Douglas County
Regional Shoreline Master Program

Jameson Lake

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1. Framework, purpose, principles and applicability

Sections:
1.1 The Shoreline Management Act
1.2 Scope and jurisdiction of the Douglas County Regional Shoreline Master Program
1.3 Purpose and intent of the Douglas County Regional Shoreline Master Program
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1.1 The Shoreline Management Act

The Washington State Shoreline Management Act (SMA; the Act) was passed by the legislature in 1971 and adopted by a vote of Washington's citizens in a 1972 referendum (RCW 90.58). The goal of the Shoreline Management Act is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." The Act also recognizes that "shorelines are among the most valuable and fragile" of the state's resources.

The Act provides for the management and protection of the state's shoreline resources by requiring planning for their reasonable and appropriate use. The area designated to be regulated under the Act generally includes lands within two hundred (200) feet of the shoreline.

The Shoreline Management Act establishes a balance of authority between local and state government. Cities and counties have the primary review responsibility for development along their shorelines, and the state (through the Department of Ecology) has authority to review local master programs and local shoreline development permit decisions.

1.2 Scope and jurisdiction of the Douglas County Regional Shoreline Master Program

The SMA applies to all 39 counties and more than 200 cities of Washington State that have "shorelines of the state" (see RCW 90.58.030(2)) within their jurisdictional boundaries. These shorelines are defined as:

- All marine waters;
- Streams with greater than 20 cubic feet per second mean annual flow;
- Lakes 20 acres or larger;
- Upland areas called shorelands that extend 200 feet landward, in all directions on a horizontal plane, from the edge of the ordinary high water mark of these waters; and
- The following areas when they are associated with one of the above:
    - Wetlands and river deltas; and
    - Floodways and contiguous floodplain areas landward 200' from such floodways.

The Act recognizes that certain waters are so important to citizens as to necessitate a special status for classification and protection. These are "shorelines of statewide significance." WAC 173-18-040 further clarifies streams and rivers in Eastern Washington are considered "shorelines of statewide significance." The Columbia River is a shoreline of Statewide Significance. The SMA also states that "the interests of all the people shall be paramount in the management of shorelines of statewide significance." These shorelines of statewide significance are defined in the SMA as:

- Pacific Coast, Hood Canal and certain Puget Sound shorelines;
- All waters of Puget Sound and the Strait of Juan de Fuca;
- Lakes or reservoirs with a surface area of 1,000 acres or more;
- Larger rivers (1,000 cubic feet per second or greater for rivers in Western Washington, 200 cubic feet per second and greater east of the Cascade crest);
- Wetlands associated with any of the above; and
- Those "shorelands" associated with the water bodies identified above.

Specifically in Eastern Washington, the Act lists the following criteria for defining "shorelines of statewide significance":

> *Any east of the crest of the Cascade range downstream of a point where the annual flow is measured at two hundred cubic feet per second or more, or those portions of rivers east of the crest of the Cascade range downstream from the first three hundred square miles of drainage area, whichever is longer.*

Douglas County, and the Cities of Bridgeport, East Wenatchee and Rock Island, the participating jurisdictions, originally adopted a regional shoreline master program in 1975, which was not revised, with the exception of the City of Bridgeport in the early 1990s, until now (2008). Within the County there were 16 lakes, 6 reservoirs, the Columbia River (which contains 5 of those reservoirs) and Douglas Creek/Rattlesnake Creek drainages within the Moses Coulee watershed that were listed under the Shoreline Management Act. The jurisdictional areas of this updated regional program have changed. A set of maps is included in Chapter 9 that depict the jurisdictional areas. Those removed are included at the end of Appendix A.

1.3 Purpose and intent

The purpose and intent of this SMP are to:

1. To promote the public health, safety and general welfare of the community by providing long range, comprehensive policies and effective, reasonable regulations for development and use of shorelines within Douglas County and it's applicable jurisdictions;

2. To manage shorelines in a positive, effective and equitable manner; and

3. To further assume and carry out the responsibilities established by the Act for the participating jurisdictions, and to adopt and foster the following policy contained in RCW 90.58.020 for shorelines of the State:

> *It is the policy of the State to provide for the management of the shorelines of the State by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest. This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the State and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto...*
>
> *The legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance. The department, in adopting guidelines for shorelines of statewide significance, and local government, in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order of preference which:*
>
> *(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;*
>
> *(6) Increase recreational opportunities for the public in the shoreline;*
>
> *(7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.*
>
> *In the implementation of this policy 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. To this end 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 State's shoreline. Alterations of the natural condition of the shorelines of the State, in those limited instances when authorized, shall be given priority for single family residences, ports, shoreline recreational uses including but not limited to parks, marinas, piers, and other improvements facilitating public access to shorelines of the State, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the State, and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the State.

Permitted uses in the shorelines of the State shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use the water.

1.4 Title and reference

This Document shall be known and may be cited as the “Douglas County Regional Shoreline Master Program”. This Document may be referred to herein as the, “Program”, “Master Program”, “Regional Shoreline Master Program”, or “SMP”.

1.5 Public involvement process, advisory committee and agency coordination

Public Information and Outreach-

The participating jurisdictions created a multi-phased approach to involving the public in the development of the SMP throughout the update effort consistent with the Shoreline Management Act (see RCW 90.58.130) and the SMP Guidelines (WAC 173-26). The jurisdictions prepared a public participation plan that identified specific objectives, key stakeholders (planning commissions, citizens, property owners, local and state agencies, cities and the county, tribal governments, neighboring jurisdictions, etc.), and that established timelines for public participation activities.

Multi-jurisdictional Staff Team-

A multi-jurisdictional staff team was formed to support this project. Douglas County provided the primary professional and clerical support and was responsible for project management and contracting. Staff assigned by the cities coordinated the cities’ efforts on shorelines within their respective urban growth areas. In these urban areas the cities were responsible for preparing recommended shoreline environment designations; goals, policies and use regulations for the high intensity and urban conservancy environments; restoration plans; and their respective adoption processes.

The County coordinated the SMP development process with the Department of Ecology, Washington State Department of Fish and Wildlife, tribal governments and other state agencies as required in the SMP update guidelines. In addition, the County consulted with other entities for scientific, technical or cultural information including federal agencies, watershed planning units, conservation districts, public utility districts, and other institutions as needed.

Shoreline Visioning Process-

To provide context, the process of developing the regional SMP began with community-wide visioning sessions to elicit citizen input on what the communities want the shoreline areas to look like 10-20 years from now. Citizens and interest groups were asked to provide input on issues such as public access, water-related and water-dependent uses, shoreline subdivisions, recreation, conservation and more. Visioning meetings were held in each of the three cities and for the unincorporated area of Douglas County.

An Internet web page was developed within the Douglas County World Wide Web site for the project to provide a forum for the public to obtain information regarding the regional SMP update and to provide comments and input related to the project. The web page contained details related to the development of the regional SMP update process including a list of contacts (local and state), an events calendar, meeting summaries, regulatory mandates (RCW and WAC), the current version of the draft materials, links to specific pages on the WSDOE website, the scope of work and a list of participating agencies. The web page was kept current and maintained throughout the duration of the project.

Shoreline Advisory Committee (SAC)-

In addition to the above listed public outreach and involvement strategies, an advisory committee was created to finalize recommendations on environment designations, goals, policies and use regulations. Representatives were selected by each of the four jurisdictions, which included one planning commission member or elected official from each jurisdiction. The jurisdictions coordinated their selections to achieve a diverse mix of interests including agriculture, recreation, power generation, real estate/development, environment, sporting and conservation. Invitations to participate were also extended to the Washington State Departments of Ecology, Natural Resources, and Fish and Wildlife, to the public utility districts of Douglas, Chelan and Grant counties, and to the Colville Confederated Tribes and the Yakama Indian Nation. The committee began initial meetings in May 2006 and continued through March 2007. The committee reconvened from June until August 2007; and then again from December 2007 through February 2008.

This process was closely coordinated among Douglas County, and the cities of Bridgeport, East Wenatchee and Rock Island to create a multi-jurisdiction Regional

Shoreline Master Program. An intergovernmental cooperative agreement was adopted to define responsibilities, and to allocate and assign resources.

Open Houses-

Open houses were developed as an early action strategy to improve public confidence and investment in the regional SMP update process, and for the Shoreline Advisory Committee to present the results of their work. The open houses were a forum for citizens to obtain information regarding shoreline management and provide comments and input relating to the update of the regional SMP. The open houses were held in April 2008.

2021 Periodic Review
In June 2021, Douglas County completed the SMP periodic review process in coordination with Ecology pursuant to RCW 90.58.80 with support from Anchor QEA, LLC. This SMP has been updated to reflect limited amendments that were developed during that process. Public and stakeholder input was obtained throughout the process, including a public workshop held in September 2020. A State Environmental Policy Act (SEPA) Determination of Nonsignificance was issued for the SMP periodic review process on February 25, 2021. Public and agency comments were accepted through May 18, 2021 and included comments from Chelan Public Utility District, Washington Department of Fish and Wildlife (WDFW), and the Confederated Tribes of the Colville Reservation. The Chelan County Board of County Commissioners issued an ordinance (TLS 21-15-45B) on June 29, 2021 approving the proposed amendments.

1.6 Relationship to other plans

The Growth Management Act defines shoreline master program policies as a part of the local comprehensive plan:

> *For shorelines of the state, the goals and policies of the Shoreline Management Act as set forth in RCW 90.58.020 are added as one of the goals of this chapter as set forth in RCW 36.70A.020. The goals and policies of a shoreline master program for a county or city approved under Chapter 90.58 RCW shall be considered an element of the county or city's comprehensive plan. All other portions of the shoreline master program for a county or city adopted under Chapter 90.58 RCW, including use regulations, shall be considered a part of the county or city's development regulations. (RCW 36.70A.480 (1))*

Counties and cities that plan under the Growth Management Act are required, under RCW 36.70A, to ensure that there is mutual and internal consistency between the comprehensive plan elements and implementing development regulations (including master programs). This requirement also requires consistency between the shoreline master program and the future land use plan, specifically demonstrating that there is consistency regarding:

(1) The ability of physical aspects of the plan to coexist on the available land; and
(2) The ability of the plan to provide that adequate public facilities are available when the impacts of development occur (concurrency).

In addition, the Growth Management Act also calls for coordination and consistency of comprehensive plans among local jurisdictions:

> *The comprehensive plan of each county or city that is adopted pursuant to RCW 36.70A.040 shall be coordinated with, and consistent with, the comprehensive plans adopted pursuant to RCW 36.70A.040 of other counties or cities with which the county or city has, in part, common borders or related regional issues.*

The comprehensive plans within the region that apply include:

- Douglas County Countywide Comprehensive Plan (all volumes)
- Bridgeport Urban Area Comprehensive Plan
- Greater East Wenatchee Area Comprehensive Plan
- Rock Island Tea Cup Comprehensive Plan

Other recent or on-going planning efforts-

The Foster Creek Conservation District developed the Foster Creek/Moses Coulee Watershed Plan, which was adopted by Douglas County in 2004. While implementation planning is on-going, guidance, project review and restoration actions could be coordinated with the Watershed Planning Unit (WPU), particularly where offsite mitigation could benefit areas identified for restoration in the watershed planning process. The Conservation District continues to monitor small tributaries as directed by the WPU and funded through the Department of Ecology.

In 2004, Douglas County Transportation and Land Services and Washington Department of Fish and Wildlife produced the Upper Middle Mainstem Subbasin Plan for the Northwest Power and Conservation Commission. This plan has elements and summaries of many of the processes for fish and wildlife management in the region that may assist with restoration planning and actions developed in the shoreline plan. The purpose of the document is to guide management and funding of mitigation for the federal hydropower projects on the Columbia River.

The Upper Columbia Salmon Recovery Plan (in progress) is a regionally developed plan for the restoration of threatened and endangered fish populations- Spring Chinook, Steelhead, and Bull Trout. In January 2006 the regional plan was delivered to the Governor's Salmon Recovery Office (GSRO) and NOAA Fisheries for publication in the Federal Register. The federal review process for the regional plan was completed in May 2006. This plan has a detailed restoration component for these species, including implementation team protocols, project prioritization methodology, research, monitoring

and evaluation components and scheduled updates and status reviews that could assist with the development of the restoration component of this plan for Douglas County.

1.7 Applicability

1. All proposed uses and development occurring within the shoreline jurisdiction must conform to Chapter 90.58 RCW, the Shoreline Management Act and this Program. All policies, within this SMP or the appendices, are to guide the interpretation and enforcement of the SMP regulations. The policies are not regulations in themselves and, therefore, do not impose requirements beyond those set forth in the regulations. This SMP applies to all development, the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, minerals or vegetation; 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 of the state subject to Chapter 90.58 RCW at any stage of water level. Development does not include the following activities:
    a. Interior building improvements;
    b. Exterior structure maintenance activities, including painting and roofing, as long as it does not expand the existing footprint of the structure;
    c. Routine landscape maintenance of established, domestic or ornamental landscaping, such as lawn mowing, pruning and weeding that does not expand the footprint of the existing landscaped area;
    d. Maintenance of the following existing facilities that does not expand the affected area: septic tanks (routine cleaning), wells, and individual utility service connections;
    e. Dismantling or removing structures if there is no other associated development or redevelopment;
    f. Pursuant to RCW 90.58.355, any person conducting a remedial action at a facility pursuant to a consent decree, order, or agreed order issued pursuant to chapter 70.305D RCW, or to Ecology when it conducts a remedial action under chapter 70.305D RCW;
    g. Pursuant to RCW 90.58.355, any person installing site improvements for storm water treatment in an existing boatyard facility to meet requirements of a national pollutant discharge elimination system storm water general permit;
    h. Washington State Department of Transportation projects and activities meeting the conditions of RCW 90.58.356;
    i. Projects consistent with an environmental excellence program agreement pursuant to RCW 90.58.045;
    j. Projects authorized through the Energy Facility Site Evaluation Council process, pursuant to chapter 80.50 RCW;
    k. 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.
2. Pursuant to WAC 173-27-060, federal agency activities may be required by other federal laws to meet the permitting requirements of chapter 90.58 RCW.

3. This SMP shall apply to all nonfederal developments and uses undertaken on federal lands and on lands subject to nonfederal ownership, lease, or easement, even though such lands may fall within the external boundaries of a federal ownership.
4. As recognized by RCW 90.58.350, the provisions of this SMP shall not affect treaty rights of Indian Nations or tribes.
5. The County may grant relief from SMP provisions for shoreline restoration projects in Urban Growth Areas (UGA) pursuant to RCW 90.58.580.
6. When other State or Federal agencies' standards would be more restrictive and more protective of the ecological function, those standards should apply.
7. No structure or lot shall hereafter be used or occupied and no structure or part thereof shall be erected, moved, reconstructed, extended, enlarged or altered except in compliance with the provisions of the SMP.

1.8 Governing principles

The following principles, in conjunction with the policy statements of RCW 90.58.020, establish the foundation for the goals, policies and regulations of this Program:

1. Any inconsistencies between this Program and the Act must be resolved in accordance with the Act.

2. The policies of this Program may be achieved by diverse means, one of which is regulation. Other means authorized by the Act include, but are not limited to: acquisition of lands and/or easements by purchase, or gift; and implementation of capital facility and/or non-structural programs.

3. Regulation of private property to implement Program goals such as public access and protection of ecological functions and processes must be consistent with all relevant constitutional and other legal limitations. These include, but are not limited to civil rights guaranteed by the US and State constitutions, recent federal and state case law and state statutes, such.

4. Regulatory or administrative actions contained herein must not unconstitutionally infringe on private property rights or result in an unconstitutional taking of private property.

5. The waters of the state are owned by the citizens of the state. The property rights accrued to the citizens of the state must not be infringed upon by activities that denigrate the value of this ownership interest.

6. The regulatory provisions of this Program are limited to shorelines of the state, whereas the planning functions of this Program may extend beyond the designated shoreline boundaries.

7. The policies and regulations established by the Regional Shoreline Master Program must be integrated and coordinated with those policies and rules of the comprehensive plans and development regulations adopted by the participating jurisdictions under the Growth Management Act (GMA).

8. Protecting the shoreline environment is an essential statewide policy goal, consistent with other policy goals. Permitted and/or exempt development, actions taken prior to the Act's adoption, and/or unregulated activities can impair shoreline ecological processes and functions. This Program protects the shoreline ecology from such impairments in the following ways:
    a. By using a process that identifies, inventories and ensures meaningful understanding of current and potential ecological functions provided by shorelines.
    b. By including policies and regulations that require mitigation of adverse impacts in a manner that ensures no net loss of shoreline ecological functions. The required mitigation shall include avoidance, minimization, and compensation of impacts in accordance with the policies and regulations for mitigation sequencing in Section 4.1 Ecological Protection and Critical Areas of this Program.
    c. By including policies and regulations to address cumulative impacts, including ensuring that the cumulative effect of exempt development will not cause a net loss of shoreline ecological functions, and by fairly allocating the burden of addressing such impacts among development opportunities.
    d. By including regulations and use of regulatory incentives designed to protect shoreline ecological functions, as well as restore impaired ecological functions where such functions have been identified, consistent with the Restoration Plan contained in Appendix B.

9. In light of other relevant local, state, and federal regulatory and non-regulatory programs, the participating jurisdictions will balance the policy goals of this Program to the extent consistent with the policies of the Act and these governing principles.

1.9 References to plans, regulations or information sources

1. Where this Program makes reference to any RCW, WAC, or other state, or federal law or regulation the most recent amendment or current edition shall apply.

2. This Program does not adopt by reference city or county comprehensive plans or development regulations. General discussion of local plans and regulations within this program refer to the most current editions.

1.10 Liberal construction

As provided for in RCW 90.58.900, the Act is exempted from the rule of strict construction; the Act and this Program shall be liberally construed to give full effect to the purposes, goals, objectives, and policies for which the Act and this Program were enacted and adopted, respectively. In the event the provisions of this Program conflict

with provisions of federal, state, county or city regulations, the provision that is the most protective of shoreline resources shall prevail, when consistent with policies set out in the SMA.

1.11 Prior development and nonconformance

The provisions of WAC 173-27-070 shall apply to substantial development undertaken prior to the effective date of the Act. Except as modified in Section 5.12 Residential, the provisions of 173-27-080 shall apply to nonconforming uses.

1.12 Severability

Shall any chapter, section, subsection, paragraph, sentence, clause or phrase of this Program be declared unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining portions of this Program.

1.13 Effective date

This Program and all amendments thereto shall become effective fourteen calendar days from the date of the Department of Ecology's written notice of final action to the County.

2. Goals and objectives

Sections:
2.1 Economic development element
2.2 Public access element
2.3 Circulation element
2.4 Recreation element
2.5 Shoreline use element
2.6 Conservation element
2.7 Historical/cultural element
2.8 Flood hazard prevention element

2.1 Economic development element

Goal:

1. The natural features of the shorelines, significant recreational opportunities and the agricultural industry in Douglas County attract many people to the region as residents, business owners, tourists, and second home owners. Opportunities exist to enhance and develop water-dependent, water-related, and water-enjoyment commercial and recreation uses for the community and visitors to the region. The nature of the agricultural industry is changing to include alternative crops, products and agri-tourism amenities. Support these important components of the region's changing economy while maintaining the qualities and functions of the shorelines, which are a significant component of the community.

Objectives:

1. Protect current agricultural land uses and provide for new environmentally sensitive agricultural development.

2. Develop, as an economic asset, the recreational industry along shorelines in a manner that will enhance the public enjoyment of the shorelines and provide an economic benefit to the community.

3. Insure that any economic activity taking place in the shoreline operates in a manner that protects shoreline ecological functions and processes. Unavoidable impacts should be minimized and mitigated.

4. Encourage new shoreline industrial and commercial activities that are classified as water-dependent, water-related, or water-enjoyment uses.

5. Proposed economic use of the shoreline should be consistent with local comprehensive plans and this Program.

2.2 Public access element

Goals:

1. Provide safe, convenient and diversified access for the public to the publicly owned shorelines of Douglas County and assure that public access facilities will recognize the rights of private property owners, will not endanger life, and will not adversely affect fragile natural areas and resources.

2. Provide the public opportunities to enjoy the physical and aesthetic qualities, including views, of shorelines of the state consistent with the other goals and policies of this Program.

Objectives:

1. Promote and enhance the public interest with regard to rights to access waters held in public trust by the state, while protecting private property rights and public safety.

2. Access to shorelines is encouraged and should be incorporated into both private and public shoreline development proposals. Private access developed for residential development may be limited to owners within that development.

3. Encourage the acquisition of suitable upland shoreline properties to provide public access to publicly owned shorelines. Shoreline reaches with limited access opportunities should be prioritized, where compatible with the shoreline environment.

4. Encourage the development of additional public access to the shoreline on lands owned by the county, state, and federal government and through public easements.

5. Acquisition and design of public access facilities should take into consideration the diverse needs of residents and visitors.

6. Public access should be located, designed, developed, managed and maintained in a manner that protects shoreline ecological functions and processes.

7. Visual access to shorelines should be provided and protected.

2.3 Circulation element

Goal:

1. Create and maintain a comprehensive circulation system which provides for the safe, convenient, economic and diversified movement of people, with minimum disruption to the shoreline area and environment.

Objectives:

1. Locate and design new circulation systems consistent with the comprehensive plans to provide for alternative modes of transportation in the shoreline jurisdiction where no net loss of ecological functions, preservation of the natural landscape, and conflicts can be minimized with existing and planned uses.

2. Transportation systems should be located, designed, developed, managed and maintained in a manner that protects shoreline ecological functions and processes. Unavoidable impacts should be minimized and mitigated.

3. Transportation systems in shoreline areas should protect and enhance physical and visual shoreline public access.

4. New road corridors for motorized vehicles should be located outside of shoreline jurisdiction unless there is no reasonably feasible alternative or location.

5. Encourage the use of waterborne transportation.

2.4 Recreation element

Goal:

1. Provide opportunities and space for diverse forms of water-oriented recreation.

Objectives:

1. Give priority to water-oriented shoreline recreational development that is primarily related to access, enjoyment and use of the water and shorelines of the state.

2. Recreational areas should be located, designed, developed, managed, and maintained in a manner that protects shoreline ecological functions and processes.

3. Recognize and protect the interests of all people of the state by providing increased recreational opportunities within shorelines of statewide significance.

4. Provide diverse choices of regional water-oriented public recreational opportunities when consistent with this Program.

5. Location, design and operation of recreational development shall consider measures necessary to establish a high level of compatibility with other uses and activities and avoid negative impacts to the shoreline environment.

6. Encourage private investment in water-oriented recreational facilities that are open to the public.

7. Encourage federal, state and local governments to develop existing sites and to acquire additional shoreline property for public recreational use.

2.5 Shoreline use element

Goal:

1. Consider the use and development of shorelines and adjacent land areas for housing, business, industry, transportation, agriculture, forestry, natural resources, recreation, education, public buildings and grounds, utilities and other categories of

public and private land uses in relation to the natural environment and ensuring no net loss of ecological function.

Objectives:

1. Shoreline use preference should be given to water-dependent and single family residential uses that are consistent with preservation of shoreline ecological functions and processes. Secondary preference should be given to water-related and water-enjoyment uses. Non-water-oriented uses should be allowed only when substantial public benefit is provided with respect to the goals of the Act for public access and ecological restoration.

2. The location, design, and management of shoreline uses should be balanced to prevent a net loss of shoreline ecological functions and processes over time. Where adverse impacts are unavoidable, require mitigation to ensure no net loss of shoreline ecological functions.

3. Proposed residential developments should be compatible with or enhance the aesthetic quality of the shoreline area.

4. Residential development should be designed and located to preserve the natural landscape and shoreline ecology and minimize conflicts with present and planned land uses.

5. Mixed use developments that include and support water-oriented uses and provide a substantial public benefit consistent with the public access and ecological restoration goals and policies of the Act should be encouraged.

6. New high intensity uses within shoreline jurisdiction should be located in areas that are not susceptible to erosion and flooding and where impacts to ecological functions can be avoided.

7. New developments and redevelopment projects should plan for and control stormwater runoff and when required provide appropriate treatment consistent with state and local standards.

8. Balance wildfire safety and fuel reduction with shoreline buffer functions and values to prevent a net loss of ecological function.

2.6 Conservation element

Goals:

1. Develop and implement management practices that will conserve and sustain shoreline resources and important natural features and protect and promote restoration of shoreline ecological functions and processes.

2. Protect the ecological functions and values of the shoreline areas to ensure no net loss.

Objectives

1. Unique, rare and fragile natural features as well as scenic vistas, fish and wildlife habitats and native shoreline vegetation should be preserved.

2. Ensure that utilization of a resource avoids and minimizes adverse impact to natural systems and quality of the environment of the shoreline.

3. Preserve the scenic and aesthetic quality of shorelines and vistas to the greatest extent feasible.

4. New development should be located and designed to avoid impacts to shoreline natural resources and the functions provided by these resources. Where there is no feasible alternative, require that adverse impacts be mitigated to achieve no net loss of shoreline ecological functions.

5. Shoreline development projects should follow best management practices that protect water quality.

6. Provide for integrated critical area standards in the Shoreline Master Program with the policies and regulations of the local jurisdiction, as provided in the appendices.

2.7 Historical/cultural element

Goal:

1. Identify, protect, preserve and, where appropriate, restore sites that have historical, cultural, educational and scientific value and/or significance.

Objectives:

1. Cultural and historic sites should be protected in collaboration with appropriate tribal, state, federal and local governments. Public agencies and private parties should be encouraged to cooperate in the identification, protection and management of cultural resources.

2. Where appropriate, restore unique educational or culturally significant features to further enhance the value of the shorelines.

3. Access provided to such sites shall not degrade the cultural resource or impact the quality of the environment.

4. Opportunities for education related to archaeological, historical and cultural features should be provided where appropriate and be incorporated into public and private programs and development.

2.8 Flood hazard prevention element

Goal:

1. Prevent and minimize flood damage potential in Douglas County and the cities.

Objectives

1. The county and cities shall maintain the requirements of the National Flood Insurance Program.

2. New development shall occur in conformance with applicable flood prevention codes and hazard management and mitigation plans.

3. Assure that flood hazard reduction measures do not result in a net loss of ecological functions associated with lakes, rivers and streams.

4. Encourage bio-stabilization methods for erosion damage repair whenever possible.

3. Environment designations and management policies

Sections:
3.1 Evaluation
3.2 Environment designations
3.3 Natural environment
3.4 Rural conservancy environment
3.5 Urban conservancy environment
3.6 Shoreline residential environment
3.7 Mixed use environment
3.8 High intensity environment
3.9 Aquatic environment
3.10 Table 1. Use matrices

This chapter of the Regional Shoreline Master Program is intended to meet the requirements in WAC 173-26-211. It states that:

> *Master programs shall contain a system to classify shoreline areas into specific environment designations. This classification system shall be based on the existing use pattern, the biological and physical character of the shoreline, and the goals and aspirations of the community as expressed through comprehensive plans as well as the criteria in this section. Each master program's classification system shall be consistent with that described in WAC 173-26-211 (4) and (5) unless the alternative proposed provides equal or better implementation of the act.*

This chapter is consistent with these requirements and provides for one alternative designation: “Mixed Use” that is outlined in the following sections.

3.1 Evaluation

Environment designations were created by evaluating the existing use patterns, biological and physical characteristics, and comprehensive plan designations. The inventory and characterization data, depicted on maps and text, was used to determine the extent of shoreline alterations. In the three municipalities, the respective planning commissions or council reviewed the criteria and data for the initial designations. These recommendations were then presented to the Shoreline Advisory Committee. In the rural areas, staff initially evaluated the criteria and data because of the large geographic area and time intensive process. The Shoreline Advisory Committee was then able to refine the initial staff recommendations based upon a final review of data and criteria.

3.2 Environment designations

The following environment designations and management policies implement and are consistent with WAC 173-26-211, Environmental Designation System, and locally

adopted comprehensive plans. Each environment designation contains a purpose statement, designation criteria and a management policies component. The environment designation system for shorelines within Douglas County includes seven environments: high-intensity, mixed use, shoreline residential, urban conservancy, rural conservancy, natural and aquatic as presented below.

For all areas not specifically designated, the environment designation will be rural conservancy in rural areas and urban conservancy within urban growth areas.

3.3 Natural environment

The natural shoreline environment designation is intended to protect or restore shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions that are intolerant of human use. These systems require that only very low intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes. Future uses should be compatible with the natural characteristics that make these areas unique and valuable.

Policies
Development within this designation must be consistent with the following policies:

1. The Master Program is the primary guide for the location, type, density, and distribution of uses in the natural environment designation. Local comprehensive plans and development regulations also provide guidance and standards for development which occurs within shorelines of the state.

2. Preservation of the area's ecological functions, natural features and overall character must receive priority over other potential uses.

