert assistance is required to design and permit large-scale restoration projects on private properties. Expertise needed may include engineering, fisheries biology, wetland or wildlife science or geotechnical. Minor restoration may not require expert assistance and can be accomplished with general information provided by the City, Snohomish County, or state government.

The following web sites provide information for shoreline land owners for voluntary restoration actions:

- Water quality – aquatic plants, algae and lakes:
(<http://www.ecy.wa.gov/programs/wq/links/plants.html>)
- Protecting Your Stream - Ten Actions for Streamside Property Owners (WSU Extension Office, Clark County, 2008) (available at:
<http://clark.wsu.edu/volunteer/ws/faqs.html>)
- Washington Department of Fish and Wildlife Backyard Wildlife Sanctuary Program (<http://wdfw.wa.gov/living/backyard/>)
- National Wildlife Federation Garden for Wildlife Program
(<http://www.nwf.org/Get-Outside/Outdoor-Activities/Garden-for-Wildlife.aspx>)

Examples of restoration actions that private property owners can implement are listed below. These actions typically do not require special equipment or expertise but can have significant benefits to shoreline functions, especially if undertaken by a community or group of landowners.

1. Remove invasive non-native plants and install native trees and shrubs.

Invasive non-native plants like Himalayan blackberry, Japanese Knotweed, English ivy, reed canarygrass, morning glory, holly, and butterfly bush can occupy habitat in the riparian zone along rivers, streams and lakes. These plants limit the habitat for native bird and wildlife species which do not typically use these plants. Often, invasive plants are fast-growing and shallow rooted, and make slopes and stream banks susceptible to erosion. Native trees and shrubs in the shoreline provide shade, shelter and food necessary for both terrestrial and aquatic species. Native vegetation along shoreline lakes and streams also stabilizes banks, reduces erosion and filters pollutants from runoff.

2. Remove debris, refuse and derelict structures from the shoreline.

Removing man-made debris from the shorelines helps keep lakeshores and streams free of harmful substances and materials. Removal of tires and other man-made debris improves the health of the shoreline for fish and wildlife as well as the long-term quality of water. Work within water may require permits.

3. Reduce use of fertilizers and pesticides.

Minimizing use of fertilizers and pesticides within 200 feet of shorelines will improve water quality, reduce the risk of algae and nuisance aquatic plants (especially in lakes) and avoid impacts to downstream habitats.

5.3 Challenges to Implementation

There are a number of potential complicating factors between the development of a shoreline restoration plan and on-the-ground implementation of its programs and projects. Some of these challenges are briefly summarized below:

- Lack of funding: Designing, carrying out, and monitoring the success of restoration efforts can be an expensive undertaking, particularly at larger (e.g., watershed or reach) scales. In general, funding for restoration is limited and competition for funds extensive.
- Landowner participation: Landowners in areas identified as priorities for restoration efforts may be unwilling or unable to participate in those efforts, while others may be willing to participate in future projects.
- Project permitting: Obtaining necessary permits from local, state, and federal regulatory agencies can require substantial time and effort. Although encouraged and allowed by the SMP, complicated restoration projects may take a year or more to permit.
- Climate change: Changes in regional weather conditions have the potential to dramatically alter seasonal storms and flooding. Depending on the scale of change and time period over which changes occur, restoration priorities could shift substantially within a relatively short period of time.
- Urban Growth Area: Restoration opportunities which are located in the UGA pose a challenge to the City since it has no authority with those properties. When pursuing a restoration project the City would need to coordinate with Snohomish County on the permitting process. Another option would be to wait until properties in the UGA are annexed into the City before implementing a project.

6.0 TIMELINES AND BENCHMARKS

A suggested timeline for implementation of this restoration plan is as follows. The accomplishment of this timeline depends largely on the availability of funding.

Within 2 years of adoption of this plan:

- Identify at least two restoration projects and assign staff to establish a schedule and explore funding options and partnerships.
- Assign staff and dedicate funding to a shoreline public education program and City-sponsored web page.

Within 5 years of adoption of this plan:

- Complete at least two of the identified restoration projects.
- Hold at least three public workshops on voluntary shoreline restoration measures.
- Have a shoreline restoration program web page online.

Within 7 years of adoption of this plan:

- Complete a feasibility study and begin conceptual design for at least one of the long-term restoration projects identified in Table 5.

Over time restoration efforts must be evaluated against a set of benchmarks to determine if adequate progress is being made. One way to assess progress will be to track and report the following general benchmarks:

- Acres of riparian enhancement
- Acres of reconnected floodplain
- Acres of wetland restored in the shoreline jurisdiction
- Acres of native vegetation planted
- Performance in meeting water quality criteria as measured in the state water quality assessment
- Number of restoration actions implemented in conjunction with other project partners

More specific benchmarks should be developed for specific projects. For example, the benchmarks for a riparian revegetation project could include reduction in cover of non-native plants, survival of installed plants, and increase in cover of native plants along the shoreline.

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APPENDIX A. SOURCES OF FUNDING AND TECHNICAL ASSISTANCE

A variety of outside funding sources are available for restoration projects in the Puget Sound basin. Funding opportunities have generally increased since the implementation of Governor Gregoire's Puget Sound Initiative in 2005, though the process by which organizations are able to obtain funds is typically quite competitive. Sources listed here do not represent an exhaustive list of potential funding opportunities, but are meant to provide an overview of the types of opportunities available.

Washington Department of Fish & Wildlife (WDFW)

600 Capitol Way North
Olympia, WA 98501-1091
360-902-2806.

<http://wdfw.wa.gov/volunter/vol-7.htm>

Grant programs administered by WDFW are described below.

- *Aquatic Lands Enhancement Account (ALEA) Volunteer Cooperative Projects Program:* The WDFW accepts grant applications from individuals and volunteer groups conducting local projects to benefit fish and wildlife. Grants have ranged from \$300 to \$75,000 in past years to help volunteers pay for materials necessary for projects approved by the agency. Funding cannot be used for wages or benefits. Examples of past projects include habitat restoration, improving access to fish and wildlife areas for disabled people, fish and wildlife research, public education and fish-rearing projects that can benefit the public.
- *Landowner Incentive Program:* The Landowner Incentive Program (LIP) is a competitive grant program designed to provide financial assistance to private landowners for the protection, enhancement or restoration of habitat to benefit species at risk on privately owned lands. At risk species depend on specific ecosystems for survival. These ecosystems include riparian areas, wetlands, oak woodlands, prairies and grasslands, shrub steppe and nearshore environments. Through Washington's LIP, individual landowners are eligible to apply for up to \$50,000 in assistance. In addition, \$50,000 is typically set aside for small grants. Any individual applying for these small grant funds may apply for up to \$5,000. A 25% non-federal contribution is required, which may include cash and/or in-kind (labor, machinery, materials) contribution.

National Fish and Wildlife Foundation

1120 Connecticut Avenue, NW, #900
Washington, DC 20036
Kathleen Pickering 202-857-0166

www.nfwf.org

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

- *Bring Back the Natives: A Public-Private Partnership for Restoring Populations of Native Aquatic Species:* The Bring Back the Natives initiative (BBN) funds on-the-ground efforts to restore native aquatic species to their historic range. Projects should involve partnerships between communities, agencies, private

landowners, and organizations that seek to rehabilitate streamside and watershed habitats. Projects should focus on habitat needs of species such as fish, invertebrates, and amphibians that originally inhabited the waterways across the country. Twelve to fifteen grants averaging \$60,000 are awarded annually.

- **Five-Star Restoration Matching Grants Program:** The Five-Star Restoration Program provides modest financial assistance on a competitive basis to support community-based wetland, riparian and coastal habitat restoration projects that build diverse partnerships and foster local natural resource stewardship through education, outreach and training activities.
- **The Migratory Bird Conservancy:** The MBC will fund projects that directly address conservation of priority bird habitats in the western hemisphere. Acquisition, restoration, and improved management of habitats are program priorities. Education, research, and monitoring will be considered only as components of actual habitat conservation projects.
- **Community Salmon Fund:** NFWF has established local partnerships throughout Washington State through the Community Salmon Fund program to engage landowners, community groups, tribes, and businesses in stimulating smaller-scale, community-oriented habitat restoration and protection projects to aid in salmon recovery. Grants made under this program are administered by NFWF. There are currently three Community Salmon Fund partnership programs. NFWF has partnered with the Washington State Salmon Recovery Funding Board (SRFB) to administer a statewide Community Salmon Fund program that is coordinated with the individual Lead Entity groups. In addition to this SRFB Community Salmon Fund program, NFWF has partnered with both King and Pierce Counties to administer county-specific Community Salmon Fund programs in those counties.

Salmon Recovery Funding Board (SRFB)

Lead Entity Coordinator: Mary Jorgensen

(206) 296-8067

mary.jorgensen@metrokc.gov

The Salmon Recovery Funding Board supports salmon recovery by funding habitat protection and restoration projects. It also supports related programs and activities that produce sustainable and measurable benefits for fish and their habitat. SRFB distributes funds through two grant programs: SRFB grants, and Family Forest Fish Passage Program grants. The grants from SRFB range from \$10,000 to nearly \$900,000. They have been awarded to organizations in 28 counties for work ranging from planting trees along streams to cool the water for salmon, to replacing culverts that prevent salmon from migrating to spawning habitat, to restoring entire floodplains.

Depending on the grant program, eligible applicants may include municipal subdivisions (cities, towns, counties, and special districts such as port, conservation, utility, park and recreation, and school), tribal governments, state agencies, nonprofit organizations, regional fisheries enhancement groups, and private landowners. To be considered for

funding, projects must be operated and maintained in perpetuity for the purposes for which funding is sought. All projects require lead entity approval and must be a high priority in the lead entity strategy or regional recovery plan.

Grants are awarded by the Salmon Recovery Funding Board based on a public, competitive process that weighs the merits of proposed projects against established program criteria.

**NOAA Restoration Center
Community-based Restoration Program**

Northwest Region

Jennifer Steger, Director

Jennifer.Steger@noaa.gov

<http://www.nmfs.noaa.gov/>

The NOAA Community-based Restoration Program (CRP) is a financial and technical assistance program that helps communities implement restoration projects. Specific opportunities are listed below.

- *NOAA CRP 3-Year Partnership Grants:* These grants fund national and regional habitat restoration partnerships for up to 3 years that provide sub awards for individual grass-roots restoration projects. Typical awards range from \$100,000 to \$2,000,000.
- *NOAA CRP Project Grants:* These grants fund grass-roots marine and coastal habitat restoration projects that will benefit anadromous fish species, commercial and recreational resources, and endangered and threatened species. Typical awards range from \$30,000 to \$250,000.
- *American Sportfishing Association's FishAmerica Foundation Grants:* Since 1998, NOAA CRP has partnered with the FishAmerica Foundation to provide funding for fisheries habitat restoration projects nationwide. Grants will fund marine and anadromous fish habitat restoration projects that benefit recreationally fished species. Typical awards range from \$5,000 to \$50,000.
- *National Fish & Wildlife Foundation/National Association of Counties Coastal Counties Restoration Initiative:* In partnership with NOAA CRP, this grant program funds innovative, high quality county-led or supported projects that support wetland, riparian and coastal habitat restoration projects. Typical awards range from \$25,000 to \$100,000.

Washington State Department of Ecology

Post Office Box 47600

Olympia, Washington 98504-7600

jrus461@ecy.wa.gov

www.ecy.wa.gov/programs/wq/plants/grants/index.html

Grant programs administered by Washington State Department of Ecology are described below.

- **Water Quality Program:** The Department of Ecology's Water Quality Program administers three major funding programs that provide low-interest loans and grants for projects that protect and improve water quality in Washington State.

Ecology acts in partnership with state agencies, local governments, and Indian tribes by providing financial and administrative support for their water quality efforts. As much as possible, Ecology manages the three programs as one; there is one funding cycle, application form, and offer list. The three programs are: The Centennial Clean Water Fund, The State Revolving Loan Fund (SRF), and The Section 319 Nonpoint Source Grants Program (Section 319). Local governments, Native American tribes, special purpose districts, and non-profit groups are eligible for funding. Grants and loans are available for point source and nonpoint source projects. This includes, but is not limited to, treatment facilities, stream and salmon habitat restoration, and water quality monitoring.

- **Coastal Protection Fund:** This account is funded primarily by oil spill penalties levied against responsible parties. Restoration efforts undertaken with these funds are diverse and include fish barrier removal, and environmental education projects.
- **Coastal Zone Management Administration/Implementation Awards:** This program assists states in implementing and enhancing Coastal Zone Management (CZM) programs that have been approved by the Secretary of Commerce. Funds are available for projects in areas such as coastal wetlands management and protection, natural hazards management, public access improvements, reduction of marine debris, assessment of impacts of coastal growth and development, special area management planning, regional management issues, and demonstration projects with potential to improve coastal zone management.

**Washington Department of Transportation (WSDOT)
City Fish Passage Grant Program**

Cliff Hall
(360) 705-7499
hallcli@wsdot.wa.gov

The City Fish Passage Barrier Removal and Habitat Restoration Grant Program provides \$2 million to be used towards City fish passage barrier removal projects, with complementing habitat restoration and stormwater components. The intent of the City Fish Passage Barrier Removal and Habitat Restoration Grant program is to integrate clean water with salmon restoration efforts and compliments the WSDOT ESA response. Grant funding may vary from year to year; check with the Program Manager at WSDOT for more detailed information.

Environmental Protection Agency (EPA)

Region 10: Pacific Northwest

Grants Administration Unit
Bob Phillips
phillips.bob@epa.gov
(206) 553-6367

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

- *The Clean Water State Revolving Fund Program:* Under this program, EPA provides grants or “seed money” to all 50 states plus Puerto Rico to capitalize state loan funds. The states, in turn, make loans to communities, individuals, and others for high-priority water-quality activities. Projects funded by the low-interest loans may include wetlands protection and restoration, estuary management efforts – including wildlife habitat restoration – and development of streambank buffer zones.
- *Nonpoint Source Implementation Grant (319) Program:* Clean Water Act Section 319(h) funds are provided only to designated state and tribal agencies to implement their approved nonpoint source management programs. State and tribal nonpoint source programs include a variety of components, including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and regulatory programs. Each year, EPA awards Section 319(h) funds to states in accordance with a state-by-state allocation formula that EPA has developed in consultation with the states.
- *Wetland Protection, Restoration, and Stewardship Discretionary Funding:* This program provides support for studies and activities related to implementation of Section 404 of the Clean Water Act for both wetlands and sediment management. Projects can support regulatory, planning, restoration or outreach issues. Typical grant awards range from \$5,000 to \$20,000.

U.S. Fish & Wildlife Service (USFWS)

Nell Fuller
911 NE 11th Avenue

Portland, OR 97232-4181
(503) 231-2014
Nell_Fuller@fws.gov

Grant programs administered by USFWS are described below.

- *Partners for Fish and Wildlife Program*: This program provides technical and financial assistance to private landowners and Tribes who are willing to work with USFWS and other partners on a voluntary basis to help meet the habitat needs of Federal Trust Species. The Partners Program can assist with projects in all habitat types which conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or ecosystems that otherwise provide an important habitat requisite for a rare, declining or protected species. The typical grant award is approximately \$25,000.
- *Puget Sound Program*: The Puget Sound Program was established to protect, restore, and enhance the natural resources of Washington's coastal ecosystems. USFWS works closely with the U.S. Environmental Protection Agency's National Estuary Program, and their State partner, the Puget Sound Water Quality Action Team to conserve fish and wildlife and their habitats in Puget Sound, an "estuary of national significance." Partnerships with other agencies, Native American Tribes, citizens, and organizations are emphasized.
- *National Fish Passage Program*: Each year the Service solicits and inputs select fish passage projects into the Fisheries Operational Needs System database. Projects are prioritized and selected based upon the benefits to species and the geographical area. Typical projects include barrier culvert removal or replacement with a fish passable culvert or bridge, and re-opening oxbow and off channel habitats. Typical funding amounts range from \$30,000 to \$110,000 with a minimum 25% cost share requested.
- *Cooperative Endangered Species Conservation Fund*: Grants offered through the Cooperative Endangered Species Conservation Fund support participation in a wide array of voluntary conservation projects for candidate, proposed and listed species. These funds may in turn be awarded to private landowners and groups for conservation projects.
- *North American Wetlands Conservation Act Grants Program*: The North American Wetlands Conservation Act of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife. The Standard Grants Program supports projects in Canada, the United States, and Mexico that involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats. The Small Grants Program operates only in the United States; it supports the same type of projects and adheres to the same selection criteria and administrative guidelines as the U.S. Standard Grants Program. However, project activities are usually smaller in scope and involve fewer project dollars. Grant requests may not exceed \$75,000, and funding priority is given to grantees or partners new to the Act's Grants Program.

**U.S. Army Corps of Engineers
Basinwide Restoration New Starts General Investigation**

Bruce Sexauer
P.O. Box 3755
Seattle, WA 98134
(206) 764-6959

Funding for projects related to coastal ecosystems, fish and wildlife, flood management, land management and planning, outdoor recreation, general restoration, riparian areas, water quality, and wetlands is provided through this program at a 65:35 cost share. Studies on the same topics are funded at a 50:50 cost share.

**Interagency Committee for Outdoor Recreation
Washington Wildlife Recreation Program**

1111 Washington St. SE
PO Box 40917
Olympia, WA 98504
360-902-3000, info@iac.wa.gov

The WWRP provides funds for the acquisition and development of recreation and conservation lands. WWRP funds are administered by account and category. The Habitat Conservation Account includes critical habitat, natural areas, and urban wildlife categories. The Outdoor Recreation Account includes local parks, state parks, trails, and water access categories. Letters of intent are usually due March 1 of each year. Applications are usually due May 1.

**Trout Unlimited
Embrace-A-Stream**

406-543-1192
www.tu.org

Embrace-A-Stream (EAS) is the flagship grant program for funding Trout Unlimited's conservation efforts to conserve, protect, and restore coldwater fisheries and their watersheds. Trout Unlimited annually raises money from TU members, corporate and agency partners, and foundations to distribute as small grants to local TU projects. The goal of EAS is to conserve coldwater fisheries through innovative grassroots conservation projects. Successful projects are based on sound science, benefit the resource, strengthen the local TU chapter and council, and help build the constituency for protecting trout and salmon. TU volunteers are actively involved in project work and are expected to provide matching funds. An Embrace-A-Stream Committee comprised of TU volunteer representatives and scientific advisors evaluates all proposed projects.

**Natural Resources Conservation Service
Conservation Reserve Program**

<http://www.nrcs.usda.gov/programs/crp/>

The Conservation Reserve Program (CRP) provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with federal, state, and tribal environmental laws, and encourages environmental enhancement. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as grasses, wildlife plantings, trees, filterstrips, or riparian buffers. Farmers receive an annual rental payment for the term of the multi-year contract. Cost sharing is provided to establish the vegetative cover practices.

APPENDIX C: No Net Loss Memo/Cumulative Impacts Analysis



memorandum

date May 22, 2017

to Glen Pickus, City of Snohomish

from Mark Johnson and Malia Bassett, ESA

subject **City of Snohomish, Shoreline Master Program Update –
Draft Cumulative Impacts Analysis and No Net Loss Memorandum**

With the assistance of a grant from the State Department of Ecology, the City of Snohomish is updating its Shoreline Master Program (SMP) consistent with state guidelines (WAC Chapter 173-26). Under the shoreline guidelines, local jurisdictions are required to evaluate and consider cumulative impacts of reasonably foreseeable future development in the shorelines of the state (WAC 173-26-186(8)(d)). This memorandum assesses the potential cumulative impacts that would result from development and activities in the shoreline within the city over time under the provisions contained in the Draft SMP (Planning Department Recommended Draft, dated May 2017). This memorandum will be revised as necessary at the time of local adoption to reflect any City Council changes within the locally adopted SMP.

The City of Snohomish is located on the north side of the lower Snohomish River valley, approximately 11 miles upstream from where the river enters Puget Sound at Everett. The city is bordered by the Snohomish River to the south and the Pilchuck River to the east. The Pilchuck River enters the Snohomish River 0.5 miles south of the city limits. The city encompasses an area of approximately 3.25 square miles and as of 2011 the city's population was approximately 9,200. Incorporated in 1890, the city has a long physical presence and history. Today, it is an important residential and cultural center of the county with a diverse economic base. There are approximately 4.57 miles of shoreline representing designated shorelines of the state (shorelines) in the City's planning area (city limits). The City's shoreline planning area has been organized into eight distinct segments or "reaches" based broadly on the physical characteristics along the shoreline, the level of ecological functions provided by each segment, as well as existing land uses and zoning.

The purpose of evaluating cumulative impacts is to ensure that, when implemented over time, the proposed SMP goals, policies and regulations will achieve no net loss of shoreline ecological functions from current "baseline" conditions. Baseline conditions are identified and described in the City of Snohomish Draft Shoreline Inventory and Characterization Report (ESA 2010, updated May 2017). The draft Snohomish SMP provides standards and procedures to evaluate individual uses or developments for their potential to impact shoreline resources on a case-by-case basis through the permitting process. The purpose of this memorandum is to determine if impacts to

shoreline ecological functions are likely to result from the aggregate of activities and developments in the shoreline that take place over time.

The guidelines state that, “to ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:

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

This cumulative impacts assessment 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 SMP over time. In addition, Appendix A evaluates provisions of the draft SMP in the context of shoreline ecological functions and ecosystem-wide processes as defined by the guidelines.

Current Circumstances

As part of the City’s SMP update process, a Shoreline Inventory and Characterization Report, including a map folio, were prepared and submitted for technical agency review in June 2010. This Report (ESA, updates of 2010 version completed in May 2017) identifies existing conditions and evaluates the ecological functions and processes in the City’s shoreline jurisdiction. The inventory included all shoreline areas within the City of Snohomish and its designated UGA. Baseline conditions are summarized very briefly below. For additional review and detail please refer to the Inventory and Characterization Report.

Physical and Ecological Processes

The City’s shoreline jurisdiction is defined by the surface geology and hydrology of the valley floor of the Snohomish River Basin including its major tributaries (Pilchuck, Skykomish, and Snoqualmie Rivers) and contributing streams. The headwaters of both the Snohomish and Pilchuck Rivers are predominantly located within the Cascade Mountains and foothills, Mount Baker-Snoqualmie National Forest, and private commercial timberlands. The landscape of the jurisdiction has been heavily influenced by frequent flooding events which have historically covered the valley with layers of mud, silt, ash, and glacial debris. The broad floodplains of both river systems have created a vast mosaic of fluvial materials and silts eroded from headwater sources.

The Snohomish River Basin covers an area of approximately 1,856 square miles across both King and Snohomish Counties and contains about 2,718 miles in stream length, making it the second largest basin draining into Puget Sound. The Skykomish and Snoqualmie Rivers originate in the Cascade Mountains and join near the City of Monroe where they become the Snohomish River. The Snohomish River flows into the estuary downstream from the City of Snohomish and empties into Puget Sound between Everett and Marysville.

¹ WAC 173-26-286(8)(d)

The Snohomish River Basin was one of the earliest areas settled in the Puget Sound region. Historically, the study area was characterized by large tracts of old-growth forests, fertile river valley soils, and abundant runs of salmon.

Urbanization and development within the upper watershed of the Snohomish River Basin have been limited compared to lower watershed where urbanization has occurred in the Puget Sound lowlands. The upper watershed of the Snohomish River has been affected by timber harvest and road building practices that have reduced the ability of riparian areas to provide wood and shade to the river and stream channels. These areas also continue to contribute to fine sediments from road construction and landslides in each river system. The lower watershed has experienced historical clearing of forests, construction of impervious surfaces, and stabilization of the riparian corridor that combine to alter the quality and movement of water through the watershed.

Habitat and Species

The shorelines within Snohomish provide important habitat for a number of fish and wildlife species. The aquatic environment of both rivers is an important riverine corridor from the Cascade Mountains to Puget Sound. Most notably, the Snohomish and Pilchuck Rivers have been designated as critical habitat for Chinook salmon, steelhead, and bull trout. All three species are listed as threatened under the Federal Endangered Species Act. Therefore, fish passage, especially for federally listed species, is an important function of the shorelines within the City of Snohomish. Priority fish species have not been identified within the Blackmans Lake shoreline planning area.

Modifications to the river system and Blackmans Lake shoreline have resulted in reduced levels of ecosystem functioning, including hydrology, water quality, riparian habitat, sediment transport, and in-stream as well as lacustrine habitat. Changes to hydrology focus on modified flow regime due to dam construction, intake diversion, and urban development. River management and shoreline stabilization have reduced the connection between the rivers and Blackmans Lake with their respective floodplains, changing the spatial extent of habitats, and increasing the potential for negative water quality impacts. Disturbances to the channel banks and lake shorelines have resulted in areas that are dominated by non-native invasive species. Wood, in the form of riparian trees and in-channel wood, is generally lacking throughout the system, which negatively impacts riparian and aquatic habitats. In general, the level of modification increases moving downstream and toward the city center in both river systems; higher occurrence of riverine disturbances consequently result.

Important features of the City of Snohomish's shoreline environment that provide habitat include:

- Streams (fish and wildlife corridors and sources of fluvial sediments);
- Riparian zones (vegetated bars and vegetation overhanging the stream reach);
- Lakes;
- Wetlands; and
- Aquifer recharge areas.

Examples of aquatic and terrestrial species found in or near the City of Snohomish that utilize crucial shoreline habitat include:

- Salmonids (including listed species such as Chinook, steelhead, and bull trout);
- Resident cutthroat,
- Waterfowl, bald eagle, bats, great blue heron, and pileated woodpecker;
- Salamanders, frogs, amphibians; and
- Mammals: raccoons, beavers, deer.

Land Use and Public Access

According to Snohomish County Assessor records (2009), current land use in Snohomish’s shoreline planning area is a mix of mainly residential, parks and open spaces with some commercial uses. One notable exception is the City’s Wastewater Treatment Plant at the city’s western edge which, including associated wetlands, comprises 35 percent of the entire shoreline planning area.

Table 6. Land Use Designations in Shoreline Planning Area

Waterbody	Industrial	Residential	Park and Open Space	Commercial	Mixed Use	Urban Horticulture	Historic Business	Grand Total
Blackmans Lake	0.00%	76.64%	23.36%	0.00%	0.00%	0.00%	0.00%	100.00%
Pilchuck River	0.00%	19.41%	44.14%	5.02%	29.65%	1.79%	0.00%	100.00%
Snohomish River	60.86%	2.80%	16.59%	9.52%	0.00%	7.48%	2.75%	100.00%
Total	34.54%	25.20%	22.98%	6.24%	4.94%	4.54%	1.56%	100.00%

Residential areas constitute the second most common land use (25 percent of entire shoreline planning area) located along the northern half of the Pilchuck River shoreline and the southern half of Blackmans Lake (77% of Blackmans Lake planning area). Parks and Open Space comprise nearly a quarter of the shoreline planning area and are focused mostly near the confluence of the Pilchuck and Snohomish Rivers. Additional pockets of open space can be found on the shores on the Pilchuck within the city limits. Farmland located at the south end of Lincoln Avenue is zoned for urban horticulture, and is used for recreational events as well as agricultural purposes.