3. Single family residential development may be allowed as a conditional use if the density and intensity of such use is limited to protect ecological functions and to be consistent with the purpose of the environment.

4. Land uses that would substantially degrade the ecological functions or natural character of the shoreline area should not be allowed. Specifically, the following new uses shall not be allowed in areas designated natural environment:
   - Commercial uses.
   - Industrial uses.
   - Non-water-oriented recreation.
   - Roads, utility corridors, and parking areas that can be located outside of "natural" designated shorelines.

5. Agriculture uses of a very low intensity nature may be consistent with the natural environment when such use is subject to appropriate limitations or conditions to assure that the use does not expand or alter practices in a manner inconsistent with the purpose of the designation.

6. New development or significant vegetation removal that would reduce the capability of vegetation to perform normal ecological functions should not be allowed. Do not allow the subdivision of property in a configuration that will require significant vegetation removal or shoreline modification that adversely impacts ecological functions.

7. Private and/or public enjoyment of natural shoreline areas should be encouraged and facilitated through low intensity recreation use, scientific, historical, cultural, and educational research uses, provided that no significant ecological impact on the area will result from the proposed development.

Designation criteria
A natural environment designation should be assigned to shoreline areas if any of the following characteristics apply:

1. The shoreline is ecologically-intact and therefore currently performing an important, irreplaceable function or ecosystem-wide process that would be damaged by human activity;

2. The shoreline is considered to represent ecosystems and geologic types that are of particular scientific and educational interest; or

3. The shoreline is unable to support new development or uses without significant adverse impacts to ecological functions or risk to human safety. Such shoreline areas include largely undisturbed portions of shoreline areas such as wetlands, alkaline lakes, unstable bluffs, and ecologically-intact shoreline habitats.

   Ecologically-intact shorelines, as used here, means those shoreline areas that retain the majority of their natural shoreline functions, as evidenced by the shoreline configuration and the presence of native vegetation. Generally, but not necessarily ecologically-intact shorelines are free of structural shoreline modifications, structures, and intensive human uses. Recognizing that there is a continuum of ecological conditions ranging from near natural conditions to totally degraded and contaminated sites, this term is intended to delineate those shoreline areas that provide valuable functions for the larger aquatic and terrestrial environments which could be lost or significantly reduced by human development. Whether or not a shoreline is ecologically-intact is determined on a case by case basis.

   The term ecologically-intact shorelines applies to all shoreline areas meeting the above criteria ranging from larger reaches that may include multiple properties to small areas located within a single property.

   Areas with significant existing agriculture lands should not be included in the natural designation, except where the existing agricultural operations involve very low

intensity uses where there is no significant impact on natural ecological functions, and where the intensity or impacts associated with such agriculture activities is unlikely to expand in a manner inconsistent with the natural designation.

3.4 Rural conservancy environment

The purpose of the rural conservancy environment is to protect ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural flood plain processes, and provide recreational opportunities. Examples of appropriate uses include but are not limited to low impact outdoor recreation uses, agricultural uses, aquaculture, low intensity residential development, and other natural resource based low intensity uses.

Policies
Development within this designation must be consistent with the following policies:

1. The Master Program is the primary guide for the location, type, density, and distribution of uses in the rural conservancy environment designation. Local comprehensive plans and development regulations also provide guidance and standards for development which occurs within shorelines of the state.

2. Uses in the rural conservancy environment should be limited to those that sustain the shoreline physical and biological resources and uses of a temporary nature that do not substantially degrade ecological functions or the rural or natural character of the shoreline area.

3. Except as noted, commercial and industrial uses should not be allowed. Agriculture and aquaculture, when consistent with provisions of this program, may be allowed. Low intensity, water-oriented commercial and industrial uses may be permitted in the limited instances where those uses have located in the past or at unique sites in rural communities that possess shoreline conditions and services to support the development.

4. Water-dependent and water-enjoyment recreation facilities that do not deplete the resource over time, such as boating facilities, angling, hunting, wildlife viewing trails, and swimming beaches, are preferred uses, provided significant adverse impacts to the shoreline are mitigated.

5. Mining is a unique use as a result of its inherent linkage to geology. Therefore, mining and related activities may be an appropriate use within the rural conservancy environment when conducted in a manner consistent with the environment policies and the provisions of WAC 173-26-241(h) and when located consistent with mineral resource lands designation criteria pursuant to RCW 36.70A.170 and WAC 365-190-070, and consistent with local comprehensive plans.

6. Development and uses that would substantially degrade or permanently deplete the biological resources of the area should not be allowed.

7. Construction of new structural shoreline stabilization and flood control works should only be allowed where there is a documented need to protect an existing structure or ecological functions and mitigation is applied, consistent with WAC 173-26-231.

8. Residential development standards shall ensure no net loss of shoreline ecological functions and should preserve the existing character of the shoreline consistent with the purpose of the environment. Meeting this provision will require rural density, lot coverage, vegetation conservation and other provisions.

9. New shoreline stabilization, flood control measures, vegetation removal, and other shoreline modifications should be designed and managed consistent with these guidelines to ensure that the natural shoreline functions are protected. Such shoreline modification should not be inconsistent with planning provisions for restoration of shoreline ecological functions.

Designation criteria
Assign a rural conservancy environment designation to shoreline areas outside incorporated municipalities and outside urban growth areas, as defined by RCW 36.70A.110, if any of the following characteristics apply:

1. The shoreline is currently supporting lesser-intensity resource-based uses, such as agriculture, or recreational uses, or is designated agricultural lands pursuant to RCW 36.70A.170;

2. The shoreline is currently accommodating residential uses outside urban growth areas and incorporated cities or towns;

3. The shoreline is supporting human uses but subject to environmental limitations, such as properties that include or are adjacent to steep banks, feeder bluffs, flood plains or other flood prone areas;

4. The shoreline is of high recreational value or with unique historic or cultural resources; or

5. The shoreline has low-intensity water-dependent uses.

6. Lands that may otherwise qualify for designation as rural conservancy and which are designated as mineral resource lands pursuant to RCW 36.70A.170 and WAC 365-190-070 may be assigned a designation within the rural conservancy environment that allows mining and associated uses in addition to other uses consistent with the rural conservancy environment.

3.5 Urban conservancy environment

The purpose of the urban conservancy environment is to protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.

Policies
Development within this designation must be consistent with the following policies:

1. The Master Program is the primary guide for the location, type, density, and distribution of uses in the urban conservancy environment designation. Local comprehensive plans and development regulations also provide guidance and standards for development which occurs within shorelines of the state.

2. Uses that preserve the natural character of the area or promote preservation of open space, floodplain or sensitive lands either directly or over the long-term should be the primary allowed uses. Uses that result in restoration of ecological functions should be allowed if the use is otherwise compatible with the purpose of the environment and the setting.

3. Standards should be established for shoreline stabilization measures, vegetation conservation, water quality, and shoreline modifications within the urban conservancy designation. These standards shall ensure that new development does not result in a net loss of shoreline ecological functions or further degrade other shoreline values.

4. Public access and public recreation objectives should be preferred uses and implemented whenever feasible if significant ecological impacts can be mitigated.

5. Uses in this designation are encouraged to include restoration of ecological functions in the design of project components.

6. Water-oriented uses should be given priority over non-water-oriented uses. For shoreline areas adjacent to commercially navigable waters, water-dependent uses should be given highest priority.

7. Low intensity commercial uses may be permitted if the use is compatible with surrounding uses and the comprehensive plan when such uses can provide substantial open space, public access and/or restoration of ecological functions.

8. Mining is a unique use as a result of its inherent linkage to geology. Therefore, mining and related activities may be an appropriate use within the urban conservancy environment when conducted in a manner consistent with the environment policies and the provisions of WAC 173-26-240 (h) and when located consistent with mineral resource lands designation criteria consistent with local comprehensive plans.

Designation criteria
Assign an urban conservancy environment designation to shoreline areas appropriate and planned for development that is compatible with maintaining or restoring of the ecological functions of the area, that are not generally suitable for water-dependent uses and that lie in incorporated municipalities, urban growth areas, or commercial or industrial "rural areas of more intense development" if any of the following characteristics apply:

1. They are suitable for water-related or water-enjoyment uses;

2. They are open space, flood plain or other sensitive areas that should not be more intensively developed;

3. They have potential for ecological restoration;

4. They retain important ecological functions, even though partially developed; or

5. They have the potential for development that is compatible with ecological restoration.

6. Lands that may otherwise qualify for designation as urban conservancy and which are designated as mineral resource lands pursuant to RCW 36.70A.170 and WAC 365-190-070, and consistent with local comprehensive plans, may be assigned a designation within the urban conservancy environment that allows mining and associated uses in addition to other uses consistent with the urban conservancy environment.

3.6 Shoreline residential environment

The purpose of the shoreline residential environment is to accommodate residential development and accessory structures that are consistent with this chapter. An additional purpose is to provide appropriate public access and recreational uses.

Policies
Development within this designation must be consistent with the following policies:

1. The Master Program is the primary guide for the location, type, density, and distribution of uses in the shoreline residential environment designation. Local comprehensive plans and development regulations also provide guidance and standards for development which occurs within shorelines of the state.

2. Standards for density or minimum frontage width, setbacks, lot coverage limitations, buffers, shoreline stabilization, vegetation conservation, critical area protection, and water quality shall be set to assure no net loss of shoreline ecological functions,

taking into account the environmental limitations and sensitivity of the shoreline area, the level of infrastructure and services available, the existing residential character of the area and other comprehensive planning considerations.

3. Multi-family, multi-lot residential and recreational developments should provide public access and joint use for community recreational facilities.

4. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.

5. Commercial development should be limited to water-oriented uses.

Designation criteria
Assign a shoreline residential environment designation to shoreline areas inside urban growth areas, as defined in RCW 36.70A.110, incorporated municipalities, "limited areas of more intense rural development," or "master planned resorts," as described in RCW 36.70A.360, if they are predominantly single-family or multi-family residential development or are planned and platted for residential development.

3.7 Mixed use environment

The purpose of the mixed use environment is to provide for a mix of moderate density water-oriented residential and commercial uses within urban growth areas, while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded. This designation is designed to accommodate designated tourist commercial and similar mixed use environments. An additional purpose is to provide appropriate public access and recreational uses.

Policies
Development within this designation must be consistent with the following policies:

1. The Master Program is the primary guide for the location, type, density, and distribution of uses in the shoreline residential environment designation. Local comprehensive plans and development regulations also provide guidance and standards for development which occurs within shorelines of the state.

2. In regulating uses in the mixed use environment, first priority should be given to water-dependent uses. Second priority should be given to water-related and water-enjoyment uses. Non-water-oriented uses should not be allowed except as a part of mixed use developments. Non-water oriented uses may be allowed as part of a mixed use development in limited situations where it can be demonstrated they do not conflict with or limit opportunities for water-oriented uses or on sites where there is no direct access to the shoreline. Such specific situations should be identified in shoreline use analysis or special area planning, as described in WAC 173-26-201 (3)(d)(ix).

3. Consideration should be given to the potential for displacement of non-water-oriented uses with water-oriented uses when analyzing full utilization of urban waterfronts and before considering expansion of such areas. Specifically, those areas that have industrial uses, or are zoned for industrial uses, shall not be designated mixed use environment.

4. Policies and regulations shall assure no net loss of shoreline ecological functions as a result of new development. Where applicable, new development shall include environmental cleanup and restoration of the shoreline to comply with the restoration goals of this Program and any applicable state and federal laws.

5. Where feasible, visual and physical public access should be required.

6. Aesthetic objectives should be implemented by means such as sign control regulations, appropriate development siting, screening and architectural standards, and maintenance of natural vegetative buffers.

7. Multi-family, multi-lot residential and recreational developments should provide public access and joint use for community recreational facilities.

8. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.

Designation criteria
Assign a mixed use environment designation to shoreline areas within incorporated municipalities and designated urban growth areas, if they currently support mixed uses related to commerce or are suitable and planned for water-oriented development or those non-water oriented part of a mixed use development.

3.8 High-intensity environment

The purpose of the high-intensity environment is to provide for high-intensity water-oriented commercial, transportation, and industrial uses while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded.

Policies
Development within this designation must be consistent with the following policies:

1. The Master Program is the primary guide for the location, type, density, and distribution of uses in the high intensity environment designation. Local comprehensive plans and development regulations also provide guidance and standards for development which occurs within shorelines of the state.

2. In regulating uses in the high-intensity environment, first priority should be given to water-dependent uses. Second priority should be given to water-related and water-enjoyment uses. Non-water-oriented uses should not be allowed except as part of mixed use developments. Non-water-oriented uses may also be allowed in limited situations where they do not conflict with or limit opportunities for water-oriented uses or on sites where there is no direct access to the shoreline. Such specific situations should be identified in shoreline use analysis or special area planning, as described in WAC 173-26-201(3)(d)(ix).

3. Full utilization of existing urban areas should be achieved before further expansion of intensive development is allowed. Reasonable long-range projections of regional economic need should guide the amount of shoreline designated high-intensity. However, consideration should be given to the potential for displacement of non-water-oriented uses with water-oriented uses when analyzing full utilization of urban waterfronts and before considering expansion of such areas.

4. Policies and regulations shall assure no net loss of shoreline ecological functions as a result of new development. Where applicable, new development shall include environmental cleanup and restoration of the shoreline to comply with any relevant state and federal law.

5. Where feasible, visual and physical public access should be required as provided for in WAC 173-26-221(4)(d).

6. Aesthetic objectives should be implemented by means such as sign control regulations, appropriate development siting, screening and architectural standards, and maintenance of natural vegetative buffers.

Designation criteria
Assign a high-intensity environment designation to shoreline areas within incorporated municipalities, urban growth areas, and industrial or commercial "rural areas of more intense development," as described by RCW 36.70A.070 if they currently support high-intensity uses related to commerce, transportation or navigation; or are suitable and planned for high intensity water-oriented uses.

3.9 Aquatic environment

The purpose of the aquatic environment is to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high-water mark.

Policies
Development within this designation must be consistent with the following policies:

1. Allow new over-water structures only for water-dependent uses, public access, or ecological restoration.

2. The size of new over-water structures should be limited to the minimum necessary to support the structure's intended use.

3. In order to reduce the impacts of shoreline development and increase effective use of water resources, multiple use of over-water facilities should be encouraged.

4. All developments and uses on navigable waters or their beds should be located and designed to minimize interference with surface navigation, to consider impacts to public views, and to allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration.

5. Uses that adversely impact the ecological functions of critical freshwater habitats should not be allowed except where necessary to achieve the objectives of RCW 90.58.020, and then only when their impacts are mitigated according to the sequence described in WAC 173-26-201(2)(e) as necessary to assure no net loss of ecological functions.

6. Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.

Designation criteria
Assign an aquatic environment designation to lands waterward of the ordinary high-water mark of all streams, rivers, and lakes constituting shorelines of the state together with their underlying lands and their water column.

3.10 Table 1. Use matrix

A. The Table 1 Use Matrix indicates which uses and modifications may be allowed or are prohibited in shoreline jurisdiction within each shoreline environment. Accessory uses shall be subject to the same shoreline permit process and SMP provision as their primary use. Where there is a conflict between the chart and the written provision in this SMP, the written provisions shall apply.
B. An accessory or appurtenant use shall not be established on a property before the establishment of its primary use.
C. In the case of a conflict between a use authorized by this SMP and a use authorized by the underlying zoning, the most restrictive shall apply.

P= Permitted, may be subject to shoreline substantial development permit or shoreline exemption requirements

C= Shoreline conditional use

X= Prohibited

N/A= Not applicable

S= Dependent on upland designation

Shoreline Uses	Shoreline Environment Designation						
	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Agriculture							
Grazing	P	P	P	P	P	P	NA
Cultivation/orchards	P	P	P	P	P	C	NA
Buildings	P	P	P	P	P	C	NA
Feedlot	X	X	X	X	X	X	NA
Manure Lagoon	X	X	X	X	X	X	NA
Aquaculture							
Floating- net pen types and accessory structures	X	X	X	X	C	C	S
On shore, confined types of facilities and accessory structures	X	X	X	X	C	X	C
Boating facilities (see also moorage)							
Launch ramps, public/community	P	P	P	P	P	C	C
Launch ramps, private	X	X	X	X	X	X	X
Marinas	P	P	P	P	P	X	S
Covered over-water structures	NA	NA	NA	NA	NA	NA	X
Commercial							
Water dependent	P	P	P	C	C	X	S
Water-related/enjoyment	P	P	P	C	C	X	S
Non-water-oriented commercial	C	X	C	X	X	X	X
Dredging							
General	C	C	C	C	C	C	S
Essential public facilities							
General	P	P	P	P	P	C	S

P= Permitted, may be subject to shoreline substantial development permit or shoreline exemption requirements

C= Shoreline conditional use

X= Prohibited

N/A= Not applicable

S= Dependent on upland designation

Shoreline Uses	Shoreline Environment Designation						
	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Flood control and instream structures							
General	P	P	P	P	C	C	S
Channelization or dams for flood control	P	C	P	P	C	C	S
Industrial							
Water-oriented industrial development	C	X	X	X	X	X	S
Non-water-oriented industrial development	C	X	X	X	X	X	X
Institutional							
General	C	C	C	C	C	X	X
Landfill and excavation							
General	P	P	P	P	P	C	C
Mining							
General	C	C	X	X	C	X	C
Surface oil and gas drilling	X	X	X	X	X	X	X
Moorage: docks, piers, floats, watercraft lifts and mooring buoys (see also boating facilities)							
Private and joint use docks, piers, floats	P	P	P	P	P	C	S
Public/community and joint use docks, piers, floats	P	P	P	P	P	C	S
Mooring buoys	NA	NA	NA	NA	NA	NA	P
Watercraft lifts	P	P	P	P	P	C	S
Commercial wet moorage	P	X	C	C	C	X	S
Commercial dry boat storage	P	X	C	X	X	X	NA
Float plane moorage accessory to permitted moorage	NA	NA	NA	NA	NA	NA	P

P= Permitted, may be subject to shoreline substantial development permit or shoreline exemption requirements

C= Shoreline conditional use

X= Prohibited

N/A= Not applicable

S= Dependent on upland designation

Shoreline Uses	Shoreline Environment Designation						
	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Parking							
Parking accessory to a permitted use	P	P	P	P	P	C	X
Parking not accessory to a permitted use	X	X	X	X	X	X	X
Recreational							
Water dependent	P	P	P	P	P	C	S
Water-related/enjoyment	P	P	P	P	P	C	S
Non-water-oriented	P	P	P	P	C	X	S
Residential							
Single-family dwelling	P	P	P	P	P	C	X
Two-family dwelling	P	P	P	P	P	X	X
Multi-family dwelling	P	P	P	P	X	X	X
Restoration							
General	P	P	P	P	P	P	S
Shoreline stabilization							
Dikes/levees	P	P	P	P	P	C	P
Breakwaters, groins and jetties	P	P	P	P	P	C	P
Bulkheads and revetments	P	P	P	P	P	C	P
Bioengineering approaches	P	P	P	P	P	C	P
Signs							
Signage	P	P	P	P	P	P	X

P= Permitted, may be subject to shoreline substantial development permit or shoreline exemption requirements

C= Shoreline conditional use

X= Prohibited

N/A= Not applicable

S= Dependent on upland designation

Shoreline Uses	Shoreline Environment Designation						
	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Transportation							
General	P	P	P	P	P	C	S
Transportation facilities not serving a specific approved use	P	P	P	P	P	C	S
Utilities							
Water systems	P	P	P	P	C	C	C
Wastewater systems	C	C	C	C	C	X	C
Solid waste facilities	X	X	X	X	X	X	X
Oil, gas and natural gas transmission	C	C	C	C	C	C	C
Electrical generation	P	P	P	P	P	C	C
Communication systems	P	P	P	P	P	C	C
Local utility distribution facilities	P	P	P	P	P	C	C
Transmission facilities	P	P	P	P	P	C	C
Dams, diversion and tailrace structures for hydroelectric power generation	C	C	C	C	C	C	C

4. General policies and regulations

Sections:
4.1 Ecological protection and critical areas
4.2 Water quality
4.3 Vegetation conservation
4.4 Archaeological and historical resources
4.5 Flood protection
4.6 Public access
4.7 Restoration

4.1 Ecological protection and critical areas

Policies

1. Shoreline use and development should occur in a manner that assures no net loss of existing ecological functions and processes and protects critical areas. Uses should be designed and conducted to avoid, minimize, or to fully mitigate in so far as practical, any damage to the ecology and environment.

2. In assessing the potential for net loss of ecological functions or processes, project specific and cumulative impacts shall be identified and evaluated.

3. Development standards for density, lot frontage, setbacks, lot coverage, shoreline stabilization, vegetation conservation, buffers, critical areas, and water quality should protect existing shoreline ecological functions and processes. Review of shoreline development should consider potential impacts associated with proposed shoreline development when assessing compliance with this policy.

4. Except where development is otherwise exempt, the cities and the county should seek input and coordinate with federal, state, local and tribal agencies with expertise for development occurring within or near wetlands or fish and wildlife habitat.

5. Encourage land use activities and development to incorporate restoration of degraded ecological functions and ecosystem-wide processes in project design.

6. The county and cities should provide for administrative review of restoration projects which implement local watershed plans, or have the support of federal or state resource agencies, and are consistent with the restoration plan.

Regulations

1. Mitigation sequencing – applicants shall demonstrate all reasonable efforts have been taken to mitigate potential adverse impacts in the following prioritized order:

    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, such as project redesign, relocation, or timing, to avoid or reduce impacts;
c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project;
d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.

2. If compensatory mitigation is required to achieve no net loss of ecological function, the applicant shall develop and implement a management and mitigation plan. When required, management and mitigation plans shall be prepared by a qualified biologist and shall be consistent with the requirements in Appendix H. Management and mitigation plans shall describe actions that will ensure no net loss of ecological functions.

3. Mitigation shall focus on the best possible outcome for compensating for impacts to functions and values within the shoreline environment. The location of the compensatory mitigation action shall be preferred in the order referenced below:
    a. Preferential consideration shall be given to on-site mitigation measures that replace the impacted functions, and in areas where non-native vegetation is present adjacent to existing native vegetation to the extent practicable.
    b. Off-site compensatory mitigation located in Douglas County within the same watershed and that addresses limiting factors or identified critical needs for shoreline resource conservation based on the Shoreline Restoration Plan, or Water Resource Inventory Area (WRIA) or comprehensive resource management plans.
    c. Off-site compensatory mitigation within the same watershed outside of Douglas County.
    d. Alternative off-site mitigation programs such as mitigation banks or in-lieu fee programs as established by the County. This includes future mitigation banking opportunities, developed in coordination with the County.

4. The provisions of this section and Appendix H shall apply to any use, alteration or development within shoreline jurisdiction, whether or not a shoreline permit or written statement of exemption is required.

5. Unless otherwise stated, critical area buffers shall be protected and/or enhanced pursuant to Appendix H and all other applicable provisions of this Program.

6. Protect hydrologic connections between water bodies, water courses and associated wetlands.

7. The cumulative effects of individual development proposals shall be identified and evaluated to assure that no net loss standards are achieved.

4.2 Water quality

Policies

1. The location, construction, operation, and maintenance of all shoreline uses and developments should maintain or enhance the quantity and quality of surface and ground water over the long-term.

2. Shoreline use and development should minimize the need for chemical fertilizers, pesticides or other similar chemical treatments to prevent contamination of surface and ground water and/or soils and adverse effects on shoreline ecological functions and values.

3. Appropriate buffers along all wetlands, streams, and lakes should be provided and maintained in a manner that avoids the need for chemical treatment for vegetation management and be consistent with critical areas ordinances and best management practices.

Regulations

1. Shoreline development and use shall incorporate measures to protect and maintain surface and ground water quantity and quality in accordance with all applicable laws.
2. New development shall provide stormwater management facilities designed, constructed, and maintained in accordance with the current stormwater management standards. Deviations from these standards may be approved where it can be demonstrated that offsite facilities would provide better treatment, or where common retention, detention and/or water quality facilities meeting such standards have been approved as part of a comprehensive stormwater management plan.

3. Best management practices (BMP's) for control of erosion and sedimentation shall be implemented for all development in shorelines through an approved temporary erosion and sediment control plan, identified in the Stormwater Management Manual for Eastern Washington, as amended.

4. To avoid water quality degradation by malfunctioning or failing septic systems located in the shoreline jurisdiction, on-site sewage systems shall be located and designed to meet all applicable water quality, utility, and health standards.

5. All building materials that may come in contact with water shall be constructed of untreated wood, cured concrete or steel. Materials used for decking or other structural components shall be approved by applicable state agencies for contact

with water to avoid discharge of pollutants. Wood treated with creosote, arsenate compounds, copper chromium arsenic or pentachlorophenol is prohibited in shoreline water bodies.

6. Project applications within the natural or rural conservancy shoreline environment, and limited areas of more intense rural development designated by Douglas County that exceed 10% impervious surface coverage for subject properties; shall follow the best management practices of the Stormwater Management Manual for Eastern Washington, as amended.

7. Permanent stormwater management systems serving property within the shoreline shall be designed using best management practices ensuring water quality treatment in compliance with the Stormwater Management Manual for Eastern Washington to prevent stormwater runoff from degrading or adding to the pollution of recipient waters or adjacent properties. Maintenance of storm drainage facilities on private property shall be the responsibility of the property owner(s). This responsibility and the provision for maintenance shall be clearly stated on any recorded subdivision, short plat, or binding site plan map, building permit, property conveyance documents, maintenance agreements and /or improvement plans.

4.3 Vegetation conservation

Policies

1. Native shoreline vegetation should be conserved to maintain shoreline ecological functions and/or processes and mitigate the direct, indirect and/or cumulative impacts of shoreline development, wherever feasible. Disturbance of native plant communities should be avoided. Disturbed areas should be revegetated with native plant species appropriate to the soil and hydrologic conditions.

2. Encourage noxious and invasive weed management and control. Control of such species should be done in a manner that retains onsite native vegetation, provides for erosion control, and protects water quality.

3. Selective pruning may be allowed for safety or limited view retention purposes and when consistent with Section 4.1 Ecological Protection and Critical Areas.

Regulations

1. Shoreline developments shall address conservation and maintenance of vegetation through compliance with the critical area standards in Section 4.1 Ecological Protection and Critical Areas.

2. Where impacts to buffers are permitted under Section 4.1, Ecological Protection and Critical Areas, new developments shall be required to develop and implement a management and mitigation plan.

3. Pruning of native trees for safety and view protection may be permitted if consistent with the provisions of Section 4.1, Ecological Protection and Critical Areas.

4. Native vegetation clearing shall be limited to the minimum necessary to accommodate approved shoreline development.

5. Clearing of flammable native and non-native vegetation within 5 feet of existing residential structures, legally established appurtenances and stationary propane tanks is allowed, for structures in existence on or prior to the effective date of the SMP 2021 Periodic Update.

6. Within 30 feet of existing residential structures, legally established appurtenances and stationary propane tanks, native trees may be trimmed the lesser of 10 feet or one-third of the tree height from the ground. Removal of flammable non-native vegetation is allowed except that it must be replaced by native vegetation within the shoreline setback. This regulation is applicable to structures in existence on or prior to the effective date of the SMP 2021 Periodic Update. Actions shall only be allowed if carried out under an approved management and mitigation plan prepared by a professional biologist demonstrating no net loss in shoreline ecological function.

7. Removal of noxious weeds and/or invasive species shall be incorporated in management and mitigation plans, as necessary, to facilitate establishment of a stable community of native plants.

8. Vegetation removal not associated with a development permit application requires the submittal and approval of a management and mitigation plan prepared by a qualified biologist, and must be consistent with the provisions of Section 4.1, Ecological Protection and Critical Areas.

9. Filling, clearing and grading in vegetated shoreline areas shall be in conformance with the provisions of Section 5.8, Filling, Grading, and Excavation; in addition to Section 4.1, Ecological Protection and Critical Areas, and the provisions of this Program.

10. With the exception of hand removal or spot spraying of noxious weeds, the determination of whether non-native vegetation removal may be permitted must be evaluated in conformance with Section 4.1 Ecological Protection and Critical Areas.

4.4 Archaeological and historical resources

The following provisions apply to archaeological and historic resources that are either recorded at the State Historic Preservation Office and/or by local jurisdictions or have been inadvertently uncovered. Archaeological sites located both in and outside shoreline jurisdiction are subject to Chapter 27.44 RCW (Indian graves and records) and Chapter 27.53 RCW (Archaeological sites and records) and development or uses

that may impact such sites shall comply with Chapter 25-48 WAC as well as the provisions of this chapter.

Policies

1. Prevent the destruction of or damage to any site having historic, cultural, scientific, or educational value as identified by the appropriate authorities, including affected Indian Tribes, and the Washington State Department of Archaeology and Historic Preservation.

2. The jurisdictions should work with tribal, state, federal and local governments as appropriate to maintain an inventory of all known significant local historic, cultural and archaeological sites in observance of applicable state and federal laws protecting such information from general public disclosure. As appropriate, such sites should be protected, preserved and/or restored for study, education and/or public enjoyment to the maximum possible extent.

3. Site development plans should incorporate provisions for historic, cultural and archaeological site preservation, restoration and education with open space or recreation areas whenever compatible and possible.

4. Cooperation among involved private and public parties is encouraged to achieve the archaeological, historical and cultural element goals and objectives of this Program.

5. Owners of property containing identified historic, cultural or archaeological sites are encouraged to make development plans known well in advance of application, so that appropriate agencies may have ample time to assess the site and make arrangements to preserve historical, cultural and archaeological values as applicable.

6. Private and public owners of historic sites should be encouraged to provide public access and educational opportunities in a manner consistent with long-term protection of both historic values and shoreline ecological functions.

Regulations

1. If archaeological resources are uncovered during excavation, developers and property owners shall immediately stop work and notify the local government, the Washington State Department of Archaeology and Historic Preservation and affected Indian tribes.

2. An archaeological resource site inspection and/or evaluation is required by a professional archaeologist in coordination with affected Indian tribes where known archaeological resources are present. Properties near a site known to contain a historic, cultural or archaeological resource(s) shall require a cultural resource site assessment.

3. If a cultural resource site assessment identifies the presence of significant historic or archaeological resources, a cultural resource management plan shall be prepared by a professional archaeologist or historic preservation professional. In addition, a permit or other requirements administered by the Washington State Department of Archaeology and Historic Preservation pursuant to RCW 27.44 and RCW 27.53 may apply.

4.5 Flood protection

Policies

1. Flood control works in shoreline areas shall be subject to the policies and regulations of this section and Chapters 4 and 5.

2. Assure that flood protection measures result in no net loss of ecological functions and ecosystem-wide processes associated with rivers, streams and lakes.

3. New or expanding development or uses in the shoreline, including subdivision of land, that would likely require structural flood control works within a river, channel migration zone, floodway, or lakes should not be allowed.

4. Flood control works should only be allowed in the shoreline if they are necessary to protect existing development and where non-structural flood hazard reduction measures are infeasible.

5. Where feasible, flood control works should be bioengineered to enhance ecological functions, create a more natural appearance, improve ecological processes, and provide more flexibility for long-term shoreline management. Such features may include but not be limited to vegetated berms; and vegetative stabilization, including brush matting and buffer strips and retention of existing trees, shrubs and grasses on banks.

6. Flood control works should be located, designed, constructed and maintained so their resultant effects on geo-hydraulic shoreline processes will not cause significant damage to other properties or shoreline resources, and so that the physical integrity of the shoreline corridor is maintained.

7. Recognizing the large number of physical variables to be considered in properly locating and designing flood control works and the high probability that poorly located and inadequately designed works will fail and/or adversely affect properties and shoreline features, such works should be sited and designed consistent with appropriate engineering principles, including guidelines of the Natural Resource Conservation Service, the U.S. Army Corps of Engineers, the Douglas County Comprehensive Flood Hazard Management Plan, and Section 4.1 Ecological Protection and Critical Areas.

8. Non-structural and non-regulatory methods to protect, enhance, and restore shoreline ecological functions and processes and other shoreline resources should be encouraged as an alternative to structural flood control works and structures. Non-regulatory and non-structural methods may include public facility and resource planning, land or easement acquisition, education, voluntary protection and enhancement projects, or incentive programs.

9. In cooperation with other applicable agencies and persons, the jurisdictions should continue to develop and/or update long-term, comprehensive flood hazard management plans to prevent flood damage, maintain the natural hydraulic capacity of floodways, and conserve limited resources such as fish habitat, water, soil, and recreation and scenic areas.

10. Planning and design of flood control works should be consistent with and incorporate elements from applicable watershed management, restoration plans and/or surface water management plans.

Regulations

1. Development in floodplains should not significantly or cumulatively increase flood hazards or be inconsistent with comprehensive flood hazard management plans adopted pursuant to Chapter 86.12 RCW.

2. New development or new uses in shoreline jurisdiction, including the subdivision of land, should not be permitted when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway.

3. The following uses and activities may be appropriate and/or necessary within the channel migration zone or floodway:

    a. Actions that protect or restore the ecosystem-wide processes or ecological functions.
    b. Existing and ongoing agricultural practices provided that no new restrictions to channel movement occur.
    c. Mining when conducted in a manner consistent with Section 5.9 Mining, the shoreline environment designation, and with the provisions of WAC 173-26-241(3)(h).
    d. Bridges, utility lines, and other public utility and transportation structures where no other feasible alternative exists or the alternative would result in unreasonable and disproportionate costs. Where such structures are allowed, mitigation shall address impacted functions and processes in the affected shoreline.
    e. Repair and maintenance of an existing nonagricultural legal use, provided that channel migration is not further limited and that the new development includes appropriate protection of ecological functions.

f. Development in incorporated municipalities and designated urban growth areas, as defined in Chapter 36.70A RCW, where structures exist that prevent active channel movement and flooding.
g. Measures to reduce shoreline erosion, provided that it is demonstrated that the erosion rate exceeds that which would normally occur in a natural condition, that the measure does not interfere with fluvial hydrological and geo-morphological processes normally acting in natural conditions, and that the measure includes appropriate mitigation of impacts to ecological functions associated with the river or stream.

4. Allow new structural flood hazard reduction measures in shoreline jurisdiction only when it can be demonstrated by a scientific and engineering analysis that they are necessary to protect existing development; that nonstructural measures are not feasible; that impacts on ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss; and that appropriate vegetation conservation actions are undertaken consistent with Section 4.3 Vegetation Conservation, and WAC 173-26-221(5).

5. Structural flood hazard reduction measures shall be consistent with adopted comprehensive flood hazard management plans approved by the Department of Ecology.

6. Place new structural flood hazard reduction measures landward of the associated wetlands, and designated vegetation conservation areas, except for actions that increase ecological functions, such as wetland restoration; provided that such flood hazard reduction projects be authorized if it is determined that no other alternative to reduce flood hazard to existing development is feasible. The need for, and analysis of feasible alternatives to, structural improvements shall be documented through a geotechnical analysis.

7. Require that new structural public flood hazard reduction measures, such as dikes and levees, dedicate and improve public access pathways unless public access improvements would cause unavoidable health or safety hazards to the public, inherent and unavoidable security problems, unacceptable and unmitigated significant ecological impacts, unavoidable conflict with the proposed use, or cost that is disproportionate and unreasonable to the total long-term cost of the development.

8. Require that the removal of gravel for flood management purposes be consistent with an adopted flood hazard reduction plan and with the provisions of WAC 173-26, Section 5.5 Dredging and Section 5.9 Mining; and be allowed only after a biological and geo-morphological 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.

4.6 Public access

Policies

1. Access to shorelines should be incorporated in new development and may be physical and/or visual to provide the public with the opportunity to enjoy the water's edge, and view the water and shoreline.

2. Public access should be required for industrial and commercial development, publicly owned facilities, and boating and recreation facilities.

3. Community access should be required for residential development.

4. Public access area and/or facility requirements should be commensurate with the scale and character of the development and should be reasonable, fair and effective.

5. Shoreline use and development activities should be designed and operated to minimize obstructions of the public's visual access to the water and shoreline.

6. Development, uses and activities on or near the shoreline should not unreasonably impair or detract from the public's legal access to the water.

7. Public access design should provide for public safety and minimize potential impacts to private property.

8. Protect the rights of navigation and space necessary for water dependent uses.

9. Assure that public access improvements result in no net loss of shoreline ecological functions.

10. Public access should connect to public areas, undeveloped right-of-way, and other pedestrian or public thoroughfares.

11. The linkage of shoreline parks, recreation areas and public access points by linear systems, such as hiking paths, bicycle paths, easements and/or scenic drives, should be encouraged.

12. There should be a physical separation between the public and private spaces so the public will clearly know the extent of their domain and know that they are not infringing on private rights. This separation can be achieved by adequate space and through screening or signage.

13. Public access should be designed for accessibility by disabled persons.

14. Recreational development should place a priority for public use and access to the water.

Regulations:

1. Where required, provisions for adequate public or community access to the shoreline shall be incorporated into a shoreline development proposal, including land division, unless the applicant demonstrates that one or more of the following provisions apply:
    a. Unavoidable health or safety hazards to the public exist which cannot be prevented by any practicable means;
    b. Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions;
    c. Unacceptable environmental harm will result from the public access which cannot be mitigated;
    d. Significant undue and unavoidable conflict between the proposed access and adjacent uses would occur and cannot be mitigated;
    e. The cost of providing the access or alternative amenity is unreasonably disproportionate to the long-term cost of the proposed development.
    f. Provided further, that the applicant has first demonstrated and the county or city has determined in its findings that all reasonable alternatives have been exhausted, including but not limited to:
        (1) Regulating access by such means as limiting hours of use to daylight hours;
        (2) Designing separation of uses and activities, i.e., fences, terracing, hedges, landscaping, signage, etc.;
        (3) Provision of an access at a site physically separated from the proposal such as a nearby street end, an off-site view point or trail system.

2. Public access for commercial recreational development shall be consistent with the public access requirements of commercial development of this Master Program.

3. Shoreline development by public entities, port districts, state agencies, and public utility districts shall include public access measures as part of each development project, unless such access is shown to be incompatible due to reasons of safety, security, or impact to the shoreline environment.

4. Boating facilities, including marinas and public/community launch ramps, shall provide public access, consistent with the provisions of this Master Program.

5. All residential development shall have access to the shoreline. Multi-unit residential development and land divisions shall provide community access to the shoreline.

6. Commercial and industrial development shall provide public access to the shoreline, or if not feasible provide opportunities for public viewing of the shoreline, except as provided for in Section 4.6 Regulation 1.

7. Public access areas and facilities shall be provided commensurate with the scale of development and the need for public physical and visual access opportunities in the vicinity of the subject development.

8. Development uses and activities shall be designed and operated to avoid blocking, reducing, or adversely interfering with the public's physical access to the water and shorelines.

9. Where there is an irreconcilable conflict between water-dependent shoreline uses or physical public access and maintenance of views from adjacent properties, the water-dependent uses and physical public access shall have priority, unless there is a compelling reason to the contrary.

10. Development shall minimize impacts to views of the shoreline with the application of critical area buffers (Section 4.1), setbacks, density standards, height limitations and public and community access corridors.

11. Site design for commercial, industrial, multi-family residential and recreational development shall demonstrate site planning which provides sensitivity to public visual access of the shoreline. Where it is not feasible to avoid or minimize a potential visual impact; site enhancements such as viewing platforms or access to vistas which provide views of the shoreline, shall be considered.

12. Access improvements shall not result in a net loss of shoreline ecological functions and values.

13. Rights of navigation shall be protected in conformance with the provisions of this Master Program.

14. Public access sites shall be connected directly to the best-suited public street, trails, etc., consistent with design and safety standards.

15. Any vacation of right-of-way within the shoreline must comply with RCW 36.87.130 and RCW 35.79.035.

16. New streets, roads and highways which are located within two hundred feet of a shoreline of the state shall provide public access to the shoreline, whenever feasible, consistent with design and safety standards. Such facilities may include pathways, viewpoints or similar amenities and accessory parking facilities incidental to those amenities.

17. Where feasible, expansion or upgrades of existing transportation facilities that require a shoreline substantial development permit shall be subject to access provisions, shall address design and safety standards, and shall maximize the overall view access of the corridor.

18. Utility development shall, through coordination with local government agencies, provide for compatible, multiple uses of sites and rights-of-way. Such uses include shoreline access points, trail systems, and other forms of recreation and transportation, providing such uses will not unduly interfere with utility operations and/or endanger public health and safety.

19. Public access shall consist of a dedication of land or easement and a physical improvement in the form of a walkway, trail, bikeway, corridor, viewpoint, park, deck, observation tower, pier, boat launching ramp, dock or pier area, or other area serving as a means of view and/or physical approach to public waters and may include interpretive centers and displays.

20. The minimum width of access easements shall be 10 feet, unless the Administrator determines that undue hardship would result. In such cases, easement widths may be reduced only to the extent necessary to relieve the demonstrated hardship.

21. Required public access sites shall be fully developed and available for public use at the time of occupancy of the use or activity; or in accordance with other provisions for guaranteeing installation through a monetary performance assurance.

22. Public access facilities shall be maintained over the life of the use or development. Future actions by successors in interest or other parties shall not diminish the usefulness or value of required public access areas and associated improvements.

23. Public access provisions shall run with the land and be recorded via a legal instrument such as an easement, or as a dedication on the face of a plat or short plat. Such legal instruments shall be recorded with the County Auditor's Office prior to the time of building permit approval, occupancy or with plat recording, whichever comes first.

24. Maintenance of the public access facility shall be the responsibility of the owner or home owner’s association, unless otherwise accepted by a public or non-profit agency through a formal agreement recorded with the County Auditor's Office.

25. The standard state approved logo or other approved signs that indicate the public's right of access and hours of access shall be installed and maintained by the owner. Such signs shall be posted in conspicuous locations at public access sites.

26. Public access sites shall be made barrier-free for the physically challenged where feasible, and in accordance with the Americans with Disabilities Act (ADA).

27. Proposals for development shall include a site plan indicating existing and proposed features, including, but not limited to, topography, shoreline vegetation, slope, drainage, all existing and proposed easements, structures, wells, etc.

4.7 Restoration

Policies

1. Restoration and enhancement of shorelines should be designed using principles of landscape and conservation ecology and should restore or enhance chemical, physical, and biological watershed processes that create and sustain shoreline habitat structures and functions.

2. Mitigation associated with shoreline development projects shall be designed to achieve no net loss of ecological function.

3. The county should seek funding from state, federal, private and other sources to implement restoration, enhancement, and acquisition projects.

4. Develop processing guidelines that will streamline the review of restoration only projects.

5. Encourage public and private shoreline owners to promote the proliferation of native, noninvasive wildlife, fish and plants.

6. Restoration projects should be coordinated with local public utility and conservation districts.

7. Ensure that long-term maintenance and monitoring of restoration sites is included in the original permitting of the project.

8. Allow for the use of tax incentive programs, mitigation banking, restoration grants, land swaps, or other programs, as they are developed, to encourage restoration of shoreline ecological functions and to protect habitat for fish, wildlife and plants.

9. Jurisdictions should pursue the development of a public benefit rating system that provides incentives for the restoration of the shoreline.

10. Jurisdictions should coordinate with state resource agencies to develop educational materials which promote the maintenance and restoration of shoreline functions. Educational materials shall provide resources for a variety of scenarios and trends occurring within the shoreline that is reflected in the inventory and analysis, such as: the conversion of agricultural land to non-agricultural use, existing and ongoing agricultural uses, and existing or planned residential and commercial development.

11. Encourage the agricultural industry to continue to work closely with agencies, such as the Natural Resource Conservation Service and Conservation Districts, with expertise in agricultural practices and restoration to improve degraded shoreline functions.

5. Shoreline use and modification policies and regulations

Sections:
5.1 Agriculture
5.2 Aquaculture
5.3 Boating facilities: marinas and launch ramps
5.4 Commercial use
5.5 Dredging
5.6 Industry
5.7 Instream structures
5.8 Filling, grading and excavation
5.9 Mining
5.10 Moorage: docks, piers, watercraft lifts, mooring buoys, floats
5.11 Recreation
5.12 Residential
5.13 Shoreline bulk and dimensional standards
5.14 Shoreline stabilization
5.15 Signs
5.16 Transportation
5.17 Utilities

5.1 Agriculture

Policies:

1. Recognize the importance of agriculture in Douglas County and support its continued economic viability.

2. Appropriate vegetation management and Natural Resources Conservation Service conservation practices should be used to avoid and minimize water quality impacts from agricultural activities.

3. Agricultural uses should be encouraged to maintain a buffer of permanent vegetation or other soil erosion control measures between tilled areas and associated water bodies that will restrict surface runoff, protect water quality, improve habitat and reduce siltation.

4. Agricultural operations should comply with control guidelines prepared by the U.S. Environmental Protection Agency and state and local agencies for regulating confined animal feeding operations, retention and storage ponds for feed lot wastes, and stockpiles of manure solids along the County's shorelines, to avoid water pollution.

5. The conversion of agricultural lands shall mean that the lands are taken out of agricultural production and a new non-agricultural use is established. A change to a different agricultural crop does not constitute a conversion to a new use.

Regulations

1. The provisions of this Master Program do not require modification of or limit agricultural activities on agricultural lands as of the date of adoption of the Master Program.

2. New agricultural activities on lands that did not have agricultural activities in place at the time of adoption of this Master Program; conversion of agricultural lands or the development of non-agricultural activities on agricultural lands; and uses in support of agricultural activities are governed by the provisions of this Master Program and subject to the following criteria:
    a. Uses and activities shall be consistent with the environment designation;
    b. Uses and activities shall be located and designed to ensure no net loss of ecological functions;
    c. Uses and activities shall not have a significant impact on other shoreline resources and values.

3. Discharge of any manure storage facility into ground or surface water is prohibited.

4. New feedlots and manure lagoons are prohibited from siting within the shoreline jurisdiction.

5. Nothing in this section limits or changes the terms of the current exception to the definition of substantial development. A substantial development permit shall be required for all agricultural development not specifically exempted by the provisions of RCW 90.58.030(3)(a)(vi).

5.2 Aquaculture

Policies

1. Aquaculture is a water-dependent use and is a preferred use of the shoreline when consistent with control of pollution, avoidance of adverse impacts to the environment and preservation of habitat for resident native species.

2. Potential locations for aquaculture activities are relatively restricted because of specific requirements related to water quality, temperature, oxygen content, currents, adjacent land use, wind protection and navigation. The technology associated with some forms of aquaculture is still experimental and in formative stages. Therefore, some latitude should be given when implementing the regulations of this section, provided that potential impacts on existing uses and shoreline ecological functions and processes are given due consideration.

3. Preference should be given to those forms of aquaculture that involve lesser environmental and visual impacts and lesser impacts, to native plant and animal species. In general, projects that require either no structures or submerged structures are preferred over those that involve substantial floating structures.

Projects that involve little or no substrate modification are preferred over those that involve substantial modification. Projects that involve little or no supplemental food sources, pesticides, herbicides or antibiotic application are preferred over those that involve such practices.

4. Aquaculture activities should be designed, located and operated in a manner that supports long-term beneficial use of the shoreline and protects and maintains shoreline ecological functions and processes. Aquaculture should not be permitted where it would result in a net loss of shoreline ecological functions; adversely affect the quality or extent of habitat for native species; adversely impact other habitat conservation areas; or interfere with navigation or other water-dependent uses.

5. Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and/or wild fish populations through potential contribution of antibiotic resistant bacteria, or escapement of non-native species, or other adverse effects on ESA-listed species should not be permitted.

6. The jurisdictions should actively seek substantive comment on any shoreline permit application for aquaculture from all appropriate federal, state, tribal and local agencies and the general public regarding potential adverse impacts. Comments of nearby residents or property owners directly affected by a proposal should be considered and evaluated, especially in regard to use compatibility and aesthetics.

7. When private or public aquaculture projects are proposed the rights of tribes to aquatic resources within their usual and accustomed areas should be addressed through the permit review process. Direct coordination between the applicant/proponent and the tribe is encouraged.

8. Consideration should be given to both the potential beneficial impacts and potential adverse impacts that aquaculture development might have on the physical environment; on other existing and approved land and water uses, including navigation; and on the aesthetic qualities of a project area.

9. Experimental aquaculture projects in water bodies should be limited in scale and should be approved for a limited period of time, as specified by the regulatory agency. Experimental aquaculture means an aquaculture activity that uses methods or technologies that are unprecedented or unproven in the State of Washington.

10. Legally established aquaculture enterprises, including authorized experimental projects, should be protected from incompatible uses that may seek to locate nearby. Uses or developments that have a high probability of damaging or destroying an existing aquaculture operation are not consistent with these policies.

Regulations

1. Aquaculture that involves minimal or no substrate modification shall be given preference over those that involve substantial modification. The applicant/proponent shall demonstrate that the degree of proposed substrate modification is the minimum necessary for feasible aquaculture operations at the site. The installation of submerged structures and floating structures shall be allowed only when the applicant/proponent demonstrates that no alternative method of operation is feasible.

2. Aquaculture activities, that would have a significant adverse impact on natural, dynamic shoreline processes, or that would result in a net loss of shoreline ecological functions, shall be prohibited. Aquaculture practices shall be designed to minimize use of artificial substances and shall use chemical compounds that are least persistent and have the least impact on plants, animals and water quality.

3. All aquaculture projects shall be reviewed by local, state and federal agencies, and FERC licensed hydro-projects.

4. New aquatic species that are not previously cultivated in Washington State shall not be introduced into freshwaters without prior written approval of the Director of the Washington State Department of Fish and Wildlife and the Director of the Washington Department of Health.

5. Processing of any aquaculture product shall not be allowed within the shoreline jurisdiction, except for the sorting of the cultured organism and the washing or removal of surface materials or organisms after harvest.

6. Aquaculture wastes shall be disposed of in a manner that will ensure compliance with all applicable governmental waste disposal standards. No garbage, wastes or debris shall be allowed to accumulate at the site of any aquaculture operation.

7. In the event of a significant fish kill at the site of a net pen facility, the aquaculture operator shall immediately report to the Chelan-Douglas Health District stating the cause of death and shall detail remedial action(s) to be implemented to prevent reoccurrence.

8. All floating and submerged aquaculture structures and facilities in navigable waters shall be marked in accordance with U.S. Coast Guard requirements.

9. The rights of treaty tribes to aquatic resources within their usual and accustomed areas shall be addressed through direct coordination between the applicant/proponent and the affected tribe(s) through the permit review process.

5.3 Boating facilities: marinas and launch ramps

Boating facilities, including marinas, boat storage and launch ramp development, and accessory uses, in shoreline areas shall be subject to the policies and regulations of this section and Chapter 4 General Policies and Regulations. Dock facilities not meeting the definition of a marina are subject to the policies and regulations of Section 5.10 Moorage: Docks, Piers, and Mooring Buoys.

Policies

1. Boating facilities should contribute to public access and enjoyment of waters of the state.

2. Regional needs for marina and boat launch facilities should be carefully considered in reviewing new proposals. Such facilities should be coordinated with park and recreation plans and, where feasible, co-located with other compatible water-dependent uses. Review of such facilities should be coordinated with recreation providers, including cities, adjacent counties, public utility districts, the Washington State Parks and Recreation Commission, and the Washington State Department of Natural Resources to avoid unnecessary duplication and to efficiently provide recreational resources while minimizing adverse shoreline ecological impacts.

3. Boating facilities that minimize the amount of shoreline modification are preferred. Upland boat storage is preferred over new in-water moorage.

4. Boating facilities should provide public physical and visual shoreline access and provide for multiple uses, including water-related use, to the extent compatible with shoreline ecological functions and processes and adjacent shoreline use.

5. Accessory uses at marinas or launch ramps should be limited to water-oriented uses, or uses that provide physical or visual shoreline access for substantial numbers of the general public.

6. New or expanded boating facilities should be sited only where suitable environmental conditions are present and should avoid critical habitat including spawning and holding areas for anadromous fish.

7. Boating facilities should be located and designed to avoid adverse effects upon near shore processes such as erosion and riparian functions, and should, where feasible, enhance degraded and/or scarce shoreline features. Boating facilities should be designed to assure no net loss of ecological functions.

8. Non-regulatory methods to protect, enhance, and restore shoreline ecological functions and processes and other shoreline resources should be encouraged during the design, development and operation of boating facilities. Non-regulatory methods may include public facility and resource planning, education, voluntary protection and enhancement projects, or incentive programs.

9. Boating facilities should be located, designed and operated so that other appropriate water-dependent uses are not adversely affected.

10. Boating facilities should not unduly obstruct navigable waters and should consider adverse effects to recreational opportunities such as fishing, pleasure boating, swimming, beach walking, picnicking and shoreline viewing.

11. Boating facilities should avoid adverse proximity impacts such as noise, light and glare, aesthetic impacts to adjacent land uses, and impacts to public visual access to the shoreline.

Regulations

1. Parking for boating facilities that does not require a shoreline location in order to carry out its functions shall:
    a. Be sited away from the land/water interface unless no feasible alternative location exists outside of the shoreline;
    b. Be planted or landscaped, preferably with native vegetation, to provide a visual and noise buffer for adjoining dissimilar uses or scenic areas;
    c. Observe critical area buffers established by Section 4.1 Ecological Protection and Critical Areas and Appendix H; and
    d. Be designed to incorporate low impact development practices to the extent feasible, such as, but not limited to, pervious surfaces, and bioswales.

2. Connecting roads between boating facilities and public streets shall have all weather surfacing, and be compliant with local jurisdictions' fire safety and road standards in terms of width, safety, alignment, sight distance, grade and intersection controls.

3. Minimum required setbacks from shorelines and side property lines, and maximum height limits are contained in Section 5.13 Shoreline Bulk and Dimensional Standards and Table 2.

<u>Marinas</u>

4. Marinas shall not be permitted within the following shoreline habitats because of their scarcity, biological productivity and sensitivity unless no alternative location is feasible, the project would result in a net enhancement of shoreline ecological functions, and the proposal is otherwise consistent with this Program:
    a. Wetlands with emergent vegetation (marsh type areas);
    b. Spawning and holding areas for anadromous fish;
    c. Alkaline lakes

5. Marinas may be permitted on low bank lake shores where backshore wetlands are protected, if most of the beach and backshore are preserved in a natural condition for public recreation.

6. Marinas shall not be permitted in areas of active channel migration, areas where channel dredging will be required, where a flood hazard will be created, or where shoreline ecological functions and processes will be degraded.

7. Floating piers shall be required unless it can be demonstrated that fixed piers will result in substantially less impact on geo-hydraulic processes, and that hazards can be minimized or mitigated.

8. Design and other standards for physical improvement of docks and piers are found in Section 5.10 Moorage: Docks, Piers and Mooring Buoys.

9. Extended vessel moorage within marinas on waters of the state is limited by state regulation and requirements for a lease or permission from the state. Impacts to navigation and public access must be avoided or mitigated.

10. Marinas shall provide public access for as many water-dependent recreational uses as possible, commensurate with the scale of the proposal.

11. Marinas and accessory uses shall be designed so that lawfully existing or planned public shoreline access is not unnecessarily blocked, obstructed nor made dangerous.

12. Marina entrances shall not be located near beaches commonly used for swimming unless no alternative location exists, and mitigation is provided to minimize impacts to such areas.

13. Marinas and accessory uses shall be located only where adequate utility services are available, or where they can be provided concurrent with the development.

14. Marinas and accessory uses shall be located where water depths are adequate to avoid the need for dredging and/or to minimize potential loss of shoreline ecological functions or processes.

15. Marinas and accessory uses shall be located and designed with the minimum necessary shoreline stabilization to adequately protect facilities, users, and watercraft from floods or destructive storms.

16. Discharge of solid waste or sewage into a water body is prohibited. Marinas shall provide adequate restroom and sewage disposal facilities in compliance with applicable health regulations.

17. Garbage or litter receptacles shall be provided and maintained by the operator at several locations convenient to users.

18. Disposal or discarding of fish cleaning wastes, scrap fish, viscera, or unused bait into the water, or in other than designated garbage receptacles, is prohibited.

19. Marina operators shall post all regulations pertaining to handling, disposal and reporting of waste, sewage, fuel, oil or toxic materials where all users may easily read them.
20. Fail safe facilities and procedures for receiving, storing, dispensing, and disposing of oil or hazardous products, as well as a spill response plan for oil and other products, shall be required of new marinas and expansion of existing marinas. Compliance with federal, state, county and municipal codes and statutes may fulfill this requirement. Handling of fuels, chemicals or other toxic materials must be in compliance with all applicable federal and state water quality laws as well as health, safety and engineering requirements. Rules for spill prevention and response, including reporting requirements, shall be posted on site.

21. Parking facilities should meet zoning standards; provided that, at a minimum, one (1) vehicle space shall be maintained for every four (4) moorage spaces and for every 400 square feet of interior floor space devoted to accessory retail sales or service use. Bicycle parking should be provided commensurate with the anticipated demand.

22. Accessory uses at marinas shall be limited to those water-oriented uses, or uses that provide physical or visual shoreline access for substantial numbers of the general public. Accessory development includes, but is not limited to, parking, open air storage, waste storage and treatment, stormwater management facilities, utilities, and land transport development.

23. In limited circumstances, water-oriented accessory uses may be located at the water's edge by conditional use if location is essential to operation of the use or if opportunities are provided for public access for a substantial number of persons.