Commercial uses, including the historic business district, are slightly less common and are mainly concentrated along the north shore of the Snohomish River in the city center (13 percent of the Snohomish River planning area). Mixed use areas are located completely within the Pilchuck River planning area and account for 5 percent of total land uses within the city-wide planning area.

The demand for water-dependent uses has decreased with the change in the economic basis of the community. Where the Snohomish once depended on the Snohomish River as a source of transportation and commerce, the city and the river have now become a destination for recreation and tourism. Strengthening and further developing the downtown area’s orientation to the Snohomish River is a key goal for the near future, as well as

promoting both rivers and Blackmans Lake for tourism and increased public access. The City's water treatment plant on the Pilchuck River is expected to continue and is a water-dependent facility.

Shoreline Alterations

Snohomish River

The construction of levees, rip rap and armoring on both the north and south shores of the Snohomish River have altered the river's flow patterns disconnecting the river from its floodplain and some associated wetlands.

Because the extensive diking and channelization severely limit overbank flows, finer materials such as sand, silt, and clay tend to be deposited in the flatter, slower moving portions of the lower river channel rather than being distributed across the nearby floodplain affecting soils, vegetation, and floodplain habitat. Decades of industrial and commercial uses have increased the amount of impervious surfaces along the shoreline and beyond. As a result surface runoff, stormwater pollution, and sediment input to the river have increased while infiltration has decreased.

Historical and intense in-stream gravel mining between 1962 and 1991 may have caused incision of the riverbed and a change in channel elevation; however, the degree to which the shorelines of the Snohomish River were affected by mining is not fully known. Mining is no longer occurring within city limits.

There are three over-water structures within the Snohomish River shoreline planning area: the SR 9 and Avenue D bridges, and the railroad trestle. The new boat launch at 20 Lincoln Ave., the old boat launch at Cady Park and the unnamed beach access at the east end of the city are the only water access points along this stretch of the river. There are no functioning piers or docks in the Snohomish River shoreline planning area.

Pilchuck River

The Pilchuck River's floodplain is constrained by steep bluffs on the western bank and levees along the eastern bank. The levees disconnect the river from portions of its floodplain and contribute to channelization. Because the river is cut off from its floodplain, sediments become deposited within the channel. Rip rap and other types of shoreline armoring are evident in places, especially beneath the bridges. The floodplain widens near the confluence with the Snohomish River.

The City water treatment plant is located approximately 16 miles northeast from the city center at RM 26.4. A dam diverts river water to the treatment plant which produces approximately one million gallons of potable water a day at full operation. There are numerous other private water withdrawals on the river for agriculture, irrigation, and other uses located outside city limits. During summer months, it is estimated that withdrawals by the City of Snohomish can remove 5 to 20 percent of the summer low flows from the river. During periods of high precipitation, the river receives high flows from Swifty Creek, the outlet stream from Blackmans Lake.

Gravel mining between 1969 and 1991 removed gravel from the river channel, gravel bars, and floodplain may have altered channel profile. Gravel mining and bank erosion have contributed to excess sediment in the river. In-stream mining has not occurred for several decades. Gravel mining continues within the floodplain on the east side of the river in unincorporated Snohomish County.

Blackmans Lake

Approximately half of the watershed feeding Blackmans Lake has been urbanized, with associated increases in impervious surfaces and stormwater runoff entering the lake. In response, the hydrology of Blackmans Lake has been significantly altered to maintain desired water levels in the lake. The lake historically discharged to Swifty Creek, which runs south through the city into the Snohomish River (near Cady Park). Low flows below 1 to 2 cubic feet per second still discharge to Swifty Creek at the lake outlet; however, in the 1980s a flow splitter was installed to direct high flows into a pipe system. This pipe system was provided to alleviate elevated surface water levels that were occurring during storm events. The pipe system extends along 6th Street to the east of Blackmans Lake, with bypassed high flows discharged into the Pilchuck River.

An outlet improvement project completed in 2016 removed accumulated sediment and encroaching invasive vegetation along 370 lineal feet of the existing outlet channel, constructed an additional 580 lineal feet of new channel, and replaced 150 lineal feet of 24-inch culvert. The project included habitat restoration along the outlet channel, including native tree and shrub plantings. By stabilizing the water level of the lake the shoreline ecology should benefit.

In addition to basin alterations impacting Blackman Lake hydrology and outlet conditions, past removal of emergent vegetation from lake may also have contributed to erosion of shoreline beach on south side of lake.

Restoration Opportunities

In addition to the inventory and characterization report, a draft Shoreline Restoration Plan has been developed as part of the SMP update (ESA 2011). The draft plan identifies potential projects that could benefit shoreline ecological functions. However, because these restoration projects are not currently funded, they are not considered in this analysis.

Reasonably Foreseeable Future Development and Use***Snohomish River***

Plans for development of the downtown riverfront area include improvements to the Riverfront Trail. Properties west of Avenue D are not likely to redevelop in near future, but could be developed for mixed use development. For those City owned properties at the west end (wastewater treatment plant and City shop yard), the City has conducted numerous studies to redevelop this area with new parks and trails. Implementation and development of any new parks and trails is contingent upon funding.

Potential exists for more formalized and enhanced public access in the urban horticultural area by the base of Lincoln Avenue. For the remaining privately owned commercial properties abutting the river, mixed-use redevelopment may occur but would occur within established standards set by the City including provisions for buffers. Mining would be prohibited in this and all other shorelines in the city.

Pilchuck River

Parks and open space exist at the north (Morgantown Park) and south (Pilchuck Park and Recreational Fields) ends of the urban conservancy designation and little redevelopment potential exists within these areas. The western bank of the river between these two points consists mostly of steep banks with upland development outside of the steep slope and required buffer. While there is little room for infill development, redevelopment of

some existing uses in the shoreline planning area is likely in the long-term. Provisions may allow some non-water dependent uses as long as they are outside the buffer. At the City's water intake facility property, potential projects to reduce the effects of the dam including removal have been studied. While final plans and funding have not been identified, the City Council has passed a resolution to conditionally close the water treatment plant and to remove the water supply diversion dam if certain outcomes are achieved, including the preservation of the City's water rights. Mining would be prohibited in this and all shorelines.

Blackmans Lake

Most of area available for residential development has already been developed with only one parcel having potential for future subdivision. Wetlands on the south shore and north shore also restrict future redevelopment due to critical area provisions and protections.

Limited over-water development water may occur. Of the 28 existing lots on the lake, 23 contain small docks; therefore, there is limited potential for new docks in the future.

Beneficial Effects of Any Established Regulatory Programs under Other Local, State, and Federal Laws

A variety of other regulatory programs, plans, and policies work in concert with the City's SMP to manage shoreline resources and regulate development near the shoreline (see Chapter 1 of the Inventory and Characterization Report).

Snohomish Municipal Code and Long Range Plans

Snohomish Comprehensive Plan

The City's Comprehensive Plan establishes the general land use pattern and vision of growth and development the City has adopted for areas both inside and outside the shoreline jurisdiction. The Environmental Protection Element of the Comprehensive Plan currently contains goals and policies specifically for shoreline management and is intended to maintain consistency with the Shoreline Master Program goals and policies. With the updated SMP the intent is to place shoreline goals and policies in a separate Shoreline Element.

Title 14 Land Use Development Code (Snohomish Municipal Code)

SMC Chapter 14.90 State Environmental Policy Act (SEPA) Every project requiring a shoreline permit must also demonstrate compliance with the State Environmental Policy Act (SEPA). For non-exempt proposals, the SEPA process assures that significant adverse environmental impacts are identified, minimized and mitigated, where possible. The City's SEPA procedures and policies are outlined in Chapter 14.90 of the SMC, including adoption of the state's SEPA rules by reference (Chapter 197-11 WAC).

SMC Chapters 14.255, 14.260, 14-270, 14.275, and 14.280 Critical Areas: City of Snohomish critical areas regulations restrict development in and near wetlands, aquifer recharge areas, flood hazard areas,

geologic hazard areas, and habitat conservation areas. All shorelines in the city are classified as habitat conservation areas, and some areas are also classified as other types of critical areas as well. In habitat conservation areas, most uses must maintain an undeveloped, vegetated buffer of 100 feet. Under limited circumstances, some uses may encroach within 50 feet of the water's edge, provided mitigation is included to protect against loss of ecological functions of the buffer and habitat area. Development within wetlands and within the floodway is also prohibited. Development may be permitted in other flood hazard areas and geologically hazard areas provided the project design considers these hazards. The critical area regulations have the effect of protecting most of the remaining riparian vegetation and in-water habitat in the shorelines, while generally allowing existing development to remain.

SMC Chapters 14.240 Landscaping, Screening, Fencing, and Retaining Walls: As related to environmental protections, the purpose of the regulations are to: “preserve any existing natural wooded character; reduce erosion; promote utilization of natural systems; provide permeable surface areas to recharge subsurface aquifer and reduce quantity of stormwater runoff; maintain or replace existing vegetation; moderate the microclimate; protect and enhance watercourses, riparian habitat, and associated wildlife; and reduce impacts of development on the storm drain system” (14.240.010).

Title 15 Sewer, Water, and Stormwater (Snohomish Municipal Code)

SMC Chapter 15.16 Stormwater Management: The intent of the City's stormwater management, as stated in Chapter 15.16 of the SMC, is to “promote the public health, safety, and welfare by providing for the comprehensive management of surface and storm waters, erosion control, and flooding.” (SMC 15.16.010). The City adopted the 2012 Department of Ecology Stormwater Management Manual for Western Washington together with amendments or corrections. Stormwater management regulations have been established “to minimize water quality degradation; to prevent flood damage, siltation, and habitat destruction in the City's creeks, streams, and other water bodies; to protect property owners adjacent to developing land from increased runoff rates which could cause stream erosion and damage to public and private property; to promote sound development and redevelopment policies which respect and preserve the City's watercourses and aquatic habitat; to promote low impact development practices; to reduce impervious surface and stormwater runoff; to ensure the safety of City streets and rights-of-way; and to prevent water quality degradation and promote ground water recharge through the implementation of comprehensive and thorough permit review, construction inspection, enforcement, and maintenance programs” (15.16.010). The manual also “encourages low impact development (LID) best management practices (BMPs), as an alternative to conventional stormwater management systems that rely on detention ponds and closed conveyance” (SMC 15.16.060). Low impact development is intended to manage runoff close to the source of generation and to mimic the predeveloped hydrologic condition of a site.

State and Federal Regulations

A number of state and federal agencies may have jurisdiction over land or natural elements in the City's shoreline jurisdiction. Local development proposals most commonly trigger requirements for state or

federal permits when they include 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 city, but regulated resources are common within the City's shoreline jurisdiction. The state and federal regulations affecting shoreline-related resources include, but are not limited to:

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).

Clean Water Act (CWA): The federal CWA requires states to set standards for the protection of water quality for various parameters, and it regulates excavation and dredging in waters of the U.S., including wetlands. Certain activities affecting wetlands in the City's 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.

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

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, which include any urbanized areas with more than 50,000 people and densities greater than 1,000 people per square mile.

Hydraulic Project Approval (HPA): 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 of rivers or lakes 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.

Conclusion

The cumulative actions taken over time in accordance with the City of Snohomish's proposed SMP are not likely to result in a net loss of shoreline ecological functions from existing baseline conditions. This conclusion is based on an assessment of the three factors identified in the Ecology guidelines for evaluating cumulative impacts:

- Current circumstances affecting the shorelines and relevant natural processes;
- 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 regulatory provisions of the Draft SMP (May 2017) would serve to maintain or improve the overall condition of shoreline resources. The proposed SMP provides a new system of shoreline environment designations that establishes more uniform management of the City's shoreline. The updated development standards and regulation of shoreline modifications provides more protection for shoreline processes. The updated standards and regulations are more restrictive of activities that would result in adverse impacts to the shoreline environment. The restoration plan, when implemented, would provide the City with opportunities to improve or restore ecological functions that have been impaired as a result of past development activities. In addition, the proposed SMP is meant to compliment several city, county, state and federal efforts to protect shoreline functions and values..

**City of Snohomish, Shoreline Master Program Update
May 2017 Cumulative Impacts Analysis**

**Appendix A
Assessment of Shoreline Functions Along Snohomish Shorelines**

Ecological Processes/Functions WAC 173-26-201(3)(d)(i)(C)	Current Performance (Shoreline Inventory and Characterization Report - ESA Adolphson, 2011)	Likely Development By Shoreline Environment Designation (SED)	SMP Provisions Protection or Restoration Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance By Shoreline Environment Designation (SED)
Snohomish River				
<p>Hydrology Flow regime, sediment transport, and floodplain interaction</p>	<p>The Snohomish River experiences two periods of peak flows each year: during the heavy rains of November – January, and during snowmelt in May and June. Flows are typically lowest in August when there is little rain and the snowpack in the Cascades has melted. Swifty Creek is the outlet stream from Blackmans Lake and discharges to the Snohomish River near Cady Park, with high flows diverted by piped conveyance to the Pilchuck River. The floodplain of the Snohomish River is mapped as an aquifer recharge area.</p> <p>The construction of levees, rip rap and armoring on both the north and south shores of the Snohomish River have altered the river's flow patterns disconnecting the river from its floodplain and some associated wetlands. Because the extensive diking and channelization severely limit overbank flows, finer materials such as sand, silt, and clay tend to be deposited in the flatter, slower moving portions of the lower river channel rather than being distributed across the nearby floodplain affecting soils, vegetation, and floodplain habitat. Decades of industrial and commercial uses have increased the amount of impervious surfaces along the shoreline. As a result surface runoff, stormwater pollution, and sediment input to the river have increased while infiltration has decreased.</p> <p>Historical and intense in-stream gravel mining between 1962 and 1991 may have caused incision of the riverbed and a change in channel elevation; however, the degree to which the shorelines of the Snohomish River were affected by mining is not fully known. Mining no longer occurs within the City's shorelines.</p>	<p>AQUATIC Limited development over or in the water may occur. Small overwater structures such as small marinas or private docks are allowed but few are anticipated because most of the shoreline is City-owned, and dock development on the river is complicated by flooding and other environmental constraints. Over the long term, larger infrastructure projects such as bridge work and utility facilities may be constructed; however, no plans for in- or over-water utility development exist. The City does, however, propose to bore under the Snohomish River at the Wastewater Treatment Plant for a sanitary sewer force main. Relocation of the City's boat ramp would require shoreline stabilization and placing a paved ramp in the river.</p> <p>HISTORIC RIVERFRONT The City owns almost all waterfront properties within designation east of Ave D. Plans for development of this area include improvements to the Riverfront Trail. Any trail improvements and subsequent increase in pedestrian traffic would be offset by mitigation (e.g additional overhanging vegetation). Properties west of Ave D are not likely to redevelop in near future, but could be developed for mixed use development.</p> <p>URBAN CONSERVANCY For those City owned properties north of the Snohomish River and west of Ave D (wastewater treatment plant and City shop yard), the City has conducted numerous studies to redevelop this area with new parks and trails. Implementation and development of any new parks and trails is contingent upon funding. For the remaining privately owned commercial properties abutting the river, mixed-use redevelopment may occur which could bring in more human activity. However any</p>	<p>PROTECTION General</p> <ul style="list-style-type: none"> Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted. (14.250.100.C.8) Except within the Historic Riverfront Environment all shoreline uses and development shall be located, designed, constructed, and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, erosion and accretion (14.250.100.C.9) All shoreline uses and development shall be located and designed to minimize reliance upon shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading (14.250.100.C.10). All development in the 100-year floodplain designated on the current flood insurance rate map issued by FEMA shall include an assessment of potential effects the project would have on channel migration prepared by a qualified professional, and incorporate measures to mitigate any significant adverse impacts on channel migration (14.250.100.C.11). <p>Industrial</p> <ul style="list-style-type: none"> Logs: Except where no practical alternative exists, log storage shall occur on land; Free-fall dropping of logs into water is prohibited; Logs shall not be dumped, stored, or floated in areas where grounding will occur (14.250.160.C.1, 3, 5). <p>Residential Development</p> <ul style="list-style-type: none"> Below-grade swimming pools shall be sited and designed so that they do not adversely affect the flow of groundwater or endanger unstable slopes (14.250.170.B.1.). <p>Transportation</p> <ul style="list-style-type: none"> Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive requirements of Chapter 14.255 SMC are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C). Bridge abutments of earthen fill shall not be located within an Area of Special Flood Hazard as delineated on Flood Insurance Rate Maps issued by FEMA (14.250.200.E). Transportation uses and facilities shall be designed to avoid or minimize placement of fill or structures that would restrict floodplain capacity or limit channel migration. Where transportation facilities are proposed within floodplains or channel migration zones; the proposal shall conform to the requirements of Chapters 14.255 and 14.270 SMC and this chapter (14.250.200.F). Except within the Historic Riverfront Environment, roads and off-street parking facilities shall be located so as not to require shoreline stabilization (14.250.120.K.8). <p>In-Water Uses</p> <ul style="list-style-type: none"> New dams and hydroelectric facilities are prohibited in all environments (14.250.120.P16) In-water fish and wildlife management, except aquaculture, is a Permitted Use (14.250.120). <p>Boating Facilities</p> <ul style="list-style-type: none"> Marinas and boat launches shall not alter river currents such that adverse impacts would occur downstream. Boat launches and marinas shall be designed to meet criteria by the State Department of Fish and Wildlife relative to disruption of currents, restriction of tidal prisms, flushing characteristics, and fish passage (14.250.190.C). <p>Breakwaters, Jetties, Groins, and Weirs</p> <ul style="list-style-type: none"> Breakwaters, jetties, groins and weirs shall only be permitted as a Conditional Use where necessary to support water dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the City Planner. Groins shall only be permitted as part of a restoration project sponsored or co-sponsored by a public agency (14.250.270.3). <p>Filling, Grading, and Dredging</p> <ul style="list-style-type: none"> Fill below the ordinary high water mark may be allowed as a conditional use only when meeting these criteria: When necessary to support a water dependent use; To provide for public access; When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects; To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan; To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources; For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or As part of mitigation actions, environmental restoration projects and habitat enhancement projects (14.250.300.C.1-7). Stockpiling of dredged material in or under water is prohibited (14.250.300.I) The removal of gravel for flood management is allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution (14.300.K). Dredging and disposal of dredged material below the ordinary high water mark shall be permitted only: When necessary for the operation of a water dependent use; When necessary to mitigate conditions that endanger public safety or fisheries resources; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for establishing, maintaining, expanding, relocating or reconfiguring navigation channels and basins when necessary to ensure safe and efficient accommodation of existing navigation uses when: Significant ecological impacts are minimized; The substantive requirements of Chapter 14.255 SMC are satisfied; and Dredging is maintained to the authorized location, depth and width; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for flood risk reduction projects conducted in accordance with Chapter 14.270 SMC (14.250.300.D.1-5). New development shall be sited and designed to avoid the need for new and maintenance dredging (14.250.300.P). <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> Shoreline stabilization, including bulkheads and flood protection facilities, may be permitted where such measures are necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development, and restoration/mitigation improvements (14.250.270. footnote 1) 	<p>AQUATIC No Change Since hydrological functions and processes are impaired by existing shoreline stabilization, changes to hydrology are unlikely. A new boat ramp would entail stabilization meeting standards that would protect hydrologic functions. No large scale over-water projects are planned for the future.</p> <p>HISTORIC RIVERFRONT No Change Since hydrological functions and processes are impaired by existing shoreline stabilization, changes to hydrology are unlikely. Some soft-shore stabilization may replace existing structural stabilization, particularly if the existing boat ramp is removed.</p> <p>URBAN CONSERVANCY No Change Since hydrological functions and processes are impaired by existing shoreline stabilization, changes to hydrology are unlikely. Some soft-shore stabilization may replace existing structural stabilization</p>

	<p>redevelopment would occur within established standard set by the City including provisions for buffers.</p> <p>The Urban Conservancy area located by the base of Lincoln Ave is currently used for agriculture and recreation, providing periodic parking for soccer and other recreational uses. Potential exists for more formalized and enhanced public access, including a boat ramp, which would entail clearing, grading, paving, and increased vehicular activity at and near the water’s edge.</p>		<ul style="list-style-type: none"> • An existing legally established shoreline stabilization structure may be replaced with a similar structure when it is demonstrated there is a need to protect principal uses or structures from erosion caused by currents, tidal action, or waves (14.250.270 footnote 2). • Shoreline stabilization shall be designed and constructed to avoid adversely affecting ecological functions and downstream stability (14.250.280). • New shoreline stabilization shall not preclude river channel migration within the floodway (14.250.280.B). • New shoreline stabilization may occur when studies by qualified professionals demonstrate: That erosion from waves or currents has occurred and will continue to occur without the proposal, and that damage is expected to occur if the shoreline stabilization is not constructed; That the proposal is the minimum necessary to protect existing legally-established structures, exiting water-dependent development, or projects for restoration of ecological functions; That, except for the protection of the shoreline requiring stabilization, the proposal will not preclude natural fluvial, hydrological, and geomorphological processes; That erosion is not caused by upland conditions on the project site that, if corrected, would eliminate the need for shoreline stabilization; That mitigation measures will maintain or augment shoreline processes and critical fish and wildlife habitat so that no net loss of function of riparian habitat will occur; That shoreline stabilization shall minimize the adverse impact to other properties to the maximum extent practical; That shoreline stabilization shall not be used to create new shoreland area; That shoreline stabilization shall not interfere with surface or subsurface drainage into the water body (14.250.280. E.1-8). • Shoreline stabilization shall not interfere with surface or subsurface drainage into the water body (14.250.280.D.13). • Materials that may release hazardous substances shall not be used for shoreline stabilization (14.280.F). • Shoreline stabilization shall be designed so as not to constitute a hazard to navigation and shall not substantially interfere with visual access to the water (14.280.G). • Shoreline stabilization shall be designed so as not to create a need for shoreline stabilization elsewhere (14.250.280.H). • Shoreline stabilization measures shall not be allowed within any designated floodway except as may be necessary to protect existing development or prevent serious impairment of channel function (14.250.280.I). • Shoreline stabilization shall comply with the Integrated Stream Protection Guidelines (Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003) and shall be designed to allow for appropriate public access to the shoreline (14.250.280.J). • Flood protection facilities shall be consistent with the standards in SMC 14.270 SMC, the National Flood Insurance Program (NFIP), and the Integrated Stream Protection Guidelines (Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003) (14.250.290.A). • Flood control dikes shall be landward of the designated floodway and any wetlands directly interrelated and interdependent with the river (14.250.290.B). 	
<p>Water Quality Retention of particulates, nutrient cycling, pathogens, delivery movement, and loss</p>	<p>The Snohomish River near the city is included on Ecology’s 303(d) list of impaired water bodies due to elevated fecal coliform levels and is a water of concern for temperature. Sources of fecal coliform bacteria and excess nutrients entering the river include runoff from agricultural and residential areas outside the City. Loss of riparian canopy has affected river temperature. The large extent of nearby impervious surfaces has increased surface runoff, stormwater pollution, and sedimentation. Particular pollutants include metals, phenols, and PCBs. The contribution of excess nutrients and pathogens is exacerbated by the removal of riparian vegetation and loss of wetlands that would otherwise capture or slow the entry of these pollutants into waterbodies. “Water quality is the poorest in the mainstems of the Stillaguamish and Snohomish rivers where the greatest alterations to forest cover, channel complexity, riparian vegetation, and wetlands have occurred.” (Snohomish County, 2006)</p> <p>The City’s wastewater treatment plant on the western edge of the city limits discharges treated effluent to the Snohomish River. On average the plant treats one million gallons of wastewater per day, but this can reach as much as 10 million gallons per day due to combined sewer and stormwater inputs from older parts of the city. The City has plans to separate the stormwater from sewage flows and eventually to construct a wastewater force main to Everett for treatment and discharge.</p> <p>There is only one property listed on any state or federal list for contaminated sites within the Snohomish shoreline planning area that is currently active. The Carterman Property site, on the south bank of the Snohomish River in the City of Snohomish UGA, was reported to have soils contaminated by metals and petroleum products. Ecology reports the status of this site as awaiting a site hazard assessment (Ecology, 2010).</p>	<p>ALL ENVIRONMENTS Construction of a new boat ramp would require in-water work, and likely involve a new parking area that would drain to the river.</p> <p>Construct a new sanitary sewer pump station on the wastewater treatment plant site and directional drill a force main under the Snohomish River adjacent to the wastewater treatment plan.</p> <p>HISTORIC RIVERFRONT Redevelopment in downtown could result in slight increases in impervious areas, although most non-City-owned parcels are nearly all impervious at present.</p>	<p>PROTECTION General</p> <ul style="list-style-type: none"> • All shoreline uses and development shall protect the quality and quantity of surface and ground water. New permits and development shall comply with the Department of Ecology stormwater Management Manual for Western Washington, as referenced in the City of Snohomish Engineering Design and Construction Standards (14.250.100.C.3). • No shoreline uses and development shall release solid or liquid waste, oil, unwanted chemicals, hazardous materials, or untreated effluent to any water bodies or shorelands (14.250.100.C.4). • Heating and cooling equipment may not be placed in waters of the state (14.250.100.C.6). • Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). • Except with the Historic Riverfront Environment, all shoreline uses and development shall be located, designed, constructed, and managed to minimize adverse impacts to natural shoreline processes such as water circulation, erosion and accretion (14.250.100.C.9). • All shoreline uses and development shall be located and designed to minimize reliance upon shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading (14.250.100.C.10). • All debris, overburden and other waste materials from construction shall be disposed of in such a way as to prevent their entry by erosion from drainage, high water or other means into any water body (14.250.100.C.12). • The use of chemicals to control invasive aquatic weeds is prohibited, except that milfoil may be removed using chemicals, provided that the chemicals are applied by a licensed pesticide applicator and approved for aquatic use (14.250.100.C.5) <p>Agriculture</p> <ul style="list-style-type: none"> • Creation of new agricultural structures for accessory uses on agricultural lands are subject to the requirements for structure setbacks and vegetation management by this chapter, and shall be located and designed to ensure no net loss of ecological function (14.250.130.C). <p>Industrial</p> <ul style="list-style-type: none"> • Outdoor storage areas shall be designed in accordance with Chapter 15.16 SMC and the Snohomish Engineering Design and Construction Standards (14.250.160.B) • Log storage shall not be permitted in waters of the State where water quality standards cannot be met or where log storage precludes the public’s use and navigation of waters of the State (14.250.160.C.2) • Bark and wood debris from mill operations shall be kept out of water bodies (14.250.160.C.4). <p>Residential Development</p> <ul style="list-style-type: none"> • Residential development over water is prohibited (14.250.120 footnote 8) <p>Boating Facilities</p> <ul style="list-style-type: none"> • Marinas shall have facilities for handling wastes typically generated by marina patrons and visitors. Marinas shall not discharge or release any waste, treated or untreated, into the body of water on which they are located. Oil and gas handling systems shall be designed to minimize potential oil and gas spills. Marinas shall have provisions for containment and cleanup of accidental spills (14.250.190D) <p>Shoreline Habitat and Natural Systems Enhancement Projects</p> <ul style="list-style-type: none"> • As specified by the critical areas report, plans for habitat restoration or enhancement shall focus on restoring the most-critical ecological functions. In approving any compensatory habitat enhancement plan, the City Planner shall consider factors such as changes in surface water runoff rates and water quality, current vegetative conditions, and other potential limiting conditions that could impact water quality functions provided by the critical area (14.250.320.I). • Enhancements should generally focus on offsetting project impacts but may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished (such as placement of large woody debris in water or restoring riparian vegetation) (14.250.320.I.1). • The City Planner shall determine whether a mitigation measure proposed to provide a broader ecological benefit may be substituted for one that would only offset the impacts of an individual project (14.250.320.I.2). • Where development is proposed within the required shoreline buffer, compensatory mitigation shall be provided. The City Planner shall not authorize development within a required shoreline buffer unless appropriate mitigation is provided (14.250.320.H). <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> • Material that may release hazardous substances shall not be used for shoreline stabilization (14.250.280.F). 	<p>ALL ENVIRONMENTS No Change Water quality will likely not be degraded by new development since applicants would be required to meet stormwater management standards and develop an erosion and sedimentation control program. New development also would require maintaining and in some cases enhancing vegetated buffers.</p>

<p>LWD, Organics and Habitat Maintain characteristic plant community and source of large woody debris (LWD)</p>	<p>Shoreline modifications and development have resulted in reduced shoreline vegetation, loss of wetlands, removal of large woody debris, and reduced off-channel habitat. Over 60% of the Snohomish River’s banks (including areas both within and outside of the city) contain little or no riparian forest. Historic floodplains have had most native vegetation removed and have been developed with agricultural, industrial, and commercial uses.</p> <p>A large wetland complex is located adjacent to the City’s wastewater treatment plant. This wetland includes palustrine emergent, scrub-shrub, and forested vegetation communities. The wetland covers approximately 18 acres. Cemetery Creek meanders through this wetland system and discharges to the Snohomish River at a point just north and west of the city limits. This wetland is believed to be part of a historical meander of the Snohomish River that was cut off then the river was channelized. Tides now create large off-channel pools in the wetland that may provide salmonid juvenile rearing and adult holding habitat. Public improvements for pedestrian access to the wastewater treatment plant shoreline and visual access to the adjacent wetland/stream complex are currently under consideration by the City.</p> <p>The Snohomish River in the vicinity of the city supports several salmonid species, including Chinook salmon (federally listed threatened), Coho salmon, chum salmon, pink salmon, sockeye salmon, bull trout/Dolly Varden (federally listed threatened), and steelhead (federally listed threatened). Of these species, summer Chinook salmon are documented to spawn in this portion of the river. The loss of riparian vegetation and large woody debris on the Snohomish River has impacted salmonid habitat by reducing the food supply for fry, increasing solar heating of the water, and reducing cover and refuge habitat. Water quality problems and physical barriers have reduced fish access to tributaries. Most of the subbasins in the Snohomish watershed have peak flows that are considered unhealthy for salmon conservation, based on analyses of forest cover, road density, and impervious surface.</p>	<p>ALL ENVIRONMENTS Some clearing would be necessary to create a new boat ramp; any buffer clearing would be offset by required buffer enhancement.</p> <p>HISTORIC RIVERFRONT Public access improvements in downtown could include changes to vegetation, but would be required to meet “no net loss” standard.</p> <p>URBAN CONSERVANCY Public access and utility improvements could include changes to vegetation, but would be required to meet the “no net loss” standard.</p>	<p>PROTECTION</p> <p>General</p> <ul style="list-style-type: none"> The use of chemicals to control invasive aquatic weeds is prohibited, except that milfoil may be removed using chemicals, provided that the chemicals are applied by a licensed pesticide applicator and approved for aquatic use (14.250.100.C.5). All shoreline uses and development shall be located, designed, constructed and managed to avoid disturbance of, or minimize adverse impacts to, protect fish and wildlife habitat conservation areas. Where avoidance of adverse impacts is not practicable, the City Planner, in consultation with state resource management agencies and federally recognized tribes, may require that mitigation measures to protect species and habitat functions be implemented (14.250.100.C.7). Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). As provided by WAC 173-26-186(8), land development, land uses, and modifications within the shoreline jurisdiction shall not result in a net loss of shoreline ecological functions and processes. Mitigation for impacts resulting from development, uses, and modifications shall comply with the priorities specified in the Shoreline Restoration Plan and the substantive requirements of Chapter SMC 14.255 SMC (14.255.100.A). <p>Agriculture</p> <ul style="list-style-type: none"> Creation of new agricultural structures for accessory uses on agricultural lands are subject to the requirements for structure setbacks and vegetation management specified by this chapter, and shall be located and designed to ensure no net loss of ecological function (14.250.130.C). <p>Commercial</p> <ul style="list-style-type: none"> Except for commercial structures that are dependent on direct, contiguous access to the water, all commercial structures shall be located outside the shoreline buffer area prescribed by this chapter (14.250.150.A) On parcels that abut the Snohomish River directly: Water-dependent and water-related commercial uses are permitted; Non-water oriented commercial uses may be permitted if they include habitat enhancement and public access improvements that provide a public benefit commensurate with the scale of the proposed use (14.250.120. 3). On parcels that are physically separated from the water by developed public roadway or a parcel under separate ownership with existing commercial, industrial or residential development shall be subject to the underlying zoning. (14.250.120.3). <p>Cultural</p> <ul style="list-style-type: none"> To ensure no net loss of ecological function, vegetation enhancement may be required and may include off-site vegetation enhancement, provided it is in or immediately adjacent to the Historic Riverfront environment. (14.250.120.C.3.c). Lighting of outdoor facilities within the shoreline environment shall be designed and configured to avoid light spill into regulated critical areas and their buffers or onto adjacent properties. Where light spill cannot be avoided, such lighting shall be the minimum necessary to achieve the intended purpose (14.250.180). <p>Industrial</p> <ul style="list-style-type: none"> Logs: Except where no practical alternative exists, log storage shall occur on land; Free-fall dropping of logs into water is prohibited; Logs shall not be dumped, stored, or floated in areas where grounding will occur (14.250.160.C.1, 3, 5). <p>Park/Recreation</p> <ul style="list-style-type: none"> Golf courses, playing fields, and other large areas devoted to athletic activities shall be allowed only outside of the buffers required by this chapter. (14.250.120. 11). <p>Residential</p> <ul style="list-style-type: none"> Non-water-dependent accessory structures and facilities such as sheds, gazebos, swimming pools, and driveways shall not be located in shoreline buffer areas (14.250.170.B.2). Stairs and paths to a dock or beach may be allowed in the shoreline buffer areas, but shall be limited to the minimum necessary to provide pedestrian access (14.250.170.B.4). <p>Public Marinas and Boat Launches</p> <ul style="list-style-type: none"> Marinas shall be designed to include native vegetation where feasible and practical (14.250.190.F). Parking for boat launches and marinas shall be located upland of shoreline buffer areas (14.250.190.J). <p>Transportation</p> <ul style="list-style-type: none"> Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that that the substantive requirements of Chapter 14.255 SMC are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C) Major roads and railroads shall cross shoreline areas by the shortest, most direct route feasible, unless such route would cause significant environmental damage (14.250.200.B) New off-street parking shall be located outside of required critical area buffers (14.250.200.H). Exterior lighting from parking areas shall be designed to avoid or minimize light spill into regulated critical areas and their buffers (14.250.200.K). <p>Utilities</p> <ul style="list-style-type: none"> Utility transmission and distribution infrastructure that cannot be located below ground and outside the shoreline jurisdiction shall be located as far landward as feasible to preserve public views (14.250.210C). Where feasible utility lines and facilities shall be located underground unless long-term environmental benefit is demonstrated through the use of aerial utility lines (14.250.210.B). If crossing beneath a river or stream, utilities shall be designed to avoid river bed/streambed mobilization and adverse environmental impacts in general. Such utility lines shall be placed in a sleeve or conduit to facilitate replacement without additional boring or excavation (14.250.210.F.3). <p>In-Water Uses</p> <ul style="list-style-type: none"> New dams and hydroelectric facilities are prohibited in all environments (14.250.120). [In-water and over-water highway and street facilities] may be permitted as conditional uses where: a) there is no feasible upland location; and b) the substantive requirements of Chapter 14.255 SMC are satisfied; and c) the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in the project’s mitigation plan (14.250.120.17). <p>Boating Facilities</p> <ul style="list-style-type: none"> Marinas and boat launches shall not alter river currents such that adverse impacts would occur downstream. Boat launches and marinas shall be designed to meet criteria by the State Department of Fish and Wildlife relative to disruption of currents, restriction of tidal prisms, flushing characteristics, and fish passage (14.250.190C) New residential lots created adjacent to Blackmans Lake shall provide for common or shared dock(s) in lieu of individual docks for each lot (14.250.170.D). Marinas shall be designed to include native vegetation where feasible and practical (14.250.190.F). Parking for boat launches and marinas shall be located upland of shoreline buffer areas (14.250.190.J). 	<p>AQUATIC No Change Establishing a riparian management zone for non-water-dependent uses will result in protection of existing vegetation.</p> <p>HISTORIC RIVERFRONT No Change Establishing a riparian management zone for non-water-dependent uses will result in protection of existing vegetation. Any trail or park improvements will be accompanied by mitigation measures (e.g. overhanging vegetation).</p> <p>URBAN CONSERVANCY No Change Establishing a riparian management zone for non-water-dependent uses will result in protection of existing vegetation.</p>
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- Docks and piers shall be subject to the requirements of SMC 14.250.130.H.6-14, or shall demonstrate that the project provides an equal or greater degree of protection of ecological functions and anadromous species habitat. For the purposes of meeting this requirement, the City Planner may require a habitat management plan to determine whether the project is adequately protective (14.250.130.H.5).
- In order to mitigate the impacts of new or expanded commercial moorage facilities on sites where riparian vegetation is degraded or absent, the applicant shall plant emergent vegetation (if site-appropriate) and a buffer of vegetation a minimum of ten feet wide along the entire length of the lot immediately landward of the ordinary high water mark. Planting shall consist of native shrubs and trees and, when possible, emergent vegetation. At least five native trees will be included in a planting plan containing one or more evergreen trees and two or more trees that survive well with wet roots (e.g., willow species), per every 100 lineal feet of shoreline. On sites with mature riparian vegetation, existing native vegetation should be retained and the buffer enhanced to the equivalent of these standards. Plantings shall be monitored for a period of five years according to an approved monitoring plan. This subsection is not intended to prevent reasonable access through the shoreline critical area buffer to the shoreline, or to prevent recreational use of the shoreline critical area. This requirement may be waived or reduced for water-dependent transportation uses where it is demonstrated that vegetation could result in safety or navigation hazards. Removal of riparian vegetation is subject to the requirements of SMC 14.280.060. including compensatory replacement if buffers are reduced (14.250.130.H.10).
- No covered boat lift, dock, pier, covered moorage, covered float, or other covered structure is permitted waterward of the ordinary high water mark, except submerged, free-standing mechanical boat lifts associated with single detached residential docks or piers and recreational watercraft, which may be covered with a canopy, provided: No canopy shall be more than twenty-five feet in length or wider than fifteen (15) feet; No portion of the canopy shall exceed a height of twelve (12) feet above the ordinary high water mark; The canopy shall at no time have any side partly or wholly enclosed; The highest portion of the canopy shall be located below the lowest grade point on the waterward side of the existing homes on surrounding properties; Canopies shall be made out of non-toxic materials; Canopies shall be of a translucent material to allow light transmission; The total overwater coverage of the piers, floats, ramps, ells, and canopy for a single family residence with a single-use moorage shall not exceed six hundred (600) square feet ; and Only one boat lift canopy per single detached residence shall be allowed (14.250.130.H.12.a-h).

Breakwaters, Jetties, Groins, and Weirs

- Breakwaters, jetties, groins and weirs shall be permitted where necessary to support water dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the City Planner. Groins shall only be permitted as part of a restoration project sponsored or co-sponsored by a public agency (14.250.270.3).

Filling, Grading, and Dredging

- Fill below the ordinary high water mark may be allowed as a conditional use only when meeting these criteria: When necessary to support a water dependent use; To provide for public access; When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects; To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan; To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources; For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or As part of mitigation actions, environmental restoration projects and habitat enhancement projects (14.250.250.C.1-7).
- Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project (14.250.250.D.4).
- Disposal of dredged material shall be done only in approved disposal sites (14.250.250.F).

Shoreline Habitat and Natural Systems Enhancement Projects

- Non-native vegetation may be removed as part of a restoration or enhancement project if replacement plantings will provide greater benefit to shoreline ecological processes. Existing non-native vegetation may be retained unless otherwise required to be replaced as part of an enhancement associated with development on the property (14.250.320.E)
- Vegetation and vegetated areas within designated critical areas and their required buffers shall be delineated, preserved, enhanced, restored, etc., so as to protect or improve shoreline ecological processes and functions. Such measures shall be as prescribed by standards within the SMP, including integrated critical areas standards, and/or by a critical areas report prepared pursuant to Chapter 14.255 SMC (as well as critical areas protections standards included directly within the SMP). Proposed SMC 14.250.320 (Habitat and Vegetation Management) and 14.250.330 (Shoreline Buffers) designate all shorelines as habitat conservation areas, and establishes a system of shoreline buffers and conservation standards to protect habitat and other functions provided by shoreline riparian areas. In addition, SMC 14.250.320 integrates protections for flood hazard areas (Chapter 14.270 SMC) and geologically hazardous areas (Chapter 14.275 SMC) where they occur in shoreline jurisdiction. Proposed SMC 14.250.350 (Shoreland Wetlands) incorporates new standards to ensure protection of wetlands consistent with current guidance from Ecology.
- Portions of dead or dying trees not representing a risk to public health and safety shall be retained as snags for wildlife. Cut portions of trees shall be left in the critical area or its buffer unless removal is recommended by a licensed biologist or certified arborist (14.250.320.G.2).
- As specified by the critical areas report, plans for habitat restoration or enhancement shall focus on restoring the most-critical ecological functions. In approving a compensatory habitat enhancement plan, the City Planner shall consider factors such as changes in surface water runoff rates and water quality, current vegetative conditions, and limiting conditions (ambient noise, light and glare, activity levels, etc. (14.250.320.D.I)
- Where development is proposed within the required shoreline buffer, compensatory mitigation shall be provided. The City Planner shall not authorize development within a required shoreline buffer unless appropriate mitigation is provided (14.250.320.H).

Shoreline Stabilization

- Shoreline stabilization, including bulkheads and flood protection facilities, shall be permitted where such measures are necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development, and restoration/mitigation improvements (14.250.270. 1).
- Shoreline stabilization shall be designed and constructed consistent with the critical areas report required by Chapter 14.255 SMC. Where possible, shoreline vegetation shall be preserved (14.250.280.C).
- [Using studies by qualified professionals, the applicant shall demonstrate the following:] Mitigation measures will maintain or augment shoreline processes and critical fish and wildlife habitat so that no net loss or function of riparian habitat (14.250.280.E.5).

<p>Pilchuck River</p>				
<p>Hydrology Flow regime, sediment transport, and floodplain interaction</p>	<p>The river’s floodplain is constrained by steep bluffs on the western bank and levees along the eastern bank. The levees disconnect the river from its floodplain and contribute to channelization. Rip rap and other types of shoreline armoring are evident in places, especially beneath the bridges. The floodplain widens near the confluence with the Snohomish River. Because the river is cut off from its floodplain, sediments become deposited within the channel. The floodplain of the Pilchuck River is mapped as an aquifer recharge area.</p> <p>The Pilchuck River is the only river in the Snohomish watershed where water withdrawals are known to cause low flows. The City water treatment plant is located approximately 16 miles northeast from the city center at RM 26.4. A dam diverts river water to the treatment plant which produces approximately one million gallons of potable water a day at full operation. There are numerous other private water withdrawals on the river for agriculture, irrigation, and other uses. During summer months, it is estimated that withdrawals by the City of Snohomish can remove 5 to 20 percent of the summer low flows from the river. Alternatively, the river receives high flows from Swifty Creek, the outlet stream from Blackmans Lake.</p> <p>Gravel mining between 1969 and 1991 removed gravel from the river channel, gravel bars, and floodplain may have altered channel profile. Gravel mining and bank erosion have contributed to excess sediment in the river.</p>	<p>RURAL CONSERVANCY The City’s water treatment plant property encompasses the entirety of the designation. Potential projects to reduce the effects of the dam on fish passage have been studied. However, final plans and funding have not been identified.</p> <p>URBAN CONSERVANCY Parks and open space exist at the north (Morgantown Park) and south (Pilchuck Park and Recreation Fields) ends of the urban conservancy designation. The western bank of the river between these two points consists mostly of steep banks with upland development outside of the steep slope and required buffer. While there is little room for infill development within the shoreline planning area, redevelopment of some existing uses in the shoreline planning area is likely in the long-term. Provisions may allow some non-water dependent or non-water related uses as long as they are outside the buffer.</p>	<p>PROTECTION General</p> <ul style="list-style-type: none"> Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). All shoreline uses and development shall be located, designed, constructed, and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, erosion and accretion (14.250.100.C.9) All shoreline uses and development shall be located and designed to minimize reliance on shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading (14.250.100.C10). All development in the 100-year floodplain designated on the current flood insurance rate map issued by FEMA shall include an assessment of potential effects the project would have on channel migration prepared by a qualified professional, and shall incorporate measures to mitigate significant adverse impacts on channel migration (14.250.100.C11). <p>Industrial</p> <ul style="list-style-type: none"> Logs: Except where no practical alternative exists, log storage shall occur on land; Free-fall dropping of logs into water is prohibited; Logs shall not be dumped, stored, or floated in areas where grounding will occur (14.250.160.C, 1, 3, 5). <p>Transportation</p> <ul style="list-style-type: none"> Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive requirements of Chapter 14.255 SMC are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C). Bridge abutments of earthen fill shall not be located within an Area of Special Flood Hazard as delineated on Flood Insurance Rate Maps issued by FEMA (14.250.120.K.5). Transportation uses and facilities shall be designed to avoid or minimize placement of fill or structures that would restrict floodplain capacity or limit channel migration. Where transportation facilities are proposed within floodplains, floodways, or channel migration zones; the proposal shall conform to the requirements of Chapters 14.255 and 14.270 SMC and this chapter (14.250.200.F). Roads and off-street parking facilities shall be located so as not to require shoreline stabilization (14.250.200.G). <p>In-Water Uses</p> <ul style="list-style-type: none"> New dams and hydroelectric facilities are prohibited in all environments (14.250.120) In-water fish and wildlife management, except aquaculture, is a Permitted Use (14.250.250). <p>Boating Facilities</p> <ul style="list-style-type: none"> <p>Breakwaters, Jetties, Groins, and Weirs</p> <ul style="list-style-type: none"> Breakwaters, jetties, groins and weirs shall only be permitted where necessary to support water dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the City Planner. Groins shall only be permitted as part of a restoration project sponsored or co-sponsored by a public agency (14.250.270.3). <p>Filling, Grading, and Dredging</p> <ul style="list-style-type: none"> Fill below the ordinary high water mark may be allowed as a conditional use only when meeting these criteria: When necessary to support a water dependent use; To provide for public access; When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects; To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan; To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources; For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or As part of mitigation actions, environmental restoration projects and habitat enhancement projects (14.250.300.C.1-7). Dredging is not allowed waterward of the ordinary high water mark for the primary purpose of obtaining fill material except where the material is necessary for the restoration of ecological functions. Where permitted, the site where the fill is to be placed must be located waterward of the OWHM and the action must be required for an approved habitat enhancement project (14.250.300.G). Stockpiling of dredged material in or under water is prohibited (14.250.300.I) The removal of gravel for flood management is allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution (14.250.300.K). Dredging and disposal of dredged material below the ordinary high water mark shall be permitted only: When necessary for the operation of a water dependent use; When necessary to mitigate conditions that endanger public safety or fisheries resources; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for establishing, maintaining, expanding, relocating or reconfiguring navigation channels and basins when necessary to ensure safe and efficient accommodation of existing navigation uses when: Significant ecological impacts are minimized; The substantive requirements of Chapter 14.255 SMC are satisfied; and Dredging is maintained to the authorized location, depth and width; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for flood risk reduction projects conducted in accordance with Chapter 14.270 SMC (14.250.300.D.1-5). <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> Shoreline stabilization, including bulkheads and flood protection facilities, may be permitted where such measures are necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development, or restoration/mitigation projects (14.250.270I) An existing legally established shoreline stabilization structure may be replaced or augmented where need to protect principal uses or structures from erosion caused by currents, tidal action, or waves. (14.250.270. 2). Shoreline stabilization and flood protection measures shall be designed and constructed to avoid adverse impacts to downstream banks. (14.250.280.A). Shoreline stabilization shall not preclude river channel migration within the floodway (14.250.280.B). [To permit new shoreline stabilization] Using studies by qualified professionals, the applicant shall demonstrate the following: Erosion from waves or currents has occurred and will continue to occur without the proposal; Erosion is not caused by upland conditions on the project site that, if corrected, would eliminate the need for shoreline stabilization; The ; The proposal is the minimum necessary to protect existing legally-established primary structures, existing water-dependent development, or projects for the restoration of ecological functions; Except for the protection of the shoreline requiring stabilization, the proposal would not preclude natural fluvial, hydrological and geomorphological 	<p>RURAL CONSERVANCY No Change The dam at the water intake facility is to be maintained indefinitely. As a result, no changes to hydrology are expected.</p> <p>URBAN CONSERVANCY No Change Steep-sloped and non-armored quality of western bank to be maintained indefinitely.</p> <p>If additional non-water development uses are developed outside of buffers, such as in parks or commercial areas, it would be required to be designed to avoid the need for stabilization in the future.</p>

			<p>processes ; Shoreline stabilization shall minimize the adverse impact to other properties to the maximum extent practical; Shoreline stabilization shall not be used to create new shoreland area; Shoreline stabilization shall not interfere with surface or subsurface drainage into the water body (14.250.280.E.1-8).</p> <ul style="list-style-type: none"> • Shoreline stabilization shall not interfere with surface or subsurface drainage into the water body (14.250.280.D.13). • Shoreline stabilization shall be designed so as not to create a need for shoreline stabilization elsewhere (14.250.280.H). • Shoreline stabilization measures shall not be allowed within any designated floodway except as may be necessary to protect existing development or prevent serious impairment of channel function (14.250.280.I). • Shoreline stabilization shall comply with the Integrated Stream Protection Guidelines (Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003) (14.250.280.J). • Flood protection facilities shall be consistent with the provisions of Chapter 14.270 SMC , the National Flood Insurance Program (NFIP), and the Integrated Stream Protection Guidelines(Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003) (14.250.290.A). • Flood control dikes shall be landward of the designated floodway and any wetlands directly interrelated and interdependent with the river (14.250.290.B). 	
<p>Water Quality Retention of particulates, nutrient cycling, pathogens, delivery movement, and loss</p>	<p>The Pilchuck River is included in Ecology’s Total Maximum Daily Load (TMDL) plan for fecal coliforms. Pollution sources in the watershed appear to be livestock access to the river, poor pasture management, failing on-site septic systems, and bacterial contributions from urbanized tributary areas. The Pilchuck River is also included on Ecology’s list of impaired waters as a water of concern for elevated temperatures. Removal of native riparian vegetation has adversely affected temperature in the river.</p> <p>There were no contaminated or hazardous waste sites identified within the Pilchuck River shoreline planning area.</p>	<p>RURAL CONSERVANCY The City’s water treatment plant property encompasses the entirety of the designation. Potential projects to reduce the effects of the dam on fish passage have been studied. However, final plans and funding have not been identified.</p> <p>URBAN CONSERVANCY Parks and open space exist at the north (Morgantown Park) and south (Pilchuck Park and Recreation Fields) ends of the urban conservancy designation and little redevelopment potential exists with in these sites. The western bank of the river between these two points consists mostly of steep banks with upland development outside of the steep slope and required buffer. While there is little room for infill development within the shoreline planning area, redevelopment of some existing uses in the shoreline planning area is likely in the long-term. Provisions may allow some non-water dependent uses as long as they are outside the buffer.</p>	<p>PROTECTION</p> <p>General</p> <ul style="list-style-type: none"> • All shoreline uses and development shall protect the quality and quantity of surface and ground water. New permits and development shall comply with the Department of Ecology Stormwater Management Manual for Western Washington, as referenced in the City of Snohomish Engineering Design and Construction Standards (14.250.100.C.3). • No shoreline uses and development shall release solid or liquid waste, oil, unwanted chemicals, hazardous materials, or untreated effluent to any water bodies or shorelands (14.250.100.C.4). • Heating and cooling equipment may not be placed in waters of the state (14.250.100.C.6). • Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). • All shoreline uses and development shall be located, designed, constructed, and managed to minimize adverse impacts to natural shoreline processes such as water circulation, erosion and accretion (14.250.100.C.9). • All shoreline uses and development shall be located and designed to minimize reliance upon shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading (14.250.100.D.10). • All debris, overburden and other waste materials from construction shall be disposed of in such a way as to prevent their entry by erosion from drainage, high water or other means into any water body (14.250.100.C.12). <p>Agriculture</p> <ul style="list-style-type: none"> • Creation of new agricultural structures for accessory uses on agricultural lands are subject to the requirements for structure setbacks and vegetation management in section SMC 14.250.140, and shall be located and designed to ensure no net loss of ecological function (14.250.130.C). <p>Industrial</p> <ul style="list-style-type: none"> • Outdoor storage areas shall be designed in accordance with Chapter 15.16 SMC and the Snohomish Engineering Design and Construction Standards (14.250.160.B) • Log storage shall not be permitted in waters of the State where water quality standards cannot be met or where log storage precludes the public’s use and navigation of waters of the State (14.250.160.C.2) • Bark and wood debris from mill operations shall be kept out of water bodies (14.250.160.C.4). <p>Residential Development</p> <ul style="list-style-type: none"> • Residential development over water is prohibited (14.250.120.6) <p>Shoreline Habitat and Natural Systems Enhancement Projects</p> <ul style="list-style-type: none"> • As specified by the critical areas report, plans for habitat restoration and enhancement shall focus on restoring the most critical ecological functions. In approving any compensatory habitat enhancement plan, the City Planner shall consider factors such as changes in surface water runoff rates and water quality , current vegetative conditions, and other potential limiting conditions that could impact water quality functions provided by the critical area (14.250.320.I) • Enhancements should generally focus on offsetting project impacts but may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished (such as placement of large woody debris in water or restoring riparian vegetation) (14.250.320.I.1). • The City Planner shall determine whether mitigation measure proposed to provide a broader ecological benefit may be substituted for one that would offset the impacts of an individual development (14.250.320.I.2). • Where development is proposed within the required shoreline buffer, compensatory mitigation shall be provided. The City Planner shall not authorize development within a required shoreline buffer unless appropriate mitigation is provided (14.250.320.H). <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> • Material that may release hazardous substances shall not be used for shoreline stabilization (14.250.280.F). 	<p>RURAL CONSERVANCY No Change Water quality will not be degraded as the dam at the water intake facility is to be maintained indefinitely.</p> <p>URBAN CONSERVANCY No Change Water quality will likely not be degraded by new development since applicants would be required to meet stormwater management standards and develop an erosion and sedimentation control program and buffer requirements ensure that most uses are set back from the water.</p>
<p>LWD, Organics and Habitat Maintain characteristic plant community and source of large woody debris (LWD)</p>	<p>Removal of native riparian vegetation has adversely affected temperature in the river. Areas of near-shore vegetation removal are evident at Pilchuck Park, between 4th and 5th Streets, and sporadically near some single-family homes. Most back-shore vegetation has been removed for residential, parks and commercial development. Large woody debris is lacking, and the river channel lacks habitat complexity such as pools and off-channel areas. Invasive vegetation such as reed canarygrass, Himalayan blackberry, and knotweed is dominant along the river.</p> <p>No wetlands are mapped within the Pilchuck River shoreline planning area.</p>	<p>RURAL CONSERVANCY The City’s water treatment plant property encompasses the entirety of the designation. Potential projects to reduce the effects of the dam on fish passage have been studied. However, final plans and funding have not been identified.</p> <p>URBAN CONSERVANCY Parks and open space exist at the north (Morgantown Park) and south</p>	<p>General</p> <ul style="list-style-type: none"> • The use of chemicals to control invasive aquatic weeds is prohibited, except that milfoil may be removed using chemicals, provided that the chemicals are applied by a licensed pesticide applicator and approved for aquatic use (14.250.100.C.5). • All shoreline uses and development shall be located, designed, constructed and managed to avoid disturbance of, or minimize adverse impacts to, fish and wildlife habitat conservation areas. Where avoidance of adverse impacts is not practicable, the City Planner in consultation with state resource management agencies and federally recognized tribes, may require that mitigation measures to protect species and habitat functions be implemented (14.250.100.C.7). • Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). • As provided by WAC 173-26-186(8), land development, land uses, and modifications within the shoreline jurisdiction shall not result in a net loss of shoreline ecological functions and processes. Mitigation for impacts resulting from development, uses, and modifications shall comply with the priorities specified in the Shoreline Restoration Plan and the substantive requirements of Chapter 14.255 SMC (14.255.100.A). <p>Agriculture</p>	<p>RURAL CONSERVANCY No Change or Potential Improvement Potential development projects to reduce the effects of the dam on fish passage have been studied. However, final plans and funding have not been identified. Additionally, habitat will not be degraded as the dam at the water intake facility is to be maintained indefinitely.</p> <p>URBAN CONSERVANCY No Change</p>