24. Marinas shall be approved only if enhanced public access to public waters outweighs the potential adverse impacts of the use. Applications shall be accompanied by supporting application materials that document the market demand for such facilities, including:
    a. The total amount of moorage proposed;
    b. The proposed supply, as compared to the existing supply within the service range of the proposed facility, including vacancies or waiting lists at existing facilities;
    c. The expected service population and boat ownership characteristics of the population; and
    d. Existing approved facilities, or pending applications within the service area of the proposed new facility.

25. New marinas with in-water moorage and expansion of in-water moorage facilities in existing marinas shall be approved only when:
    a. Opportunities for upland storage sufficient to meet the demand for moorage are not available on site; and
    b. Expansion of upland storage at other existing marinas is not feasible.

    The applicant shall document that a preferred method of providing moorage facilities is not feasible. Review of proposals involving public aquatic lands may be required to include an analysis of other alternative sites not controlled by the applicant/proponent.

26. Applicants shall provide an assessment of existing water-dependent uses in the vicinity including, but not limited to, navigation, fishing, hunting, pleasure boating, swimming, beach walking, picnicking and shoreline viewing and document potential impacts and mitigating measures. Impacts on these resources shall be considered in review of proposals and specific conditions to avoid or minimize impacts may be imposed.

27. Marina proposals may be required to prepare a visual assessment of views from surrounding residential properties, public viewpoints and the view of the shore from the water surface.

28. Applicants for marinas shall provide habitat surveys, critical area studies, and mitigation plans as required by Section 4.1, Ecological Protection and Critical Areas. A slope bathymetry map may be required when deemed beneficial by the Administrator for the review of the project proposal.

<u>Launch ramps</u>

29. Launch ramps shall not be permitted within the following shoreline habitats because of their scarcity, biological productivity and sensitivity unless no alternative location is feasible, the project would result in a net enhancement of shoreline ecological functions, and the proposal is otherwise consistent with this Program:
    a. Wetlands with emergent vegetation (marsh type areas);
    b. Spawning and holding areas for anadromous fish;
    c. Alkaline lakes

30. Launch ramps may be permitted on low bank lake shores where backshore wetlands are protected, if most of the beach and backshore are preserved in a natural condition for open space or public recreation, when consistent with the provisions in Section 4.1 Ecological Protection and Critical Areas and Appendix H.

31. Launch ramp facilities shall provide public access for as many water-dependent recreational uses and users as possible, commensurate with the scale of the proposal.

32. Launch ramp facilities shall be designed so that lawfully existing or planned public shoreline access is not unnecessarily blocked, obstructed nor made dangerous.

33. Public launch ramps shall not be located near beaches commonly used for swimming unless no alternative location exists, and mitigation is provided to minimize impacts to such areas.

34. Launch ramps shall be located where water depths are adequate to avoid the need for dredging and/or to minimize potential loss of shoreline ecological functions or processes.

35. Launch ramps shall be located and designed with the minimum necessary shoreline stabilization to adequately protect facilities, users, and watercraft from floods or destructive storms.

36. Discharge of solid waste or sewage into a water body is prohibited. Boat launch facilities shall provide adequate restroom and sewage disposal facilities in compliance with applicable health regulations.

37. Garbage or litter receptacles shall be provided and maintained by the operator at several locations convenient to users.

38. Disposal or discarding of fish cleaning wastes, scrap fish, viscera, or unused bait into water or in other than designated garbage receptacles is prohibited.

39. At public or community launch ramps, trailer spaces at least 10 feet by 40 feet shall be provided commensurate with projected demand.

40. Preferred launch ramp designs, in order of priority, are:
    a. Open grid designs with minimum coverage of substrate.
    b. Seasonal ramps that can be removed and stored upland.
    c. Structures with segmented pads and flexible connections that leave space for natural substrate and can adapt to changes in substrate profile.

41. Launch ramps shall be placed and maintained near flush with the foreshore slope.

42. Accessory uses at launch ramps shall be limited to those water-oriented uses, or uses that provide physical or visual shoreline access for substantial numbers of the general public. Accessory development includes, but is not limited to, parking, open air storage, waste storage and treatment, stormwater management facilities, utilities, and land transport development.

43. New public or community launch ramps, shall be approved only if enhanced public access to public waters outweighs the potential adverse impacts of the use.

Applications shall be accompanied by supporting application materials that document the market demand for such facilities, including:

a. The total amount of moorage proposed, if applicable;
b. The proposed supply and design capacity, as compared to the existing supply and design capacity within the service range of the proposed facility, including vacancies or waiting lists at existing facilities;
c. The expected service population and boat ownership characteristics of the population;
d. Existing approved facilities, or pending applications within the service area of the proposed new facility.

44. Applicants for public boat launches shall provide habitat surveys, critical area studies, and mitigation plans as required by Section 4.1, Ecological Protection and Critical Areas. A slope bathymetry map may be required when deemed beneficial by the Administrator for the review of the project proposal.

45. Applicants shall provide an assessment of existing water-dependent uses in the vicinity including, but not limited to, navigation, fishing, hunting, pleasure boating, swimming, beach walking, picnicking and shoreline viewing and document potential impacts and mitigating measures. Impacts on these resources shall be considered in review of proposals and specific conditions to avoid or minimize impacts may be imposed.

46. Marina and launch ramp proposals may be required to prepare a visual assessment of views from surrounding residential properties, public viewpoints and the view of the shore from the water surface.

47. Launch facilities within the natural environment are permitted as a conditional use. These launch facilities shall be limited to public access, interpretive or nature observation facilities that are compatible with the areas physical and visual character and the policies of this Program.

Boat storage

48. Where long-term boat storage is provided it shall consist of dry upland boat storage with a launch mechanism to protect shoreline ecological functions and processes, and it shall efficiently use shoreline space. Boat storage facilities shall minimize consumption of public water surface area unless no suitable upland locations exist for such facilities, or it can be demonstrated that wet moorage would result in fewer impacts to ecological functions and processes or enhance public use of the shoreline.

49. Boat (dry moorage) and other storage areas shall be located in an upland area consistent with the setback provisions of Section 5.13, and be landscaped with native vegetation to provide a visual and noise buffer for adjoining dissimilar uses or scenic areas.

50. Covered moorages are prohibited.

51. Boats shall not be used as a place of habitation for other than short term recreational use, not exceeding 14 days in any sixty day period.

5.4 Commercial use

Policies

1. In securing shoreline locations for commercial uses, preference should be given first to water-dependent commercial uses, then to water-related, and then to water-enjoyment commercial uses.

2. Restoration of impaired shoreline ecological functions and processes should be encouraged as part of commercial development.

3. Commercial uses located in the shoreline should ensure visual compatibility with adjacent non-commercial properties by establishing design guidelines that address a master planned approach with a thematic architectural design approach to the area.

4. Commercial uses located in the shoreline should provide public access unless such improvements are demonstrated to be infeasible or present hazards to life and property.

Regulations

1. Water-dependent commercial uses shall be given preference over water-related and water-enjoyment commercial uses. Prior to approval of water-dependent uses, the Administrator shall review a proposal for design, layout and operation of the use and shall make specific findings that the use qualifies as a water-dependent use.

2. Water-related commercial uses may not be approved if they displace existing water-dependent uses. Prior to approval of a water-related commercial use, the Administrator shall review a proposal for design, layout and operation of the use and shall make specific findings that the use qualifies as a water-related use.

3. Water-enjoyment commercial uses may be not be approved if they displace existing water-dependent or water-related uses or if they occupy space designated for water-dependent or water-related use in a substantial development permit or other approval. Prior to approval of water-enjoyment uses, the Administrator shall review a proposal for design, layout and operation of the use and shall make specific findings that the use qualifies as a water-enjoyment use.

4. Non-water-oriented commercial uses may be permitted where located on a site physically separated from the shoreline by another property in separate ownership, or by a public right-of-way, such that access for water-oriented use is precluded. All other non-water-oriented commercial uses are prohibited in the shoreline unless the

use provides significant public benefit with respect to the objective of the Act such as providing public access and ecological restoration and the commercial use is:

a. Part of a mixed use project that includes a water-dependent use; or
b. Proposed on a site where navigability is severely limited.

5. Commercial development shall not result in a net loss of ecological functions have significant adverse impacts to other shoreline uses, resources and values, such as navigation, recreation, and public access.

6. Public access and ecological restoration should be considered as potential mitigation of impacts to shoreline resources and values for all water-related or water dependent development unless such improvements are demonstrated to be infeasible or inappropriate.

7. Only those portions of water-dependent commercial uses that require over-water facilities shall be permitted to locate waterward of the OHWM, provided they are located on piling or other open-work structures, and they are limited to the minimum size necessary to support the structures intended use.

8. Non-water-dependent commercial uses shall not be allowed over water except in limited instances where they are appurtenant and necessary to support water-dependent uses.

5.5 Dredging

Policies

1. Dredging and dredge material disposal shall be done in a manner that 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.

2. New development should be sited and designed to avoid or, where avoidance is not possible, to minimize the need for new and/or maintenance dredging.

3. Dredging for the purpose of establishing, expanding, relocating or reconfiguring navigation channels and basins should be allowed where necessary for assuring safe and efficient accommodation of navigational uses and then only when significant ecological impacts are minimized and when mitigation is provided.

4. Maintenance dredging of established navigation channels and basins should be restricted to maintaining previously dredged and/or existing authorized locations, depths and widths.

5. Dredging should be permitted for water-dependent uses of economic importance to the region and/or essential public facilities only when necessary and when alternatives are infeasible or less consistent with this Program.

6. Minor dredging as part of ecological restoration or enhancement, beach nourishment, public access or public recreation should be permitted if consistent with this Program.

7. Dredging of bottom materials for the primary purpose of obtaining material for landfill, construction, or beach nourishment should not be permitted, unless permitted under Section 5.9 Mining.

8. Dredge material disposal on land away from the shoreline is generally preferred over open water disposal.

9. Long-term cooperative management programs that rely primarily on natural processes, and involve land owners and applicable local, state and federal agencies and tribes should be encouraged to prevent or minimize conditions which make dredging necessary.

Regulations

1. Dredging shall only be permitted for the following activities:
    a. Development of new or expanded wet moorages where there are no feasible alternatives or other alternatives may have a greater ecological impact.
    b. Development of water dependent industries of economic importance to the region only where there are no feasible alternatives.
    c. Development of essential public facilities when there are no feasible alternatives.
    d. Maintenance dredging for the purpose of restoring a lawfully established development.
    e. Maintenance of irrigation reservoirs, drains, canals, or ditches for agricultural purposes.
    f. Restoration or enhancement of shoreline ecological functions and processes benefiting water quality and/or fish and wildlife habitat.
    g. Minor trenching to allow the installation of necessary underground pipes or cables if no alternative, including boring, is feasible, and:
        (1) Impacts to fish and wildlife habitat are avoided to the maximum extent possible.
        (2) The utility installation shall not increase or decrease the natural rate, extent, or opportunity of channel migration.
        (3) Appropriate best management practices are employed to prevent water quality impacts or other environmental degradation.
        (4) Mitigation is implemented, as appropriate, pursuant to Section 4.1 Ecological Protection and Critical Areas.
    h. Dredging for the purpose of obtaining landfill material is prohibited, except that permitted under Section 5.9 Mining.
    i. Dredging for the purpose of establishing, expanding, or relocating or reconfiguring navigation channels and basins where necessary for assuring safe and efficient accommodation of existing navigational uses.

j. Maintenance dredging of established navigation channels and basins.

2. The physical alignment and ecological functions and processes of streams, lakes or riverine shorelines shall be maintained, except to improve hydraulic function, water quality, fish or wildlife habitat, or fish passage.

3. Limitations on dredging or disposal operations may be imposed to reduce proximity impacts to protect public safety, and to assure compatibility with the interests of other shoreline users. Conditions may include limits on periods and hours of operation, the type of machinery used, and may require landscaped buffer strips and/or fencing to address noise and visual impacts at land disposal or transfer sites.

4. Dredge material disposal:
    a. Dredge material disposal on land away from the shoreline is permitted under the following conditions:
        (1) Shoreline ecological functions and processes will be preserved, including protection of surface and ground water.
        (2) Erosion, sedimentation, floodwaters or runoff will not increase adverse impacts to shoreline ecological functions and processes or property.
        (3) Sites will be adequately screened from view of local residents or passersby on public right-of-ways.
    b. Dredge material disposal is prohibited on lake shorelines or beds, and in streams; except that, dredge spoil may be used in approved projects for the restoration or enhancement of shoreline ecological functions and processes.
    c. Dredge material disposal in open waters may be approved only when authorized by applicable agencies, which may include the U.S. Army Corps of Engineers pursuant to Section 10 (Rivers and Harbors Act) and Section 404 (Clean Water Act) permits, and Washington State Department of Fish and Wildlife Hydraulic Project Approval (HPA); and when found to meet one or more of the following conditions:
        (1) Land disposal is infeasible, less consistent with this Master Program, or prohibited by law.
        (2) Nearshore disposal as part of a program to restore or enhance shoreline ecological functions and processes is not feasible.
        (3) Offshore habitat will be protected, restored, or enhanced.
        (4) Adverse effects on water quality or biologic resources from contaminated materials will be mitigated.
        (5) Shifting and dispersal of dredge material will be minimal.
        (6) Water quality will not be adversely affected.

5. The following information shall be required for all dredging applications:
    a. A description of the purpose of the proposed dredging and an analysis of compliance with the policies and regulations of this Program will be achieved.

b. A detailed description of the existing physical character, shoreline geomorphology and the biological resources that are provided by the area proposed to be dredged, including:
    (1) A site plan map outlining the perimeter of the proposed dredge area. The map must also include the existing bathymetry depths and have data points at a minimum of 2-foot depth increments.
    (2) Habitat surveys, critical area studies, and mitigation plans as required by Section 4.1 Ecological Protection and Critical Areas.
    (3) Information on stability of bedlands adjacent to proposed dredging and dredge material disposal areas.
c. A detailed description of the physical, chemical and biological characteristics of the dredge material to be removed including;
    (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.
d. A description of the method of dredging including
    (1) Facilities for settlement and movement.
    (2) Dredging procedure: length of time it will take to complete dredging, method of dredging and amount of materials removed.
    (3) Frequency and quantity of project maintenance dredging.
e. Detailed plans for dredge material disposal, including specific land disposal sites and relevant information on the disposal site, including but not limited to:
    (1) Dredge material disposal area:
        (a) Physical characteristics including location, topography, existing drainage patterns, surface and ground water;
        (b) Size and capacity of disposal site;
        (c) Means of transportation to the disposal site;
        (d) Proposed dewatering and stabilization of spoils;
        (e) Methods of controlling erosion and sedimentation; and
        (f) Future use of the site and conformance with land use policies and regulations.
    (2) Total initial dredge material volume expected.
    (3) Plan for disposal of maintenance dredge material for at least a fifty (50) year period, if applicable.
f. The Administrator may require hydraulic modeling studies sufficient to identify existing geo-hydraulic patterns and probable effects of dredging.

5.6 Industry

Policies

1. Shoreline sites particularly suitable for development such as areas with access to adequate rail, highway and utility systems should be reserved for water-dependent or water-related industrial development.

2. In order to provide adequate shoreline for future water-dependent and water-related uses, industrial development should be limited to those uses that produce the greatest long-term economic base. Industrial development that is consistent with this Program should be protected from encroachment or interference by incompatible uses with less stringent site requirements, such as residential or commercial uses.

3. Multiple use of industrial facilities is encouraged to limit duplicative facilities and reduce adverse impacts. Multiple uses should be implemented through cooperative use of cargo handling, storage, parking and other accessory facilities among private or public entities as feasible in industrial facilities.

4. Industrial development in the shoreline should be located and designed to avoid significant adverse impacts to other shoreline uses, resources, and values, including shoreline geomorphic processes, water quality, fish and wildlife habitat, and the aquatic food chain.

5. Restoration of impaired shoreline ecological functions and processes should be encouraged as a component of industrial development.

Regulations

1. Industrial uses are allowed subject to the policies and regulations of this Program and the specific criteria below:
    a. Water-dependent industrial uses shall be given preference over non-water dependent industrial uses and, second, preference shall be given to water-related industrial uses over non-water-oriented industrial uses. Prior to approval of water-dependent uses, the Administrator shall review a proposal for design, layout and operation of the proposed use and shall make specific findings that the use qualifies as water-dependent.
    b. Water-related industrial uses may not be approved if they displace existing water-dependent uses. Prior to approval of a water-related use, the Administrator shall review a proposal for design, layout and operation of the proposed use and shall make specific findings that the use qualifies as water-related.
    c. Non-water-oriented industrial uses may be permitted where located on a site physically separated from the shoreline by another property in separate ownership or a public right-of-way such that access for water-oriented use is precluded. All other non-water-oriented industrial and port uses are prohibited in the shoreline unless the use provides significant public benefit with respect to the objective of the Act and is:
        (1) Part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration; or

(2) Navigability is severely limited at the proposed site, and the industrial use provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration.

d. Industrial development shall be located, designed and constructed in a manner that assures no net loss of shoreline ecological functions and such that it does not have significant adverse impacts to other shoreline resources and values.

2. Required setback areas shall not be used for storage of industrial equipment, materials, or waste disposal, but may be used for outdoor recreation and public access. Portions of side setbacks may be used for light motor vehicle parking if design of such facilities is consistent with this Program.

3. Disposal or storage of solid or other industrial wastes is not permitted on shorelines.

4. Public access and ecological restoration should be considered as potential mitigation of impacts to shoreline resources and values for all water-related or water dependent development unless such improvements are demonstrated to be infeasible or inappropriate.

5. Only those portions of water-dependent industrial uses that require over-water facilities shall be permitted to locate waterward of the OHWM, provided they are located on piling or other open-work structures, and they are limited to the minimum size necessary to support the structures intended use.

5.7 Instream structures

Policies

1. Instream structures should be planned and designed to be compatible with appropriate multiple uses of stream resources over the long-term, especially in shorelines of statewide significance.

2. The location and planning of in-stream structures shall give due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring priority habitats and species.

3. Instream structures should be located, designed, constructed and maintained so their resultant effects on geologic or hydrologic shoreline processes will not cause damage to other properties or shoreline resources, and so that the physical integrity of the shoreline process corridor is maintained.

4. Instream structures shall be sited and designed consistent with appropriate engineering principles, including, but not limited to, guidelines of the Natural Resource Conservation Service and the U.S. Army Corps of Engineers.

5. Non-structural and non-regulatory methods to protect, enhance, and restore shoreline ecological functions and processes and other shoreline resources should be encouraged as an alternative to instream structures. Non-regulatory and non-structural methods may include public facility and resource planning, land or easement acquisition, education, voluntary protection and enhancement projects, or incentive programs.

6. Planning and design of instream structures should be consistent with and incorporate elements from applicable watershed management and restoration plans and/or surface water management plans.

Regulations

1. Channelization projects that damage fish and wildlife resources, degrade recreation and aesthetic resources, or result in high flood stages and velocities shall not be permitted when feasible alternatives are available.

2. Cut-and-fill slopes and back-filled areas shall be stabilized with brush matting and buffer strips and revegetated with native grasses, shrubs, or trees to prevent loss of shoreline ecological functions and processes.

3. Instream structures shall be constructed and maintained in a manner that does not degrade the quality of affected waters. The jurisdictions may require reasonable conditions to achieve this objective, such as setbacks, buffers, or storage basins.

4. Natural instream features such as snags, uprooted trees, or stumps should be left in place unless it can be demonstrated that they are actually causing bank erosion or higher flood stages or pose a hazard to navigation.

5. Instream structures shall allow for natural ground water movement and surface runoff.

6. The jurisdictions shall require professionally engineered design of any proposed instream structure.

7. The design of all dams and the suitability of the proposed site for dam construction shall be certified by a professional engineer licensed in the State of Washington. The professional design shall include a maintenance schedule.

8. For all dams that are not regulated by either the Federal Energy Regulatory Commission licensing procedures, or the State Department of Ecology reservoir permit requirements, a maintenance agreement and construction bond for one hundred-fifty percent (150%) of the cost of the structure shall be filed with the Administrator prior to construction. The maintenance agreement shall specify who is responsible for maintenance, shall incorporate the maintenance schedule specified

by the design engineer, shall require annual inspections by a Civil Engineer licensed in the State of Washington and shall stipulate abandonment procedures which shall include, where appropriate, provisions for site restoration.

9. No instream structure may commence without having obtained all applicable federal, state, and local permits and approvals, including but not limited to an HPA from the State Department of Fish and Wildlife.

5.8 Filling, grading and excavation

Policies

1. Filling, grading, and excavation should only be permitted to the minimum extent necessary to accommodate an approved shoreline use or development and with assurance of no net loss of shoreline ecological functions and processes. Enhancement and voluntary restoration of landforms and habitat is encouraged.

2. Filling, grading and excavation in water bodies, floodways, and/or wetlands should not be permitted for creation of new uplands, unless it is part of an approved ecological restoration activity. Fill should be permitted in limited instances to restore uplands where recent erosion has rapidly reduced upland area, to build beaches and protective berms for shore stabilization or recreation, to restore or enhance degraded shoreline ecological functions and processes, or to moderately elevate low uplands to make such uplands more suitable for purposes consistent with this Program.

3. Filling, grading, and excavation should not be allowed where shoreline stabilization works would be required to maintain the materials placed.

4. Filling, grading and excavation should be located and developed so that water quality and hydrologic and runoff patterns are not altered.

5. Excavation and grading may be permitted landward of the ordinary high water mark of a waterbody for projects with the primary purpose of restoring ecological functions and natural character.

Regulations:

1. Filling, grading, and excavation shall be minimized to the maximum extent practicable and only authorized along with approved shoreline use and development activities that are consistent with this Program.

2. Fills waterward of the ordinary high-water mark shall be allowed only when necessary to support:
    a. Water-dependent use,
    b. Public access,

c. Cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan,
d. Disposal of dredged material considered suitable under, and conducted in accordance with the dredged material management program of the Department of Natural Resources,
e. Expansion or alteration of transportation facilities of statewide significance currently located on the shoreline and then only upon a demonstration that alternatives to fill are not feasible.

3. Excavation that occurs either waterward of the OHWM or within wetlands shall be considered dredging for purposes of this Program.

4. Filling, grading or excavation shall not be located where shoreline stabilization will be necessary to protect materials placed or removed. Disturbed areas shall be immediately stabilized and revegetated, as applicable.

5. Filling, grading, beach nourishment and excavation shall be designed to blend physically and visually with existing topography whenever possible, so as not to interfere with long-term appropriate use including lawful access and enjoyment of scenery.

6. Cut and fill slopes shall generally be no steeper than one foot vertical for every three feet horizontal unless a specific engineering analysis has been provided certifying that the proposed slope is stable, and the Administrator determines that the fill blends physically and visually with existing topography.

7. A temporary erosion and sediment control (TESC) plan, consistent with the standards found in the Stormwater Manual for Eastern Washington, shall be provided for all proposed filling, grading and excavation activities.

8. Excavation and grading for the primary purpose of restoration of shoreline habitat and the natural character of the shoreline must demonstrate the following:
    a. A net increase in ecological function within the project boundaries
    b. The site is currently degraded and provides limited ecological function
    c. The project complies with the provisions of Section 4.1 Ecological Protection and Critical Areas.

5.9 Mining

Policies:

1. Mining and associated activities shall be designed and conducted to result in no net loss of shoreline ecological functions and processes. Mining should not be approved where it could interfere with shoreline ecological functions or processes or cause irreparable damage to shoreline resources or features. Application of this policy shall include avoidance and mitigation of adverse impacts during the course of mining and reclamation. The determination of whether there will be no net loss of ecological

function shall be based on an evaluation of the reclamation plan required for the site and shall consider impacts on ecological functions during operation. Preference shall be given to mining proposals that result in the creation, restoration, or enhancement of habitat for priority species.

2. Mining should not be located on shorelines where unavoidable adverse impacts on other users or resources taken together equal or outweigh the benefits from mining.

3. Mining should not interfere with public recreation on the shoreline.

4. Mining should be located and operated so as to provide long-term protection of water quality, and fish and wildlife habitats.

5. Mining, particularly surface or strip mining, should provide for timely restoration of disturbed areas to a biologically productive, attractive semi-natural, or other useful condition through a reclamation process consistent with regulations administered by the Department of Natural Resources and other applicable local standards.

6. Mining of shorelines having high value for recreation, or as fish or wildlife habitat, should generally not be permitted.

7. Mining should only be permitted where appropriate studies and detailed operation plans demonstrate that:
    a. Fish habitat, upland habitat and water quality will not be significantly harmed; and
    b. The operation will not adversely affect geologic or hydrologic processes, channel alignment, nor increase bank erosion or flood damage.

8. Mining operations should be located, designed, and managed so that other appropriate uses are not subjected to substantial or unnecessary adverse impacts from noise, vibration, odor, dust or other effects of the operation. The operator may be required to implement measures such as buffers, limited hours, or other mitigating measures to minimize adverse impacts.

Regulations

1. Mining shall not be permitted in designated fish and wildlife habitat areas except as a part of an approved flood control program or in conjunction with a habitat restoration or enhancement plan, provided that such activities are demonstrated to be water-dependent. A determination of water dependency shall be based on an evaluation of geologic factors such as the distribution and availability of mineral resources for that jurisdiction, and a need for such mineral resources, economic, transportation, and land use factors. This demonstration may rely on analysis or studies prepared for purposes of comprehensive plan designations, and may be integrated with any relevant environmental review conducted under SEPA (Chapter

43.21C RCW), or otherwise be shown in a manner consistent with RCW 90.58.100(1) and WAC 173-26-201 (2)(a).

2. Application for permits for mining operations shall be accompanied by operation plans, reclamation plans and analysis of environmental impacts in compliance with local ordinances and sufficient to make a determination as to whether the project will result in net loss of shoreline ecological functions and processes during the course of mining and after reclamation. Creation, restoration, or enhancement of habitat for priority species and the future productivity of the site may be considered in determining no net loss of ecological functions.

3. The designation of mineral resource lands of long-term commercial significance and the development of mineral resource activities must demonstrate that mining is dependent on a shoreline location, and that demand cannot reasonably be accommodated in operations outside shoreline jurisdiction. Information required to meet this criteria shall evaluate geologic factors such as the distribution and availability of mineral resources and the need for such mineral resources.

4. A reclamation plan that complies with the format and detailed minimum standards of RCW 78.44 shall be included with any shoreline permit application for mining. In reviewing reclamation plans together with permit applications, the Administrator shall determine whether or not the plan is also consistent with this Program and other local regulations. An inconsistent reclamation plan shall constitute sufficient grounds for denial of a shoreline permit, provided, the applicant/proponent shall be given reasonable opportunity to revise the plan.

5. Subsequent use of reclaimed sites shall be consistent with the provisions of this Program.

6. Mining of, including but not limited to, sand, gravel, cobbles, or boulders from any alkaline lake or shoreline is prohibited.

7. Mining is prohibited waterward of the ordinary high water mark of the Columbia River.

8. Renewal, extension, or reauthorization of in-stream and gravel bar mining activities requires review for compliance with WAC 173-26-241(3)(h)(ii)(D)(IV).

5.10 Moorage: docks, piers, watercraft lifts, mooring buoys, floats

Policies

1. Where other community or public moorage facilities are available, individual moorage associated with a single family residence will be discouraged.

2. New moorage, excluding docks (private, joint-use, and community) accessory to single family residences, should be permitted only when the applicant/proponent has

demonstrated that a specific need exists to support intended water-dependent or public access use.

3. As an alternative to continued proliferation of individual private moorage, mooring buoys are preferred over docks or floats. Moorage facilities for new residential development of two or more lots or two or more dwelling units should provide shared moorage facilities.

4. Moorage should be spaced and oriented in a manner that minimizes hazards and obstructions to navigation and other water-oriented activities such as fishing, swimming and pleasure boating, as well as property rights of adjacent land owners.

5. Moorage should be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. The length, width and height of piers and docks should be no greater than necessary for safety and functional use.

6. Vessels should be restricted from extended mooring on waters of the state unless a lease or permission is obtained from the DNR and impacts to navigation and public access are mitigated.

7. Moorage facilities should not be constructed of materials that will adversely affect water quality or aquatic plants and animals.

8. New moorage facilities should be designed so as not to interfere with lawful public access to or use of shorelines.

9. Multiple agencies have permitting standards, requirements or limitations for the use and development of moorage facilities. Many of these agencies have specific ownership or easement rights. The county and cities should coordinate with federal, tribal, state and local agencies during the review of shoreline permits. The granting of a shoreline permit does not relieve a project from compliance with the standards of other agencies.

Regulations

1. Community and joint use docks shall have no more than one slip per lot unless additional moorage is required by other agencies or utilities with jurisdiction. Other forms of moorage to serve new residential development shall be limited to the amount of moorage needed to serve lots within the development with one slip each.

2. Residential moorage for individual lots is permitted in subdivisions legally established prior to February 20, 1975, where shared moorage has not already been developed or required; private moorage is also permitted for individual legal lots of record, not part of an approved subdivision. In these circumstances, moorage shall be limited to one private dock per shoreline residential lot. Lot owners shall be

encouraged to utilize mooring buoys or to coordinate with adjoining property owners for shared moorage.

3. If moorage is to be provided as part of a new residential development of two or more dwelling units, moorage facilities shall be joint use or community docks. New residential developments shall contain a restriction on the face of the plat and restrictive covenants prohibiting individual docks and requiring joint use or community dock facilities. Community dock facilities should be encouraged. A site for shared moorage should be owned in undivided interest by property owners or managed by the homeowner's association as a common easement within the residential development. Community dock facilities should be available to property owners in the residential development for community access. If shared moorage is provided, the applicant/proponent shall file at the time of building permit submittal for the dock a legally enforceable joint use agreement or other legal instrument that, at minimum, addresses the following:
    a. Provisions for maintenance and operation;
    b. Easements or tracts for community access; and
    c. Provisions for joint or community use for all benefiting parties.

4. Commercial docks shall be permitted only for water-dependent uses, and if the applicant/proponent demonstrates that existing facilities in the vicinity, including marinas and shared moorage, are not adequate or feasible for the proposed water-dependent use.

5. Private moorage for float planes may be permitted accessory to existing or concurrently proposed moorage where construction would not adversely affect shoreline functions or processes, including wildlife use. Ecological restoration may be required to compensate for the greater intensity of activity associated with the use. An analysis of potential life and navigation safety impacts shall be required in addition to the inclusion of necessary avoidance or mitigation measures by a qualified professional.

6. New and substantially expanded piers and docks shall be constructed of materials that are approved by applicable federal and state agencies for use in water to avoid adverse effects on water quality or aquatic plants and animals in the long-term for both submerged portions of the dock and decking and other components. Wood treated with creosote, pentachlorophenol or other similarly toxic materials is prohibited.

7. Moorage facilities shall be the minimum size necessary to meet the needs of the proposed water-dependent use and shall observe the following criteria:
    a. If allowed, a maximum of two (2) moorage facilities (inclusive of docks, swim float, buoys, and/or lifts) shall be permitted per individual lot. Of this allowed moorage, a maximum of one dock may be permitted.

In situations where joint use or community docks are used, the allowed moorage can be located either adjacent to the dock or waterward of the individual lot as necessary to support environmental or operational safety conditions.

b. Docks with or without a float shall be the minimum required to provide for moorage. Commercial docks shall be the minimum length necessary to serve the type of vessel served. Exceptions to these length standards are addressed below.
c. Docks on the Columbia River that exceed 100 feet in length or docks which exceed 50 feet in length on a lake or sites with unique characteristics that may create navigational safety hazards shall prepare a navigational safety study.
d. Moorage shall be designed to avoid the need for maintenance dredging. The moorage of a boat larger than provided for in the original moorage design shall not be grounds for approval of dredging.

8. When a public utility district, PUD, owns land between a residential development and the ordinary high water mark of the shoreline, the following requirements shall apply:
    a. Applications for moorage facilities must include authorization from the applicable PUD, in order for application materials to be determined complete. Authorization will either consist of a written letter or signature on the application by the PUD.
    b. Where proposed moorage facilities receive shoreline permit approval, permit conditions shall require that the county or city receive written verification from the PUD of compliance with all applicable standards of the PUD prior to site work commencing or building permit issuance by the jurisdiction.
    c. Language on the face of the plat and restrictive covenants shall prohibit individual docks and require joint use or community dock facilities, when such facilities are permitted by all applicable agencies, including the PUD.
    d. Access easements or tracts shall provide access to the PUD property, in a location approved by the PUD.

   Plat covenants and restrictions do not guarantee a PUD permit or approval will be issued. Plat covenants and restrictions will not vest a property right to the intervening PUD lands. All permits or approvals issued by a PUD are personal and conditional in nature and may be cancelled at any time and for any reason.

9. In order to minimize impacts on near shore areas and avoid reduction in ambient light level:
    a. Pier and ramp construction must meet the following standards:
        (1) The width of piers and ramps shall not exceed 4 feet for single or joint-use docks. Greater widths may be permitted for community, public or commercial docks where use patterns can justify the increase;
        (2) The bottom of the pier or bottom of the landward edge of a ramp, must be elevated at least two (2) feet above the plane of OHWM;

(3) Pier and/or ramp surfaces are to consist of either grating or clear translucent material; and
(4) Pier and ramp construction shall meet or exceed the standards and/or requirements of the Washington State Departments of Ecology, Fish and Wildlife, and Natural Resources and the United States Army Corps of Engineers.

b. Float construction must meet the following standards:

(1) Any float materials that are in contact with the water must be white or translucent;
(2) Flotation materials must be permanently encased to prevent breakup and release of small floatation pieces;
(3) Decking or surface area of the float must consist of either grating or clear translucent material;
(4) Floats cannot be located where they could impede fish passage; and
(5) Float construction shall meet or exceed the standards and/or requirements of the Washington State Departments of Ecology, Fish and Wildlife, and Natural Resources and the United States Army Corps of Engineers.

10. Private docks shall not encroach into the required side yard setbacks of the underlying zoning district for residential development (both onshore and offshore); provided that, a shared moorage may be located adjacent to or upon a side property line of the affected properties upon filing of an easement agreement or other legal instrument by the affected property owners.

11. Piers and docks shall use pile supports unless engineering studies demonstrate that pile supports are insufficient to ensure public safety. Rip-rapped or bulkheaded fills may be approved only as a conditional use and only when demonstrated that no feasible alternative is available. Mitigation shall be provided to ensure no net loss of shoreline ecological functions and processes.

12. Mooring buoys shall be placed at a distance specified by state and federal agencies to avoid near shore habitat and to minimize obstruction to navigation. Anchors and other design features shall meet Washington Department of Fish and Wildlife and/or Department of Natural Resources standards.

13. Commercial covered moorage may be permitted only where vessel construction or repair work is to be the primary activity and covered work areas are demonstrated to be necessary over water, including demonstration that adequate upland sites are not feasible. All other covered moorage is prohibited.

14. Covered moorage for emergency vessels may be permitted where construction will result in no net loss of ecological functions and values.

15. Water supply, sewage disposal and disposal of non-hazardous materials associated with activities on docks and piers shall conform to applicable health standards.

16. Moorage facilities shall be marked with reflectors, or shall be otherwise identified to prevent unnecessarily hazardous conditions for water surface users during day or night. Exterior finish shall be generally non-reflective.

17. Moorage facilities shall be constructed and maintained so that no part of a facility creates hazardous conditions nor damages other shore property or natural features during predictable flood conditions. Floats shall be securely anchored.

18. No pier, dock, or watercraft or houseboat moored thereto shall be used for a residence. Boaters may not reside in their vessels for other than short term recreational use, not exceeding 14 days in any sixty day period.

19. Storage of fuel, oils, and other toxic materials is prohibited on docks and piers except portable containers when provided with secondary containment.

20. Public access facilities shall be provided in accordance with policies and regulations in Section 4.6 Public Access.

21. A list of dock, lift, and mooring buoy design parameter recommendations should be developed through coordination among the cities, the county, U.S. Army Corps of Engineers, Washington State Department of Fish and Wildlife, Ecology, and Natural Resources, U.S. Fish and Wildlife Service, NOAA Fisheries, and local public utility districts.

22. All moorage facilities must permanently mark all of the components with name, address, telephone number and the date of installation.

23. In the natural environment designation moorage facilities must be compatible with the area's physical and visual character may be conditionally permitted subject to policies and regulations of this Program.

24. Moorage facilities shall avoid locations that will adversely impact shoreline ecological functions or processes.

25. Applicants for moorage facilities shall provide habitat surveys, critical area studies, and mitigation plans as required by Section 4.1, Ecological Protection and Critical Areas. A slope bathymetry map may be required when deemed beneficial by the Administrator for the review of the project proposal.

5.11 Recreation

Policies

1. Recreational development should be given priority for shoreline location to the extent that the use facilitates the public's ability to access (visual and physical), enjoy, and use the water and shoreline in accordance with Section 4.6 Public Access.

2. New recreational facilities should be located along the shoreline in a dispersed linear pattern that provides recreational access and aesthetic enjoyment of the shoreline for a substantial number of people consistent with the purpose of the specific shoreline environment designation and level of service standards in the comprehensive plans.

3. The linkage of shoreline parks and public access points should be considered with the use of linear access routes such as walking paths, bicycle trails and/or scenic drives. Such linkages may serve both a recreation and transportation function.

4. Recreational uses and development should provide for the preservation and enhancement of scenic views and vistas.

5. Ensure that recreational facilities do not interfere with the use and enjoyment of adjacent properties by providing buffering when necessary between the recreation development and adjacent private property.

6. Prohibit the use of motorized vehicles other than service vehicles on beaches, dunes and fragile shoreline resources.

7. Recreational uses and facilities should be designed and located to ensure no net loss of critical areas and shoreline ecological functions.

8. Opportunities incorporating educational and interpretive information should be pursued in design and operation of recreation facilities.

9. Recreation uses and facilities should be located only where utility infrastructure and road capability is adequate, commensurate with the intensity of anticipated users to protect the public health, safety and welfare.

10. Where consistent with the provisions of this Program, development should specifically support opportunities to increase or enhance the following forms of recreation: boating, fishing, camping, hiking, bicycle riding, swimming and picnicking.

11. Commercial recreational facilities should be consistent with the provisions of Section 5.4 Commercial Use.

12. The use of native plant species in new recreation facilities is preferred over the use of plant types that need extensive maintenance and support (mowing, pruning, irrigation, etc.).

13. Increase recreational opportunities for those with disabilities consistent with the minimum requirements of the United States Access Board's Accessibility Standards for Federal Outdoor Developed Areas that also maintain shoreline habitat functions and values.

Regulations

1. Recreational development is a priority use of the shoreline. Preference is given to water-dependent uses such as fishing, swimming, and boating. Water-related and water-enjoyment uses such as picnicking, hiking, and walking are permitted provided they do not displace water-dependent uses and are consistent with the specific shoreline environment. Non-water-related recreation facilities and/or support facilities such as parking lots shall be located in upland areas.

2. Recreation facilities shall be designed to take maximum advantage of and enhance the natural character of the shoreline area.

3. Commercial and public recreation areas or facilities on the shoreline shall provide public access (physical or visual) consistent with Section 4.6, Public Access.

4. Commercial recreational facilities shall be consistent with the provisions of Section 5.4 Commercial Use.

5. Recreational uses and facilities shall be designed and located to ensure no net loss of critical areas and shoreline ecological functions.

6. Recreational facilities shall incorporate means to prevent erosion, control the amount of runoff and prevent harmful concentrations of chemicals and sediment from entering water bodies in accordance with the policies and regulations of Section 4.2, Water Quality.

7. State-owned shorelines of the state are priority locations for wilderness beaches, ecological study areas and other recreational activities for the general public.

8. Use of motor vehicles including recreational off-road vehicles is permitted only on roads or trails specifically designated for such use as necessary for public health and safety or for maintenance of the recreation facility.

9. Recreational facilities specifically designed for off-road vehicle use are prohibited on, or in, beaches, streams, or wetlands and their associated buffers.

10. Within the natural environment designation, passive water-oriented recreational development, such as primitive trails or primitive campsites is permitted subject to the following criteria:
    a. Substantial alterations to topography or native vegetation are prohibited; and

b. Any necessary landscaping or site restoration shall use native or similar self-maintaining vegetation.

11. Water dependent recreation access consistent with the minimum requirements of the United States Access Board's Accessibility Standards for Federal Outdoor Developed Areas that does not result in an increase of greater than 15% impervious surfaces within the shoreline.

5.12 Residential

Policies

1. New residential development should be planned and built in accordance with the policies and regulations of this Program, including without limitation Section 4.1 Ecological Protection and Critical Areas.

2. Single family residences are a priority use when developed in a manner consistent with control of pollution and prevention of damage to the shoreline.

3. Residential development, including appurtenant structures and uses, should be set back an adequate distance from steep slope areas and shorelines vulnerable to erosion to ensure that shoreline and/or soil stabilization structures will not be needed to protect the residential use. (e.g. bulk-heads, rip rap or other shoreline or slope stabilization structures.)

4. Residential development should be sited in locations sufficiently set back from flood prone areas to ensure that flood hazard protection measures are not necessary to protect the structure.

5. New multi-unit residential developments, including short plats and subdivisions, should provide access (visual and physical) to the shoreline in conformance with Section 4.6, Public Access.

6. New over-water residential development is prohibited.

7. Allowable density of new residential development should comply with applicable comprehensive plan goals and policies, zoning restrictions and shoreline environment designation standards.

8. Residential structures or development of uses accessory to residential projects must be designed and constructed in a manner that will result in no net loss of shoreline ecological functions and processes.

9. Measures to conserve native vegetation should be implemented in conformance with Section 4.1, Ecological Protection and Critical Areas and Section 4.3 Vegetation Conservation.

10. Whenever possible, non-regulatory methods to protect, enhance and restore shoreline ecological functions and other shoreline resources should be encouraged for residential development. Such methods may include resource management planning, low impact development techniques, voluntary protection and enhancement projects, education, and/or incentive programs.

11. Encourage residential development that provides common ownership of the shoreline to protect views of the shoreline, provide equitable access for property owners and to protect the natural character and functions of the shoreline consistent with other provisions in the Master Program.

12. Increase access for those with disabilities consistent with the minimum requirements of the United States Access Board's Accessibility Standards for Federal Outdoor Developed Areas that also maintain shoreline habitat functions and values.

Regulations:

1. New residential development will not be approved in cases when it can be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the floodway during the life of the development or use.

2. New residential development shall assure that the development will not require shoreline or slope stabilization measures. Where located in a designated geologically hazardous area, a geotechnical analysis of the site and shoreline characteristics shall demonstrate that shoreline stabilization is unlikely to be necessary; setbacks from steep slopes, bluffs, landslide hazard areas, seismic hazard areas, riparian shoreline and erosion areas, shall be sufficient to protect structures during the life of the structure; and impacts to adjacent, downslope or down-current properties are not likely to occur during the life of the lots created.

3. New over-water residential structures, including floating homes, are prohibited.

4. Minimum required setbacks from critical area buffers and side property lines, maximum height limits and density standards are contained in Section 5.13 Shoreline Bulk and Dimensional Standards.

5. Residential development shall make provisions for vegetation conservation in conformance with Section 4.3 Vegetation Conservation.

6. Shoreline access for residential development shall incorporate access to publicly owned shorelines or public water bodies as provided for in Section 4.6, Public Access.

7. New stairways built for access to the shoreline may be permitted when consistent with the provisions of this Master Program and the project proponent demonstrates that:
    a. Existing shared, public or community facilities are not adequate or available for use;
    b. The possibility of a multiple-owner or multiple-user facility has been thoroughly investigated and is not feasible; and
    c. The stairway is designed and located such that:
        (1) subsequent shoreline modification, including the installation of shoreline stabilization, solely for the purpose of protecting the structure is not necessary;
        (2) removal or modification of existing shoreline vegetation is the minimum necessary to accomplish the purpose, and is planned to be replaced with appropriate native species within the next growing season; and
        (3) no fill or other modification waterward of the ordinary high water mark is necessary to construct or use the structure.

8. New lots located all or in part within the natural environment designation outside of urban growth areas, shall not be less than 10 acres in area, as measured landward of the ordinary high water mark.

9. Non-conforming residential uses.

    a. Residential structures and appurtenant structures, as defined by RCW 90.58.620 and Section 8, Definitions, No. 17 herein, including related yard improvements, that were legally established and used for a conforming use which are located landward of the ordinary high water mark, and do not meet the standards of this program with the respect to setbacks, buffers, yards, area, bulk, height or density are considered to be conforming.

    b. A legally established lot, use, or structure may be continued, transferred or conveyed and/or used and considered conforming.

    c. Establishing status. To establish a use or structure as lawful it shall be determined by a joint collaboration between the property owner and the jurisdiction from one of the following:

        (1) Local agency permit;
        (2) Orthophoto, aerial photo or planimetric mapping recognized as legitimate by the Administrator;
        (3) Tax Records; or
        (4) Other verifying documents.

d. Maintenance and Repair of Structures. Normal maintenance and incidental repair of legal structures shall be permitted provided that the maintenance shall not create nonconformity.

e. Reconstruction or Replacement. Reconstruction, restoration, or repair (and remodeling) of a legal structure damaged by fire, flood, earthquake, falling trees or limbs, or other disasters, shall be permitted provided, that such reconstruction shall not result in the expansion of the structure into or towards the critical area or its buffer, or in a manner that increases the potential impact on the critical area or risk of harm to public safety.

f. Expansion. Within a critical area or its buffer, no residential use or structure may be expanded, enlarged, extended, or intensified in any way unless such modification is in full compliance with this Program or the terms and conditions of approved permits pursuant to this Program. Approved expansions must be consistent with standards of the zoning code in which such building, structure, or land use lies and all of the following:

(1) the area of expansion is no more than forty percent (40%) of the habitable floor area of the existing residence;
(2) the expansion does not exceed the allowed height limit;
(3) the expansion is no further waterward of the existing structure;
(4) when required by Section 4.1 or Appendix H, a management and mitigation plan is prepared by a qualified professional biologist that demonstrates that the expansion will result in no net loss of shoreline ecological functions. Mitigation may not be required for landward expansion of the existing structure if it can be demonstrated that the shoreline function ends at the waterward side of the structure (i.e., functional break);
(5) an exemption is issued for the project based on the request by the applicant that is accompanied by a site plan and construction plans sufficient to depict the expansion.

10. Residential access that meets the minimum requirements of the United States Access Board's Accessibility Standards for Federal Outdoor Developed Areas that does not result in an increase of greater than 15% impervious surfaces within the shoreline.

5.13 Shoreline bulk and dimensional standards

Policies:

1. Standards for density, setbacks, height, and other provisions should ensure no net loss of shoreline ecological functions and/or processes, and should preserve the existing character of the shoreline, consistent with the purpose of the shoreline environment designations.

Regulations

1. Table 2 establishes the minimum dimensional requirements for development. Dimensional standards are measured on the horizontal plane, as applicable. Dimensional standards relating to critical areas are governed by the provisions of Section 4.1 Ecological Protection and Critical Areas.

2. Bulk and dimensional standards shall be coordinated with locally adopted zoning and development standards to protect the natural character of the shoreline and ensure no net loss of shoreline ecological functions and processes consistent with the purpose of the environment designation. In the event the provisions of this Program conflict with provisions of federal, state, county or city regulations, the more protective of shoreline resources shall prevail, when consistent with the Shoreline Management Act policy.

3. No new structures within the shoreline shall exceed a height of 35 feet above average grade level, except as provided herein.

4. Proposals for new or expanded commercial, multi-family or mixed uses structures exceeding the 35 foot building height limitation shall be processed as a variance as provided for in WAC 173-27-170. In addition to the findings in WAC 173-27-170, the following standards shall be met:
    a. The proposed building shall not obstruct the view of the water for a substantial number of residential buildings located with a view of the adjoining shoreline.
    b. The applicant shall provide a view analysis identifying the properties and structures located within the view corridor for that shoreline demonstrating the level of obstruction represented by the proposed structure for each affected property.
    c. The view corridor shall include residential buildings located outside of the shoreline area if it can be clearly demonstrated that the property has significant water views.
    d. To insure that the analysis is cumulative in nature, it shall include vacant existing parcels of record as well as existing structures. Vacant parcels of record shall be assumed to be developed with structures complying with the 35 foot height limitation.
    e. If it can be demonstrated that the proposed structure obstructs less than 30% of the view of the shoreline enjoyed by the structures within the view corridor, the property may be eligible for the height variance. (Example: no residence has more than 30% of their view obstructed by the proposed development).
    f. The structure shall be located and oriented on the subject property in a manner that diminishes the potential view impact.
    g. In consideration of the potential view obstruction resulting from the proposed structure, side yard setbacks may need to be increased. No side yard setbacks shall be reduced to accommodate the proposed structure.
    h. Extraordinary circumstances are demonstrated and the public interest will be served by the proposed development.

5. Where permitted above ground, power poles and transmission towers are not subject to height limits but shall not be higher than necessary to address public safety and meet Federal and State standards.

6. The following development activities are not subject to side yard setbacks, provided that they are constructed and maintained in a manner that minimizes adverse impacts on shoreline functions and processes, and provided further that they comply with all applicable regulations in Appendix H and local zoning and development standards:
    a. Those portions of approved water-dependent development that require a location waterward of the ordinary high water mark of rivers and lakes, associated wetlands and/or within their associated buffers.
    b. Underground utilities.
    c. Modifications to existing development that are necessary to comply with environmental requirements of any agency, when otherwise consistent with this Program, provided that the Administrator determines that the facility cannot meet the dimensional standard and accomplish the purpose for which it is intended and the facility is located, designed, and constructed to meet specified dimensional standards to the maximum extent feasible, and the modification is in conformance with the provisions of Section 1.11 Prior Development and Nonconformance, for non-conforming development and uses.
    d. Roads, railways and other essential public facilities that must cross shorelines and are necessary to access approved water-dependent development.
    e. Stairs and walkways not greater than 5 feet in width nor 18 inches in height above grade, except for railings.
    f. An essential public facility or public utility where the Administrator determines that no feasible alternative location will accommodate the use.
    g. Shared moorages shall not be subject to side yard setbacks when located on or adjacent to a property line shared in common by the project proponents.

7. Common line buffer/setback:
   A common line wetland or riparian buffer/setback may be utilized for the construction of a single-family residence on an undeveloped lot to accommodate shoreline views that are similar, yet not necessarily equal, to those from adjoining properties. Common line setbacks may be allowed on lots that are adjacent to lots that have a single family residence on one or both adjoining shoreline lots within an urban growth area, a Rural Service Center, the Rural Conservancy shoreline environment or the Shoreline Residential shoreline environment.

   The common line buffer/setback shall be determined by:
    a. Existing residential dwelling units on both sides: Where there are existing residences on both sides of the proposed residence, the setback shall be

calculated the average of adjacent residences' existing setback from the OHWM.

b. Existing residential dwelling unit on one side: Where there is an existing residence within 150 feet of one side the proposed residence, the setback shall be determined as a common line calculated by the adjacent residences' buffer/setback, as measured landward from the OHWM and the buffer for the adjacent vacant lot.

A management and mitigation plan prepared by a qualified professional biologist shall be submitted and approved which demonstrates no net loss of ecological functions for the site in conformance with the applicable appendices of the jurisdiction in Appendix H.

8. Critical area buffer:
   See Appendix H for critical areas buffer standards within shoreline jurisdiction.

9. No disturbance of the building setback shall be allowed during construction activity. Temporary fencing of the buffer area during construction activities shall be required consistent with Section 3.050(C)(2) of Appendix H.

10. Lot frontage:
    Lot frontage standards of underlying zoning districts and/or development standards of each jurisdiction may be more restrictive. The most restrictive lot frontage standard shall apply. Lot frontage refers to the minimum lot frontage for any division or exempt parcel transfer, or parcel boundary modification permitted by a local jurisdiction on the shoreline. Lot frontage shall be measure at right angles along a horizontal distance, between the side lot lines, at the most landward point of the ordinary high water mark. Lot frontage requirements are measured in feet.

Lot Frontage	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Standard	80	100	80	100	100	150	NA

11. Table 2. Building setbacks/height limits:
    Building setbacks noted below are measured from the landward edge of the local jurisdictions critical area buffer established in Appendix H. Please refer to the Shoreline Use Matrix for a list of permitted uses, for which these standards apply. Building setbacks shall not apply from critical area buffers when existing vegetation within the buffer is disturbed per Appendix H, Sections 2.050(B)(4) and 3.050 (B)(6)(c)(1) of this Program. Please refer to the underlying zoning code for side yard setbacks.

NA- Not applicable *S- Refer to the landward standard* *SF- Single Family*
D- Duplex *MF- Multi Family*

All dimensions are in feet

Shoreline Uses	Shoreline Environment Designation						
	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Agriculture: dimensions applicable to structures							
Building setback	15	15	15	15	15	15	NA
Height limit	35	35	35	35	30	25	NA
Aquaculture: dimensions applicable to structures and use							
Height limit	NA	NA	NA	NA	25	25	3
Boating and moorage facilities: dimensions applicable to structures							
Height limit	25	25	25	25	25	25	15
Commercial: dimensions applicable to structures							
Building setback	15	15	15	15	15	NA	NA
Height limit	35	35	35	35	30	NA	NA
Essential public facilities: dimensions applicable to structures							
Building setback	15	15	15	15	15	15	NA
Height limit	35	35	35	35	30	25	NA

NA- Not applicable *S- Refer to the landward standard* *SF- Single Family*
D- Duplex *MF- Multi Family*

All dimensions are in feet

Shoreline Uses	Shoreline Environment Designation						
	High Intensity	Urban Conservancy	Mixed Use	Shoreline Residential	Rural Conservancy	Natural	Aquatic
Industrial: dimensions applicable to structures							
Building setback	15	NA	NA	NA	NA	NA	NA
Height limit	35	NA	NA	NA	NA	NA	NA
Institutional: dimensions applicable to structures							
Building setback	15	15	15	15	15	NA	NA
Height limit	35	35	35	35	30	NA	NA
Mining: dimensions applicable to structures and use							
Height limit	35	35	NA	NA	30	NA	NA
Recreational: dimensions applicable to structures							
Building setback	15	15	15	15	15	15	NA
Height limit	35	35	35	35	30	25	NA
Residential: dimensions applicable to structures							
Building setback	15	15	15	15	15	15	NA
Height limit	35	35	35	35	30	25	NA
Signs: dimensions applicable to structures							
Height limit	15	10	15	10	10	10	NA
Utilities: dimensions applicable to structures							
Building setback	15	15	15	15	15	15	NA
Height limit (not including towers)	35	35	35	35	30	25	NA

12. Administrative Setback Reduction.
    The Administrator shall have the authority to reduce building and side yard setbacks established by Regulation #11 of Section 5.13, on a case-by-case basis for structures which would be placed on existing legal lots of record in place at the time of adoption of this Program. Reductions may be granted where the applicant demonstrates that all of the following criteria and standards have been met:
    a. Administrative setback reductions shall be processed in accordance with the provisions of Section 7.3.030 of this Program.
    b. The administrative setback reduction must be based upon circumstances where denial of the reduction would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances the applicant must demonstrate that extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental impact.
    c. The administrative setback reduction is for development that will be located landward of the ordinary high water mark.
    d. The strict application of the setback standard precludes, or significantly interferes with use of the property.
    e. That the hardship described in d) above is the result of a unique condition such as irregular lot shape, size, or natural unique conditions or features and the application of the Master Program, and not for example, from deed restrictions or the applicant's own actions.
    f. 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.
    g. That the setback reduction will not constitute a grant of special privilege not enjoyed by the other properties in the area.
    h. That the reduction requested is the minimum necessary to afford relief.
    i. The maximum setback reduction allowed shall not exceed twenty-five (25) percent, and in no case may be reduced to less than the setback requirement of the underlying zoning district.
    j. Sites which utilize this provision are not eligible for any future setback reductions, except as administered under Section 6.8 Variances, of this Program.

5.14 Shoreline stabilization

Policies

1. Alternatives to structures for shoreline protection should be used whenever possible. Such alternatives may include no action, increased building setbacks, building relocation, drainage controls, and bioengineering, including vegetative stabilization, and beach nourishment.

2. New or expanded structural shoreline stabilization for new primary structures should be avoided. Instead, structures should be located and designed to avoid the need for future shoreline stabilization where feasible. Land divisions should be designed to assure that future development of the created lots will not require structural shoreline stabilization for reasonable development to occur.

3. New or expanded structural shoreline stabilization should only be permitted where demonstrated to be necessary to protect an existing primary structure that is in imminent danger of loss or substantial damage, and where mitigation of impacts would not cause a net loss of shoreline ecological functions and processes.

4. New or expanded structural shoreline stabilization for enhancement, restoration, or hazardous substance remediation projects should only be allowed when non-structural measures, vegetation planting, or on site drainage improvements would be insufficient to achieve enhancement, restoration or remediation objectives.

5. Shoreline stabilization should not be permitted that would interfere with public access to shorelines, nor with other appropriate shoreline uses.

6. Provisions for multiple use, restoration, and/or public shoreline access should be incorporated into the location, design and maintenance of shoreline stabilization for public or quasi-public developments whenever safely compatible with the primary purpose. Shore stabilization on publicly owned shorelines should not be allowed to decrease long-term public use of the shoreline.