<p>The Pilchuck River in the vicinity of the city supports several salmonid species, including Chinook salmon (federally listed threatened), coho salmon, chum salmon, pink salmon, sockeye salmon, bull trout/Dolly Varden (federally listed threatened), steelhead (federally listed threatened), whitefish, and rainbow and cutthroat trout. The lower Pilchuck River provides spawning habitat for fall Chinook, winter steelhead and pink salmon, and rearing habitat for coho and bull trout/Dolly Varden. Salmon habitat in the river is affected by changes in river flows, bank armoring, lack of habitat complexity in the channel, lack of off-channel habitat, and high water temperatures. Potential low instream flow is a factor affecting aquatic habitat degradation in the Pilchuck River. A fish ladder at the dam at the City water treatment plant at RM 26.4 provides passage for migrating fish. However, constant maintenance of the ladder is required to keep it free of debris and sediment.</p>	<p>(Pilchuck Park and Recreation Fields) ends of the urban conservancy designation and little redevelopment potential exists with in these sites. The western bank of the river between these two points consists mostly of steep banks with upland development outside of the steep slope and required buffer. While there is little room for infill development within the shoreline planning area, redevelopment of some existing uses in the shoreline planning area is likely in the long-term. Provisions may allow some non-water dependent uses as long as they are outside the buffer.</p>	<ul style="list-style-type: none"> • Creation of new agricultural structures for accessory uses on agricultural lands are subject to the requirements for structure setbacks and vegetation management by this chapter, and shall be located and designed to ensure no net loss of ecological function (14.250.130.B). <p>Commercial</p> <ul style="list-style-type: none"> • Commercial uses that are not water-dependent or water-related shall be prohibited on Urban Conservancy Shorelines except for restaurants, campgrounds, group camps, and similar recreational facilities; hunting and fishing and other private clubs; game preserves and private parks; and commercial uses in historical structures, where the use: a) is permitted in the underlying zoning; b) is located outside the shoreline buffer required by this chapter; and c) does not result in unmitigated adverse environmental impacts(14.250.120. 4). • Except for commercial structures that are dependent on direct, contiguous access to the water, all commercial structures shall be located outside the buffer area prescribed by this chapter (14.250.150.A) • On parcels that are separated from the water by a public right-of-way or a publicly owned parcel that is primarily dedicated to providing public access to the shoreline: Water-oriented commercial uses are permitted; Non-water-oriented commercial uses may be permitted in buildings in the Historic District existing as of January 1, 2012; Non-water-oriented commercial uses may be permitted when expanding existing buildings in the Historic District, where the development includes public access improvements that provide a public benefit commensurate with the scale of the proposed use; Non-water oriented commercial uses may be permitted as part of a mixed use development that includes water-oriented uses, and provides substantial public access improvements (14.250.120.3.b). <p>Cultural</p> <ul style="list-style-type: none"> • Lighting of outdoor facilities within the shoreline environment shall be designed and configured to avoid light spill into regulated critical areas and their buffers or onto adjacent properties. Where light spill cannot be avoided, such lighting shall be the minimum necessary to achieve the intended purpose (14.250.180.). <p>Industrial</p> <ul style="list-style-type: none"> • Logs: Except where no practical alternative exists, log storage shall occur on land rather than in water; Free-fall dropping of logs into water is prohibited; Logs shall not be dumped, stored, or floated in areas where grounding will occur (14.250.120.G.4, 6, 8). <p>Park/Recreation</p> <ul style="list-style-type: none"> • Golf courses, playing fields, and other large areas devoted to athletic activities shall be allowed only outside of the buffers required by this chapter (14.250.120. 11). <p>Residential</p> <ul style="list-style-type: none"> • Non-water-dependent accessory structures and facilities such as sheds, gazebos, swimming pools, and driveways shall not be located in shoreline buffer areas (14.250.170.B.3). • Stairs and paths to a dock or beach may be allowed in the shoreline buffer areas, but shall be limited to the minimum necessary to provide pedestrian access (14.250.170.B.4). <p>Public Marinas and Boat Launches</p> <ul style="list-style-type: none"> • Marinas be designed to include native vegetation where feasible and practical (14.250.190.F). • Parking for boat launches and marinas shall be located upland of shoreline buffer areas (14.250.190.J). <p>Transportation</p> <ul style="list-style-type: none"> • Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive requirements of Chapter 14.255 SMC are satisfied,, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C) • Major roads and railroads shall cross shoreline areas by the shortest, most direct route feasible, unless such route would cause significant environmental damage (14.250.200.B) • New off-street parking shall be located outside of required critical area buffers (14.250.200.H). • Exterior lighting from parking areas shall be designed to avoid or minimize light spill into regulated critical areas and their buffers (14.250.200.K). <p>Utilities</p> <ul style="list-style-type: none"> • Utility transmission and distribution infrastructure that cannot be located below ground and outside the shoreline jurisdiction shall be located as far landward as feasible to preserve public views (14.250.210.C). • Where feasible, utility lines and facilities shall be located underground unless long-term environmental benefit is demonstrated through the use of aerial utility lines (14.250.210.B). • If crossing beneath a river or stream, utilities shall be designed to avoid river bed/streambed mobilization and adverse environmental impacts in general. Such utility lines shall be placed in a sleeve or conduit to facilitate replacement without additional boring or excavation (14.250.210.F.3.). <p>In-Water Uses</p> <ul style="list-style-type: none"> • New dams and hydroelectric facilities are prohibited in all environments (14.250.120). • Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive requirements of Chapter 14.255 SMC are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C). <p>Boating Facilities</p> <ul style="list-style-type: none"> • Docks, piers, long-term moorage, and vehicular boat launches are prohibited on the Pilchuck River (14.250.315.B). • Marinas and boat launches shall not alter river currents such that adverse impacts would occur downstream. Boat launches and marinas shall be designed to meet criteria by the State Department of Fish and Wildlife relative to disruption of currents, restriction of tidal prisms, flushing characteristics, and fish passage (14.250.190.C) • Marinas shall be designed to include native vegetation where feasible and practical (14.250.190.F). • Parking for boat launches and marinas shall be located upland of shoreline buffer areas (14.250.190.J). <p>Breakwaters, Jetties, Groins, and Weirs</p> <ul style="list-style-type: none"> • Breakwaters, jetties, groins and weirs shall only be permitted where necessary to support water dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the City Planner. Groins shall only be permitted as part of a restoration project sponsored or co-sponsored by a public agency (14.250.270.3). <p>Filling, Grading, and Dredging</p> <ul style="list-style-type: none"> • Fill below the ordinary high water mark may be allowed as a conditional use only when meeting these criteria: When necessary to support a water dependent use; To provide for public access; When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects; To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan; To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources; For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or As part of mitigation actions, environmental restoration projects and habitat enhancement projects (14.250.300.C.1-7). 	<p>Establishing a riparian management zone for non-water-dependent uses will result in protection of existing vegetation along the western bank of the river.</p>
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			<ul style="list-style-type: none"> • Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project (14.250.300.D.4). • Disposal of dredged material shall be allowed only in approved disposal sites (14.250.300.H). <p>Shoreline Habitat and Natural Systems Enhancement Projects</p> <ul style="list-style-type: none"> • Non-native vegetation may be removed as part of a restoration or enhancement project if replacement plantings will provide greater benefit to shoreline ecological processes. Exiting non-native vegetation may be retained unless otherwise required to be replaced as part of an enhancement associated with development on the property (14.250.320.E). • Vegetation and vegetated areas within designated critical areas and their required buffers shall be delineated, preserved, enhanced, restored, etc., so as to protect or improve shoreline ecological processes and functions. Such measures shall be as prescribed by standards within the SMP, including integrated critical areas standards, and/or by a critical areas report prepared pursuant to Chapter 14.255 SMC (as well as critical areas protections standards included directly within the SMP). Proposed SMC 14.250.320 (Habitat and Vegetation Management) and 14.250.330 (Shoreline Buffers) designate all shorelines as habitat conservation areas, and establishes a system of shoreline buffers and conservation standards to protect habitat and other functions provided by shoreline riparian areas. In addition, SMC 14.250.320 integrates protections for flood hazard areas (Chapter 14.270 SMC) and geologically hazardous areas (Chapter 14.275 SMC) where they occur in shoreline jurisdiction. Proposed SMC 14.250.350 (Shoreland Wetlands) incorporates new standards to ensure protection of wetlands consistent with current guidance from Ecology. • As specified by the critical areas report, plans for habitat restoration or enhancement shall focus on restoring the most-critical ecological functions. In approving any compensatory habitat enhancement plan, the City Planner shall consider factors such as changes in surface water runoff rates and water quality, current vegetative conditions, and limiting conditions (ambient noise, light and glare, activity levels, etc.) (14.250.320.I). • Enhancements should generally focus on offsetting project impacts but may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished (such as placement of large woody debris in water or restoring riparian vegetation) (14.320.I.1) • The City Planner shall determine whether a mitigation measure proposed to provide a broader ecological benefit may be substituted for one that would only offset the impacts of an individual development (14.320.I.2) • Where development is proposed within the required shoreline buffer, compensatory mitigation shall be provided. The City Planner shall not authorize development within a required shoreline buffer unless appropriate mitigation is provided (14.320.H) <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> • Shoreline stabilization, including bulkheads and flood protection facilities, shall be permitted only when it is demonstrated that stabilization is necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development, or restoration/mitigation projects (14.250.270. 1). • Shoreline stabilization shall be design and constructed consistent with the critical areas report required by Chapter 14.255 SMC. Where possible, shoreline vegetation shall be preserved (14.250.280.C). • Mitigation measures shall maintain or augment existing shoreline processes and critical fish and wildlife habitat so that no net loss or function of riparian habitat will occur (14.250.280.E.5). 	
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<p>Blackmans Lake</p>				
<p>Hydrology Flow regime, sediment transport, and floodplain interaction</p>	<p>Water levels in Blackmans Lake fluctuate seasonally and during wet winter months the lake occasionally floods lakeside properties. High water levels result in part from the lake’s constricted outlet through a set of culverts on the south side of the lake. In the summer, lake levels drop and affect recreational uses. By the mid-1990s half of the watershed had been urbanized leading to an associated increase in impervious surfaces and stormwater runoff. Removal of emergent vegetation from lake may have caused erosion of shoreline beach on south side of lake. No flood hazard areas are mapped by FEMA around the lake.</p> <p>The hydrology of Blackmans Lake has been significantly altered to maintain desired water levels in the lake. The lake historically discharged to Swifty Creek, which runs south through the city into the Snohomish River. In the 1980s, a flow splitter was installed to direct high flows in Swifty Creek through a pipe system along 6th Street that discharges into the Pilchuck River. Low flows discharge to the Snohomish River near Cady Park, while flows above 1 to 2 cfs discharge to the Pilchuck River bypass pipe. The Blackmans Lake Outlet Control Project was recently completed to improve flows in the outlet.</p>	<p>AQUATIC Limited development over the water may occur. Of the 28 existing lots, 23 contain small docks, therefore, there is limited potential for new docks in the future. Overwater structures such as small public or private docks are allowed.</p> <p>The city is planning to further control the water levels in the lake by replacing the culverts with a flow control weir near 13th Street.</p> <p>SHORELINE RESIDENTIAL This designation already has a developed shoreline with only one parcel having potential for future subdivision. Wetlands on the south shore and north shore also restrict future redevelopment due to critical area provisions and protections.</p> <p>URBAN CONSERVANCY A large wetland complex comprises nearly the entirety of the designation. As a result, critical area rules severely limit any future development of the site. Potential does exist for some restoration, however, there are no funded projects at present.</p>	<p>PROTECTION General</p> <ul style="list-style-type: none"> Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. Surfaces cleared of vegetation that are not to be developed shall be replanted. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted. (14.250.100.C.8) All shoreline uses and development shall be located, designed, constructed, and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, erosion and accretion (14.250.100.C.9) All shoreline uses and development shall be located and designed to minimize reliance on shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading (14.250.100.C.10). All development in the 100-year floodplain designated on the current flood insurance rate map issued by FEMA shall include an assessment of potential effects the project would have on channel migration prepared by a qualified professional, and shall incorporate measures to mitigate any adverse impacts on channel migration (14.250.100.C.11). <p>Transportation</p> <ul style="list-style-type: none"> Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive requirements of Chapter 14.255 SMC are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C). Bridge abutments of earthen fill shall be located within an Area of Special Flood Hazard as delineated on Flood Insurance Rate Maps issued by FEMA (14.250.200.E). Transportation uses and facilities shall be designed to avoid or minimize placement of fill or structures that would restrict floodplain capacity or limit channel migration. Where transportation facilities are proposed within floodplains or channel migration zones; the proposal shall conform to the requirements of Chapters 14.255 and 14.270 SMC and this chapter (14.250.200.F). Except within the Historic Riverfront Environment, roads and off-street parking facilities shall be located so as not to require shoreline stabilization (14.250.200.G). <p>In-Water Uses</p> <ul style="list-style-type: none"> New dams and hydroelectric facilities are prohibited in all environments (14.250.120.P16) In-water fish and wildlife management, except aquaculture, is a Permitted Use (14.250.120). <p>Boating Facilities Marinas and boat launches shall not alter river currents such that adverse impacts would occur downstream. Boat launches and marinas shall be designed to meet criteria by the State Department of Fish and Wildlife relative to disruption of currents, restriction of tidal prisms, flushing characteristics, and fish passage (14.250.190.C) Breakwaters, Jetties, Groins, and Weirs</p> <ul style="list-style-type: none"> Breakwaters, jetties, groins and weirs shall only be permitted where necessary to support water dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the City Planner. Groins shall only be permitted as part of a restoration project sponsored or co-sponsored by a public agency (14.250.270.3). <p>Filling, Grading, and Dredging</p> <ul style="list-style-type: none"> Fill below the ordinary high water mark may be allowed as a conditional use only when meeting these criteria: When necessary to support a water dependent use; To provide for public access; When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects; To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan; To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources; For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or As part of mitigation actions, environmental restoration projects and habitat enhancement projects (14.250.250.C.1-7). Dredging is not allowed waterward of the ordinary high water mark for the primary purpose of obtaining fill material except where the material is necessary for the restoration of ecological functions. Where permitted, the site where the fill is to be placed must be located waterward of the OWHM and the action must be required for an approved habitat enhancement project (14.250.300.G). Stockpiling of dredged material in or under water is prohibited (14.250.300.I) The removal of gravel for flood management is allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution (14.250.300.K). Dredging and disposal of dredged material below the ordinary high water mark shall be permitted only: When necessary for the operation of a water dependent use; When necessary to mitigate conditions that endanger public safety or fisheries resources; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for establishing, maintaining, expanding, relocating or reconfiguring navigation channels and basins when necessary to ensure safe and efficient accommodation of existing navigation uses when: Significant ecological impacts are minimized; The substantive requirement of Chapter 14.255 SMC are satisfied; and Dredging is maintained to the authorized location, depth and width; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project; Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for flood risk reduction projects conducted in accordance with Chapter 14.270 SMC (14.250. 300.D.1-5). <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> Shoreline stabilization, including bulkheads and flood protection facilities, may be permitted where such measures are necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development, and restoration/mitigation improvements (14.250.270 footnote 1) An existing legally established shoreline stabilization structure may be replaced with a similar structure when it is demonstrated there is a need to protect principal uses or structures from erosion caused by currents, tidal action, or waves. (14.250.270 footnote 2). Shoreline stabilization and flood protection measures shall be designed and constructed to avoid adverse impacts to downstream banks. (14.250.280.A). New shoreline stabilization shall not preclude river channel migration within the floodway (14.250.280.B). [To permit new shoreline stabilization] Using studies by qualified professionals, the applicant shall demonstrate the following: Erosion from waves or currents has occurred and will continue to occur without the proposal; Erosion is not caused by upland conditions on the project site that, if corrected, would eliminate the need for shoreline stabilization; The ; The proposal is the minimum necessary to protect existing legally-established primary structures, existing water-dependent development, or projects for the restoration of ecological functions; Except for the protection of the shoreline requiring stabilization, the proposal would not preclude natural fluvial, hydrological and geomorphological processes ; Shoreline stabilization shall minimize the adverse impact to other properties to the maximum extent practical; Shoreline stabilization shall not be used to create new shoreland area; Shoreline stabilization shall not interfere with surface or subsurface drainage into the water body (14.250.280.E.1-8). Shoreline stabilization shall be designed so as not to create a need for shoreline stabilization elsewhere (14.250.80.H). 	<p>AQUATIC No Change Wetland habitat will be protected from development through the critical area requirements in the SMP.</p> <p>SHORELINE RESIDENTIAL No Change A planned replacement of existing culverts and installing a flow control weir near 13th Avenue will not degrade the current hydrologic network.</p> <p>URBAN CONSERVANCY No Change Wetland habitat will be protected from development through the critical area requirements in the SMP.</p>

			<ul style="list-style-type: none"> • Shoreline stabilization measures shall not be allowed within any designated floodway except as may be necessary to protect existing development or prevent serious impairment of channel function (14.250.280.I). • Shoreline stabilization measures shall be consistent with the Integrated Stream Protection Guidelines (Washington departments of Fish and Wildlife, Ecology, and Transportation, 2003) (14.250.280.J). • Flood protection facilities shall be consistent with the provisions of Chapter 14.270 SMC , the National Flood Insurance Program (NFIP), and the Integrated Stream Protection Guidelines (14.250.290A). • Flood control dikes shall be landward of the designated floodway and any marshes or swamps directly interrelated and interdependent with the shoreline (14.250.290.B). 	
<p>Water Quality Retention of particulates, nutrient cycling, pathogens, delivery movement, and loss</p>	<p>Blackmans Lake is included on Ecology’s 303(d) list of impaired water bodies due to elevated fecal coliform levels. Blackmans Lake Creek (inlet to the lake) is considered a water of concern for fecal coliforms. Sources of fecal coliforms include abundant waterfowl and pets on the lake, stormwater runoff drains, and livestock in pastures upstream of the lake. Swifty Creek was found to have E. coli concentrations above state standards for primary contact recreation in 2003.</p> <p>Between 1996 and 2009, the levels of phosphorous in the upper waters of the lake were moderate but increasing, indicating that nutrients are being carried into the lake from the surrounding watershed. Phosphorous levels in the deeper waters have been decreasing. Ecology’s data indicate that the lake has recently met water quality standards for total phosphorous. However, toxic algae blooms likely caused by elevated phosphorus levels occurred in 2008 and 2009 in the lake’s shallow waters. Water quality monitoring in the 1990s for tributaries to Blackmans Lake indicated seasonally high stream temperatures, low dissolved oxygen, and high nutrient concentrations. Low dissolved oxygen is possibly due to breakdown of emergent vegetation.</p> <p>There were no contaminated or hazardous waste sites identified within the Blackmans Lake shoreline planning area.</p>	<p>AQUATIC Limited development over the water may occur. Of the 28 existing lots, 23 contain small docks, therefore, there is limited potential for new docks in the future. Overwater structures such as small public or private docks are allowed.</p> <p>The city is planning to further control the water levels in the lake by replacing the culverts and installing a flow control weir near 13th Street.</p> <p>SHORELINE RESIDENTIAL This designation already has a developed shoreline with only one parcel having potential for future subdivision. Wetlands on the south shore and north shore also restrict future redevelopment due to critical area provisions and protections.</p> <p>URBAN CONSERVANCY A large wetland complex comprises nearly the entirety of the designation. As a result, critical area rules severely limit any future development of the site. Potential does exist for some restoration, however, there are no funded projects at present.</p>	<p>PROTECTION General</p> <ul style="list-style-type: none"> • All shoreline uses and development shall protect the quality and quantity of surface and ground water. New permits and development shall comply with the Department of Ecology stormwater Management Manual for Western Washington, as referenced I the City of Snohomish Engineering Design and Construction Standards (14.250.100.C.3). • No shoreline uses and development shall release solid or liquid waste, oil, unwanted chemicals, hazardous materials, or untreated effluent to any water bodies or shorelands (14.250.100.C.4). • Heating and cooling equipment may not be placed in waters of the state (14.250.100.C.5). • Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). • All shoreline uses and development shall be located, designed, constructed, and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, erosion and accretion (14.250.100.C.9) • All shoreline uses and development shall be located and designed to minimize reliance upon shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site re-grading (14.250.100.C.10). • All debris, overburden and other waste materials from construction shall be disposed of in such a way as to prevent their entry by erosion from drainage, high water or other means into any water body (14.250.100.C.12). • As provided by WAC 173-26-186(8), land development, land uses, and modifications within the shoreline jurisdiction shall not result in a net loss of shoreline ecological functions and processes. Mitigation for impacts resulting from development, uses, and modifications shall comply with the priorities specified in the Shoreline Restoration Plan and the substantive requirements of Chapter SMC 14.255 SMC (14.255.100.A) <p>Industrial</p> <ul style="list-style-type: none"> • Outdoor storage areas shall be designed in accordance with Chapter 15.16 SMC and the Snohomish Engineering Design and Construction Standards (14.250.160.B) • Log storage shall not be permitted in waters of the State where water quality standards cannot be met or where log storage precludes the public’s use and navigation of waters of the State (14.250.160.C.2) • Bark and wood debris from mill operations shall be kept out of water bodies (14.250.160.GC.4). <p>Residential Development</p> <ul style="list-style-type: none"> • Residential development over water is prohibited (14.250.120.8) <p>Boating Facilities</p> <ul style="list-style-type: none"> • Marinas shall have facilities for handling wastes typically generated by marina patrons and visitors. Marinas shall not discharge or release any waste, treated or untreated, into the body of water on which they are located. Oil and gas handling systems shall be designed to minimize potential oil and gas spills. Marinas shall have provisions available for containment and cleanup of such spills (14.250.190.D4) <p>Shoreline Habitat and Natural Systems Enhancement Projects</p> <ul style="list-style-type: none"> • As specified by the critical areas report, plans for habitat restoration or enhancement shall focus on restoring the most-critical ecological functions. In approving any compensatory habitat enhancement plan, the City Planner shall consider factors such as changes in surface water runoff rates and water quality, current vegetative conditions, and other potential limiting conditions that could impact water quality functions provided by the critical area (14.250.320.I). • Enhancements should generally focus on offsetting project impacts but may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished (such as the placement of large woody debris in water or restoring riparian vegetation (14 250.320.I.1) • The City Planner shall determine whether a mitigation measure proposed to provide a broader ecological benefit may be substituted for one that would only offset the impacts of an individual development (14.250.320.I.2) • Where development is proposed within the required shoreline buffer, compensatory mitigation shall be provided. The City Planner shall not authorize development within a required shoreline buffer unless appropriate mitigation is provided (14.250.320.H). <p>Shoreline Stabilization</p> <ul style="list-style-type: none"> • Material that may release hazardous substances shall not be used for shoreline stabilization (14.250.280.F). 	<p>AQUATIC No Change Water quality will likely not be degraded by new development within the lake since critical area provision applicants would be required to meet stormwater management standards and develop an erosion and sedimentation control program.</p> <p>SHORELINE RESIDENTIAL No Change Water quality will likely not be degraded by new development since applicants would be required to meet stormwater management standards and develop an erosion and sedimentation control program. Existing development and wildlife will continue to contribute to water quality problems.</p> <p>URBAN CONSERVANCY No Change Water quality will likely not be degraded by new development since applicants adjacent to or within critical areas would be required to meet stormwater management standards and develop an erosion and sedimentation control program. CAO requires buffers on entire shoreline.</p>
<p>LWD, Organics and Habitat Maintain characteristic plant community and source of large woody debris (LWD)</p>	<p>Most natural vegetation has been removed in areas of residential and park development to provide views of and access to the water. Large woody debris has been removed for construction of docks, bulkheads, and landscaping. A survey of aquatic plants in Blackmans Lake in September 2009 identified both native and invasive water lilies. Patches of the invasive species, fragrant water lily, were dominant on the northern shore of the lake, while the native species, yellow water lily, was prevalent on the southern shoreline. There are also large waterfowl concentrations on the lake.</p>	<p>AQUATIC Limited development over the water may occur. Of the 28 existing lots, 23 contain small docks, therefore, there is limited potential for new docks in the future. Overwater structures such as small public or private docks are allowed.</p> <p>The city is planning to further control the water levels in the lake by replacing the culverts and</p>	<p>PROTECTION General</p> <ul style="list-style-type: none"> • The use of chemicals to control invasive aquatic weeds is prohibited, except that milfoil may be removed using chemicals, provided that the chemicals are applied by a licensed pesticide applicator and approved for aquatic use (14.250.100.C.5). • All shoreline uses and development shall be located, designed, constructed and managed to avoid disturbance of, or minimize adverse impacts to, protect fish and wildlife habitat conservation areas. Where avoidance of adverse impacts is not practicable, the City Planner, in consultation with state resource management agencies and federally recognized tribes, may require that mitigation measures to protect species and habitat functions be implemented (14.250.100.C.7). • Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. To the extent practical, native vegetation shall be preserved and native topsoils shall be preserved and re-used on-site. Areas cleared of vegetation but not developed shall be replanted (14.250.100.C.8). <p>Agriculture</p>	<p>AQUATIC No Change Establishing a lacustrine management zone for non-water-dependent uses will result in protection of existing vegetation.</p>