7. Shoreline stabilization should be developed in a coordinated manner among affected property owners and public agencies. Where erosion threatens existing development, a comprehensive program for shoreline management should be established.

8. In addition to conformance with the regulations in this section, non-regulatory methods to protect, enhance, and restore shoreline ecological functions and other shoreline resources should be encouraged for shoreline stabilization. Non-regulatory methods may include public facility and resource planning, technical assistance, education, voluntary enhancement and restoration projects, or other incentive programs.

9. Failing, harmful, unnecessary, or ineffective structures should be removed, and shoreline ecological functions and processes should be restored using non-structural methods or less harmful long-term stabilization measures.

10. Materials used for construction of shore stabilization should be selected for long-term durability, ease of maintenance, compatibility with local shore features including aesthetic values, and flexibility for future uses.

11. Larger works such as jetties, breakwaters, weirs or groin systems should be permitted only for water-dependent uses when the benefits to the region outweigh short term resource losses from such works, and only where mitigated to provide no net loss of shoreline ecological functions and processes.

12. New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas should not be allowed.

Regulations

1. New development or land divisions with a known or suspected geological hazard shall be set back from the geologic hazard or designed sufficiently to ensure that shoreline stabilization is not required during the life of the project, as demonstrated by a geotechnical analysis prepared in conformance with Section 4.1 Ecological Protection and Critical Areas.

2. New, expanded or replacement shoreline stabilization shall not be permitted unless it can be demonstrated that the proposed measures will not result in a net loss of shoreline ecological functions.

3. New or enlarged structural shoreline stabilization measures for an existing primary structure, including residences, are prohibited unless there is conclusive evidence, documented by a geotechnical analysis, that the structure is in danger from shoreline erosion caused by stream processes or waves. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis shall evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.

4. New shoreline stabilization for new water-dependent development is prohibited unless it can be demonstrated that:
    a. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage;
    b. Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient; and
    c. The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.

5. New shoreline stabilization for new non-water-dependent development, including single family residences, is prohibited unless it can be demonstrated that:
    a. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage;
    b. Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient; and

c. 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 stream processes or waves.

6. Where shoreline stabilization is allowed, it shall consist of “soft”, flexible, and/or natural materials or other bioengineered approaches unless a geotechnical analysis demonstrates that such measures are infeasible.

7. Replacement of an existing shoreline stabilization structure with a similar structure is permitted if there is a demonstrated need to protect primary uses or structures or public facilities including roads and bridges, railways, and utility systems, from erosion caused by stream undercutting or wave action. A geotechnical analysis shall be required to document that alternative solutions are not feasible or do not provide sufficient protection. Existing shoreline stabilization structures that are being replaced shall be removed from the shoreline unless removal of such structures will cause significant damage to shoreline ecological functions or processes. When a vertical or near vertical wall is being constructed or reconstructed, not more than one cubic yard of fill per one foot of wall may be used as backfill to qualify for single family home exemption. Replacement walls, bulkheads or revetments shall not encroach waterward of the ordinary high water mark or the existing shore defense structure unless the primary use being protected is a residence that was occupied prior to January 1, 1992, and there is overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.

8. Beach nourishment and bioengineered erosion control projects may be considered a normal protective bulkhead when any structural elements are consistent with the above requirements and when the project has been approved by the Department of Fish and Wildlife.

9. Groins are prohibited except as a component of a professionally designed community or public beach management program that encompasses an entire reach for which alternatives are infeasible, or where installed to protect or restore shoreline ecological functions or processes.

10. Jetties and breakwaters are prohibited except as an integral component of a professionally designed marina. Where permitted, floating, portable or submerged breakwater structures, or smaller discontinuous structures are preferred where physical conditions make such alternatives with less impact feasible.

11. New or expanded shoreline stabilization may be permitted to protect projects with the primary purpose of enhancing or restoring ecological functions, or hazardous substance remediation permits pursuant to RCW 70.105D, Hazardous Waste Cleanup, when non-structural approaches, such as vegetation planting, and/or onsite drainage improvements are not feasible or do not provide sufficient protection.

12. Proposed designs for new or expanded shoreline stabilization shall be designed and certified by a qualified engineer and a qualified biologist.

13. No motor vehicles, appliances, other similar structures nor parts thereof, nor structure demolition debris, nor any other solid waste shall be used for shore stabilization.

14. The size of shore stabilization measures shall be limited to the minimum necessary to provide protection for the primary structure or use it is intended to protect.

15. Public access shall be provided for publicly financed shoreline erosion control measures consistent with the requirements of WAC 173-26-231(3)(a)(iii)(E).

16. Geotechnical reports that address the need to prevent potential damage to a primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation.

17. Hard armoring solutions should not be authorized except when a geotechnical report confirms that there is a significant possibility that the primary structure will be damaged within three years as a result of shoreline erosion in the absence of hard armoring measures, or where waiting until the need is that immediate, would foreclose the opportunity to use measures that avoid impacts on ecological functions. Where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years, the report may still be used to justify more immediate authorization to protect against erosion using soft measures.

18. Shoreline stabilization for the purposes of addressing mass wasting or erosion due to upland conditions shall also be in conformance with Section 4.1 Ecological Protection and Critical Areas.

5.15 Signs

Policies

1. Signs should be located, designed and maintained to be visually compatible with local shoreline scenery as seen from both land and water, especially on shorelines of statewide significance.

2. Sign location and design should not significantly impair shoreline views or public access.

3. As a preferable alternative to single purpose signs, communities, districts, and/or multiuse or multi-tenant commercial developments should be encouraged to erect

single, common use gateway signs to identify and give directions to local premises and public facilities.

4. Signs of a commercial or industrial nature should be limited to those areas or premises to which the sign messages refer.

5. Billboards and other off-premise signs should not be located on shorelines except for approved community gateway or directional signs.

6. Signs near scenic vistas and view points should be restricted in number, location, and height so that enjoyment of these limited and scarce areas is not impaired.

7. Free-standing signs should be located to avoid blocking scenic views and be located on the inland side of public transportation routes.

8. Moving or flashing signs should be prohibited on shorelines.

Regulations

1. Signs required by law shall not be subject to limitations with respect to the number, location, and/or size, provided that they are the minimum necessary to achieve the intended purpose. Such signs include, but are not limited to, official or legal notices issued and posted by any public agency or court, or traffic directional or warning signs.

2. All building and wall signs shall be integrated with building design. Roof signs shall be designed to occupy a design feature of the roof such as a dormer or gable and may not be placed above the peak of a pitched roof or the eve of a flat roof. Projecting signs shall be incorporated in a marquee, canopy, or other architectural feature.

3. Sign illumination shall be indirect incorporating exterior lighting shining on the sign, or shadow illumination behind non-transparent materials. Internally illuminated signs are prohibited.

4. Any signs or other devices which flash, blink, flutter, rotate, oscillate, or otherwise purposely fluctuate in lighting or position, in order to attract attention through their distractive character are prohibited on shorelines; provided that, pennants, banners and other devices of seasonal, holiday, or special event character may be utilized for up to ninety (90) days in one (1) year.

5. To protect views from the water free-standing signs are prohibited between buildings, and/or the public right of way and OHWM.

6. Directional or interpretive signs up to 2 square feet in area relating to public access areas, and required traffic safety signs may be permitted between such rights-of-way and water bodies.

7. All signs authorized by this Program are subject to the setbacks provided in Table 2 of Section 5.13 Shoreline Bulk and Dimensional Standards.

8. Building mounted signs are subject to setbacks applicable to buildings. Height of wall signs may be measured from the floor elevation of the uppermost finished story.

9. Temporary construction and real estate signs not exceeding thirty-two square feet in area are permitted.

10. Temporary political signs not exceeding thirty-two square feet in area which, during a campaign, advertises a candidate for public elective office, a political party, or promotes a position of a public issue, provided such signs are not posted in public right-of-way and are removed within thirty days following the election.

11. Signs which are not accessory to a permitted use except as described in regulations 1, 6, 9, and 10 of this section shall be prohibited within the natural environment designation.

5.16 Transportation

Policies

1. New public or private transportation facilities should be located inland from the water, preferably out of the shoreline, unless:
    a. Perpendicular water crossings are required for access to authorized uses consistent with this Program; or
    b. Facilities are primarily oriented to pedestrian and non-motorized use and provide an opportunity for a substantial number of people to enjoy shoreline areas, and are consistent with policies and regulations in Section 4.1 Ecological Protection and Critical Areas.

2. Transportation facilities should be located and designed to avoid public recreation and access areas and significant natural, historic, archaeological or cultural sites.

3. Parking should only be allowed to support authorized uses where no feasible alternatives exist.

4. Circulation planning should include systems for pedestrian, bicycle and public transportation where appropriate. Circulation planning and projects should support existing and proposed shoreline uses that are consistent with this Master Program.

5. Transportation system route planning, acquisition, and design in the shoreline should provide space wherever possible, for compatible multiple uses such as utility lines, pedestrian shore access or view points, or recreational trails.

6. Transportation system plans and projects within shorelines should accommodate non-motorized traffic such as pedestrians, bicyclists, or equestrians. Space for such uses should be encouraged along roads on shorelines and should be considered when rights-of-way are being disposed of or abandoned.

7. Viewpoints, parking, trails and similar improvements should be considered for transportation system projects in shoreline areas.

8. Public transportation routes should be located, designed, and maintained to provide safe enjoyment of adjacent shoreline areas.

Regulations

1. Transportation facilities on shorelines shall be designed to generally follow natural topography, to minimize cuts and/or fills, and to avoid adverse impacts to shoreline ecological functions and processes. Facilities close to water, wetlands or other sensitive features shall incorporate the maximum feasible buffer of native vegetation in accordance with critical area regulations.

2. Non-motorized transportation facilities shall be incorporated within planned transportation improvements.

3. Parking facilities are not a water-dependent use and shall only be permitted in the shoreline to support an authorized use where it can be demonstrated that there are no feasible alternative locations away from the shoreline. Parking facilities shall be buffered from the water's edge and less intense adjacent land uses by vegetation, undeveloped space, topography, or structures developed for the authorized primary use.

4. Transportation facilities shall be constructed of materials which will not adversely affect water quality or aquatic plants and animals over the long-term. Elements within or over water shall be constructed of materials approved by applicable state agencies for use in water for both submerged portions and other components to avoid discharge of pollutants from splash, rain or runoff. Wood or pilings treated with creosote, pentachlorophenol or other similarly toxic materials is prohibited. Preferred materials are concrete and steel.

5. Parking areas shall be developed utilizing low impact development techniques whenever possible including, but not limited to, the use of permeable surfacing materials as allowed by the local jurisdiction ordinances.

6. Transportation development shall be carried out in a manner that maintains or improves state water quality standards for affected waters.

7. Maintenance activities, including vegetation control and erosion control, shall be carried out consistent with this Program. Necessary minor resurfacing of existing roadways and replacement of culverts that improve shoreline ecological functions may be exempt from substantial development permit requirements.

8. Any proposed vacation of right of way for a street or alley that abuts a body of water shall only be pursued if it is in conformance with RCW 36.87.130 or RCW 35.79.035.

9. Transportation facilities proposed within shoreline jurisdiction shall document that the facility cannot be feasibly located outside of shoreline jurisdiction due to the uses served or the need to connect specific end points. An analysis of alternatives may be required.

10. Applicants shall document the location, design and use achieves no net loss of shoreline ecological functions and incorporates appropriate mitigation.

11. Applicants shall document that facilities avoid public recreation areas and significant natural, historic, archaeological or cultural resources, or that no alternative is feasible outside of the shoreline and that all feasible measures to minimize adverse impacts have been incorporated into the proposal.

5.17 Utilities

Policies

1. New public or private utilities should be located inland from the water unless,
    a. Perpendicular water crossings are unavoidable; or
    b. Utilities are required for authorized shoreline uses consistent with this Master Program.

2. Utilities should be located and designed to avoid adverse impacts to public recreation and public access areas and significant natural, historic, archaeological or cultural resources.

3. Utilities should be located, designed, constructed, and operated to result in no net loss of shoreline ecological functions and processes.

4. Site planning and rights of way for utility development should provide for compatible multiple uses such as shore access, trails, and recreation or other appropriate use whenever possible; utility right-of-way acquisition should also be coordinated with transportation and recreation planning.

5. Utilities should be located in existing rights of way and corridors.

6. Utilities serving new development shall be located underground, where practical.

7. Development and/or maintenance of utility facilities that would disrupt shoreline ecological functions should be discouraged. When permitted, facilities and/or maintenance should not result in a net loss of shoreline ecological functions or significant impacts to other shoreline resources and values.

Regulations

1. All applicants shall document that the facility cannot be feasibly located outside of shoreline jurisdiction due to the uses served or the need to cross shorelands to connect specific end points. An analysis of alternatives may be required. New or expanded public or private utilities should be located inland from the water, preferably out of shoreline jurisdiction.

2. All applicants shall document that the proposed facilities comply with critical area regulations in Section 4.1, Ecological Protection and Critical Areas.

3. All applicants shall document how the location, design and use achieves no net loss of shoreline ecological functions and incorporates appropriate mitigation.

4. Applicants shall document that facilities will avoid adverse impacts to public recreation areas and significant natural, historic, archaeological or cultural sites, and that all feasible measures to minimize adverse impacts to such resources have been incorporated into the proposal.

5. Applications must demonstrate adequate provisions for preventing spills or leaks, as well as procedures for mitigating damages from spills or other malfunctions and shall demonstrate that periodic maintenance will not disrupt shoreline ecological functions.

6. Applications must demonstrate that the utility facility has located in existing right-of-way corridors where feasible.

7. Applications must demonstrate that the utility facility minimizes conflicts with present and planned uses of the shoreline.

8. Facilities shall not result in a net loss of shoreline ecological functions and processes or significant adverse impacts to other shoreline resources and values such as parks and recreation facilities, public access and archaeological, historic, and cultural resources, and aesthetic resources.

9. Some utilities have critical location requirements, but are not normally water-dependent. Components that are not water-dependent shall not be located within the shoreline jurisdiction unless alternatives are infeasible and shall include analysis of

alternative routes, and alternative designs which avoid or minimize impacts. Facilities not water dependent include, but are not limited to:

a. Sewage trunk lines, interceptors, and pump stations.
b. Oil, gas and natural gas pipelines.
c. Energy and communication systems including substations, towers, and transmission/distribution lines.

10. Solid Waste Facilities:
    a. Facilities for processing and storage and disposal of solid waste are not normally water-dependent. Components that are not water-dependent shall not be permitted within the shoreline jurisdiction.
    b. Disposal of solid waste on shorelines or in water bodies shall not be permitted.
    c. Temporary storage of solid waste in suitable receptacles is permitted as accessory use to a primary permitted use, or for litter control.

11. Developers and operators of pipelines and related appurtenances for gas and oil shall be required to demonstrate adequate provisions for preventing spills or leaks, as well as established procedures for mitigating damages from spills or other malfunctions and shall demonstrate that periodic maintenance will not disrupt shoreline ecological functions.

12. Poles or supports treated with creosote or other wood preservatives shall not be used in the water, along shorelines where contact with groundwater may occur or associated wetlands.

13. Where road right of ways or easements are within 150 feet and also are parallel to the shoreline for more than 500 feet, no new overhead wiring shall be installed between the road and OHWM.

14. Utilities for new development within the shoreline shall be installed underground.

15. Where federal requirements do not exempt hydroelectric facilities, dams, and diversion and tailrace structures from the provisions of this Program, such facilities shall be a conditional use.

6. Administration and procedures

Sections:
6.1 Administrator
6.2 SEPA official
6.3 Hearing examiner
6.4 Planning commission
6.5 City councils and board of county commissioners
6.6 Shoreline substantial development permits
6.7 Shoreline exemptions
6.8 Variances
6.9 Conditional uses
6.10 Minimum application requirements
6.11 Application review and process
6.12 Permit conditions
6.13 Initiation of development
6.14 Permit revisions
6.15 Appeals
6.16 Rescission and modification
6.17 Duration of permits
6.18 Amendments
6.19 Enforcement

6.1 Administrator

The Administrator is hereby vested with the authority to:

1. Overall administrative responsibility of this Program.

2. Grant or deny statements of exemption from shoreline substantial development permit requirements of this Program.

3. Authorize, approve or deny shoreline substantial development permits and conditional uses except for those for which the hearing examiner or city council is the designated decision maker.

4. Make field inspections as needed, and prepare or require reports on shoreline permit applications.

5. Make written recommendations to the planning commissions, board of county commissioners, city councils or hearing examiner as appropriate.

6. Advise interested persons and prospective applicants/proponents as to the administrative procedures and related components of this Program.

7. Collect fees as provided in county or city ordinances or resolutions.

8. Make administrative decisions and interpretations of the policies and regulations of this Program and the Shoreline Management Act.

6.2 SEPA official

The responsible official or his/her designee is authorized to conduct environmental review of all use and development activities subject to this Program, pursuant to WAC 197-11 and RCW 43.21C. The SEPA responsible official is designated in accordance with each participating jurisdiction's SEPA implementation ordinance.

6.3 Hearing examiner

Where a hearing examiner system has been adopted by the local jurisdiction, the hearing examiner shall have the authority to:

1. Grant or deny shoreline substantial development permits not issued administratively.
2. Grant or deny variances from this Program.
3. Grant or deny conditional uses under this Program not issued administratively.
4. Decide on appeals from administrative decisions issued by the Administrator of this Program.

6.4 Planning commission

1. Planning commissions, where established, are vested with the responsibility to review the Master Program from time to time as a major element of each jurisdiction's planning and regulatory program, and make recommendations for amendments thereof to the board of county commissioners or city councils.
2. Where a hearing examiner system has not been adopted by a local jurisdiction, and a planning commission has been established, the planning commission shall review shoreline permits which are not issued administratively and forward a recommendation to the city council.

6.5 City councils and board of county commissioners

City councils and board of county commissioners are vested with authority to:

1. Initiate an amendment to this Program according to the procedures prescribed in WAC 173-26-100.
2. Adopt all amendments to this Program, after consideration of the recommendation of the planning commission, where established. Substantive amendments shall become effective fourteen calendar days from the date of the Department of Ecology's written notice of final action to the County.
3. Make final decisions with regard to shoreline variances, shoreline conditional uses which are not issued administratively, and appeals of administrative decisions; where the jurisdiction has not adopted a hearing examiner system.

6.6 Shoreline substantial development permits

1. A shoreline substantial development permit shall be required for all development of shorelines, unless the proposal is specifically exempt pursuant to WAC 173-27-040, as amended.
2. In order to be approved, the decision maker must find that the proposal is consistent with:

   WAC 173-27-140, “Review criteria for all development”, as amended:
   WAC 173-27-150, “Review criteria for substantial developments”, as amended.

3. Shoreline substantial development permit applications submitted in conformance with Policy 6, Section 4.1 Ecological Protection and Critical Areas; or Regulation 20, Section 5.10 Moorage: Docks, Piers, Floats, Water Craft Lifts, and Mooring Buoys, may be issued by the Administrator.

6.7 Shoreline exemptions

1. An exemption from the substantial development permit process is not an exemption from compliance with the Shoreline Management Act or the Master Program, or from any other regulatory requirements. To be authorized, all uses and development must be consistent with the policies, requirements and procedures of this Program and the Shoreline Management Act.

2. Exempt developments are those set forth in WAC 173-27-040; RCW 90.58.030 (3)(e), 90.58.140(9), 90.58.147, 90.58.355 and 90.58.515, as amended.

3. Letters of exemption shall be issued by a jurisdiction when required by the provisions of WAC 173-27-050.

4. No statement of exemption shall be required for other uses or developments exempt pursuant to WAC 173-27-050 unless the Administrator has cause to believe a substantial question exists as to qualifications of the specific use or development for the exemption or the Administrator determines there is a likelihood of adverse impacts to shoreline ecological functions.

6.8 Variances

1. The purpose of a variance is to grant relief to specific bulk or dimensional requirements set forth in this Program where there are extraordinary or unique circumstances relating to the property such that the strict implementation of this Program would impose unnecessary hardships on the applicant or thwart the policies set forth in RCW 90.58.020. Variances from the use regulations of the Program are prohibited.

2. Variances may be authorized, provided the applicant can demonstrate compliance with WAC 173-27-170, “Review criteria for variance permits”, as amended.

6.9 Conditional uses

1. Uses specifically classified or set forth in this Program as conditional uses and unlisted uses may be authorized provided the applicant demonstrates compliance with WAC 173-27-160, ”Review criteria for conditional use permits”; and WAC 173-27-140, “Review criteria for all development”, as amended.

2. Shoreline conditional use permits for single family dwellings in the natural environment designation may be reviewed administratively.

6.10 Minimum application requirements

A complete application for a shoreline substantial development, conditional use, or variance permit shall contain, as a minimum, the information listed in WAC 173-27-180, “Application requirements for substantial development, conditional use, or variance permit”. The Administrator may vary or waive these requirements according to administrative application requirements on a case by case basis. The Administrator may require additional specific information depending on the nature of the proposal and the presence of sensitive ecological features or issues related to compliance with other county or city requirements, and the provisions of this Program.

6.11 Application and review process

Development permit review and processing shall be in conformance with Chapter 7 and all applicable provisions of this Program.

6.12 Permit conditions

In granting, revising, or extending a shoreline permit, the decision maker may attach such conditions, modifications, or restrictions thereto regarding the location, character, and other elements of the proposed development deemed necessary to assure that the development will be consistent with the policy and provisions of the Act and this Program as well as the supplemental authority provided in RCW 43.21C, as applicable. In cases involving unusual circumstances or uncertain effects, a condition may be imposed to require monitoring with future review or re-evaluation to assure conformance with the Act and this Program. If the monitoring plan is not implemented, the permittee may be found to be noncompliant and the permit may be rescinded.

6.13 Initiation of development

1. Development pursuant to a shoreline substantial development permit, shoreline variance, or conditional use shall not begin and shall not be authorized until twenty-one (21) days after the "date of filing" or until all review proceedings before the Shoreline Hearings Board have terminated.

2. Date of filing:
    a. "Date of filing" of a substantial development permit is the date of actual receipt of the decision by the Department of Ecology.

b. The "date of filing" for a shoreline variance or shoreline conditional use permit shall mean the date the permit decision rendered by the Department of Ecology is transmitted by the department to the county or city and the applicant/proponent.

6.14 Permit revisions

1. A permit revision is required whenever the applicant/proponent proposes substantive changes, as determined by the Administrator, 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, this Program or the Act. Changes that are not substantive in effect do not require a permit revision.

2. Revisions to permits must be reviewed and processed in accordance with WAC 173-27-100, “Revisions to Permits”, as amended.

6.15 Appeals

1. Appeals to the Shoreline Hearings Board of a decision on a shoreline substantial development permit, shoreline variance, shoreline conditional use permit, or a decision on an appeal of an administrative action, may be filed by the applicant or any aggrieved party pursuant to RCW 90.58.180 within twenty-one (21) days of filing the final decision by the city or county with the Department of Ecology.

2. Full administrative review decisions by the Administrator, based on a provision of this Program, may be the subject of an appeal to the hearing examiner by any aggrieved person. Such appeals shall be an open record hearing before the hearing examiner. Where the jurisdiction does not have a hearing examiner system, the city council shall hold an open record hearing appeal. Appeals must be submitted within fourteen (14) days after the date of decision or written interpretation together with the applicable appeal fee. Appeals submitted by the applicant or aggrieved person shall contain:

    a. The decision being appealed;
    b. The name and address of the appellant and his/her interest(s) in the application or proposed development;
    c. The specific reasons why the appellant believes the decision to be erroneous, including identification of each finding of fact, each conclusion, and each condition or action ordered which the appellant alleges is erroneous. The appellant shall have the burden of proving the decision is erroneous;
    d. The specific relief sought by the appellant;
    e. The appeal fee established by the city or county.

6.16 Rescission and modification

1. Any shoreline permit granted pursuant to this Program may be rescinded or modified upon a finding by the Hearing Examiner that the permittee or his/her successors in

interest have not complied with conditions attached thereto. The results of a monitoring plan may show a development to be out of compliance with specific performance standards, which may be the basis for findings of non-compliance.

2. The Administrator shall initiate rescission or modification proceedings by serving written notice of non-compliance to the permittee or his/her successors and notifying parties of record at the original address provided in application review files. Service of the written notice shall be by both regular first class mail and certified mail, return receipt requested.

3. The Hearing Examiner shall hold a public hearing no sooner than fifteen (15) days following such service of notice, unless the applicant/proponent files notice of intent to comply and the Administrator grants a specific schedule for compliance. If compliance is not achieved, the Administrator shall schedule a public hearing before the Hearing Examiner. Upon considering written and oral testimony taken at the hearing, the Hearing Examiner shall make a decision in accordance with the above procedure for shoreline permits.

4. These provisions do not limit the Administrator, the Prosecuting Attorney, the Department of Ecology or the Attorney General from administrative, civil, injunctive, declaratory or other remedies provided by law, or from abatement or other remedies.

6.17 Duration of permits

Time duration requirements for shoreline substantial development, variance, and conditional use permits shall be consistent with the provisions of WAC 173-27-090, as amended.

6.18 Amendments

1. Amendments to the Program shall be processed in accordance with WAC 173-26-100, as amended.

2. The board of county commissioners, city council, or planning commission may initiate an amendment to this Program according to the procedures prescribed in WAC 173-26-100. Where established, the planning commission shall conduct a public hearing on any amendment proposed by a city council or the board of county commissioners.

3. Any person may petition the city council, board of county commissioners, or planning commission to amend this Program. Petitions shall specify the changes requested and any and all reasons therefore. The board of county commissioners, city council or planning commission may schedule a public hearing on said petition(s) if it deems the proposed amendment would make this Program more consistent with the Act and/or any applicable Department of Ecology Guidelines, or more equitable in its application to persons or property due to changed conditions in an area.

4. After approval or disapproval of a Master Program amendment by the Department of Ecology as provided in RCW 90.58.090, the county or city shall publish a notice that the Master Program amendment has been approved or disapproved by the Department of Ecology. For the purposes of RCW 36.70A.290, the date of publication for the amendment of a Program is the date the city or county publishes notice that the Master Program amendment has been approved or disapproved by the Department of Ecology.

5. The Administrator shall submit an annual report to the city council or board of county commissioners reviewing the effectiveness of the Program in achieving its stated purpose, goals, and objectives. Such report may also include any proposed amendments deemed necessary to increase its effectiveness or equity. If said report contains proposed amendments, the city council or board of commissioners may schedule a public hearing to consider such matter in accordance with the procedure described above.

6. Upon city council or board of commissioner's adoption of a sub area plan or significant amendments to an existing comprehensive plan within the shoreline jurisdiction; the Administrator shall prepare amendments, as appropriate, for the purpose of incorporating the goals, objectives, and standards of the new or amended plan into this Program, where consistent with the Shoreline Management Act.

6.19 Enforcement

The county or city shall bring such declaratory injunctive or other proceeding as may be necessary to assure that no uses be made of the shorelines of the state located in Douglas County contrary to the provisions of this Program or of RCW Chapter 90.58, and shall otherwise enforce RCW 90.58.210 through 90.58.230, and WAC 173-27, "Part II Shoreline Management Act Enforcement", as amended, in a cooperation with the State.

7. Permit processing procedures

Sections:
7.1 Permit, applicability and definitions
7.2 Application process
7.3 Application review
7.4 Performance assurance and guarantee

7.1 Permit, applicability, and definitions

Sub-sections:
7.1.005 Purpose and applicability
7.1.010 Definitions

7.1.005 Purpose and applicability

1. The purpose of this chapter is to enact the processes and timelines for shoreline development permitting. The objectives of this chapter are to encourage the preparation of appropriate information early in the permitting process, to process permit applications in a timely manner, to provide the general public with an adequate opportunity for review and comment, and to provide the development community with a standardized process and predictability.
2. This chapter shall apply to permit applications for shoreline development regulated by the Douglas County Regional Shoreline Master Program.

7.1.010 Definitions

Unless the context clearly requires otherwise, the definitions in this sub-section apply throughout this chapter:

1. “Application” means a request for a shoreline permit required from the local jurisdiction for proposed development or action, including, without limitation, building permits, shoreline exemptions, shoreline substantial development permits, shoreline conditional use permits, and shoreline variances.
2. “Closed record appeal” means an appeal on the record with no new evidence or information allowed to be submitted and only appeal argument allowed.
3. “Department” means the applicable jurisdiction’s department or representative that administers the jurisdiction’s planning, community development, land use and environmental policies and regulations.
4. “Open record hearing” means a hearing that creates the record through testimony and submission of evidence and information. An open record hearing may be held on an appeal if no open record hearing has previously been held on the application.
5. “Public meeting” means an informal meeting, hearing, workshop, or other public gathering to obtain comments from the public or other agencies on an application. A public meeting does not constitute an open record hearing.