<p>Approximately 21 acres of wetland are mapped near the lake’s inlet and outlet streams in the shoreline planning area</p> <p>Barriers such as perched culverts, long pipes, and poor water quality in Swifty Creek prevent fish passage into the stream from the Snohomish and Pilchuck Rivers. Blackmans Lake supports game fish such as rainbow trout, largemouth bass, yellow perch, and brown bullhead. WDFW stocks the lake with rainbow trout. Introduced carp prey upon and displace other fish species, and management includes periodic killing of fish to re-establish desired game fish populations.</p>	<p>installing a flow control weir near 13th Street.</p> <p>SHORELINE RESIDENTIAL This designation already has a developed shoreline with only one parcel having potential for future subdivision. Wetlands on the south shore and north shore also restrict future redevelopment due to critical area provisions and protections.</p> <p>URBAN CONSERVANCY A large wetland complex comprises nearly the entirety of the designation. As a result, critical area rules severely limit any future development of the site. Potential does exist for some restoration, however, there are no funded projects at present.</p>	<ul style="list-style-type: none"> Creation of new agricultural structures for accessory uses on agricultural lands are subject to the requirements for structure setbacks and vegetation management by this chapter, and shall be located and designed to ensure no net loss of ecological function (14.250.130.C). <p>Commercial</p> <ul style="list-style-type: none"> Commercial uses that are not water-dependent or water-related shall be prohibited on Urban Conservancy Shorelines except for restaurants, campgrounds, group camps, and similar recreational facilities; hunting and fishing and other private clubs; game preserves and private parks; and commercial uses in historical structures, where the use: a) is permitted in the underlying zoning; b) is located outside the shoreline buffer required by this chapter; and c) does not result in unmitigated adverse environmental impacts(14.250.120. 4). Except for commercial structures that are dependent on direct, contiguous access to the water, all commercial structures shall be located outside the shoreline buffer area prescribed by this chapter (14.250.150.A) <p>Cultural</p> <ul style="list-style-type: none"> Lighting of outdoor facilities within the shoreline environment shall be designed and configured to avoid light spill into regulated critical areas and their buffers or onto adjacent properties. Where light spill cannot be avoided, such lighting shall be the minimum necessary to achieve the intended purpose (14.250.180.). <p>Industrial</p> <ul style="list-style-type: none"> Logs: Except where no practical alternative exists, log storage shall occur on land; Free-fall dropping of logs into water is prohibited; Logs shall not be dumped, stored, or floated in areas where grounding will occur (14.250.160.C.1, 3, 5). <p>Park/Recreation</p> <ul style="list-style-type: none"> Golf courses, playing fields, and other large areas devoted to athletic activities shall be allowed only outside of the buffers required by this chapter. (14.250.120. 11). <p>Residential</p> <ul style="list-style-type: none"> Non-water-dependent accessory structures and facilities such as sheds, gazebos, swimming pools, and driveways shall not be located in shoreline buffer areas (14.250.170.A.3). Stairs and paths to a dock or beach may be allowed in shoreline buffer area, but shall be limited to the minimum necessary to provide pedestrian access (14.250.170.A.4). <p>Public Marinas and Boat Launches</p> <ul style="list-style-type: none"> Marinas shall be designed to include native vegetation where feasible and practical (14.250.190.F). Parking for boat launches and marinas shall be located upland of shoreline buffer areas (14.250.190.J). <p>Transportation</p> <ul style="list-style-type: none"> Highway, street and railroad infrastructure that must be located in or over water, such as bridges and bridge supports, may be permitted provided that the substantive requirements of Chapter 14.255 SMC are satisfied, and the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in designing mitigation for project impacts (14.250.200.C). Major roads and railroads shall cross shoreline areas by the shortest, most direct route feasible, unless such route would cause significant environmental damage (14.250.200.B) New off-street parking shall be located outside of required critical area buffers (14.250.200.H). Exterior lighting from parking areas shall be designed to avoid or minimize light spill into regulated critical areas and their buffers (14.250.200.K). <p>Utilities</p> <ul style="list-style-type: none"> Utility transmission and distribution infrastructure that cannot be located below ground and outside the shoreline jurisdiction shall be located as far landward as feasible to preserve public views (14.250.210C). Where feasible utility lines and facilities shall be located underground unless long-term environmental benefit is demonstrated through the use of aerial utility lines (14.250.210.B). If crossing beneath a river or stream, utilities shall be designed to avoid river bed/streambed mobilization and adverse environmental impacts in general. Such utility lines shall be placed in a sleeve or conduit to facilitate replacement without additional boring or excavation (14.250.210.F.3). <p>In-Water Uses</p> <ul style="list-style-type: none"> New dams and hydroelectric facilities are prohibited in all environments (14.250.120.). [In-water and over-water highway and street facilities] may be permitted as conditional uses where: a) there is no feasible upland location; and b) the substantive requirements of Chapter 14.255 SMC are satisfied; and c) the priorities of the City of Snohomish Shoreline Restoration Plan are addressed in the project’s mitigation plan (14.250.120.17). <p>Boating Facilities</p> <ul style="list-style-type: none"> Marinas and boat launches shall not alter river currents such that adverse impacts would occur downstream. Boat launches and marinas shall be designed to meet criteria by the State Department of Fish and Wildlife relative to disruption of currents, restriction of tidal prisms, flushing characteristics, and fish passage (14.250.190.C). New residential lots created adjacent to Blackmans Lake shall provide for common or shared dock(s) in lieu of individual docks for each lot (14.250.170.D). Marinas shall be designed to include native vegetation where feasible and practical (14.250.190.F). Parking for boat launches and marinas shall be located upland of shoreline buffer areas (14.250.190.J). <p>Breakwaters, Jetties, Groins, and Weirs</p> <ul style="list-style-type: none"> Breakwaters, jetties, groins and weirs shall only be permitted where necessary to support water dependent uses, public access, approved shoreline stabilization, or other public uses, as determined by the City Planner. Groins shall only be permitted as part of a restoration project sponsored or co-sponsored by a public agency (14.250.270.3). <p>Filling, Grading, and Dredging</p> <ul style="list-style-type: none"> Fill below the ordinary high water mark may be allowed as a conditional use only when meeting these criteria: When necessary to support a water dependent use; To provide for public access; When necessary to mitigate conditions that endanger public safety, including flood risk reduction projects; To allow for cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan; To allow for the disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources; For expansion or alteration of transportation or utility facilities currently located on the shoreline upon demonstration that alternatives to fill are not feasible; or As part of mitigation actions, environmental restoration projects and habitat enhancement projects (14.250.250.C.1-7). Dredging and disposal of dredged material below the ordinary high water mark shall be permitted for restoration projects associated with implementation of the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act; or any enhancement or restoration project (14.250.300.D.4). Disposal of dredged material shall be allowed only in approved disposal sites (14.250.300.H). <p>Shoreline Habitat and Natural Systems Enhancement Projects</p>	<p>SHORELINE RESIDENTIAL No Change Establishing a lacustrine management zone for non-water-dependent uses will result in protection of existing vegetation. Additional habitat safeguards are provided via critical area protections for wetlands.</p> <p>URBAN CONSERVANCY No Change Establishing a lacustrine management zone for non-water-dependent uses will result in protection of existing vegetation. Additional habitat safeguards are provided via critical area protections for wetlands.</p>
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			<ul style="list-style-type: none"> • Non-native vegetation may be removed as part of a restoration or enhancement project if replacement plantings will provide greater benefit to shoreline ecological processes. Existing non-native vegetation may be retained unless otherwise required to be replaced as part of an enhancement associated with development on the property (14.250.320.E). • Vegetation and vegetated areas within designated critical areas and their required buffers shall be delineated, preserved, enhanced, restored, etc., so as to protect or improve shoreline ecological processes and functions. Such measures shall be as prescribed by standards within the SMP, including integrated critical areas standards, and/or by a critical areas report prepared pursuant to Chapter 14.255 SMC (as well as critical areas protections standards included directly within the SMP). Proposed SMC 14.250.320 (Habitat and Vegetation Management) and 14.250.330 (Shoreline Buffers) designate all shorelines as habitat conservation areas, and establishes a system of shoreline buffers and conservation standards to protect habitat and other functions provided by shoreline riparian areas. In addition, SMC 14.250.320 integrates protections for flood hazard areas (Chapter 14.270 SMC) and geologically hazardous areas (Chapter 14.275 SMC) where they occur in shoreline jurisdiction. Proposed SMC 14.250.350 (Shoreland Wetlands) incorporates new standards to ensure protection of wetlands consistent with current guidance from Ecology. • As specified by the critical areas report, plans for habitat restoration or enhancement shall focus on restoring the most-critical ecological functions. In approving any compensatory habitat enhancement plan, the City Planner shall consider factors such as changes in surface water runoff rates and water quality, current vegetative conditions, and limiting conditions (ambient noise, light and glare, activity levels, etc.) (14.250.320.I). • Enhancements should generally focus on offsetting project impacts but may focus on restoring other critical ecological functions in the shoreline that have been lost or diminished (such as the placement of large woody debris in water or restoring riparian vegetation (14 250.320.I.1) • The City Planner shall determine whether a mitigation measure proposed to provide a broader ecological benefit may be substituted for one that would only offset the impacts of an individual development (14.250.320.I.2) • Where development is proposed within the required shoreline buffer, compensatory mitigation shall be provided. The City Planner shall not authorize development within a required shoreline buffer unless appropriate mitigation is provided (14.250.320.H). • Shoreline stabilization, including bulkheads and flood protection facilities, may be permitted where such measures are necessary to protect existing legally-established primary structures, public improvements, proposed or existing water-dependent development, and restoration/mitigation improvements (14.250.270. 1) • Shoreline stabilization shall be design and constructed consistent with the critical areas report required by Chapter 14.255 SMC. Where possible, shoreline vegetation shall be preserved (14.250.280.C). • Mitigation measures shall maintain or augment existing shoreline processes and critical fish and wildlife habitat so that no net loss or function of riparian habitat will occur (14.250.280.E.5). 	
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APPENDIX D: Ordinance 2083 – Critical Areas

CITY OF SNOHOMISH
Snohomish, Washington

ORDINANCE 2083

AN ORDINANCE OF THE CITY OF SNOHOMISH, WASHINGTON, COMPLYING WITH THE GROWTH MANAGEMENT ACT'S REQUIRED REVIEW AND UPDATING OF THE CITY'S DEVELOPMENT REGULATIONS BY ADOPTING A NEW CRITICAL AREAS CODE TO PROTECT THE CITY'S WETLANDS, CRITICAL AQUIFER RECHARGE AREAS, FLOODPLAINS, GEOLOGICALLY HAZARDOUS AREAS, AND HABITAT CONSERVATION AREAS, ADOPTING FINDINGS OF FACT, AND REPEALING CHAPTERS 14.47, 14.51, 14.53, AND 14.55 AND ADOPTING CHAPTERS 14.255, 14.260, 14.265, 14.270, 14.275, AND 14.280 OF THE SNOHOMISH MUNICIPAL CODE.

WHEREAS, as one of the cities in Snohomish County, the City of Snohomish is required under RCW 36.70A.130(4) to review and, if needed, revise its Comprehensive Plan and development regulations to ensure that the Plan and regulations comply with the Growth Management Act (GMA); and

WHEREAS, the City is meeting the spirit and intent of the GMA by adopting Ordinance 2070, which (1) sets forth the City's public participation program, (2) identifies needed revisions to the Comprehensive Plan and development regulations, and (3) adopts needed revisions to the Comprehensive Plan; and by adopting this Ordinance, which adopts needed revisions to the City's critical areas regulations; and

WHEREAS, in taking the actions set forth in this Ordinance, the City of Snohomish has made a good faith effort to comply with the regulations and recommendations of the Washington State Department of Community, Trade, and Economic Development (CTED) and the Washington State Department of Ecology (DOE), has submitted to CTED and DOE the proposed needed revisions to the City's critical areas regulations, and has duly considered the suggested changes from said agencies; and

WHEREAS, in taking the actions set forth in this Ordinance, the City of Snohomish has utilized the best available science (BAS) and has adopted measures to protect anadromous fish and other species in compliance with the GMA and the Endangered Species Act, as is documented in the findings of fact set forth herein; and

WHEREAS, the City of Snohomish has provided ample opportunity for public hearing input and written comments on the proposed revisions to the City’s critical areas regulations and has duly considered said input and comments; and

WHEREAS, the City has issued a determination of non-significance pursuant to the State Environmental Policy Act, Ch. 43.21C RCW, related to the adoption of the new Critical Areas Code:

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SNOHOMISH, WASHINGTON DO ORDAIN AS FOLLOWS:

Section 1. Findings of Fact.

The City Council hereby adopts the following findings of fact in support of the adoption of the City’s Critical Areas Code as set forth in this Ordinance:

- A. The Growth Management Act (GMA) requires the adoption of development regulations that protect critical areas designated in accordance with RCW 36.70A.170.

- B. Critical areas contain valuable natural resources, provide natural scenic qualities important to the character of the community, perform important ecological functions and processes, and/or present a hazard to life and property. Identification, management, and protection of these areas are, therefore, necessary to protect the public health, safety and general welfare of citizens.

- C. Beneficial biological and physical functions that critical areas provide include, but are not limited to: water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage; stormwater conveyance and attenuation; ground water recharge and discharge; erosion control; protection from hazards; historical and archaeological and aesthetic value protection; and recreation.

- D. The City’s critical areas regulations, as set forth in the Critical Areas Code adopted in this Ordinance, are designed to implement the Comprehensive Plan’s environmental protection element policies, regarding protecting functions and values of critical areas.

- E. RCW 36.70A.172 requires local governments to use best available science and to give special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries.

- F. The Critical Areas Code is based on the best available science as set forth in the Steward & Associates Study (May, 2004), prepared for the City by a team of qualified scientific professionals, as well as such state agency publications as the Example Code Provisions for Designating and Protecting Critical Areas, prepared by the Washington Department of Community, Trade, and Economic Development (CTED), and the Guidance Document for the

Establishment of Critical Aquifer Recharge Areas Ordinances, prepared by the Washington Department of Ecology (DOE).

G. The City deems it particularly important for the Critical Areas Code to give special consideration to preserve or enhance anadromous fisheries, as supported by the City's best available science study.

H. In addition to the best available scientific information, the Growth Management Act (GMA) also requires the City to consider various growth management policies in promulgating development regulations such as the Critical Areas Code. In the City of Snohomish, the availability of affordable, developable lots will be considerably diminished, if certain regulations in the CTED and DOE recommendations are not modified to be less restrictive in such matters as wetland or stream buffer widths. Accordingly, where the Critical Areas Code's buffer widths differ from those in the Example Code Provisions for Designating and Protecting Critical Areas or in the recommendations of the Department of Ecology, the City finds that such deviations are necessary in order to implement the GMA's policies in support of encouraging economic development, protecting property rights, reducing urban sprawl, increasing affordable housing, and accommodating urban growth. Additionally, the City finds that the best available science identifies no substantial risk to critical areas in enacting these alternative substantive requirements.

I. The City has given due consideration to the information available in CTED's model critical areas ordinance and in DOE's Wetland Identification and Delineation Manual and Wetland Rating System for Western Washington. Additionally, the City has considered, and has revised the Critical Areas Code to respond to, the written comments of the Department of Ecology with regard to the critical areas regulations adopted herein.

J. The City has received and duly considered numerous comments regarding the critical areas regulations from individual citizens, environmental groups, developer organizations, and government agencies.

K. The critical areas regulations set forth in this Ordinance are supported by the best available science as well as by the other goals and policies of the GMA, including reducing sprawl, encouraging growth in urban areas, encouraging economic development, protecting property rights, protecting the environment, open space, and recreation areas, and encouraging and coordinating public participation in the planning process.

L. In determining what critical areas are to be afforded a particular degree of protection, the City of Snohomish has evaluated the full scope of best available science and has relied on the best available science in making informed decisions that meet the goals and policies of the GMA referenced in Finding K and that also reflect the unique circumstances in Snohomish.

M. In addition to adopting this Ordinance, the City of Snohomish is also taking other actions recommended in its BAS study for the protection of its critical areas, including stormwater management standards and practices, critical areas restoration projects, and public education.

Section 2. Repealer.

Chapters 14.47, 14.51, 14.53, and 14.55 of the Snohomish Municipal Code are hereby repealed.

Section 3. Adoption of Critical Areas Code.

Chapters 14.255, 14.260, 14.265, 14.270, 14.275, and 14.280 of the Snohomish Municipal Code, as set forth in the attached **Exhibit A**, are hereby adopted as the Critical Areas Code of the City of Snohomish.

Section 4. Severability.

If any section, subsection, sentence, clause, phrase, or word of this Ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or unconstitutionality of the remainder of this Ordinance.

Section 5. Effective date. This Ordinance shall take effect five days after the date of its publication by summary.

PASSED by the City Council and APPROVED by the Mayor this 3rd day of May, 2005.

CITY OF SNOHOMISH

By _____
LIZ LOOMIS, Mayor

ATTEST:

By _____
TORCHIE COREY, City Clerk

Approved as to form:

By _____
GRANT K. WEED, City Attorney

Publish Date: May 7, 2005
Effective Date: May 12, 2005

Exhibit A

**Chapter 14.255
Critical Areas - General**

Sections

14.255.010	Findings
14.255.020	Purpose
14.255.030	Critical areas code
14.255.035	Best available science
14.255.040	Fees
14.255.050	Applicability
14.255.060	Exemptions
14.255.070	Review process
14.255.080	Critical area reports
14.255.090	Previous studies
14.255.100	Mitigation plan requirements
14.255.110	Independent review of critical area report
14.255.120	Substantive Requirements
14.255.130	Variances
14.255.140	Enforcement and inspections

14.255.010 Findings

The City Council of Snohomish finds as follows:

- A. Critical areas contain valuable natural resources, provide natural scenic qualities important to the character of the community, perform important ecological functions and processes, and/or present a hazard to life and property. Identification, management, and protection of these areas are, therefore, necessary to protect the public health, safety and general welfare of citizens.
- B. Beneficial biological and physical functions that critical areas provide include, but are not limited to: water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage; stormwater conveyance and attenuation; ground water recharge and discharge; erosion control; protection from hazards; historical and archaeological and aesthetic value protection; and recreation.
- C. The City's critical areas regulations, as set forth in the critical areas code, are designed to implement the comprehensive plan's environmental protection element policies, regarding protecting functions and values of critical areas.
- D. The critical areas code is based on the best available science as set forth in the Steward & Associates Study (May, 2004), prepared for the City by a team of qualified scientific professionals, as well as such state agency publications as the *Example Code Provisions*

for Designating and Protecting Critical Areas, prepared by the Washington Department of Community, Trade, and Economic Development (CTED), and the *Guidance Document for the Establishment of Critical Aquifer Recharge Areas Ordinances*, prepared by the Washington Department of Ecology (DOE).

- E. The City deems it particularly important for the critical areas code to give special consideration to preserve or enhance anadromous fisheries, as supported by the City's best available science study.
- F. In addition to the best available scientific information, the Growth Management Act (GMA) also requires the City to consider various growth management policies in promulgating development regulations such as the critical areas code. In the City of Snohomish, the availability of affordable, developable lots will be considerably diminished, if certain regulations in the CTED and DOE recommendations are not modified to be less restrictive in such matters as wetland or stream buffer widths. Accordingly, where the critical areas code's buffer widths differ from those in the *Example Code Provisions for Designating and Protecting Critical Areas* or in the recommendations of the Department of Ecology, the City finds that such deviations are necessary in order to implement the GMA's policies in support of encouraging economic development, protecting property rights, reducing urban sprawl, increasing affordable housing, and accommodating urban growth. Additionally, the City finds that the best available science identifies no substantial risk to critical areas in enacting these alternative substantive requirements.

14.255.020 Purpose

The City of Snohomish is required by the Washington State Growth Management Act (Chapter 36.70A RCW) to designate environmentally critical areas and to adopt development regulations to assure the conservation of such areas. In compliance with this mandate, the City finds that environmentally critical areas characterize certain portions of Snohomish and its urban growth area. These critical areas include wetlands, habitat conservation areas, critical aquifer recharge areas, geologically hazardous areas, and frequently flooded areas. Accordingly, it is the purpose of the Critical Areas Code to:

- A. Protect the functions and values of ecologically sensitive areas, while allowing for reasonable use of private property, through the application of the best available science.
- B. Implement the Growth Management Act and the natural environment goals of the Comprehensive Plan.
- C. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides, steep slope failures, erosion, seismic events, or flooding.

- D. Protect citizens and the unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, anadromous fish species, and other fish and wildlife, and their habitats.
- E. Prevent adverse and cumulative environmental impacts to critical areas, direct activities not dependent on critical area resources to less ecologically sensitive sites, and mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas and requiring specific mitigation measures to compensate for unavoidable impacts.
- F. Protect species listed as threatened or endangered under the Federal Endangered Species Act of 1973 (16 USC 1531 – 1534) and their habitats.

14.255.030 Critical Areas Code

Chapters 14.255 through 14.280 SMC shall collectively be known as the “Critical Areas Code”. Chapter 14.255 SMC shall establish the general framework for Chapters 14.260 through 14.280 SMC. The City Planner shall administer and interpret the Critical Areas Code.

14.255.035 Best Available Science (BAS)

- A. The City of Snohomish shall implement the use of best available science (BAS) in the application of the Critical Areas Code
- B. “Best available science” means information from research, inventory, monitoring, surveys, modeling and an assessment, which are used to designate, protect, or restore critical areas.
- C. As defined by WAC [365-195-900](#) through [365-195-925](#), best available science is derived from a process that includes peer reviewed literature, standard methods, quantitative analysis and documented references to produce reliable information.
- D. The use of best available science pursuant to the critical area code shall be consistent with the following:
 - 1. Protection for functions and values and anadromous fish. Critical area reports and decisions to alter critical areas shall rely on the best available science to protect the functions and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish and their habitat, such as salmon and bull trout.
 - 2. Best available science to be used must be consistent with criteria. The best available science is that scientific information applicable to the critical area prepared by local, state or federal natural resource agencies, a qualified scientific professional or team of qualified scientific professionals, which is consistent with criteria established in WAC 365-195-900 through WAC 365-195-925

3. Characteristics of a valid scientific process. In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. The specific characteristics of a valid scientific process are as follows:

i. **Peer review.**

The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline.

ii. **Methods.**

The methods used to obtain the information are clearly stated and reproducible. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to assure their reliability and validity.

iii. **Logical conclusions and reasonable inferences.**

The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented.

iv. **Quantitative analysis.**

The data have been analyzed using appropriate statistical or quantitative methods.

v. **Context.**

The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.

vi. **References.**

The assumptions, analytical techniques, and conclusions are well referenced with citations to relevant, credible literature and other pertinent existing information.

D. Nonscientific information. Nonscientific information may supplement scientific information, but it is not an adequate substitute for valid and available scientific information.

14.255.040 Fees

The City shall establish fees to recover its cost of reviewing development proposals, including the cost of engineering review, planning review, inspections, and administration. In addition to

the payment of said fees, the applicant shall be responsible for all required reports, assessments, studies, and plans.

14.255.050 Applicability

Unless exempted in SMC 14.255.060, the Critical Areas Code shall apply to all developments within one or more of the following critical areas or their associated buffers or building setback areas, regardless of whether the site has been previously identified as a critical area:

- A. Wetlands as designated in Chapter 14.260 SMC;
- B. Critical aquifer recharge areas as designated in Chapter 14.265 SMC;
- C. Floodplains as designated in Chapter 14.270 SMC;
- D. Geologically hazardous areas as designated in Chapter 14.275 SMC; and
- E. Habitat conservation areas as designated in Chapter 14.280 SMC.

14.255.060 Exemptions

The following activities when occurring in critical areas shall be exempt from the Critical Areas Code, provided that the activity must first be reviewed by the City Planner to confirm that the exemption applies:

- A. Emergency actions immediately necessary to prevent injury or property damage, provided that the action minimizes impact to critical areas and buffers. The person undertaking the action shall notify the City Planner within one (1) working day following commencement of the emergency action. The City Planner shall determine if the action was allowable under this subsection and commence enforcement if not. Within one year of the date of the emergency, the person undertaking the action shall fully mitigate any resulting impacts to the critical area and buffers in accordance with an approved critical area report and mitigation plan.
- B. Normal operation, maintenance, or repair of existing structures, utilities, roads, levees, drainage systems, or similar improvements, including vegetation management, if the action does not alter or increase the impact to or encroach upon the critical area or buffer, and if the action accords with best management practices and maintenance and does not impact an endangered or threatened species.
- C. Passive outdoor activities, such as recreation, education, and scientific research, that do not degrade the critical area.

- D. Forest practices in accordance with Chapter 76.09 RCW and Title 222 WAC, other than forest practice conversions.
- E. Structural modifications of, additions to, or replacements of, existing legal structures without increasing the impact to the critical area, provided that the City's regulations regarding legal non-conforming uses are complied with and such structural modifications shall not extend further into the critical area or buffer.
- F. Within improved public rights-of-way or private street easements, construction, replacement, or modification of streets, utilities, lines, mains, equipment, or appurtenances, excluding electrical substations, are exempt from the first two "sequencing" methods stated in SMC 14.255.120E, provided that actions that alter a wetland or watercourse, such as culverts or bridges, or that result in the transport of sediment or increased stormwater shall be subject to the following requirements wherever possible:
 - 1. Critical area and/or buffer widths shall be increased equal to the width of the right-of-way improvement, including disturbed areas; and
 - 2. Native vegetation shall be retained and/or replanted, per the City of Snohomish plant material list, along the right-of-way improvement.
- G. Minor utility projects, such as placement of a utility pole, street sign, anchor, or vault, which do not significantly impact critical areas function or values, if constructed using best management practices.
- H. Removal with hand labor and light equipment of invasive or State recognized noxious weeds or plants, as designated by the City Planner and including but not limited to:
 - 1. English Ivy (*Hedera helix*);
 - 2. Himalayan blackberry (*Rubus discolor*, *R. procerus*); and
 - 3. Evergreen blackberry (*Rubus laciniatus*).
- I. Removal of trees, which a qualified arborist, landscape architect, or forester has documented as posing a threat to public safety and which do not provide critical habitat such as eagle perches, provided that removed trees are left on-site.
- J. Measures to control fire or halt the spread of disease or damaging insects, consistent with the State Forest Practices Act, Chapter 76.09 RCW, provided that the removed vegetation shall be replaced with the same or similar species within one year or species in accordance with City of Snohomish plant material list and an approved plan.
- K. Application of herbicides, pesticides, or fertilizers, if necessary, provided that their use shall conform to Department of Fish and Wildlife Management Recommendations and the regulations of the Department of Agriculture and the U.S. Environmental Protection Agency and that written approval has been obtained from the City Planner.

- L. Minor clearing or digging necessary for surveys, soil logs, percolation tests, and similar activities, provided that critical area impacts are minimized and disturbed areas are immediately restored.
- M. Navigational aids and boundary markers.
- N. Proposed developments that have undergone critical area review at a previous stage of permit review, provided that the earlier permit has not expired and the proposed development has not significantly changed (in order to avoid duplicate review).
- O. Harvesting of wild crops without injuring their natural reproduction, tilling the soil, planting crops, applying chemicals, or altering the critical area.
- P. Conservation measures of soil, water, vegetation, fish, and other wildlife that do not adversely impact ecosystems.
- Q. Required environmental impact remediation.
- R. Existing and ongoing agricultural activities, where the land has not lain idle so long that modifications to the hydrological regime are necessary to resume operations; and
- S. Development within isolated Category III and IV wetlands less than 1,000 square feet in size.
- T. Development within isolated Category III and IV wetlands between 1,000 square feet and 3,000 square feet in area shall be exempt from the normal sequencing process but shall be fully mitigated as required elsewhere in the critical area requirements.

14.255.070 Review process

The City Planner’s general sequence for administering this Critical Areas Code shall be per the following table, which shows questions the City Planner shall answer, and actions he or she shall take depending on the answer.

Step 1	Is the development proposal in a critical area or its buffer?	
	The City Planner shall check maps, review the environmental checklist, visit the site, and require scientific determinations as necessary to make this determination.	
	Yes Go to step 2.	No Go to step 4.
Step 2	Is the development proposal exempt per SMC 14.255.060?	
	Yes No	
	Go to step 4.	Require a critical area report. Don’t issue Determination of Completeness until critical area report is received. Reference critical area report in any public notice.

Step 3	Does the proposal, with conditions of approval as necessary, conform to SMC 14.255.120, Substantive Requirements?	
	Yes	No
	Go to step 4.	Go to step 4.
Step 4	Document the review process in a manner appropriate to, and filed with, the permit(s) required for the proposed development, and act on the permit application in accordance with the findings.	

14.255.080 Critical area reports

Unless waived by the City Planner on the grounds that the specific information required in this section does not apply to the development in question, critical area reports shall be prepared for non-exempt proposed developments located within critical areas or their buffers. Said critical area reports shall:

- A. Be prepared by qualified professionals as defined in WAC 365-195-905(4). The following list shows the type of critical area report and the related professional discipline.
 - 1. Wetlands: wetland biologist.
 - 2. Critical aquifer recharge areas: hydrogeologist, geologist, or engineer.
 - 3. Floodplains: hydrologist or engineer.
 - 4. Geologically hazardous areas: engineer or geologist.
 - 5. Fish and wildlife habitats: biologist.
- B. Incorporate best available science.
- C. Cover a study area large enough to understand relationships with important off-site factors and identify any off-site critical area so near that its required buffer covers part of the project site.
- D. Contain the following:
 - 1. Name and contact information of the applicant, description of the proposed development, and identification of required permits;
 - 2. Site plan drawn to scale showing critical areas, buffers, existing structures, and proposed structures, clearing, grading, and stormwater management;
 - 3. Characterization of critical areas and buffers;
 - 4. Assessment of the probable impact to critical areas;
 - 5. Analysis of site development alternatives;
 - 6. Description of efforts to avoid, minimize, and mitigate impacts to critical areas pursuant to SMC 14.255.120.E (“sequencing”);
 - 7. Mitigation plans as needed, in accordance with SMC 14.255.100;
 - 8. Evaluation of compliance with this Critical Areas Code’s substantive requirements applicable to the proposed development;
 - 9. Financial guarantees to ensure compliance, such as a performance bond or deposit, if necessary;

10. Additional information as required in the chapter corresponding to the type of critical area;
11. Documentation of who prepared the report and when, with fieldwork and data sheets;
12. Statement specifying the accuracy of the report and assumptions relied upon, and
13. Additional information as required by the City Planner.

14.255.090 Previous studies

Critical area reports may rely upon, without duplication of effort, valid previous studies prepared for the site, taking into account any change in the site, the proposed development, or the surrounding area.

14.255.100 Mitigation plan requirements

If the City allows conformance with this Critical Areas Code's substantive requirements to be achieved by mitigation pursuant to Step 3 of SMC 14.255.070, the critical area report shall include a mitigation plan consisting of:

- A. An analysis of the anticipated impacts;
- B. A strategy for mitigating the impacts, including site selection factors;
- C. An analysis of the anticipated functions and values that will result from the mitigation, including an assessment of risks;
- D. A review of the best available science relative to the proposed mitigation;
- E. Specific standards for evaluating whether the mitigation is successful;
- F. Detailed construction plans, including:
 1. Construction timing;
 2. Grading and excavation details;
 3. Erosion and sediment control features;
 4. Planting plan; and
 5. Measures to protect plants until established;
- G. A program for monitoring the mitigation over at least five years, provided that ten (10) years of monitoring is required to ensure successful establishment of all trees and woody shrubs; and
- H. Potential corrective measures should the monitoring indicate standards are not being met.

14.255.110 Independent review of critical area report

The City Planner may have the critical area report evaluated by an independent qualified professional and/or request consultation from a government agency with expertise. If the report

and evaluations disagree, the City Planner shall determine which to utilize, based on which is most consistent with the best available science.

14.255.120 Substantive requirements

- A. All treatment of critical area shall be in accordance with best available science as defined in WAC 365-195-900 through 195-925, which is hereby adopted by reference, along with the Washington State Department of Community Development's *Citations of Recommended Sources of Best Available Science for Designating and Protecting Critical Areas*.
- B. Critical areas and their buffers shall be left undisturbed, except that the following may be permitted if best management practices are used:
 - 1. Authorized functional restoration or enhancement;
 - 2. In buffers: utility poles and utility lines which do not require excavation or clearing;
 - 3. In the outer 50 percent of buffers: permeable-surfaced walkways, trails, and minimal wildlife viewing structures;
 - 4. Developments for which mitigation is allowed per subsection E; and
 - 5. Other uses specifically authorized by the Critical Areas Code.
- C. No development shall occur which results in a net loss of the functions or values of any critical area except reasonable use variances per SMC 14.255.130.B. The pre- and post-development functional comparison shall be on a per function basis unless otherwise authorized by the Critical Areas Code.
- D. No development shall occur in critical areas and their buffers, which results in an unreasonable hazard to the public health and safety.
- E. These substantive requirements shall be met via one or more of the following methods, listed in preferential sequence (commonly known as "sequencing"). The methods used shall be those which are highest on the list yet consistent with the objectives of the proposed development:
 - 1. Avoiding the impact altogether by not taking a certain action or parts of an action;
 - 2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
 - 3. Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;
 - 4. Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;

5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;
6. Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and
7. Monitoring the hazard or other required mitigation and taking remedial action when necessary. Mitigation for individual actions may include a combination of the above measures.

F. As a condition of any permit approval, the City may require that:

1. The outer edge of the critical area or buffer be marked, signed, or fenced to protect the resource. Such protection may be temporary, during construction, or permanent such as to protect the resource from livestock or people. The City Planner shall specify the design and sign message if applicable, of such markers, signs, and fencing.
2. The applicant file a notice with the county records and elections division stating the presence of the critical area or buffer and the application of this Critical Areas Code to the property, in order to inform subsequent purchasers of the property.
3. The critical area and/or buffer be placed in a critical area tract or conservation easement, the purpose of which is to set aside and protect the critical area. The critical area tract or conservation easement shall be:
 - a. held by the City, a homeowner's association, a land trust or similar conservation organization, or by each lot owner within the development in an undivided interest;
 - b. recorded on all documents of title of record for the affected parcels;
 - c. noted on the face of any plat or recorded drawing; and
 - d. delineated on the ground with permanent markers and/or signs in accordance with local survey standards.

G. The City may allow averaging of buffer widths, if a qualified professional demonstrates that:

1. Functions and values are not adversely affected;
2. The total buffer area is not reduced; and
3. At no location is the buffer width reduced more than 40 percent.

H. Unless otherwise provided, buildings and other structures shall be set back a distance of ten feet from the edges of all critical areas and critical area buffers. The same protrusions into this setback area shall be allowed as the development code allows into property line setback areas.

- I. Critical areas and buffers shall not be allowed within any lot of a subdivision and/or short plats unless the plat was vested prior to the effective date and implementation of this ordinance. Subdivision and or/short plats shall show, on their face, any applicable critical area limitations.
- J. When any existing regulation, easement, covenant, or deed restriction conflicts with this Critical Areas Code, the one which provides more protection to the critical areas shall apply.
- K. When critical areas of two or more types coincide, the more restrictive buffer and requirements shall apply.
- L. Subject to approval through the planned residential development process, or approval by the City Planner, depending on who is the applicable decision-maker, in calculating allowable residential units per acre, up to 100% of the acreage of critical areas and buffers may be counted and this density transferred to buildable portions of the site.
- M. The substantive requirements unique to the type of critical area shall also be complied with, as set forth in the applicable chapter of the Critical Areas Code.

14.255.130 Variances

The City may grant variances from the Critical Areas Code’s substantive regulations in accordance with Chapter 14.70 SMC, if the criteria in A or B below are met.

- A. The variance conforms to the variance criteria stated in SMC 14.70.040, plus the variance:
 - 1. Conforms with the purpose of the Critical Areas Code,
 - 2. Does not impact anadromous fish habitat; and
 - 3. Is justifiable in light of the best available science and the GMA policies referenced in SMC 14.255.010F.
- B. The variance is determined to be a reasonable use (conformance with the SMC 14.70.040 criteria not required) in accordance with the following:
 - 1. The application of the Critical Areas Code would otherwise deny all reasonable economic use of the property;
 - 2. The City does not offer to compensate the owner for the denial of reasonable economic use;
 - 3. No other reasonable economic use of the property or development design has less impact on the critical area;
 - 4. The proposal does not pose an unreasonable threat to the public health, safety, or welfare;
 - 5. The proposal conforms to other applicable regulations;

6. Impacts to critical areas are mitigated; and
7. The application is sufficiently documented (for example, critical area report, mitigation plan, permit applications, and environmental documents) to make a determination regarding these criteria.

14.255.140 Enforcement and inspections

- A. In enforcing violations of the Critical Areas Code per Chapter 14.85 SMC, the City Planner may require a restoration plan prepared by a qualified professional. Historic functions and values, soil configurations, and native vegetation shall be used as a guide for restoration. Flood and geological hazards shall be reduced to the pre-development level.
- B. Reasonable access to the development shall be provided to agents of the City for critical area inspections, monitoring, restoration, or emergency action.

Chapter 14.260

Wetlands

Sections

- 14.260.010 Purpose and intent
- 14.260.020 Rating and designation
- 14.260.030 Critical area reports
- 14.260.040 Substantive requirements
- 14.260.050 Mitigation

14.260.010 Purpose and intent

- A. Wetlands perform numerous important functions, including but not limited to provision of wildlife and fish habitat, water quality enhancement, flood and erosion control, ground water recharge and discharge, shoreline stabilization, research and education opportunity, and recreation. Protection of these systems is necessary to protect the public health, safety, and general welfare.
- B. To achieve the goal of “no net loss” of wetland functions and values within the City, the regulations of this chapter are intended to discourage or prohibit:
 - 1. Activities that block water flows, or damage or destroy flood storage areas or storm barriers, thereby resulting in greater potential flood damages;
 - 2. Disposal of wastewater or solid wastes, or creation of unstable fills inappropriate to the function of wetlands, which may result in water pollution;
 - 3. Application of pesticides, herbicides and algaecides on wetlands unless warranted to protect the ecological functions of the wetland;
 - 4. Activities that limit the function of a wetland to control erosion or runoff; provide water storage; or provide wildlife breeding, spawning, nesting, wintering, or feeding grounds;
 - 5. Activities that detract from a wetland’s value in providing educational experiences, recreational uses, and/or open space.

14.260.020 Rating and designation

- A. Rating categories. Wetlands shall be rated Category I, II, III, or IV according to the Department of Ecology’s *Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-025)*. (See WAC 365-190-080(1)(a).) Wetland categories shall apply to the wetland as it exists on the date the City adopts the rating system, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Wetland rating categories shall not change due to illegal modifications. The City will conduct an analysis of new wetlands rating systems as proposed by the State on an annual basis for consideration as an amendment to this chapter.

B. Designating wetlands.

1. As set forth in RCW 36.70A.030(20), wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands.
2. Pursuant to RCW 36.70A.175, wetlands are designated in accordance with the *Washington State Wetland Identification and Delineation Manual* (Ecology Publication #96-94).
3. The City has maps showing the approximate location and extent of wetlands. However, these maps are only a guide and will be updated as critical areas become better known. The exact location of a wetland's boundary shall be determined in accordance with the above-referenced manual.

C. Rating wetlands. Wetlands shall be rated according to the Department of Ecology wetland rating system, as set forth in the *Washington State Wetland Rating System for Western Washington* (Ecology Publication #04-06-025, or as revised and approved by DOE). These documents contain the definitions and methods for determining if the criteria below are met.

1. **Category I.** Category I wetlands are those wetlands that meet any of the following criteria:
 - a. wetlands that are identified by scientists of the Washington Natural Heritage Program/DNR as high quality wetlands;
 - b. bogs larger than a half acre;
 - c. mature and old growth forested wetlands larger than one acre;
 - d. wetlands that perform many functions well (score at least 70 points); or
 - e. wetlands that:
 - i. represent a unique or rare wetland type; or
 - ii. are more sensitive to disturbance than most wetlands; or
 - iii. are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or
 - iv. provide a high level of functions.

2. **Category II.** Category II wetlands are those wetlands that meet any of the following criteria:
 - a. a wetland identified by the Washington State Department of Natural Resources as containing "sensitive" plant species;
 - b. a bog between one-quarter and one-half acre in size; or
 - c. wetlands with a moderately high level of functions (score between 51 and 69 points).
3. **Category III.** Category III wetlands are wetlands with a moderate level of functions (score between 30 and 50 points), which generally have been disturbed in some way and which are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.
4. **Category IV.** Category IV wetlands have the lowest levels of functions (score less than 30 points) and are often heavily disturbed. These are wetlands that should be replaceable and in some cases improvable. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions and should be protected to some degree.

D. **Date of wetland rating.** Wetland rating categories shall be applied as the wetland exists on the date of adoption of the rating system by the local government, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Wetland rating categories shall not change due to illegal modifications.

14.260.030 Critical area reports

In addition to the requirements of SMC 14.255.080, critical area reports for wetlands shall include the following:

- A. Wetland delineation map as surveyed and flagged in the field.
- B. Assessment of wetlands, including acreage, category, required buffers, evidence of past alterations, soil, topography, hydrology, ecology, and functional evaluation using a recognized method.
- C. Discussion of measures to preserve wetland functions and values, including the "sequencing" set forth in SMC 14.255.120.E.
- D. If mitigation is proposed, a mitigation plan including the existing and proposed status of:
 1. Wetland acreage;
 2. Vegetation and fauna;
 3. Surface and subsurface hydrology;
 4. Soils, substrate, and topography;

- 5. Required wetland buffers; and
- 6. Property ownership.

E. Proposed wetland management and monitoring.

14.260.040 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the requirements of this section shall apply to developments in wetlands, except as exempted above.

A. The higher the wetland category (Category I is highest), the greater shall be the emphasis on higher-priority “sequencing” methods per SMC 14.255.120.E.

B. The following buffer width requirements are established as the minimum wetland buffer widths:

1. The standard buffer widths in this section are based on the fact that most impacts adjacent to wetlands in the City of Snohomish will be high intensity impacts characteristic of an urban area. Accordingly, one baseline buffer will generally apply to each category of wetland, as provided in subsection 14.060.040B2, unless the habitat function score requires increasing the buffer width, as provided in subsection 14.260.040B3, or unless the buffer width is increased, decreased, and/or averaged, as provided in subsections 14.260.040D, E, F, and G.

2. Standard/baseline buffer widths shall be:

Category I	150 feet
Category II	100 feet
Category III	50 feet (exempt if smaller than 1000 square feet: see SMC 14.255.060.S; between 1000 square feet and 3000 square feet in area shall be exempt from the normal sequencing process but shall be fully mitigated: see SMC 14.255.060.T)
Category IV	50 feet (exempt if smaller than 1000 square feet: see SMC 14.255.060.S; between 1000 square feet and 3000 square feet in area shall be exempt from the normal sequencing process but shall be fully mitigated: see SMC 14.255.060.T)

3. The standard/baseline buffer widths shall be increased for each Category of wetland to the following wetland buffer widths, if the habitat function scores (derived from the 2004 Wetland Rating System for Western Washington) meet the following thresholds:

Category I	200 feet , if habitat function score is at least 28
Category II	150 feet , if habitat function score is at least 28

Category III	100 feet, if habitat function score is at least 20
Category IV	50 feet, i.e. no increase regardless of habitat function score.

- C. Buffers shall be measured from the wetland boundary as surveyed in the field. If wetland enhancement is proposed, the requirements for the category of the wetland after enhancement shall apply.
- D. The above standard buffer widths presume the following:
1. The buffer is at least moderately endowed with healthy native vegetation (i.e., 75% ground cover) and other factors affecting its ability to protect the wetland, such as favorable topography.
 2. The City Planner may increase the required buffer width or require buffer enhancement if the buffer is poorly endowed with healthy native vegetation or is otherwise handicapped in its ability to protect the wetland as specified in 14.260.040(E).
 3. The City Planner may reduce the required buffer width if the buffer is, or after enhancement will be, well endowed with healthy native vegetation or otherwise unusually able to protect the wetland as specified in 14.260.040(E).
- E. The City Planner may increase or reduce the standard buffer width if the function(s) served by the particular wetland need(s) more or less buffer width, as indicated by a wetland functional analysis. Buffer widths may be reduced not more than 25% of the standard/baseline buffer width and only if restoration or enhancement occurs within the remaining buffer such that no net loss of function is realized.
- F. The City Planner shall have the authority to average buffer widths on a case-by-case basis, where a qualified professional demonstrates to the City Planner's satisfaction that all the following criteria are met:
1. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer.
 2. The buffer averaging does not reduce the functions or values of the wetland.
 3. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation.
 4. The director shall have the authority to increase the minimum width of the standard buffer on a case-by-case basis when such increase is necessary.
 5. Buffer width averaging does not reduce the original buffer width by more 50% at any one point.
- G. The City Planner may combine the use of buffer restoration or enhancement to reduce buffer width, as provided in subsection 14.260.040E, with the use of buffer width averaging, as provided in subsection 14.260.040F, provided that there is no net loss of function and the original buffer width is not reduced by more than 50% at any one point.

- H. Except as provided elsewhere in the Critical Areas Code, all existing native vegetation in wetland buffers shall be retained without disturbance, mowing, or hard surfacing, nor shall any action be taken to inhibit volunteer regrowth of native vegetation. Invasive weeds shall be removed for the duration of the monitoring period. Stormwater management facilities, bioswales, and treated-water outfalls are permitted in the outer 50 percent of the buffer of Category III or IV wetlands, provided that wetland functions and values are not significantly lost through fluctuations in wetland hydrology and construction integrates best management practices.

14.260.050 Mitigation

- A. All significant adverse impacts to wetlands and buffers as determined by the City Planner shall be fully mitigated in accordance with the standards in this section and a mitigation plan consistent with this section. Mitigation measures to be addressed in the mitigation plan shall include, in order of preference, avoidance, minimization, restoration, rehabilitation, and compensation.
- B. Mitigation for alterations to wetlands may be by restoring former wetlands, creating wetlands, or enhancing degraded wetlands, consistent with the *Department of Ecology Guidance on Wetland Mitigation in Washington State, Part 2* (Ecology Publication #04-06-013B)
- C. Mitigation shall generally replace wetland functions lost from the altered wetland except that the City may permit out-of-kind replacement when the lost functions are minimal or less important to the drainage basin than the functions that the mitigation action seeks to augment.
- D. Mitigation shall be in the same drainage basin or sub-basin as the altered wetland, unless a higher level of ecological functioning would result from an alternate approach.
- E. Mitigation projects shall be completed as quickly as possible, consistent with such factors as rainfall and seasonal sensitivity of fish, wildlife, and flora, and shall be completed no later than the first year following completion of the development project.
- F. Mitigation projects shall be designed with reference to the Department of Ecology's *Guidance on Wetland Mitigation in Washington State, Part 2* (Ecology Publication #04-06013B) and Appendix 8-C of the Department of Ecology's *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands* (Ecology Publication #04-06-024).
- G. Mitigation for alterations to wetlands shall achieve equivalent or greater biologic functions and shall provide similar wetland functions as those lost, except when:
1. The lost wetland provides minimal functions as determined by a site-specific function assessment and the proposed mitigation action(s) will provide equal or greater functions or will provide functions shown to be limiting within a watershed through a watershed assessment plan or protocol; or

2. Out-of-kind replacement will best meet formally identified regional goals such as replacement of historically diminished wetland types.
- H. Compensation in the form of wetland creation, restoration or enhancement is required when a wetland is altered permanently as a result of an approved project. Alterations shall not result in net loss of wetland area, except when compensation for wetland alterations is provided in the following order of preference:
1. Wetlands are restored on upland sites that were formerly wetlands.
 2. Wetlands are created on disturbed upland sites such as those with vegetative cover consisting primarily of exotic introduced species.
- I. Mitigation actions shall be conducted within the same subdrainage basin and on the same site as the alteration except when all of the following apply:
1. Either there are no reasonable on-site or in-subdrainage basin opportunities, or on-site and in-subdrainage basin opportunities do not have a high likelihood of success due to development pressures, adjacent land uses, or on-site buffers or connectivity are inadequate.
 2. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the altered wetland.
 3. Where feasible, mitigation projects shall be completed prior to activities that will disturb wetlands. In all other cases, mitigation shall be completed immediately following disturbance and prior to use or occupancy of the activity or development.
 4. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and vegetation.
 5. The applicant shall develop a mitigation plan that provides for construction, maintenance, monitoring, contingencies and adaptive management of the wetland compensation projects, as required by conditions of approval and consistent with the requirements of this chapter.
- J. Wetland mitigation – Replacement ratios
1. When an applicant proposes to alter or eliminate a regulated wetland, the functions and values of the affected wetland and buffer shall be replaced through wetland creation, restoration, or enhancement, according to the minimum ratios established in the table in this section. The ratios shall apply to wetland creation, restoration, or enhancement, which is in-kind, on-site, of the same category, timed prior to or concurrent with alteration, and has a high probability of success.

2. Ratios for out-of-kind or off-site mitigation may be greater than set forth in the table, if the City Planner determines that additional mitigation is warranted to mitigate impacts. Ratios for remedial actions resulting from unauthorized alterations shall be greater than set forth in the table, provided that the extent of the increase shall be as determined by the City Planner to be appropriate in the circumstances.
3. Replacement ratios may be decreased by up to 25 percent by the City Planner, if the applicant demonstrates to the satisfaction of the City Planner that all of the following criteria are met:
 - a. documentation by a qualified professional demonstrates that the proposed mitigation actions have a very high likelihood of success;
 - b. documentation by a qualified professional demonstrates that the proposed mitigation actions will provide functions and values that are significantly greater than the wetland being altered;
 - c. the proposed mitigation actions are conducted in advance of the impact and shown to be successful through post-construction monitoring and function assessment.
4. The mitigation ratios in the following table are based on Appendix 8-C of the Department of Ecology's *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands* (Ecology Publication #04-06-024):

Acreeage-based Mitigation Ratios Table

Affected Wetland	Mitigation Type and Ratio			
Category	Re-establishment or Wetland Creation	Rehabilitation	Re-establishment or Creation (R/C) and Enhancement (E)	Enhancement Only
Category IV	1.5:1	3:1	1:1 R/C and 2:1 E	6:1
Category III	2:1	4:1	1:1 R/C and 2:1 E	8:1
Category II	3:1	6:1	1:1 R/C and 4:1 E	12:1
Category I - Forested	6:1-	12:1	1:1 R/C 10:1 Enhancement	24:1
Category I - Score Based	4:1-	8:1	1:1 R/C 10:1 Enhancement	16:1
Category I - Bog	Not considered possible	6:1	Case by Case	Case by Case

K. Definitions specific to Wetland Mitigation:

1. **Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a

former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into re-establishment and rehabilitation, as follows:

- a. re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Activities could include removing fill material, plugging ditches, or breaking drain tiles. Re-establishment results in a gain in wetland acres.
 - b. rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres.
2. **Creation:** The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species. Creation results in a gain in wetland acres.
 3. **Enhancement:** The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention or wildlife habitat. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres.
 4. The distinction between rehabilitation and enhancement for the purposes of the rating system is further explained as follows:
 - a. rehabilitation includes:
 - i. Actions that restore the original hydrogeomorphic (HGM) class, or subclass, to a wetland whose current HGM class, or subclass, has been changed as a result of human activities; and
 - ii. Actions that restore the water regime that was present and maintained the wetland before human activities changed it.
 - b. Enhancement includes:
 - i. Any other actions taken in existing wetlands.

- ii.** For example, a wetland that was once a forested riverine wetland was changed to a depressional, emergent wetland by the construction of a dike and through grazing. Rehabilitating the wetland would involve breaching the dike so the wetland becomes a riverine wetland again, removing the grazing, and reforesting the area. Removing the grazing and reforesting the wetland without reestablishing the links to the riverine system would be considered as enhancement.

Chapter 14.265

Critical Aquifer Recharge Areas

Sections

- 14.265.010 Designation
- 14.265.020 Exemptions
- 14.265.030 Critical area reports
- 14.265.040 Substantive requirements
- 14.265.050 Prohibited uses and activities

14.265.010 Designation

- A. Areas with a critical recharging effect on aquifers used for potable water as defined by WAC [365-190-030](#)(2) are hereby designated critical areas and shall be subject to the provisions of this chapter.
- B. The city is not currently aware of any critical aquifer recharge area in its jurisdiction. However, upon discovery of scientific data attesting to the existence of a critical aquifer recharge area, the City will apply the Critical Areas Code to said area.

14.265.020 Exemptions

In addition to the developments listed in SMC 14.255.060, the following developments shall be exempt from this chapter:

- A. Construction of structures, improvements, and additions of less than 2,500 square feet of total site impervious surface area, which do not increase the risk to the critical area from hazardous substances.
- B. Development of parks, recreation facilities, or conservation areas that do not increase the risk to the critical area from hazardous substances.