7.2 Application process

Sub-sections:

7.2.005 Application process
7.2.015 Consolidated application process
7.2.020 Plan review
7.2.030 Determination of completeness
7.2.040 Application vesting
7.2.050 Notice of application

7.2.005 Application process

The application process shall consist of the following components:

1. Plan review;
2. Determination of completeness;
3. Notice of application;
4. Application review;
5. Notice of final decision.

7.2.015 Consolidated application process

1. When more than one application for a proposed development is required, the applicant may elect to have all applications submitted for review at one time.
2. Applications for proposed development and planned actions subject to the provisions of the State Environmental Policy Act (SEPA) shall be reviewed concurrently and in accordance with the state and local laws, regulations and ordinances.
3. When more than one application is submitted under a consolidated review and the applications are subject to different types of review procedure, all of the applications for the proposed development shall be subject to the highest level of review procedure which applies to any of the applications.
4. If an applicant elects a consolidated application process, the determination of completeness, the notice of application, and the notice of final decision must include all applications being reviewed.

7.2.020 Plan review

1. A plan review shall be conducted to determine if the application is complete. Plan review shall determine if adequate information is provided in or with the application in order to begin processing the application and that all required information and materials have been supplied in sufficient detail to begin the application review process. All information and materials required by the application form must be submitted. All studies supporting the application or addressing projected impacts of the proposed development must be submitted.
2. The purpose of the plan review is to ensure adequate information is contained in the application materials to demonstrate consistency with this Program, applicable

comprehensive plans, development regulations and other applicable regulations. Department staff will coordinate the involvement of agencies responsible for the review of the proposed development.

7.2.030 Determination of completeness

1. Within twenty-eight days after receiving an application, the department shall complete the plan review of the application and provide the applicant a written determination that the application is complete or incomplete.
2. An application shall be determined complete only when it contains all of the following information and materials:
    a. A fully completed and signed application;
    b. Applicable review fees;
    c. All information and materials required by the application form;
    d. A fully completed and signed environmental checklist for projects subject to review under the State Environmental Policy Act;
    e. A plot plan disclosing all existing and proposed structures and features applicable to the desired development; for example, parking, landscaping, preliminary drainage plans with supporting calculations, signage, setbacks, etc.;
    f. Any additional information and materials identified at the pre-application meeting or required by applicable development standards, plans, policies or any other federal, state or local laws; and
    g. Any supplemental information or special studies identified by the department.
3. For applications determined to be incomplete, the department shall identify, in writing, the specific requirements, information or materials necessary to constitute a complete application. Within fourteen days after its receipt of the additional requirements, information or materials, the department shall issue a determination of completeness or identify the additional requirements, information or materials still necessary for completeness.
4. A determination of completeness shall identify, to the extent known, other local, state or federal agencies that may have jurisdiction over some aspect of the application.
5. A determination of completeness shall not preclude the department from requesting additional information or studies if new information is required or a change in the proposed development occurs.

7.2.040 Application vesting

An application shall become vested on the date a determination of completeness is made. Thereafter the application shall be reviewed under the codes, regulations and other laws in effect on the date of vesting; provided, in the event an applicant substantially changes his/her proposed development after a determination of completeness, as determined by the department, the application shall not be considered vested until a new determination of completeness on the changes is made.

7.2.050 Notice of application

1. Within fourteen days after issuing a determination of completeness, the department shall issue a notice of application. The notice shall include, but not be limited to the following:
    a. The date of application, the date of the determination of completeness, and the date of the notice of application;
    b. A description of the proposed project action, a list of permits required for the application, and if applicable, a list of any studies requested;
    c. The identification of other required permits not included in the application, to the extent known by the department;
    d. The identification of existing environmental documents which evaluate the proposed development and the location where the application and any studies can be reviewed;
    e. A statement of the public comment period, which shall be thirty days following the date of the notice of application, and a statement of the right of any person to comment on the application, receive notice of and participate in any hearings, and request a copy of the decision once made, and a statement of any appeal rights;
    f. The date, time, location and type of hearing, if applicable and scheduled at the date of the notice of application;
    g. A statement of the preliminary determination, if one has been made at the time of notice of application, of those development regulations that will be used for project mitigation and of consistency with the type of land use of the proposed site, the density and intensity of proposed development, infrastructure necessary to serve the development, and the character of the development; and
    h. Any other information determined by the department to be appropriate.

2. Informing the public.
    a. The notice of application shall be mailed to the latest recorded real property owners as shown by the records of the county assessor within at least three hundred feet of the boundary of the property upon which the development is proposed;
    b. In addition to mailing the notice of application, the Administrator may require the notice to be posted on the subject property for the duration of the public comment period, where the Administrator finds that such additional notice may be of benefit for the public. The applicant shall be responsible for posting and maintaining the posting throughout the entire public comment period. The applicant shall obtain the notice of application sign(s) from the department upon payment of all applicable fees. The sign location and condition shall be the responsibility of the applicant until the sign(s) are returned to the department. After the public comment period, the applicant shall sign an affidavit of posting before a notary public, using the form adopted by the department, and file the affidavit of posting with the department, together with a photograph of the notice of application sign(s)

posted at the site. Any necessary replacement of the notice of application sign(s) and post(s) shall be the sole responsibility of the applicant.

3. The notice of application is not a substitute for any required notice of a public hearing.
4. A notice of application is not required for the following actions, when they are categorically exempt from SEPA or environmental review has been completed:
    a. Application for a single-family residence, accessory uses or other minor construction building permits;
    b. Application for a lot line adjustment;
    c. Any application for which limited administrative review is determined applicable;
    d. All shoreline substantial development and shoreline conditional use permits shall require a notice of application, regardless of Sub-section 7.2.050 4(a-c) of Chapter 7.
5. A State Environmental Policy Act (SEPA) threshold determination may be issued for a proposal concurrent with the notice of application.

7.3. Application review

Sub-sections:

7.3.005 Application review criteria
7.3.010 Application review classification
7.3.020 Limited administrative review of applications
7.3.030 Full administrative review of applications
7.3.040 Quasi-judicial review of applications
7.3.050 Legislative review of applications
7.3.060 Notice of final decision

7.3.005 Application review criteria

Review of an application and proposed development shall be governed by and be consistent with the fundamental policies and choices which have been made in the adopted Regional Shoreline Master Program, the comprehensive plans and development regulations. The review process shall consider the type of use permitted at the proposed site, the density and intensity of the proposed development, the infrastructure available and needed to serve the development, the character of the development and its consistency with adopted plans and regulations. In the absence of applicable development regulations or policies in this Program, the applicable requirements of the Act, RCW 90.58, and WAC 173-26 &27 shall be determinative.

7.3.010 Application review classification

1. Following the issuance of a determination of completeness and a notice of application, an application shall be reviewed at one of four levels: limited administrative review, full administrative review, quasi-judicial review and legislative review.
2. If this Program provides that a proposed development is subject to a specific type of review, or a different review procedure is required by law, then the application for such development shall be processed and reviewed accordingly. If this chapter does not provide for a specific type of review or if a different review procedure is not required by law, then the department shall determine the type of review to be used for the type and intensity of the proposed development.
3. Any public meeting or required open hearing may be combined by the Department with any public meeting or open record hearing that may be held on the proposed development by another local, state, federal or other agency. Hearings shall be combined if requested by the applicant. However, joint hearings must be held within the jurisdiction and within the time limits of this Chapter and RCW 36.70B.

7.3.020 Limited administrative review of applications

Limited administrative review shall be used when the proposed development is subject to clear, objective and nondiscretionary standards that require the exercise of professional judgment about technical issues and the proposed development is exempt from the State Environmental Policy Act (SEPA). Included within this type of review are

single-family building permits, accessory dwelling units, and shoreline exemptions which do not require a letter of exemption. The department may approve, approve with conditions, or deny the application after the date the application is accepted as complete, without public notice. The decision of the department is final. There is no administrative appeal of a limited administrative review decision.

7.3.030 Full administrative review of applications

1. Full administrative review shall be used when the proposed development is subject to objective and subjective standards that require the exercise of limited discretion about non-technical issues and about which there may be limited public interest. The proposed development may or may not be subject to SEPA review. Included within this type of review are applications for administrative interpretations, shoreline exemptions which require a letter of exemption, shoreline substantial development permits, administrative shoreline conditional use permits, short subdivisions, multifamily, commercial, industrial and/or office building permits, and essential public facilities.
2. The Administrator has the authority to elevate a shoreline substantial development permit application to quasi-judicial review due to the size and scope of the project.
3. This review procedure under full administrative review shall be as follows:
    a. If the proposed development is subject to the State Environmental Policy Act (SEPA), the threshold determination shall be made after the closing of the public comment period required in the notice of application.
    b. Upon the completion of the public comment period and the comment period required by SEPA, if applicable, the department may approve, approve with conditions, or deny the application. The department shall mail the notice of decision to the applicant and all parties of record. The decision shall include:
        (1) A statement of the applicable criteria and standards in the development codes and other applicable law;
        (2) A statement of the findings of the review authority, stating the application's compliance or noncompliance with each applicable criterion, and assurance of compliance with applicable standards;
        (3) The decision to approve or deny the application and, if approved, conditions of approval necessary to ensure the proposed development will comply with all applicable laws;
        (4) A statement that the decision is final unless appealed as provided in Chapter 6 of this Program. The appeal closing date shall be listed. The statement shall describe how a party may appeal the decision, including applicable fees and the elements of a notice of appeal;
        (5) A statement that the complete case file, including findings, conclusions and conditions of approval, if any, is available for inspection. The notice shall list the place, days and times when the case file is available for inspection and the name and telephone number of the department's representative to contact to arrange inspection.
    c. The decision may be appealed to the hearing examiner or city council pursuant to the process established in Chapter 6 of this Program.

7.3.040 Quasi-judicial review of applications

1. Quasi-judicial review shall be used when the development or use proposed under the application requires a public hearing before a hearing body. This type of review shall be used for shoreline conditional use permits, shoreline variances, shoreline substantial development permits which have been elevated to quasi-judicial review by the Administrator, and other similar applications.
2. The review procedure under quasi-judicial review shall be as follows:
    a. A quasi-judicial review process requires an open record public hearing before the appropriate hearing body.
    b. The public hearing shall be held after the completion of the public comment period and the comment period required by SEPA, if applicable.
    c. At least ten days before the date of a public hearing the department shall issue public notice of the date, time, location and purpose of the hearing.
    d. At least ten days before the date of the public hearing, the department shall issue a written staff report, integrating the SEPA review and threshold determination and recommendation regarding the application(s), shall make available to the public a copy of the staff report for review and inspection, and shall mail a copy of the staff report and recommendation to the applicant or the applicant's designated representative. The department shall make available a copy of the staff report, subject to payment of a reasonable charge, to other parties who request it.
    e. Public hearings shall be conducted in accordance with the rules of procedure adopted by the hearing body. A public hearing shall be recorded. If for any reason, the hearing cannot be completed on the date set in the public notice, it may be continued during the public hearing to a specified date, time and location, without further public notice required.
    f. Within ten working days after the date the public record closes, the hearing body shall issue a written decision regarding the application(s).
    g. The hearing body may approve, approve with conditions or deny the application and shall mail the notice of its decision to the department, applicant, the applicant's designated representative, the property owner(s), and any other parties of record. The decision shall include:
        (1) A statement of the applicable criteria, standards and law;
        (2) A statement of the findings the hearing body made showing the proposal does or does not comply with each applicable approval criterion and assurance of compliance with applicable standards;
        (3) A statement that the decision is final unless appealed pursuant to Chapter 6 of this Program. The appeal closing date shall be listed;
        (4) A statement that the complete case file, including findings, conclusions and conditions of approval, if any, is available for inspection. The notice shall list the place, days and times when the case file is available for inspection and the name and telephone number of the Department representative to contact to arrange inspection.

7.3.050 Legislative review of applications

1. Legislative review shall be used to review and amend this master program.
2. Legislative review shall be conducted as follows:
    a. Legislative review requires at least one public hearing before the planning commission and one public meeting before the Legislative authority of the jurisdiction.
    b. The application shall contain all information and material requirements required by the appropriate application form.
    c. At least ten days before the date of the first planning commission hearing the department shall issue public notice of the date, time, location and purpose of the hearing. The notice shall include notice of the SEPA threshold determination issued by the department.
    d. At least ten days prior to the hearing the department shall issue a written staff report, integrating the SEPA review and threshold determination and recommendation regarding the application(s), shall make available to the public a copy of the staff report for review and inspection, and shall mail a copy of the staff report and recommendation to the applicant or the applicant's designated representative, and planning commission members. The department shall make available a copy of the staff report, subject to a reasonable charge, to other persons who request it.
    e. Following the public hearing and in accordance with RCW 36.70.630, the recommendation of the planning commission shall be forwarded to the legislative authority of the jurisdiction. Upon receiving the recommendation from the planning commission, the legislative authority shall set a public meeting to consider the proposal, at which the board may either accept or reject the recommendation.
    f. The legislative authority must hold a public hearing to consider any changes to the recommendation of the planning commission. The legislative authority may approve, approve with conditions, deny or remand the proposal back to the planning commission for further review after such public hearing. The final decision of the legislative authority shall be adopted by resolution.
    g. The final decision of the legislative authority shall be in writing and include:
        (1) A statement of the applicable criteria and law;
        (2) A statement of the findings indicating the application's or proposed development's compliance or noncompliance with each applicable approval criterion;
        (3) The decision to approve, condition or reject the planning commission recommendation or remand for further review;
        (4) A statement that the decision is final unless appealed pursuant to the process in Chapter 6 of this Program. The appeal closing date shall be listed.
        (5) A statement that the complete case file, including findings, conclusions and conditions of approval, if any, is available for inspection. The notice shall state the place, days and times when the case file is

available for inspection and the name and telephone number of the department representative to contact to arrange inspection.

7.3.060 Notice of final decision

1. A notice of final decision on an application shall be issued within one hundred twenty days after the date of the declaration of completeness. In determining the number of days that have elapsed, the following periods shall be excluded:
    a. Any period during which the applicant has been requested by the department to correct plans, perform required studies, or provide additional information or materials. The period shall be calculated from the date the department issues the request to the applicant to, the earlier of, the date the department determines whether the additional information satisfies its request or fourteen days after the date the information has been received by the department;
    b. If the department determines the information submitted by the applicant under 7.3.060.1 of this section is insufficient, it shall again notify the applicant of deficiencies, and the procedures of this section shall apply to the request for information;
    c. Any period during which an environmental impact statement (EIS) is being prepared following a determination of significance pursuant to RCW 43.21C;
    d. Any period for administrative appeals, which shall not exceed ninety days for open record appeals and sixty days for closed record appeals;
    e. Any extension of time mutually agreed upon by the applicant and the department.
2. The time limit by which the jurisdiction must issue a notice of final decision does not apply if an application:
    a. Requires an amendment to a comprehensive plan or development regulation;
    b. Requires approval of a new fully self contained community, a master planned resort, or the siting of an essential public facility, as are provided in RCW Chapter 36.70A and as may be hereafter amended;
    c. Is substantially revised by the applicant after a determination of completeness has been issued, in which case the time period shall start from the date on which the revised project application is determined to be complete.
3. If the department is unable to issue its final decision within the time limits provided for in this chapter, it shall provide written notice of this fact to the applicant. The notice shall include a statement of reasons why the time limits have not been met and an estimated date for issuance of the notice of final decision.
4. In accordance with state law, the local jurisdiction is not liable for damages which may result from the failure to issue a timely notice of final decision.
5. The local jurisdiction shall file the final decision with the Department of Ecology in accordance with WAC 173-27-130, as amended.

7.4 Performance assurance and guarantee

Sub-sections:

7.4.010 Purpose
7.4.020 Performance assurance
7.4.030 Criteria

7.4.010 Purpose

The purpose of this sub-section is to allow individuals developing property to post a performance assurance device in a sufficient amount to guarantee and warranty the construction of required improvements, and protect public property.

7.4.020 Performance assurance

Except where specified by this Program, all improvements shall be fully completed prior to the final approval of a development permit, land divisions, issuance of a certificate of occupancy or actual occupancy, as directed by applicable codes or regulations, unless an alternative performance assurance device, a contractual agreement, an agreement and partial funding for a local improvement district (LID), or bond between the developer and the local jurisdiction has been executed and approved in accordance with this section.

7.4.030 Criteria

1. The performance assurance device shall be approved by the department as appropriate and shall be in a form acceptable to the prosecuting attorney.
2. Except where specified by this Program, the performance assurance device shall be for a period of not more than one year for each phase of the development, unless a time schedule for the performance assurance device is approved by the review authority. The time period may be extended depending on the type of project and phasing schedule.
3. If a performance assurance device or evidence of a similar device is required under 7.4.030 A or B of this section, the review authority shall determine the specific type of assurance device required in order to insure completion of the required conditions of approval. The value of the device shall equal at least one hundred twenty-five percent of the estimated cost of the required improvements and shall be utilized by the local jurisdiction to perform any necessary work, to reimburse the local jurisdiction for performing any necessary work, and to reimburse the local jurisdiction for documented administrative costs associated with action on the device. If costs incurred by the local jurisdiction exceed the amount provided by the assurance device, the property owner shall reimburse the local jurisdiction in full, or the local jurisdiction may file a lien against the subject property for the amount of any deficit.
4. If the performance device or evidence of a similar device is required the property owner shall provide the local jurisdiction with an irrevocable notarized agreement granting the local jurisdiction and its agents the right to enter the property and

perform any required work remaining uncompleted at the expiration of the completion date(s) identified in the assurance device.

5. Upon completion of the required work by the property owner and approval by the local jurisdiction, at or prior to expiration of the completion date(s) identified in the assurance device, the local jurisdiction shall promptly release the device or evidence thereof.
6. If bonds or securities are to be used, the review authority shall determine the specific type of assurance device required. The value of this device shall equal at least one hundred twenty-five percent of the estimated cost of the improvement to be performed. If costs incurred by the local jurisdiction exceed the amount provided by the assurance device, the property owner shall reimburse the local jurisdiction in full, or the local jurisdiction may file a lien against the property for the excess amount.

8. Definitions

The terms used throughout this Program shall be defined and interpreted as indicated below. When consistent with the context, words used in the present tense shall include the future; the singular shall include the plural, and the plural the singular. Definitions established by WAC 173 have been incorporated herein and should these definitions in the WAC be amended, the most current WAC definition shall apply.

1. “Accessory” means a building, area, structure, use or any part thereof, which is subordinate to, and the use of which is incidental to, that of the main building, structure or use on the same lot.

2. “Accretion shoreform” means a shoreline with a relatively stable berm and backshore that has been built up by long-term deposition of sand and gravel transported by wind and/or water from a feeder bluff or other material source. Such shoreforms are scarce locally and include barrier beaches, points, spits, and point and channel bars on streams.

3. “Act” means the Shoreline Management Act of 1971 (RCW 90.58) as amended.

4. “Active alluvial fan” means a portion or all of a fan that has experienced channel changes, erosion, or deposition. Active fans can be identified based on determination by field geomorphic and topographic evidence, and by historical accounts.

5. “Activity" means human activity associated with the use of land or resources.

6. “Administrator” means the Director of Douglas County Land Services, City of East Wenatchee Community Development Director, Mayor of the City of Bridgeport or Mayor of the City of Rock Island, as appropriate to jurisdiction, who is to carry out the administrative duties enumerated in this Program, or his/her designated representative.

7. “Adverse impact” means an impact that can be measured or is tangible and has a reasonable likelihood of causing moderate or greater harm to ecological functions or processes or other elements of the shoreline environment.

8. “Agriculture” or “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 . “New agriculture” means conversion of lands not in agricultural production converted to an agricultural activity.

9. “Agricultural equipment” and ”agricultural facilities” include, but are 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.

10. "Agricultural land" means those specific land areas on which agricultural activities are conducted as of the date of adoption of a local master program pursuant to WAC 173-26 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.

11. "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.

12. "Alluvial fan" means a fan-shaped deposit of sediment and organic debris formed where a stream flows or has flowed out of a mountainous upland onto a level plain or valley floor because of a sudden change in sediment transport capacity (e.g. significant change in slope or confinement).

13. "Alluvium" means a general term for clay, silt, sand, gravel, or similar other unconsolidated detrital materials, deposited during comparatively recent geologic time by a stream or other body of running water, as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta.

14. “Alteration” means any human induced change in an existing condition of a shoreline, critical area and/or its buffer. Alterations include, but are not limited to grading, filling, channelization, dredging, clearing (vegetation), draining,

construction, compaction, excavation, or any other activity that changes the character of the area.

15. "Anadromous fish" means fish species that spend most of their lifecycle in saltwater, but return to freshwater to reproduce.

16. "Approval" means an official action by a local government legislative body agreeing to submit a proposed shoreline master program or amendments to the department for review and official action pursuant to this chapter; or an official action by the department to make a local government shoreline master program effective, thereby incorporating the approved shoreline master program or amendment into the state master program.

17. “Appurtenant structure” – A structure or development which is necessarily connected to the use and enjoyment of a single-family residence and is located landward of the ordinary high water mark (e.g., swimming pool).

18. “Aquaculture” means the farming or culture of food fish, or other aquatic plants or animals and may require development such as fish hatcheries, rearing pens, and structures, as well as use of natural spawning and rearing areas. The term “aquaculture” also includes activities related to growing, handling, or harvesting of aquatic produce, including, but not limited to, propagation, stocking, holding, nurturing, disease treatment, waste disposal, water use, development of habitat and structures.

19. “Aquaculture practices” means any activity directly pertaining to growing, handling, or harvesting of aquaculture produce including but not limited to propagation, stocking, feeding, disease treatment, waste disposal, water use, development of habitat and structures. Excluded from this definition are related commercial or industrial uses such as wholesale and retail sales, or final processing and freezing.

20. “Aquatic environment” means an area so designated in this Program.

21. “Archaeological resource/site” means a geographic locality in Washington, including, but not limited to, submerged and submersible lands and the bed of the sea within the state’s jurisdiction, that contains archaeological objects. “Significant” is that quality in American history, architecture, archaeology, engineering, and culture that is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
    a. That are associated with events that have made a significant contribution to the broad patterns of our history; or
    b. That are associated with the lives of significant persons in our past; or
    c. That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high

artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. That has yielded or may be likely to yield, information important in history or prehistory.

22. “Archaeologist” means a person who has designed and executed an archaeological study as evidenced by a thesis or dissertation and has been awarded an advanced degree such as an M.A., M.S. or Ph.D. from an accredited institution of higher education in archaeology, anthropology, or history or other germane discipline with a specialization in archaeology; has a minimum of one (1) year of field experience with at least twenty-four (24) weeks of field work under the supervision of a professional archaeologist, including no less than twelve (12) weeks of survey or reconnaissance work, and at least eight (8) weeks of supervised laboratory experience. Twenty (20) weeks of field work in a supervisory capacity must be documentable with a report produced by the individual on the field work.

23. "Associated wetlands" means those wetlands which are in proximity to and either influence or are influenced by tidal waters or a lake or stream subject to the Shoreline Management Act.

24. "Atypical situation" as used herein, refers to areas in which one or more parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter. Recent refers to the period of time since legal jurisdiction of an applicable law or regulation took effect.

25. "Average grade level" 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 ordinary high water. Calculation of the average grade level shall be made by averaging the elevations at the midpoint of all exterior walls of the proposed building or structure.

26. “Beach nourishment” means a restoration or shoreline stabilization activity in which selected beach material is deposited at one or several locations.

27. “Bedlands” means those submerged lands below the ordinary high water mark.

28. "Bedrock" means a general term for rock, typically hard, consolidated geologic material that underlies soil or other unconsolidated, superficial material or is exposed at the surface.

29. “Berm’ or ‘protective berm” means one or several accreted linear mounds of sand and gravel generally paralleling the shore at or landward of OHWM; berms are

normally stable because of material size or vegetation, and are naturally formed by littoral drift.

30. "Best management practices" (BMP's) means conservation practices or systems of practices and management measures that:
    a. Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics, and sediment;
    b. Minimize adverse impacts to surface water and ground water flow, circulation patterns, and to the chemical, physical, and biological characteristics of wetlands;
    c. Protect trees and vegetation designated to be retained during and following site construction; and
    d. Provide standards for proper use of chemical herbicides within critical areas.

31. "Bioengineered shoreline stabilization" means biostructural and biotechnical alternatives to hardened structures (bulkheads, walls) for protecting slopes or other erosive features. Bioengineered stabilization uses vegetation, geotextiles, geosynthetics and similar materials. An example is vegetated reinforced soil slopes (VRSS), which uses vegetation arranged and imbedded in the ground to prevent shallow-mass movement and surficial erosion.

32. "Boathouse" means any roofed and enclosed structure built onshore or offshore for storage of water craft or float planes. See also Covered Moorage.

33. "Boat ramp" means a structure constructed of concrete or other material, which extends waterward of the ordinary high-water mark.

34. "Boat storage" means dry moorage- on land. See also Moorage.

35. "Breakwater" means protective structure, generally built off shore to protect harbor areas, moorages, navigation, beaches and bluffs from wave action. They may be fixed, open-pile or floating.

36. "Buffer (buffer zone)" means the area adjacent to a shoreline and/or critical area that separates and protects the area from adverse impacts associated with adjacent land uses. Buffers are precluded from further disturbance unless allowed by this SMP (e.g., no new fences, fire rings, septic facilities, etc.). Buffers are defined in this SMP and Appendix H Chapters 2.050(B) and 3.050(C).

37. "Building" means any combination of materials constructed, placed or erected permanently or temporarily on the ground or attached to something having a permanent location on the ground, for the shelter, support or enclosure of persons, animals or property, or supporting any use, occupancy or function whether artificially built or composed of parts joined together in some definite manner, which could be

installed on, above or below the surface of the ground or water. The terms building and structure are synonymous.

38. “Bulkhead” means an upright partition that is watertight; a retaining wall.

39. “Buoy” means a floating object anchored in water to warn of rocks, etc., or to mark a channel.

40. "Channel migration zone (CMZ)" 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.

41. “Channelization” means the straightening, relocation, deepening or lining of stream channels, including construction of continuous revetments or levees for the purpose of preventing gradual, natural meander progression.

42. “Chemicals” mean any synthetic substance or mixture of such substances used for a fertilizer, herbicide, pesticide, insecticide, or rodenticide.

43. “Circulation systems”- see transportation facilities/systems.

44. “City” means one of the three cities with shorelines in Douglas County: the Cities of Bridgeport, East Wenatchee, and Rock Island.

45. “Clearing” means the removal of vegetation or plant cover by manual, chemical, or mechanical means. Clearing includes, but is not limited to, actions such as cutting, felling, thinning, flooding, killing, poisoning, girdling, uprooting, or burning.

46. “Cluster development” means land divisions that concentrate residential uses into a compact area with perimeter buffering, open space, community water and sewer systems and other conditions, and which are designed to prevent conflict with resource and critical areas.

47. “Commercial development” means those facilities involved in a wholesale or retail business or service. They range from office buildings, hotels, motels, grocery markets, shopping centers, restaurants, gift shops and private or public indoor recreation facilities. Excluded from this category are residential or recreation subdivisions, agriculture, resort marinas and ports and industry.

48. “Commercial docks” means those used for commercial or industrial uses. This does not include marinas.

49. "Commercial fish" means those species of fish that are classified under the Washington Department of Fish and Wildlife Food Fish Classification as commercial fish (WAC 220-12-010).

50. “Community access” means the right of all property owners or members of a residential development to get to and use the state's public waters, the water/land interface and associated shoreline area. It includes physical access that is either lateral (areas paralleling the shore) or perpendicular (an easement or community corridor to the shore), and/or visual access facilitated by scenic roads and overlooks, viewing towers and other community sites or facilities. Community access is not intended for the general public.

51. “Compensatory mitigation” means a mitigation project for the purpose of replacing, at an equivalent or greater level, unavoidable impacts that remain after all appropriate and practicable avoidance and minimization measures have been implemented. Compensatory mitigation includes, but is not limited to, wetland creation, restoration, enhancement, and preservation; stream restoration and relocation, rehabilitation; and buffer enhancement.

52. “Conditional use” means a use, development, or substantial development which is classified as a conditional use or is not classified within the applicable master program.

53. "Conservation" means the prudent management of rivers, streams, wetlands, wildlife and other environmental resources in order to preserve and protect them. This includes the careful use of natural resources to prevent depletion or harm to the environment.

54. “Conservation easement” means a legal agreement that the property owner enters into to restrict uses of the land for purposes of natural resources conservation. The easement is recorded on a plat or property deed, runs with the land, and is legally binding on all present and future owners of the property.

55. "Contaminant" means any chemical, physical, biological, or radiological substance that does not occur naturally in ground water, air, or soil or that occurs at concentrations greater than those in the natural levels (Chapter 172-200 WAC).