14.265.030 Critical area reports

- A. In addition to the requirements of SMC 14.255.120, critical area reports for critical aquifer recharge areas shall include a hydrogeologic assessment.
- B. Level 1 (basic) hydrogeologic assessments shall be prepared for all critical aquifer recharge areas and shall include the following information:
 - 1. Available information regarding geology and hydrogeology of the site, including permeability of the unsaturated zone;
 - 2. Ground water depth, flow direction, and gradient based on available information;
 - 3. Available data on wells and springs within 1,300 feet;
 - 4. Location of other critical areas, including surface waters, within 1,300 feet; and

5. Best management practices proposed to be utilized.
- C. A Level 2 (more detailed) hydrogeologic assessment shall be prepared in compliance with the following:
1. A Level 2 hydrogeologic assessment shall be prepared for the following activities:
 - a. activities that divert, alter, or reduce the flow of surface or ground waters, or otherwise reduce the recharging of the aquifer;
 - b. the use of hazardous substances, other than household chemicals used according to the directions specified on the packaging;
 - c. injection wells; and
 - d. any other activity determined by the City Planner as being likely to have an adverse impact on ground water quality or quantity.
 2. A Level 2 Hydrogeologic assessments shall include the following information:
 - a. historic water quality data for the area to be affected by the proposed development;
 - b. ground water monitoring plan;
 - c. potential effects on water quality and quantity of nearby wells and water bodies; and
 - d. analysis of equipment or structures that could fail and regular inspection, repair, and replacement necessary to prevent such failure.

14.265.040 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to critical aquifer recharge areas:

- A. Proposed developments shall not cause contaminants to enter the aquifer or significantly reduce the recharging of the aquifer and shall comply with the water source protection requirements and recommendations of the U.S. Environmental Protection Agency, Washington State Department of Health, and county health department.
- B. Underground facilities for storing hazardous substances shall be designed to prevent releases due to corrosion or structural failure for the operational life of the tank.
- C. Above-ground facilities for storing hazardous substances shall be designed to prevent accidental release, shall have a primary containment enclosing or underlying the tank, and shall have a secondary containment built into the tank structure or consisting of an external dike.
- D. Vehicle repair and servicing shall be conducted over impermeable pads, within a covered structure capable of withstanding normal weather conditions. Chemicals shall be stored in

a manner that protects them from weather and provides containment should leaks occur. Dry wells are prohibited.

- E. Application of household pesticides, herbicides, and fertilizers shall not exceed times and rates specified on the packaging.
- F. Surface percolation or injection of reclaimed water shall conform to adopted water and sewer comprehensive plans, pursuant to RCW 90.46.080(1), RCW 90.46.010(10), and RCW90.46.042.
- G. The uses listed below shall be conditioned as necessary to protect critical aquifer recharge areas in accordance with the applicable state and federal regulations and to the extent that a City approval is required for said uses.

Statutes, Regulations, and Guidance Regarding Groundwater-Impacting Activities

Activity	Statute – Regulation – Guidance
Above Ground Storage Tanks	Chapter 173-303-640 WAC
Animal Feedlots	Chapter 173-216 WAC, Chapter 173-220 WAC
Automobile Washers	Chapter 173-216 WAC, Best Management Practices for Vehicle and Equipment Discharges (Washington Department of Ecology WQ-R-95-56)
Below Ground Storage Tanks	Chapter 173-360 WAC
Chemical Treatment Storage and Disposal Facilities	Chapter 173-303-182 WAC
Hazardous Waste Generator	Chapter 173-303 WAC (<i>Boat Repair Shops, Biological Research Facility, Dry Cleaners, Furniture Stripping, Motor Vehicle Service Garages, Photographic Processing, Printing and Publishing Shops, etc.</i>)
Injection Wells	Federal 40 CFR Parts 144 and 146, Chapter 173-218 WAC
Junk Yards and Salvage Yards	Chapter 173-304 WAC, Best Management Practices to Prevent Stormwater Pollution at Vehicles Recycler Facilities (Washington Department of Ecology 94-146)
Oil and Gas Drilling	Chapter 332-12-450 WAC, Chapter 173-218 WAC
On-Site Sewage Systems (Large Scale)	Chapter 173-240 WAC
On-Site Sewage Systems (< 14,500 gal/day)	Chapter 246-272 WAC, Local Health Ordinances
Pesticide Storage and Use	Chapter 15.54 RCW, Chapter 17.21 RCW
Sawmills	Chapter 173-303 WAC, Chapter 173-304 WAC, Best Management Practices to Prevent Stormwater Pollution at Log Yards (Washington Department of Ecology, 95-53)
Solid Waste Handling and Recycling Facilities	Chapter 173-304 WAC
Surface Mining	Chapter 332-18-015 WAC
Waste Water Application to Land Surface	Chapter 173-216 WAC, Chapter 173-200 WAC, Washington Department of Ecology Land Application Guidelines, Best Management Practices for Irrigated Agriculture

14.265.050 Prohibited activities and uses

The following activities and uses are prohibited in critical aquifer recharge areas (based on *Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances*, by WDOE, Publication #97-30):

- A. Landfills and solid waste transfer stations, including landfills for hazardous waste, municipal solid waste, special waste, wood waste and inert and demolition waste;
- B. Underground injection wells: Class I, III, and IV wells and subclasses 5F01, 5D03, 5F04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 of Class V wells;
- C. Mining of metals, hard rock, sand, and gravel;
- D. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces;
- E. Creosote or asphalt manufacturing;
- F. Storage, processing, or disposal of hazardous, chemical, or radioactive substances;
- G. Electroplating;
- H. Class 1A or 1B flammable liquids manufacturing as defined by the Uniform Fire Code;
- I. Conversion of heating systems to fuel oil;
- J. New petroleum product pipelines;
- K. Activities that would significantly reduce the recharge to aquifers currently or potentially used for potable water; and
- L. Activities that would significantly reduce base flow to a regulated stream.

Chapter 14.270

Floodplains

Sections

- 14.270.010 Designation
- 14.270.020 Critical area reports
- 14.270.030 Substantive requirements
- 14.270.040 Floodway certification
- 14.270.050 Recordation
- 14.270.060 Disclaimer of liability

14.270.010 Designation

- A. Floodplains are those areas that provide important flood storage, conveyance and attenuation functions and include all land within such areas that are subject to a one percent or greater chance of flooding in any given year.
- B. Floodplains shall be designated by the City Planner in accordance with WAC [365-190-080](#)(3).
 - 1. The City Planner shall use the “areas of special flood hazard” as identified on the Federal Emergency Management Administration’s most current Flood Insurance Rate Map for the City as the indicator of where floodplains exist, unless more detailed, current, and convincing evidence indicates otherwise.
 - 2. Floodplains shall include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

14.270.020 Critical area report

- A. The City Planner may waive the critical areas report required in SMC 14.255.080 for developments proposed in the floodplain, if the applicable permit application contains sufficient data to verify compliance with the substantive requirements, except as provided in subsection 14.270.020B.
- B. The critical area report shall not be waived for the following developments:
 - 1. Developments in the floodway, which is the area shown in the illustration that accompanies the definition of “floodplain” in SMC 14.100.020; and
 - 2. Developments that result in watercourse alteration.

14.270.030 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to floodplains:

- A. To the extent possible consistent with the development objective, all improvements shall be located on the non-floodplain portion of the site, if any, or on the highest ground on the site, as far as possible from the flood source.
- B. New and substantially improved residential structures shall have the lowest floor or basement elevated one foot or more above the 100-year flood elevation. In addition, new and substantially improved manufactured homes shall be securely anchored to resist flotation, collapse, and lateral movement.
- C. New and substantially improved nonresidential structures shall either:
 - 1. Have the lowest floor or basement elevated one foot or more above the 100-year flood elevation; or
 - 2. Together with utilities and sanitary facilities, be certified by a registered professional engineer or architect as being flood-proofed, so that the structure below one foot or more above the 100-year flood level the structure is watertight and capable of resisting hydrostatic and hydrodynamic loads and buoyancy.
- D. Fully enclosed areas below the lowest habitable floor that are not flood-proofed shall be certified by a registered professional engineer or architect as designed to resist hydrostatic flood forces.
- E. New and replacement water supply systems shall be designed to minimize infiltration of flood waters into the systems.
- F. New and replacement sanitary sewage systems and on-site septic systems shall be designed to minimize infiltration of flood waters into and discharges from the system.
- G. All new construction and substantial improvements, including electrical, heating, ventilation, plumbing, and air-conditioning equipment, shall be constructed using flood-resistant materials and methods.
- H. Alteration of natural watercourses, including side channels and channel migration zones, shall be avoided if feasible. If unavoidable, the City Planner shall notify adjacent communities, the Department of Ecology, and FEMA prior to alteration. Any stream-bank stabilization shall consider the use soft armoring (bioengineering). Removal of vegetation and woody debris shall be minimized. The alteration shall not block side channels or diminish flood-carrying capacity.
- I. Fill and grading may be placed in areas which in the event of a 100-year flood would be covered with relatively static floodwaters but not in a manner which would block side channels or inhibit channel migration.

- J. Recreational vehicles shall either be on the site for fewer than 180 consecutive days or be fully licensed and ready for highway use.

14.270.040 Floodway certification

All developments capable of blocking floodwaters, including new construction, substantial improvements, and fill, but excluding underground improvements and conservation or habitat enhancement projects, are prohibited in the floodway unless a registered professional engineer certifies that the proposed encroachment will not result in any increase in flood levels during a 100-year flood.

14.270.050 Recordation

The City Planner shall record:

- A. The as-built elevation above mean sea level of the lowest habitable floor, including basement, of all new or substantially improved structures, and whether the structure contains a basement;
- B. Certificates of flood-proofing and flood elevation; and;
- C. Permits and variances issued in accordance with this chapter.

14.270.060 Disclaimer of liability

Compliance with this chapter does not guarantee against flood damages, and the City shall not be liable for flood damages that result from reliance on this chapter.

Chapter 14.275 Geologically Hazardous Areas

Sections

14.275.010	Designation
14.275.020	Mapping
14.275.030	Exemptions
14.275.040	Critical area reports
14.275.050	Substantive Requirements
14.275.060	Decisions

14.275.10 Designation

- A. Geologically hazardous areas include areas in the City that are designated by the City Planner as potentially not suited to development based on public health, safety or environmental standards, because of such areas' susceptibility to erosion, sliding, earthquake, or other geological processes as designated by WAC [365-190-080](#)(4).
- B. The City Planner may designate areas as geologically hazardous, including erosion, landslide, and seismic hazard areas, consistent with the following:
1. Erosion hazard areas are areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a moderate-to-severe, severe, or very severe rill and inter-rill (sheet wash) erosion hazard.
 2. Landslide hazard areas are areas subject to landslides based on geology, soils, topography, and hydrology, including:
 - a. areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a severe limitation for building site development;
 - b. areas mapped by the Washington Department of Ecology (*Coastal Zone Atlas*) or the Washington State Department of Natural Resources (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5);
 - c. areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources;
 - d. areas where the following coincide: slopes steeper than fifteen percent, relatively permeable sediment overlying a relatively impermeable sediment or bedrock, and ground water seepage;
 - e. areas that have shown movement in the past ten thousand years or that are underlain or covered by mass wastage debris of that time frame;

- f. slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;
 - g. slopes steeper than eighty percent subject to rock fall during seismic shaking;
 - h. areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting by wave action;
 - i. areas at risk from snow avalanches;
 - j. canyons or active alluvial fans subject to debris flows or catastrophic flooding; and
 - k. slopes of forty percent or steeper with a vertical relief of ten or more feet except areas composed of consolidated rock.
3. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. One indicator of potential earthquake damage is a record of past earthquake damage. Settlement and soil liquefaction occur in areas underlain by cohesionless, loose, or soft-saturated soils of low density, typically in association with a shallow ground water table.
 4. Mine hazard, volcanic, and tsunami hazard areas (none known to be present in the City: see WAC 365-190-080)
 5. Other geologically hazardous areas include areas susceptible to mass wasting, debris flows, rock falls, and differential settlement.

14.275.020 Mapping

The following maps, which may be continuously updated, may be used as a guide for locating geologically hazardous areas.

- A. U.S. Geological Survey landslide hazard, seismic hazard, and volcano hazard maps;
- B. Washington State Department of Natural Resources seismic hazard maps for Western Washington;
- C. Washington State Department of Natural Resources slope stability maps; and
- D. Locally adopted maps.

14.275.030 Exemptions

In addition to those listed in SMC 14.255.060, the following developments shall be exempt from this chapter:

- A. Additions of fewer than 250 square feet to single-story residences, provided that the City Engineer determines the addition will not increase the risk to the residence or adjacent development;
- B. Fences; and
- C. Other minor developments as determined by the City Planner consistent with the purposes of the Critical Areas Code.

14.275.040 Critical area reports

In addition to the requirements of SMC 14.255.080, critical area reports for geologically hazardous areas shall include, where applicable:

- A. Site history regarding landslides, erosion, and prior grading;
- B. Topography in suitable contour intervals;
- C. Height of slope, slope gradient, slope stability, and slope retreat rate recognizing potential catastrophic events;
- D. Description of the geology (including faults), hydrology (including springs, seeps, and surface runoff features), soils (including, in seismic hazard areas, thickness of unconsolidated deposits and liquefaction potential), and vegetation;
- E. Type, extent, and severity of geologic hazard(s);
- F. Analysis of the proposal's risk from the geologic hazard and the proposal's potential for exacerbating off-site hazards or depositing sediment in wetlands or habitat areas;
- G. Recommended buffers and other conditions of approval. In areas of erosion or landslide hazard, the recommended conditions may include:
 - 1. Clearing, fill, and hard-surfacing limits, slope stabilization measures, and vegetation management plan;
 - 2. Limitation on clearing during the rainy season, generally from October 1 to May 1;
 - 3. Design parameters of foundations and retaining structures; and
 - 4. Drainage plan and erosion and sediment control plan in compliance with City stormwater management regulations; and

- H. Overview of field investigations, measurements, references, and past assessments of the site.

14.275.050 Substantive Requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to geologic hazard areas:

- A. Alteration of geologically hazardous areas and buffers shall be prohibited except as expressly allowed in this chapter.
- B. Proposed developments shall not increase the long-term risk of or exposure to a geologic hazard on-site or off-site;
- C. Hazard mitigation shall not rely on actions that require extensive maintenance;
- D. Development near an erosion or landslide hazard area shall:
 - 1. Observe a buffer from the edges thereof, of adequate width to comply with the substantive requirements;
 - 2. Not decrease the factor of safety for landslides below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions may be based on a minimum horizontal acceleration as established by the International Building Code;
 - 3. Cluster structures and improvements as necessary to avoid hazard areas;
 - 4. Use retaining walls that allow the retention of existing natural slopes when possible rather than graded artificial slopes;
 - 5. Place utility lines and pipes in erosion and landslide hazard areas only when no other alternative is available and when the line or pipe can be installed above ground in such a manner as to remain intact without leaks in the event of a slide;
 - 6. Discharge water from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area only if:
 - a. discharged at flow durations matching predeveloped conditions, with adequate energy dissipation, into existing channels; or
 - b. dispersed upslope of the steep slope onto a low-gradient undisturbed buffer of adequate infiltrate capacity without increasing saturation of the slope; and
 - 7. Locate any on-site sewage drain fields outside the hazard area and related buffers.

14.275.60 Decisions

- A. The City may approve, condition or deny development proposals in geologically hazardous areas based on the degree to which risks to public and private property and to health and safety can be mitigated.
- B. Conditions may include limitations of or on proposed uses, density modification, alteration of site layout and other changes to the proposal determined appropriate by the City Planner.
- C. Where the City Planner determines that potential adverse impacts cannot be effectively mitigated, or where the risk to public health, safety and welfare, property, or important natural resources is significant notwithstanding mitigation, the proposal shall be denied.

Chapter 14.280

Habitat Conservation Areas

Sections

- 14.280.010 Designation of habitat conservation areas
- 14.280.020 Designation of habitats and species of local importance
- 14.280.030 Mapping
- 14.280.040 Critical area reports
- 14.280.050 Substantive requirements
- 14.280.060 Habitat conservation area buffers

14.280.010 Designation of habitat conservation areas

Habitat conservation areas shall be designated by the City Planner to include the following:

- A. Areas having a primary association with fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service as being in danger of extinction or threatened to become endangered;
- B. Areas having a primary association with fish and wildlife species identified by the Washington Department of Fish and Wildlife as being in danger of extinction, threatened to become endangered, vulnerable, or declining and likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. See WAC 232-12-014 (state endangered species) and WAC 232-12-011 (state threatened and sensitive species).
- C. State priority habitats as identified by the state Department of Fish and Wildlife;
- D. Habitats and species of local importance as identified by the City in accordance with SMC 14.280.020;
- E. Waters of the state, including lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington, as classified in WAC 222-16-031;
- F. Ponds under twenty acres that provide fish or wildlife habitat, except artificial ponds created for a non-wildlife purpose such as stormwater detention facilities, wastewater treatment facilities, farm ponds, and temporary construction ponds;
- G. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- H. Natural area preserves and natural resource conservation areas as defined by the Washington State Department of Natural Resources;

- I. Areas of rare plant species and high quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program (see Chapter 79.70 RCW); and
- J. Land useful or essential for preserving connections between habitat blocks and open spaces.

14.280.020 Designation of habitats and species of local importance

- A. Habitats and species of local importance are those identified by the City, including but not limited to those habitats and species that, due to their population status or sensitivity to habitat manipulation, warrant protection. Habitats may include a seasonal range or habitat element with which a species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.
- B. The City shall accept and consider nomination for habitat areas and species to be designated as locally important on an annual basis.
- C. Habitats and species to be designated shall exhibit at least one of the criteria in subsections C.1 through C.3 and shall meet criteria C.4 and C.5.
 - 1. Local populations of native species are in danger of extirpation based on existing trends, including:
 - a. Local populations of native species that are likely to become endangered; or
 - b. Local populations of native species that are vulnerable or declining; or
 - 2. The species or habitat has recreation, commercial, game, tribal, or other special value; or
 - 3. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat; and
 - 4. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in the City; and
 - 5. Without protection, there is a likelihood that the species or habitat will be diminished over the long term.
- D. Areas nominated to protect a particular habitat or species must represent high-quality native habitat or habitat that either has a high potential to recover to a suitable condition and is of limited availability or provides landscape connectivity which contributes to the designated species or habitat's preservation.

- E. Habitats and species may be nominated for designation by any resident of Snohomish.
- F. The petition to nominate an area or a species to this category shall contain all of the following:
 - 1. A completed SEPA environmental checklist.
 - 2. A written statement using best available science to show that nomination criteria are met;
 - 3. A written proposal including specific and relevant protection regulations that meet the goals of this Chapter. Management strategies must be supported by the best available science, and where restoration of habitat is proposed, a specific plan for restoration must be provided;
 - 4. Demonstration of relevant, feasible, management strategies that are effective and within the scope of this Chapter;
 - 5. Provision of species habitat location(s) on a map that works in concert with other City maps;
 - 6. A financial report identifying the cost of implementing a mitigation or protection plan and the financial impact of the requested designation upon affected properties.
 - 7. Documentation of public notice methods that the petitioner(s) have used. Examples of reasonable methods are:
 - a. Posting the property.
 - b. Publishing a paid advertisement in a newspaper or newsletter of circulation in the general area of the proposal, where interested persons may review information on the proposal. Information in the notice must contain a description of the proposal, general location of the affected area and where comments on the proposal may be sent.
 - c. Notification to public or private groups in the affected area that may have an interest in the petition.
 - d. News media articles that have been published concerning the proposal.
 - e. Notices placed at public buildings or bulletin boards in the affected area.

f. Mailing of informational flyers to property owners within the affected area.

8. Signatures of all petitioners.

G. The City Planner shall determine whether the nomination proposal is complete, and if complete, shall evaluate it according to the characteristics enumerated in subsection C and make a recommendation to the Planning Commission based on those findings.

H. The Planning Commission shall hold a public hearing for proposals found to be complete and make a recommendation to the City Council based on the characteristics enumerated in subsection C.

I. Following the recommendation of the Planning Commission, the City Council may hold an additional public hearing and shall determine whether to designate a Habitat or Species of Local Importance.

J. Approved nominations will be subject to the provisions of this Title.

14.280.030 Mapping

The following maps, which may be continuously updated, may be used as a guide for locating habitat conservation areas.

A. Washington Department of Fish and Wildlife Priority Habitat and Species maps;

B. Washington State Department of Natural Resources, Official Water Type Reference maps;

C. Washington State Department of Natural Resources Shorezone Inventory;

D. Washington State Department of Natural Resources Natural Heritage Program mapping data;

E. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors reports published by the Washington Conservation Commission; and

F. Washington State Department of Natural Resources State Natural Area Preserves and Natural Resource Conservation Area maps.

14.280.040 Critical area reports

In addition to the general critical area report requirements of SMC 14.255.080, critical area reports for habitat conservation areas shall include, where applicable:

A. Vegetation assessment; and

- B. Discussion of any federal, state, or local special management recommendations for species or habitats on or near the site.

14.280.050 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to habitat conservation areas:

- A. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a habitat conservation area, except with approval of a state or federal agency with expertise.
- B. Preference in mitigation shall be given to contiguous wildlife habitat corridors.
- C. In reviewing development proposals, the City shall seek opportunities to restore degraded riparian fish and wildlife functions such as breeding, rearing, migration, and feeding.
- D. The City shall require buffers of undisturbed native vegetation adjacent to habitat conservation areas in accordance with SMC 14.280.060. Buffer widths shall reflect the sensitivity of the habitat and may reflect the intensity of nearby human activity.
- E. When a species is more sensitive to human activity during a specific season of the year, the City may establish an extra outer buffer from which human activity is excluded during said season.
- F. No development shall be allowed within a habitat conservation area or buffer with which state or federal endangered, threatened, or sensitive species have a primary association, except in exchange for restoration as approved by the City Planner or as provided in a management plan approved by a state or federal agency with appropriate expertise.
- G. When a development permit is applied for on land containing or adjacent to a bald eagle nest or communal roost, the City shall notify the Washington Department of Fish and Wildlife and otherwise comply with WAC 232-12-292.
- H. No development shall be permitted which degrades the functions or values of anadromous fish habitat, including structures or fills which impact migration or spawning, except in exchange for restoration.
- I. Construction and other activities within streams shall be seasonally restricted as necessary to protect the resource. Activities shall be timed to occur during work windows designated by the Washington Department of Fish and Wildlife for applicable fish species.
- J. Shoreline erosion control shall use bioengineering methods or soft armoring in accordance with an approved critical area report.

- K. Relocation of streams is not permitted unless it is part of a stream restoration project and it will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream.
- L. The following requirements shall apply to culverts:
1. Culverts may be allowed in streams only if they are necessary for the development to occur, if they are designed according to the Washington Department of Fish and Wildlife criteria for fish passage and if a state hydraulic project approval has been issued.
 2. The applicant or property owner shall keep every culvert free of debris and sediment at all times to allow free passage of water and, if applicable, fish.
 3. The City may require that a stream be removed from an existing culvert as a condition of approval, unless the culvert is not detrimental to fish habitat or water quality, or removal and/or replacement would be detrimental to fish or wildlife habitat or water quality on a long-term basis.
- M. Clearing and grading, when permitted as part of an authorized development activity or as otherwise allowed in these standards, shall comply with the following:
1. Grading shall be allowed only during the designated dry season, which is typically regarded as beginning April 1st and ending October 31st of each year; provided that the City may extend or shorten the designated dry season on a case-by-case basis to reflect actual weather conditions and the incorporation of best management practices to control stormwater.
 2. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, any soil disturbed shall be redistributed to other areas of the site, provided that such redistribution shall not constitute authorized fill.
 3. The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.
- N. To the extent facilities are allowed in habitat conservation areas, the following regulations shall apply.
1. Trails shall be on the outer edge of the stream buffer except for limited viewing platforms and crossings. Trails and platforms shall be of pervious materials as far as possible.
 2. Road bridges and culverts shall be designed according to the Washington Department of Fish and Wildlife *Fish Passage Design at Road Culverts*, 1999,

and the National Marine Fisheries Service *Guidelines for Salmonid Passage at Stream Crossings*, 2000.

3. Utility lines shall be accomplished by boring beneath the scour depth and hyporheic zone (the saturated zone beneath and adjacent to streams that filters nutrients and maintains water quality). Utilities shall avoid paralleling streams or changing the natural rate of shore or channel migration.
4. New and expanded public flood protection measures shall require a biological assessment approved by the agency responsible for protecting federally listed species.
5. In-stream structures such as high-flow bypasses, sediment ponds, instream ponds, retention and detention facilities, tide gates, dams, and weirs shall be allowed only as part of an approved restoration project.
6. Stormwater conveyance structures shall incorporate fish habitat features and the sides of open channels and ponds shall be vegetated to retard erosion, filter sediments, and shade the water.
7. Watercourse alterations shall be in accordance with SMC 14.270.030.H.

14.280.060 Habitat conservation area buffers

- A. The following table establishes the standard width of required stream buffers (also known as riparian habitat areas):

1. Table of habitat conservation area buffer widths for particular streams.

Stream type	Habitat buffer width
<ul style="list-style-type: none"> • Snohomish River • Pilchuck River 	100 feet, provided that 1) limited public access is allowed in the 50 feet nearer the river, and 2) water-dependent and water-related uses are allowed in the 50 feet further from the river, if mitigation measures result in the uses contributing toward projects that enhance salmonid rearing habitat as identified in the Snohomish ESA Strategy and if, as further mitigation, public access is permitted across the waterfront portion of the site when such a mitigation measure is supported by the particular circumstances and the purposes of the Critical Areas Code.
<ul style="list-style-type: none"> • Cemetery Creek, Bunk Foss Creek, and any tributaries thereof containing salmonids • • All streams flowing into Blackman’s Lake, including that part of Swifty Creek above Blackman’s Lake 	100 feet, provided that limited public access is allowed in the first 50 feet of buffer. 50 feet.
<ul style="list-style-type: none"> • Swifty Creek below Blackman’s Lake • Myrick’s Fork in the Cemetery Creek basin • Collins Creek in the Bunk Foss Creek basin (upstream of salmon spawning and rearing areas) 	50 feet, provided that limited public access is allowed in the 25 feet of buffer.

2. If the above table does not cover a particular stream, the following table shall apply:

Stream type	Standard buffer width
Type S (shorelines of the state per Shorelines Management Act)	100 feet
Type F (fish-bearing other than S)	75 feet
Type Np (non-fish, perennial)	50 feet
Type Ns (non-fish, seasonal)	35 feet

- B. Widths shall be measured outward in each direction, on the horizontal plane, from the ordinary high water mark, or from the top of bank if the ordinary high water mark cannot be identified, or from the outer edge of the channel migration zone when present.
- C. The City Planner may modify the buffer widths in the above tables in accordance with the following:

1. Buffer widths may be increased as necessary to fully protect riparian functions. For example, the buffer may be extended to the outer edge of the floodplain or windward into an area of high tree blow-down potential.
 2. Buffer widths may be reduced in exchange for restoration of degraded areas in accordance with an approved plan, or for buffer averaging in accordance with SMC 14.255.120.G.
 3. If the stream enters an underground culvert or pipe, and is unlikely to ever be restored aboveground, the City Planner may waive the buffer along the underground stream, provided that where the stream enters and emerges from the pipe the opposite outer edges of the buffer shall be joined by a radius equal to the buffer width, with said radius projecting over the piped stream.
- D. The shoreline master program, not the Critical Areas Code, shall determine allowable uses along and setbacks from lakes, provided that the Critical Areas Code shall govern wetlands, streams, and other critical areas lying within areas of shoreline management jurisdiction.

APPENDIX E: Ordinance 2090 – Flood Hazard Areas

CITY OF SNOHOMISH

Snohomish, Washington

ORDINANCE 2090

AN ORDINANCE OF THE CITY OF SNOHOMISH, WASHINGTON, REPEALING CHAPTER 14.270 OF THE SNOHOMISH MUNICIPAL CODE AND ADOPTING FLOOD HAZARD AREA REGULATIONS SUBSTANTIALLY SIMILAR TO THOSE PREVIOUSLY CODIFIED AS CHAPTER 14.47 OF THE SNOHOMISH MUNICIPAL CODE.

WHEREAS, with the enactment of Ordinance 2083 on May 3, 2005, the City Council adopted new regulations for critical areas, including wetlands, critical aquifer recharge areas, floodplains, geologically hazardous areas, and habitat conservation areas; and

WHEREAS, the new floodplain regulations enacted by Ordinance 2083 are codified as Chapter 14.270 of the Snohomish Municipal Code (SMC); and

WHEREAS, the flood hazard regulations repealed by Ordinance 2083 were codified as Chapter 14.47 SMC; and

WHEREAS, the Federal Emergency Management Agency of the Department of Homeland Security (FEMA) has determined that Chapter 14.270 SMC as presently constituted does not satisfy minimum eligibility requirements related to the National Flood Insurance Program (NFIP) but that reenacting the City's flood hazard regulations contained in the former Chapter 14.47 SMC with some additional 2005 FEMA update amendments will satisfy minimum eligibility requirements related to the NFIP; and

WHEREAS, the City Planner acting as the City's SEPA Responsible Official has reviewed this Ordinance and has determined that a negative threshold determination under the State Environmental Policy Act is appropriate for the City's action in enacting revised flood hazard area regulations that are substantially similar to those in effect until May 12, 2005;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SNOHOMISH, WASHINGTON DO ORDAIN AS FOLLOWS:

Section 1. Repealer.

Chapter 14.270 of the Snohomish Municipal Code is hereby repealed.

Section 2. Adoption of Flood Hazard Area Regulations.

The provisions set forth in the attached Exhibit A are hereby adopted as the Flood Hazard Area regulations for the City of Snohomish and shall be codified as Chapter 14.270 of the Snohomish Municipal Code.

Section 3. Severability.

If any section, subsection, sentence, clause, phrase, or word of this Ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or unconstitutionality of the remainder of this Ordinance.

Section 4. Effective date. This Ordinance shall take effect five days after the date of its publication by summary.

PASSED by the City Council and APPROVED by the Mayor this 16th day of August, 2005.

CITY OF SNOHOMISH

By _____
LIZ LOOMIS, Mayor

ATTEST:

By _____
TORCHIE COREY, City Clerk

Approved as to form:

By _____
GRANT K. WEED, City Attorney

Publish Date: August 20, 2005
Effective Date: August 25, 2005

Exhibit A
Chapter 14.270
FLOOD HAZARD AREAS

Sections

14.270.010	Authority
14.270.020	Findings of Fact
14.270.030	Purpose and Methods
14.270.040	Definitions
14.270.050	General Provisions
14.270.060	Administration
14.270.070	General Standards for Flood Hazard Reduction
14.270.080	Specific Standards for Flood Hazard Reduction
14.270.090	Determination of Flood Insurance Risk
14.270.100	Floodplains as Critical Areas
14.270.110	Recordation

14.270.010 Authority

The Constitution and Legislature of the State of Washington have delegated the responsibility to city governments to adopt regulations designed to promote the public health, safety, and general welfare of their citizenry.

14.270.020 Findings of Fact

- A. The flood hazard areas of the City of Snohomish are subject to periodic inundation, which may result in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

- B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

14.270.030 Purpose and Methods

A. Statement of Purpose

It is the purpose of this chapter to promote the public health, safety, and general welfare, reduce the cost of flood insurance, and minimize public and private losses due to flood conditions in specific areas by provisions designed:

1. To protect human life and health;
2. To minimize expenditure of public money and costly flood control projects;
3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. To minimize prolonged business interruptions;
5. To minimize damage to public facilities and utilities such as water and gas main, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
6. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard to minimize future flood blight areas;
7. To help ensure that potential buyers are notified that property is in an area of special flood hazard; and
8. To help ensure that those who occupy areas of special flood hazard assume responsibility for their actions.

B. Methods of Reducing Flood Losses

In order to accomplish its purposes and to be consistent with the criteria set forth in Section 60 of the National Flood Insurance Program Regulations (NFIPR), this chapter includes methods and provisions for:

1. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural flood plains, stream channels, and protective barriers that help accommodate or channel floodwaters;
4. Controlling filling, grading, dredging, and other development that may increase flood damage; and
5. Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas.

14.270.040 Definitions (44 CFR 59.1)

Unless specifically defined below, terms or phrases used in this chapter shall be interpreted to give them the meaning they have in common usage and to give this chapter its most reasonable application.

Appeal: means a request for a review of the interpretation of any provision of this chapter or a request for a variance.

Area of Shallow Flooding: designated as **AO**, or **AH** Zone on the Flood Insurance Rate Map (FIRM). AO zones have base flood depths that range from one to three feet above the natural ground; a clearly defined channel does exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow; AH indicates ponding, and is shown with standard base flood elevations.

Area of Special Flood Hazard: is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

Base Flood: means the flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the "100-year flood." Designated on Flood Insurance Rate Maps by the letters A or V.)

Basement: means any area of the building having its floor sub-grade (below ground level) on all sides.

Breakaway Wall: means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Critical Facility: means a facility for which even a slight chance of flooding might be too great. Critical facilities include (but are not limited to) schools, nursing homes, hospitals, police, fire and emergency response installations, and installations which produce, use, or store hazardous materials or hazardous waste.

Development: means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.

Elevation Certificate: means the official form (FEMA Form 81-31) used to track development and provide elevation information necessary to ensure compliance with state and federal floodplain management ordinances.

Elevated Building: means for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

Existing Manufactured Home Park or Subdivision: means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) and is completed before the effective date of the adopted floodplain management regulations.

Expansion to an Existing Manufactured Home Park or Subdivision: means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Flood or Flooding: means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow on inland or tidal waters and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM): means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood Insurance Study (FIS): means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Maps, and the water surface elevation of the base flood.

Floodway: means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

Lowest Floor: means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this Chapter. (i.e. provided there are adequate flood ventilation openings).

Manufactured Home: means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

Manufactured Home Park or Subdivision: means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

New Construction: means structures for which the "start of construction" commenced on or after the effective date of this Chapter.

New Manufactured Home Park or Subdivision: means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

Recreational Vehicle: means a vehicle,

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Start of Construction: includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such a clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure: means a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

Substantial Damage: means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial Improvement: means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure;

1. Before the improvement or repair is started; or
2. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of the definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term can exclude:

1. Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
2. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

Variance: means a grant of relief from the requirements of this ordinance that permits construction in a manner that would otherwise be prohibited by this ordinance.

Water Dependent: means a structure for commerce or industry that cannot exist in any other location and is dependent on the water because of the intrinsic nature of its operations.

14.270.050 General Provisions (44 CFR 59.22 (a))

A. Lands to which this chapter applies

This chapter shall apply to all areas of special flood hazards and flood hazards within the jurisdiction of the City of Snohomish.

B. Basis For Establishing the Areas of Flood Hazard

The areas of flood hazard and special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Snohomish County" dated September 16, 2005, and any revisions thereto, with an accompanying Flood Insurance Rated Map (FIRM), and any revisions thereto, are hereby adopted by reference and declared to be a part of this ordinance. The flood Insurance Study and the FIRM are on file at City Hall, 116 Union Street, Snohomish, WA 98290.

C. Penalties for Noncompliance

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this Chapter and other applicable regulations.

D. Interpretation

In the interpretation and application of this chapter, all provisions shall be:

1. Considered as minimum requirements;

2. Liberally construed in favor of the governing body; and
3. Deemed neither to limit nor repeal any other powers granted under State statutes.

E. Warning and Disclaimer of Liability

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. However, larger floods can and will occur on rare occasions, and flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City of Snohomish, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

14.270.060 Administration

A. Development Permit Required (*44 CFR 60.3 (b)(1)*)

A development permit is required before construction or development begins within any area of special flood hazard. The permit shall be for all structures including manufactured homes, as set forth in the "Definitions," and for all development including fill and other activities, also as set forth in the "Definitions."

B. Application for Development Permit

Application for a development permit shall be made on forms furnished by the City of Snohomish and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate (FF 81-31) with Section B completed by the local official;
2. Elevation in relation to mean sea level to which any structure has been flood proofed;
3. Certification by a registered professional engineer or architect that the flood proofing methods for any non residential structure meet FEMA flood proofing criteria; and
4. Description of the extent to which a watercourse will be altered or relocated in the proposed development.

C. Designation of the Local Administrator (*44 CFR 59.22(b)(1)*)

The City Planner is the designated local administrator to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

D. Permit Review

1. The City Planner shall review all development permits to determine that the permit requirements of this chapter have been satisfied.
2. The City Planner shall review all development permits to determine that all necessary permits required in this chapter have been obtained from those Federal, State, or local governmental agencies from which prior approval is required. *(44 CFR 60.3 (a)(2))*
3. The City Planner shall review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of this chapter are met.

E. Use of Other Base Flood Data (In A and V Zones) *(44 CFR 60.3 (b)(4))*

When base flood elevation data has not been provided (in A or V Zones) in accordance with Section 14.270.050 B, Basis for Establishing the Areas of Flood Hazard, the City Planner shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer Sections 14.270.080 A through F of this Chapter.

F. Information to be Obtained and Maintained

1. Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in SMC 14.270.060 E, the City Planner shall obtain and record the actual (as-built) elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement. *(44 CFR 60.3 (b)(5)(i))* (The information shall be recorded on a current elevation certificate (FF 81-31) with Section B completed by the City Planner.)
2. For all new or substantially improved flood proofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in SMC 14.270.060 E, The City Planner shall:
 - i) Obtain and record the elevation (in relation to mean sea level) to which the structure was flood proofed *(44 CFR 60.3(b)(5)(ii))*
 - ii) Maintain the flood proofing certifications required by FEMA *(44 CFR 60.3(b)(5)(iii))*.
3. The City Planner shall maintain for public inspection all records pertaining to the provisions of this chapter. *(44 CFR 60.3(b)(5)(iii))*

G. Alteration of Watercourses *(44 CFR 60.3 (b)(6))*

1. The City Planner shall notify adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

2. The City Planner shall require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

H. Interpretation of FIRM Boundaries

The City Planner shall provide interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g. where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program (*44 CFR 59-76*).

I. Conditions for Variances

1. Generally, the only condition under which a variance from the elevation standard be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.
2. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4. Variances shall only be issued upon:
 - i. A Showing of good and sufficient cause;
 - ii. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
 - iii. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
5. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature, and they do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quire rare.

6. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of flood proofing than watertight or dry-flood proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria and otherwise complies with recommended FEMA General Standards.
7. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be build with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk.
8. In the case of a conflict between the application of the variance provisions of this section and SMC 14.255.130, this section shall control.

14.270.070 General Standards for Flood Hazard Reduction

In all areas of special flood hazards, the following standards are required:

A. Anchoring (*44 CFR 60.3(a)(b)*)

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure. (*44 CFR 60.3 (a)(3)(i)*)
2. All manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. (*44 CFR 60.3(b)(8)*). *For more detailed information in application of this chapter, reference will be made to guidebook, FEMA-85, "Manufactured Home Installation in Flood Hazard Areas."*

B. Construction Materials and Methods

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Locating such equipment below the base flood elevation may cause annual flood insurance premiums to be increased.

C. Utilities (*44 CFR 60.3(a)(5)(6)*)

1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;

2. Water wells shall be located on high ground that is not in the floodway*
3. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
4. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding identified WAC 173-160-171.

D. Subdivision Proposals (*44 DFR 60.3(A)(4)(B)(3)*)

1. All subdivision proposals shall be consistent with the need to minimize flood damage;
2. All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;
3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage;
4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

E. Review of Building Permits (*44 CFR 60.3 (a)(3)*)

Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (SMC 14.270.060E), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

14.270.080 Specific Standards for Flood Hazard Reduction (*44 CFR 60.3(c)(1)*)

In all areas of special flood hazards where base flood elevation data has been provided as set forth in this chapter, the following standards are required:

A. Residential Construction

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more* above the base flood elevation. (BFE)

**Minimum FEMA standards require the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can reduce insurance premiums by as much as 39 percent.*

2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed areas subject to flooding shall be provided.
 - ii. The bottom of all openings shall be no higher than one foot above grade.
 - iii. Openings may be equipped with screens, louvers, or other coverings or devices if they permit the automatic entry and exit of floodwaters. Foundation vent standards required by the IBC/IRC outside the floodplain do not meet this standard and are subject to the City Building Official's review.

B. Nonresidential Construction (*44 CFR 60.3(c)(3)(4)*)

All new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot or more above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be flood proofed so that below one foot or more above the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
2. Have structural components capable of resisting hydrostatic and hydrodynamic load and effects of buoyancy;
3. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications, and plans. Such certifications shall be provided as set forth in Section 14.270.060 F(2);
4. Nonresidential structures that are elevated, not flood proofed, must meet the same standards for space below the lowest floor as described in 14.270.080 A(2);
5. Applicants who are flood proofing nonresidential buildings should be notified that flood insurance premiums will be based on rates that are one foot below the flood proofed level (e.g. a building flood proofed to the base flood level will be rated as one foot below). Flood proofing the building an additional foot will reduce insurance premiums significantly.

C. Manufactured Homes (*44 CFR 60.3(c)(6)(12)*)

All manufactured homes in the floodplain to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured

home is elevated one foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

D. Recreational Vehicles (*44 CFR 60.3(c)(14)*)

All recreational vehicles placed on sites are required to either:

1. Be on the site for fewer than 180 consecutive days; or
2. Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
3. Meet the requirements of SMC 14.270.080 C and the elevation and anchoring requirements for manufactured homes.

E. AE and A1-30 Zones with Base Flood Elevations but No Floodways (*44 CFR 60.3(c)(10)*)

In all areas with base flood elevations (but for which a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the City's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the City.

F. Floodways

Located within areas of special flood hazard established in Section 14.270.050 B are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that can carry debris and increase erosion potential, the following provisions apply:

1. Encroachments, including fill, new construction, substantial improvements, and other development are prohibited, unless certification by a registered professional engineer is provided, demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge, in which case all new construction and substantial improvements shall comply with all applicable standards for flood hazard reductions set forth in Sections 14.270.070 and 14.270.080. (*44 CFR 60.3(d)(3)*)
2. Construction or reconstruction of residential structures is prohibited within designated floodways, except for (i) repairs, reconstruction, or improvements to a structure which do not increase the ground floor area; and (ii) repairs, reconstruction or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure either, (A) before the repair or reconstruction is started, or (B) if the structure has been damaged and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement

official and which are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded from the 50 percent limitation. (WAC 173-158-070)

G. Critical Facilities Construction

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA, if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Flood proofing and sealing measures are required to ensure that toxic substances not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation are required to all critical facilities to the maximum extent possible.

14.270.090 Determination of Flood Insurance Risk

For the purpose of the determination of applicable flood insurance risk within Zone A on Snohomish's Flood Hazard Boundary Map, the City Planner shall:

- A. Require the applicant to furnish the elevation in relation to mean sea level of the lowest habitable floor including basement of all new or substantially improved structures, and whether or not such structures contain a basement.
- B. Require the applicant to furnish if the structure has been flood proofed, the elevation in relation to mean sea level to which the structure was flood proofed through a certified professional engineer or architect.
- C. Maintain a record of all such information in the City's address file system.

14.270.100 Floodplains as Critical Areas

- A. For the purpose of the City's Critical Areas regulations, as set forth in SMC 14.255, Floodplains are those areas that provide important flood storage, conveyance and attenuation functions and include all land within such areas that are subject to a one percent or greater chance of flooding in any given year.
- B. Floodplains shall be designated by the City Planner in accordance with WA 365-190-080(3).
 - 1. The City Planner shall use the "areas of special flood hazard" as identified on the Federal Emergency Management Administration's most current Flood Insurance Rate Map for the City as the indicator of where floodplains exist, unless more detailed, current, and convincing evidence indicates otherwise.
 - 2. Floodplains shall include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

- C. The City Planner may waive the critical areas report required SMC 14.255.080 for developments proposed in the floodplain, if the applicable permit application contains sufficient data to verify compliance with the substantive requirements, except for the following developments:
 - 1. Developments in the floodway, which is the area shown in the illustration that accompanies the definition of "floodplain" in SMC 14.100.020; and
 - 2. Developments that result in watercourse alteration.

- D. In addition to the requirements of SMC 14.255.050 and this chapter, the following requirements shall apply to floodplains:
 - 1. To the extent possible consistent with the development objective, all improvements shall be located on the non-floodplain portion of the site, if any, or on the highest ground on the site, as far as possible from the flood source.
 - 2. Alteration of natural watercourses, including side channels, tributaries, and channel migration zones, is to be avoided when feasible. If unavoidable, the City Planner shall notify adjacent communities, the Department of Ecology, the State Department of Fish and Wildlife, and FEMA prior to alteration. Any stream-bank stabilization shall consider the use soft armoring or best available armoring science.

14.270.110 Recordation

The City Planner shall record:

- A. The as-built elevation above mean sea level of the lowest habitable floor, including basement, of all new or substantially improved structures, and whether the structure contains a basement;
- B. Certificates of flood-proofing and flood elevation; and
- C. Permits and variances issued in accordance with this chapter.

APPENDIX F: Ordinance 2336 – Shoreline Master Program Update

CITY OF SNOHOMISH
Snohomish, Washington

ORDINANCE 2336

AN ORDINANCE OF THE CITY OF SNOHOMISH, WASHINGTON, RELATING TO UPDATING THE SHORELINE MASTER PROGRAM IN ACCORDANCE WITH THE WASHINGTON STATE SHORELINE MANAGEMENT ACT OF 1971; ADOPTING A NEW SHORELINE MASTER PROGRAM PENDING APPROVAL OF THE PROGRAM BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY; AMENDING SNOHOMISH MUNICIPAL CODE BY REPEALING AND REPLACING CHAPTER 14.250 – SHORELINE MANAGEMENT; AMENDING THE CITY OF SNOHOMISH COMPREHENSIVE PLAN BY DELETING GOALS EP5 – EP12 AND ALL OF THE UNDERLYING POLICIES AND ADDING A NEW SHORELINE ELEMENT; AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE

WHEREAS, the Shoreline Management Act of 1971, codified at chapter 90.58 RCW (“SMA”), recognizes that shorelines are among the most valuable and fragile resources of the state, and requires all cities and counties with “shorelines of the state” to prepare and adopt a Shoreline Master Program in coordination with the state that is based on state laws and rules, but tailored to the specific jurisdiction; and

WHEREAS, the City of Snohomish adopted its SMA-based Shoreline Master Program (“SMP”) in 1976 and the SMP has not been amended in substance since its adoption; and

WHEREAS, the SMA requires cities to update their SMP; and

WHEREAS, the Growth Management Act (“GMA”) of the State of Washington requires SMPs be consistent with locally adopted Comprehensive Plans; and

WHEREAS, effective January 17, 2004, the regulations implementing the SMA promulgated under chapter 173-26 WAC (the “SMA guidelines”) were substantially revised and are administered by the Washington State Department of Ecology (“DOE”), and the City’s current SMP requires a comprehensive update in order to achieve procedural and substantive requirements of the SMA guidelines; and

WHEREAS, this Shoreline Master Program (“SMP”) amendment is intended to satisfy the statutory requirements of RCW 90.58.080(2)(a)(i) to comprehensively update the City’s SMP and the statutory requirements of RCW 90.58.080(4)(b)(i) to take action to review and, if necessary, revise the City’s SMP on or before June 30, 2019; and

WHEREAS, the draft SMP was noticed in accordance with City of Snohomish procedures and regulations as provided for in SMC 14.15.070 and on Dec. 5, 2011 a 60-day notice was sent to the Washington State Department of Commerce as required by RCW 36.70A.106, followed by another 60-day notice sent to the Washington State Department of Commerce on June 8, 2017; and

WHEREAS, the proposed amendments to the City’s Development Code were publicly noticed and circulated for review and comment in accordance with the City’s normal review and permitting procedures on January 13, 2017; and

WHEREAS, pursuant to the State Environmental Policy Act, the City of Snohomish was designated as the lead agency for review of the proposed amendment. A Determination of Non-Significance was issued pursuant to WAC 197-11-355 on Dec. 16 2011. No appeal of the determination was received so the determination stands; and

WHEREAS, the City has the authority under RCW Title 35A, to adopt regulations related to the protection, mitigation and management of shorelines; and

WHEREAS, the Planning Commission held a public hearing to consider the latest draft SMP documents on July 12, 2017 which was continued to Aug. 2, 2107, and all people wishing to be heard were heard; and

WHEREAS, following the public hearing and pursuant to SMC 14.15.090, the Planning Commission made written findings and issued a recommendation to the City Council to approve the proposed amendments as set forth herein, except the Planning Commission's recommendation was no wetland buffer should exceed 100 feet in width, finding the proposed amendments are internally consistent with the City's Comprehensive Plan, the Growth Management Act, and the State Environmental Policy Act, and are in the interest of the public health, safety, and welfare of Snohomish residents; and

WHEREAS, on Nov. 7, 2017, the City Council held a public hearing on the proposed SMP documents and the Planning Commission recommendation, and all persons wishing to be heard were heard; and

WHEREAS, on Nov. 7, 2017, the City Council approved Ordinance 2336 with an effective date 14 days after the city receives written notice from the Washington State Department of Ecology of final action approving the update Shoreline Master Program; and

WHEREAS, on April 27, 2018, the Department of Ecology sent written notice to the city of conditional approval of the updated Shoreline Management Program requiring certain changes to the proposed Chapter 14.250 Snohomish Municipal Code, Shoreline Management, before written notice of final action approving the Shoreline Master Program can be provided; and

WHEREAS, on May 2, 2018, the Planning Commission held a public hearing to consider amendments to Ordinance 2336 in order to obtain final approval from the Department of Ecology for the Shoreline Master Program, and all persons wishing to be heard were heard; and

WHEREAS, following the May 2, 2018 public hearing and pursuant to SMC 14.15.090, the Planning Commission made amended written findings regarding amending Ordinance 2336 and issued a recommendation to the City Council to approve an amended Ordinance 2336 as set forth herein, finding the provisions in the proposed Ordinance 2336 are internally consistent with the City's Comprehensive Plan, the Growth Management Act, and the State Environmental Policy Act, and are in the interest of the public health, safety, and welfare of Snohomish residents; and

WHEREAS, on May 15, 2018, the City Council discussed the proposed amended Ordinance 2336 and the Planning Commission recommendation, and all persons wishing to be heard were heard; and

WHEREAS, the City Council found the proposed amendments to be consistent with the City of Snohomish Comprehensive Plan, the Washington State Growth Management Act and the

State Environmental Policy Act, and are in the interest of the public health, safety, and welfare of Snohomish residents.

NOW, THEREFORE THE CITY COUNCIL OF THE CITY OF SNOHOMISH, WASHINGTON DO ORDAIN AS FOLLOWS:

Section 1. Shoreline Management Master Program repealed. The City of Snohomish Shoreline Management Master Program adopted by Resolution 425 on Dec. 7, 1976, and as amended by Resolutions 427 and 428 on Dec. 21, 1976, and Resolution 494 on April 1, 1980, and as integrated in the Comprehensive Plan by Ordinance 1966 on Dec. 31, 2000, is hereby repealed in its entirety.

Section 2. Updated Shoreline Master Program adopted. The City of Snohomish Shoreline Management Program Update, is hereby adopted to read as set forth in Exhibit A, attached hereto and incorporated herein by reference, and shall be forwarded to the Washington State Department of Ecology for approval. The program will go into effect 14 days from the date of the Department of Ecology's written notice of final action approving the SMP.

Section 3. Chapter 14.250 SMP – Shoreline Development repealed and replaced. Chapter 14.250 SMP – Shoreline Development, is hereby repealed in its entirety and replaced with a new Chapter 14.250 SMP – Shoreline Management to read as set forth as Section 4, “Shoreline Management” in Exhibit A and incorporated herein by reference, effective 14 days from the date the Department of Ecology's written notice of final action approving the SMP.

Section 4. City of Snohomish Comprehensive Plan Goals EP5 – EP12 and underlying policies deleted. Comprehensive Plan Goals EP5 – EP12, and all of the underlying policies of those goals are hereby repealed.

Section 5. City of Snohomish Comprehensive Plan Shoreline Element. A new Shoreline Element is hereby adopted and added to the City of Snohomish Comprehensive Plan to read as set forth in Section 3, “Shoreline Element” in Exhibit A and incorporated herein by reference, and shall become effective 14 days from the date the Department of Ecology's written notice of final action approving the SMP.

Section 6. Findings, Conclusions, and Analysis. In support of the amendments approved in this ordinance, the Snohomish City Council adopts the findings, conclusions, and analysis contained in the Planning Commission's Findings of Fact and Conclusions, attached hereto as Exhibit B and incorporated herein by reference.

Section 7. Severability. If any section, subsection, sentence, clause, phrase, or word of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality thereof shall not affect the validity or constitutionality of any other section, subsection, sentence, clause, phrase, or word of this ordinance.

Section 8. Authority to make necessary corrections. The City Clerk and the codifiers of this Ordinance are authorized to make necessary corrections to this Ordinance and attachments including, but not limited to, the correction of scrivener's clerical errors, references, ordinance numbering, section/subsection numbers and any references thereto.

Section 9. Effective Date. This ordinance shall be effective 14 days after the Department of Ecology's written notice of final action approving the City of Snohomish SMP.

RE-ADOPTED by the City Council and **APPROVED** by the Mayor this 15th day of May, 2018.

CITY OF SNOHOMISH

By _____
JOHN T. KARTAK, MAYOR

ATTEST:

APPROVED AS TO FORM:

By _____
Pat Adams, CITY CLERK

By _____
GRANT K. WEED, CITY ATTORNEY

Date of Publication: _____

Effective Date: _____