56. “County” means Douglas County, Washington.

57. “Covered moorage” means a roofed, floating or fixed offshore structure without walls other than minimal structural framework needed to support the roof for moorage of water craft or float planes.

58. “Critical aquifer recharge area” means areas designated by WAC 365-190-080(2) that are determined to have a critical recharging effect on aquifers (i.e., maintain the

quality and quantity of water) used for potable water as defined by WAC 365-190-030(2).

59. "Critical areas" the following areas as designated in critical area standards as established in Appendix H:
    a. Critical aquifer recharge areas
    b. Wetlands
    c. Geologically hazardous areas
    d. Frequently flooded areas
    e. Fish and wildlife habitat conservation areas

60. “Critical habitat” means habitat areas with which endangered, threatened, sensitive or monitored plant, fish, or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating). Such areas are identified herein with reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or 232-12-014; in the Priority Habitat and Species (PHS) Program of the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with jurisdiction for such designations.

61. “Current deflector” means an angled "stub-dike", groin, or sheet-pile structure which projects into a stream channel to divert flood currents from specific areas, or to control downstream current alignment.

62. “Dam” means a barrier across a stream or river to confine or regulate flow or raise water levels for purposes such as flood or irrigation water storage, erosion control, power generation, or collection of sediment or debris.

63. "Debris flow" means a moving mass of rock fragments, soil, and mud; more than half of the particles being larger than sand size; a general term that describes a mass movement of sediment mixed with water and air that flows readily on low slopes.

64. "Debris torrent" means a violent and rushing mass of water, logs, boulders and other debris.

65. "Deepwater habitats" means permanently flooded lands. Deepwater habitats include environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium in which the dominant organisms live. The boundary between wetland and deepwater habitat in the riverine and lacustrine systems lies at a depth of two meters (6.6 feet) below low water; however, if emergent vegetation, shrubs, or trees grow beyond this depth at any time, their deepwater edge is the boundary.

66. "Delineation" means the precise determination of wetland boundaries in the field according to the application of the specific method described in the 1997 Washington State Wetland Delineation manual and/or the, Corps of Engineers Wetlands Delineation Manual 1987 Edition, as amended.

67. "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; 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 Program at any stage of water level. Development does not include dismantling or removing structures if there is no other associated development or re-development.

68. "Development regulations" means the controls placed on development or land uses by a county or city, including, but not limited to, zoning ordinances, critical areas standards, all portions of a shoreline master program other than goals and policies approved or adopted under Chapter 90.58 RCW, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto.

69. “Dike” means an artificial embankment or revetment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.

70. “Disturbed vegetation” means areas, particularly within wetland and riparian buffers, where native vegetation has been and continues to be disturbed as part of a legally established recreational or residential development, including associated site improvements, or prior agricultural use, resulting in vegetated area that provides minimal habitat function or value. Typical disturbances include mowed lawn areas, landscaped areas, recreational uses, previous agricultural uses that are currently mowed, and maintained upland grasses and weedy species.

71. “Dock” means all platform structures or anchored devices in or floating upon water bodies to provide moorage for pleasure craft or landing for water-dependent recreation consisting of any combination of fixed pier, gangway, and/or float. Docks include but are not limited to floats, swim floats, float plane moorages, and water ski jumps. Excluded are launch ramps.
    (a) Private docks- over-water structures are constructed and utilized for private moorage by a single residential waterfront property owner; or an upland property owner adjacent to publicly owned shoreline where the public entity has authorized the placement of a private dock.
    (b) Joint use docks - are constructed and utilized by two or more contiguous residential waterfront property owners. Joint use dock facilities may also serve one waterfront property owner and one or more contiguous upland property owners; or may consist of two or more upland property owners

adjacent to publicly owned shoreline, where the public entity has authorized the placement of a joint use dock.

(c) Community docks- are typically designed and constructed to serve all or a significant component of the members of a residential development; which typically include waterfront property owners and often include non-water front property owners. A homeowner's association usually owns a shoreline tract(s) or easement (s) providing for the potential placement of the dock facilities; and is responsible for the ownership and maintenance of the facilities. Where the shoreline is owned by a public entity and the entity has authorized dock facilities, the dock facilities for multiple upland property owners of a residential development would also be considered community dock facilities.

(d) Public docks- are constructed and utilized for use by the general public, typically owned and managed by a public agency and may include a boat ramp.

72. "Drainage ditch" means an artificially created watercourse constructed to drain surface or ground water. Ditches are graded (man-made), channels installed to collect and convey runoff from fields and roadways. Ditches may include irrigation ditches, waste ways, drains, outfalls, operational spillways, channels, storm water runoff facilities or other wholly artificial watercourses, except those that directly result from the modification to a natural watercourse. Ditched channels that support fish are considered to be streams.

73. "Dredging" means the removal, displacement, and disposal of unconsolidated earth material such as silt, sand, gravel, or other submerged material from the bottom of water bodies; maintenance dredging and other support activities are included in this definition. Dredging is commonly done in shallow environments to deepen wet moorage, marinas, harbors and their entrances, and navigational lanes and to obtain bottom materials for landfill or construction.

74. "Duration (inundation/soil saturation)" means the length of time during which water stands at or above the soil surface (inundation), or during which the soil is saturated. As used herein, duration refers to a period during the growing season.

75. "Dwelling unit" means a building or portion thereof designed exclusively for residential purposes on a permanent basis; to be used, rented, leased, or hired out to be occupied for living purposes having independent living facilities, including permanent provisions for living, sleeping, eating, cooking, and sanitation. No motor home, travel trailer, tent trailer or other recreational vehicle shall be considered a dwelling unit.

76. "Multifamily dwelling" means a building containing three or more dwelling units.

77. "Single-family dwelling" means a building containing one dwelling unit on one lot, other than an accessory dwelling. A single-family dwelling unit can be either attached or a detached unit, provided each unit is located on a separate lot.

78. "Two-family dwelling (duplex)" means a building containing two attached dwelling units on one lot, other than an accessory dwelling.

79. “Ecological functions” or ”shoreline functions” means the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem. See WAC 173-26-201(3)(d)(i)(C). Functions include, but are not limited to, habitat diversity and food chain support for fish and wildlife, ground water recharge and discharge, high primary productivity, low flow stream water contribution, sediment stabilization and erosion control, storm and flood water attenuation and flood peak desynchronization, and water quality enhancement through biofiltration and retention of sediments, nutrients, and toxicants. These beneficial roles are not listed in order of priority.

80. “Ecosystem processes”, or “ecosystem-wide processes” means the suite of naturally occurring physical and geologic processes of erosion, transport, and deposition; and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat and the associated ecological functions.

81. “Emergency activities” are those activities that require immediate action within a time too short to allow full compliance with this program due to an unanticipated and imminent threat to public health, safety or the environment. Emergency construction does not include development of new permanent protective structures where none previously existed. All emergency construction shall be consistent with the policies of 90.58 RCW and this Program. As a general matter, flooding or other seasonal events that can be anticipated and may occur but that are not imminent are not an emergency.

82. "Emergent wetland" means a wetland with at least thirty percent (30%) of the surface area covered by erect, rooted, herbaceous vegetation as the uppermost vegetative strata.

83. “Enhancement” means actions performed within a shoreline, critical area and/or buffer to intentionally increase or augment one or more functions or values of the existing area. Enhancement actions include, but are not limited to, increasing plant diversity and cover, increasing wildlife habitat and structural complexity (snags, woody debris), installing environmentally compatible erosion controls, or removing non-indigenous plant or animal species.

84. “Erosion” means a process whereby wind, rain, water and other natural agents mobilize, and transport, and deposit soil particles.

85. “Erosion hazard areas” means lands or areas underlain by soils identified by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) as having “severe” or “very severe” erosion hazards and areas subject to impacts from lateral erosion related to moving water such as river channel migration and shoreline retreat.

86. “Essential public facilities” means those publicly and privately owned and/or operated facilities, structures, utilities and uses that are typically difficult to site due to scale and operational characteristics that may pose potentially hazardous or inherently objectionable conditions if permitted to site without public review. Examples of essential public facilities include, but are not limited to, airports, state education facilities, state or regional transportation facilities, state and local correction facilities, solid waste handling facilities and inpatient facilities including substance abuse facilities, mental health facilities and group homes.

87. “Excavation” means any act by which soil, sand, gravel, rock or any similar material is cut into, dug, quarried, uncovered, removed, displaced, relocated or bulldozed and shall include the conditions resulting there from.

88. "Exempt" developments are those set forth in WAC 173-27-040 and RCW 90.58.030 (3)(e), 90.58.140(9), 90.58.147,90.58.355 , and 90.58.515 which are not required to obtain a substantial development permit but which must otherwise comply with applicable provisions of the act and the local master program.

89. “Existing and ongoing agricultural activities” means those activities conducted on lands defined in RCW 36.70A.030 and those activities involved in the production of crops and livestock, including, but not limited to, operation and maintenance of existing farm and stock ponds or drainage ditches, irrigation systems, changes between agricultural activities, and maintenance or repair of existing serviceable structures and facilities. Activities that result in the filling of an area or bring an area into agricultural use are not part of an ongoing activity. An operation ceases to be ongoing when the area on which it was conducted has been converted to a non-agricultural use, or has lain idle for more than five (5) years unless that idle land is registered in a federal or state soils conservation program. Forest practices are not included in this definition.

90. "Exotic" means any species of plants or animals that is not indigenous to the area.

91. “Fair market value” of a development means the open market bid price for conducting the work, using the equipment and facilities, and purchase of the goods, services and materials necessary to accomplish the development. This would normally equate to the cost of hiring a contractor to undertake the development from

start to finish, including the cost of labor, materials, equipment and facility usage, transportation and contractor overhead and profit. The fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials.

92. "Farm pond" means an open water depression created from a non-wetland site in connection with agricultural activities.

93. “Feasible" means 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;
    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 cases where this Program requires certain actions, unless they are infeasible, the burden of proving infeasibility is on the applicant/proponent. In determining an action's infeasibility, the jurisdiction may weigh the action's relative costs and public benefits, considered in the short and long-term time frames.

94. “Feasible alternative” means an substitute action that is available and reasonably capable of being carried out after taking into consideration, existing technology and logistics in light of overall project purposes, and that has less impact to critical areas. Cost shall not be the sole basis for determining feasibility.

95. “Feeder bluff” or “erosional bluff” means any bluff (or cliff) experiencing periodic erosion from waves, sliding or slumping, and/or whose eroded sand or gravel material is naturally transported (littoral drift) via a driftway to an accretion shoreform; these natural sources of beach material are limited and vital for the long-term stability of driftways and accretion shoreforms.

96. “Feed lot” means a confined area or structure for feeding, breeding or holding livestock for eventual sale or slaughter and in which animal waste accumulates faster than it can naturally dissipate without creating a potential for a health hazard, particularly with regard to surface and groundwater; but not including barns, pens or other structures used in a dairy operation or structures on farms holding livestock primarily during winter periods.

97. "Fill" means the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land.

98. “Fill material” means any solid or semi-solid material, including rock, sand, soil, clay, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure, that when placed, changes the grade or elevation of the receiving site. Materials such as plastics, construction debris, wood chips, etc., would be regulated as either solid waste or inert waste and not fill material for the purposes of this Program.

99. “Filling” means the act of transporting or placing by any manual or mechanical means fill material from, to, or on any soil surface, including temporary stockpiling of fill material.

100. “Fish and wildlife habitat conservation areas” are areas important for maintaining species in suitable habitats within their natural geographic distribution so that isolated populations are not created, as designated in critical areas standards identified in Appendix H.

101. "Fish habitat" means a complex of physical, chemical, and biological conditions that provide the life supporting and reproductive needs of a species or life stage of fish. Although the habitat requirements of a species depend on its age and activity, the basic components of fish habitat in rivers, streams, ponds, lakes, estuaries, marine waters, and nearshore areas include, but are not limited to, the following:
    a. Clean water and appropriate temperatures for spawning, rearing, and holding;
    b. Adequate water depth and velocity for migrating, spawning, rearing, and holding, including off-channel habitat;
    c. Abundance of bank and instream structures to provide hiding and resting areas and stabilize stream banks and beds;
    d. Appropriate substrates for spawning and embryonic development. For stream and lake dwelling fishes, substrates range from sands and gravel to rooted vegetation or submerged rocks and logs. Generally, substrates must be relatively stable and free of silts or fine sand;
    e. Presence of riparian vegetation as defined in this article. Riparian vegetation creates a transition zone, which provides shade, and food sources of aquatic and terrestrial insects for fish;
    f. Unimpeded passage (i.e. due to suitable gradient and lack of barriers) for upstream and downstream migrating juveniles and adults.

102. “Floats” means a detached, anchored structure that is free to rise and fall with water levels including any floating, anchored platform or similar structure, used for boat mooring, swimming or similar recreational activities that is not anchored or accessed directly from the shoreline.
103. “Flood/flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of waters and/or the unusual rapid accumulation of surface runoff.

104. “Flood control works” means all development on rivers and streams designed to retard bank erosion, to reduce flooding of adjacent lands, to control or divert stream flow, or to create a reservoir, including but not limited to revetments, dikes, levees, channelization, dams, vegetative stabilization, weirs, flood and tidal gates. Excluded are water pump apparatus.

105. “Floodgate” means a closeable passageway placed in a river, stream or artificial channel to control flood waters.

106. "Floodplain" 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.

107. “Floodplain management” means a long-term program to reduce flood damages to life and property and to minimize public expenses due to floods through a comprehensive system of planning, development regulations, building standards, structural works, and monitoring and warning systems.

108. “Flood-proofing” means structural provisions, changes, adjustments or a combination thereof, to buildings, structures, and works in areas subject to flooding in order to reduce or eliminate damages from flooding to such development and its contents, as well as related water supplies and utility facilities.

109. "Floodway" means the area, as identified in a master program that either: (i) has been established in federal emergency management agency flood insurance rate maps or floodway maps; or (ii) 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.

110. “Floodway fringe” means that fringe of land in the floodplain outside the floodway, which is subject to inundation by the base flood. Flooding in the fringe is limited to flood surge storage of water currents moving at a negligible velocity of less than 0.5 miles per hour.

111. “Food chain” means the hierarchy of feeding relationships between species in a biotic community. The food chain represents the transfer of material and energy from one species to another within an ecosystem.

112. “Freestanding sign” means any sign supported by one or more uprights, poles or braces in or upon the ground and that are independent from any building or other structure.

113. “Frequently flooded areas” means lands in the floodplain subject to a one percent (1%) or greater chance of flooding in any given year and those lands that provide important flood storage, conveyance and attenuation functions, as determined by the jurisdiction in accordance with WAC 365-190-080(3). Classifications of frequently flooded areas include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program, as designated in critical areas standards identified in Appendix H.

114. “Function assessment or functions and values assessment” mean a set of procedures, applied by a qualified professional, to identify the ecological functions being performed in a shoreline or critical area, usually by determining the presence of certain characteristics, and determining how well the area is performing those functions. Function assessments can be qualitative or quantitative and may consider social values potentially provided by area. Function assessment methods must be consistent with best available science.

115. “Gabions” means works composed of masses of rock, rubble, or masonry tightly enclosed usually by wire mesh so as to form massive blocks. They are used to form walls on beaches to retard wave erosion or as foundations for breakwaters or jetties.

116. "Game fish" means those species of fish that are classified by the Washington Department of Fish and Wildlife as game fish (WAC 232-12-019).

117. "Geologically hazardous areas" means areas designated in critical areas standards identified in Appendix H that, because of their susceptibility to erosion, sliding, earthquake, or other geological events, pose unacceptable risks to public health and safety and may not be suited to commercial, residential, or industrial development.

118. “Geologically unstable” means the relative instability of a shoreform or land form for development purposes over the long-term or the intended life of any proposed structure. Soil, slope, ground or surface water, other geologic conditions, vegetation and effects of development are common factors that contribute to instability. Areas characterized by banks or bluffs composed of unconsolidated alluvial or glacial deposits (till and drift material), severely fractured bedrock, active and substantial erosion, substantially deformed trees and shrubs, or active or inactive earth slides are likely to be considered geologically unstable. A determination by the jurisdiction

of geologically unstable shoreline areas shall be made using the best available information at the time.

119. "Geotechnical report" or "geotechnical analysis" means a scientific study or evaluation conducted by a qualified professional that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts of the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by qualified professional engineers or geologists who have professional expertise about the regional and local shoreline geology and processes.

120. "Gradient" means a degree of inclination, or a rate of ascent or descent, of an inclined part of the earth's surface with respect to the horizontal; the steepness of a slope. It is expressed as a ratio (vertical to horizontal), a fraction (such as meters/ kilometers or feet/miles), a percentage (of horizontal distance), or an angle (in degrees).

121. “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.

122. “Groins” means a barrier type of structure extending from the backshore or stream bank into a water body for the purpose of the protection of a shoreline and adjacent uplands by influencing the movement of water or deposition of materials.

123. "Groundwater" means all water that exists beneath the land surface or beneath the bed of any stream, lake or reservoir, or other body of surface water within the boundaries of the state, whatever may be the geological formation or structure in which such water stands or flows, percolates or otherwise moves (Chapter 90.44 RCW).

124. "Growing season" means the portion of the year when soil temperatures at 19.7 inches below the soil surface are higher than biologic zero (5°C).

125. “Hazard tree” means any tree that is susceptible to immediate fall due to its condition (damaged, diseased, or dead) or other factors, and which because of its location is at risk of damaging permanent physical improvements to property or causing personal injury.

126. “Hazardous area” means any shoreline area which is hazardous for intensive human use or structural development due to inherent and/or predictable physical conditions; such as but not limited to geologically hazardous areas, and frequently flooded areas.

127. “Hazardous materials” means any substance containing such elements or compounds which when discharged in any quantity in shorelines present an imminent and/or substantial danger to public health or welfare; including, but not limited to: fish, wildlife, water quality, and other shoreline features and property.

128. “Hazardous substance” means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100.

129. “Hearings board” means the State Shorelines Hearings Board referenced in RCW 90.58.170.

130. "Height" is measured from average grade level to the highest point of a structure: Provided, that television antennas, chimneys, and similar appurtenances shall not be used in calculating height, except where such appurtenances obstruct the view of the shoreline of a substantial number of residences on areas adjoining such shorelines, or the applicable master program specifically requires that such appurtenances be included: provided further, that temporary construction equipment is excluded in this calculation.

131. “Historic site” means those sites that are eligible or listed on the Washington Heritage Register, National Register of Historic Places or any locally developed historic registry formally adopted by the local jurisdiction.

132. “Hydraulic project approval” (HPA) means a permit issued by the State Department of Fish and Wildlife for modifications to waters of the state in accordance with Chapter 75.20 RCW.

133. “Hydric soil” means a soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part. The presence of hydric soil shall be determined following the methods described in the Washington State Wetland Identification and Delineation Manual (RCW 36.70A.175).

134. “Hydrologic soil groups” means soils grouped according to their runoff-producing characteristics under similar storm and cover conditions. Properties that influence runoff potential are depth to seasonally high water table, intake rate and permeability after prolonged wetting, and depth to a low permeable layer. Hydrologic soil groups are normally used in equations that estimate runoff from rainfall, but can be used to estimate a rate of water transmission in soil. There are four hydrologic soil groups:

a. Low runoff potential and a high rate of infiltration potential;
b. Moderate infiltration potential and a moderate rate of runoff potential;
c. Slow infiltration potential and a moderate to high rate of runoff potential; and
d. High runoff potential and very slow infiltration and water transmission rates.

135. "Hydrophytic vegetation" means the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. When hydrophytic vegetation comprises a community where indicators of hydric soils and wetland hydrology also occur, the area has wetland vegetation.

136. “Hyporheic zone” means the saturated zone located beneath and adjacent to streams that contain some proportion of surface water from the surface channel mixed with shallow groundwater. The hyporheic zone serves as a filter for nutrients, as a site for macro-invertebrate production important in fish nutrition and provides other functions related to maintaining water quality.

137. “Impervious surface” means those hard surfaces that prevent or retard the entry of water into the soil. Such surfaces include, but are not limited to, rooftops, asphalt or concrete paving, driveways, parking lots, walkways, patio areas or storage areas, which similarly affect the natural infiltration.

138. “Industrial development” means facilities for processing, manufacturing, and storage of finished or semi-finished goods, including but not limited to oil, metal or mineral product refining, power generating facilities, including hydropower, ship building and major repair, storage and repair of large trucks and other large vehicles or heavy equipment, related storage of fuels, commercial storage and repair of fishing gear, warehousing construction contractors’ offices and material/equipment storage yards, wholesale trade or storage, and log storage on land or water, together with necessary accessory uses such as parking, loading, and waste storage and treatment. Excluded from this definition are mining including onsite processing of raw materials, and off site utility, solid waste, road or railway development, and methane digesters that are accessory to an agricultural use.

139. “Infiltration” means the passage or movement of water into the soil surface.

140. “Institutional development” means those public and/or private facilities including police and fire stations, libraries, activity centers, schools, educational and religious training centers, water-oriented research facilities, and similar non-commercial uses, excluding essential public facilities.

139. "In-stream structure" means a structure placed by humans within a stream or river waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation,

water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose.

140. “Invasive species" means a species that is 1) non-native (or alien) to Douglas County and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the primary means of invasive species introductions.

141. “Jetties” means structures generally built singly or in pairs perpendicular to the shoreline at harbor entrances or river mouths to prevent shoaling and accretion of littoral sand drift. They also protect channels and inlets from crosscurrents and storm waves.

142. “Joint-use piers, ramps, and floats” are those constructed and utilized by more than one contiguous residential waterfront property owner or by a homeowner’s association. This does not include commercial marinas.

143. “Jurisdiction” means one of two definitions depending on context:
    a. the shoreline jurisdiction as established in Chapter 1 of this Program; or
    b. one or more of the participating governmental entities- Douglas County, the City of Bridgeport, City of East Wenatchee or the City of Rock Island.

144. “Lahar” means a mudflow and debris flow originating from the slopes of a volcano.

145. "Lake" means a body of standing water in a depression of land or expanded part of a river, including reservoirs, of twenty acres or greater in total area. A lake is bounded by the ordinary high water mark or, where a stream enters a lake, the extension of the elevation of the lake's ordinary high water mark within the stream. Where the ordinary high water mark cannot be found, it shall be the line of mean high water.

146. “Landfill” see “fill.”

147. "Landslide" means a general term covering a wide variety of mass movement landforms and processes involving the down slope transport, under gravitational influence of soil and rock material en masse; included are debris flows, debris avalanches, earthflows, mudflows, slumps, mudslides, rock slides, and rock falls.

148. “Landslide hazard areas” means areas that, due to a combination of site conditions like slope inclination and relative soil permeability are susceptible to mass wasting, as designated in critical areas standards as identified in Appendix H.

149. “Launch ramp” means an inclined slab, set of pads, rails, planks, or graded slope used for launching boats with trailers or occasionally by hand.

a. Private launch ramp - is constructed and utilized by a single residential waterfront property owner or a single upland property owner.
b. Community launch ramp - are typically designed and constructed to serve two or more members of a residential development; which typically may include waterfront property owners and often include non-water front property owners. A homeowner's association usually owns a shoreline tract(s) or easement (s) providing for the potential placement of the launch facilities; and is responsible for the ownership and maintenance of the facilities. Where the shoreline is owned by a public entity and the entity has authorized such facilities, the facilities for multiple upland property owners of a residential development would also be considered community launch ramp facilities.
c. Public launch ramps - are constructed and utilized for use by the general public, typically owned and managed by a public agency.

150. "Levee" means a natural or artificial embankment on the bank of a stream for the purpose of keeping floodwaters from inundating adjacent land. Some levees have revetments on their sides.

151. "Liberal construction" means and interpretation that applies in writing in light of the situation presented that tends to effectuate the spirit and purpose of the writing.

152. "Line of navigability" means a horizontal line on the bed of a water body at a depth sufficient for navigation by watercraft commonly used on such water bodies; until such lines are finally established by the State Department of Natural Resources or court of law.

153. "Littoral drift" or "littoral transport" means the natural movement of sediment, particularly sand and gravel, along shorelines by wave action in response to prevailing winds or by stream currents.

154. "Long duration" means a period of inundation from a single event that ranges from seven days to one month.

155. "Lot" means land described by final plat, short plat or metes and bounds description and is established pursuant to applicable state and local regulations in effect at the date a legal instrument creating the lot is recorded at the Douglas County Auditor's Office.

156. "Maintenance and repair" means work required to keep existing improvements in their existing operational state. This does not include any modification that changes the character, scope, or size of the original structure, facility, utility or improved area.

157. "Marina" means a public or private water-dependent wet moorage and/or dry boat storage facility for pleasure craft and/or commercial craft where goods or services related to boating may be sold commercially. Marinas also include wet moorage

facilities where boat moorage slips may be leased or rented to individuals who are not a member or owner of an associated residential development. Launching facilities may also be provided. Marinas may be open to the general public or restricted on the basis of property ownership or membership.

158. “Marsh” means a low flat wetland area on which the vegetation consists mainly of herbaceous plants such as cattails, bulrushes, tules, sedges, skunk cabbage or other hydrophytic plants. Shallow water usually stands on a marsh, at least during part of the year.

159. “Mass wasting” means downslope movement of soil and rock material by gravity. This includes soil creep, erosion, and various types of landslides, not including bed load associated with natural stream sediment transport dynamics.

160. "Master program" shall mean the comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.020.

161. “May” means the action is allowable, provided it conforms to the provisions of this Program.

162. “Mining” means the removal of naturally occurring metallic and non-metallic minerals or other materials from the earth for economic use.

163. “Mineral extraction” means the removal of topsoil, gravel, rock, clay, sand or other earth material, including accessory activities such as washing, sorting, screening, crushing and stockpiling. Not included is the leveling, grading, filling, or removal of materials during the course of normal site preparation for an approved use (e.g., residential subdivision, commercial development, etc.) subject to the provisions of this Program.

164. "Mitigation" means individual actions that may include a combination of the following measures, listed in order of preference:
    a. Avoiding an impact altogether by not taking a certain action or parts of actions;
    b. Minimizing impacts by limiting the degree or magnitude of an action and its implementation;
    c. Rectifying impacts by repairing, rehabilitating, or restoring the affected environment;
    d. Reducing or eliminating an impact over time by preservation and maintenance operations during the life of the action;
    e. Compensating for an impact by replacing or providing substitute resources or environments; and
    f. Monitoring the mitigation and taking remedial action when necessary.

165. “Mitigation bank” means a site where wetlands or similar habitats are restored, created, enhanced, or in exceptional circumstances, preserved, expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to aquatic resources.

166. "Mitigation plan" means a detailed plan indicating actions necessary to mitigate adverse impacts to critical areas as detailed in Appendix H.

167. “Mixed use development” means a combination of uses within the same building or site as a part of an integrated development project with functional interrelationships and coherent physical design. Mixed use developments, which incorporate non-water oriented uses, must include water dependent use(s), except commercial uses complying with WAC 173-26-241(3)(d).

168. “Mixed use environment” means an area so designated in this Program.

169. “Monitoring” means evaluating the impacts of development proposals over time on the biological, hydrological, pedological, and geological elements of such systems and/or assessing the performance of required mitigation measures throughout the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features, and includes gathering baseline data.

170. Moorage- storage of boats within water (see also Boat Storage).

171. “Multifamily dwelling” means a means a single building, or portion thereof, designed for or occupied by three or more families living independently of each other in separate dwelling units on one lot of record and, for the purpose of this code, includes triplexes, four-plexes, apartment buildings, and residential condominiums.

172. “Must” means a mandate; the action is required.

173. "Native vegetation" means plant species that are indigenous to the Douglas County and the local area.

174. “Natural environment” means an area so designated in this Program.

175. “Navigable Waters of the United States” means a water body that in its ordinary condition, or by being united with other water bodies, forms a continued route over which commerce is or may be carried on with other states or foreign countries in the customary modes in which such commerce is conducted by water.

176. “No net loss” means the maintenance of the aggregate total of the County’s shoreline ecological functions. The no net loss standard requires that the impacts of

shoreline development and/or use, whether permitted or exempt, be identified and mitigated such that there are no resulting adverse impacts on ecological functions or processes. Each project shall be evaluated based on its ability to meet the no net loss requirement.

177. “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.

178. “Nonconforming development or nonconforming structure” mean 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.

179. “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.

180. “Non-water-oriented Use” means uses that are not water-dependent, water-related or water-enjoyment (WAC). Non-water-oriented uses have little or no relationship to the shoreline and are not considered priority uses under the Shoreline Management Act. Any use that does not meet the definition of water-dependent, water-related or water-enjoyment is classified as non-water-oriented.

181. “Obstruction (water-related)” means any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel rectification, bridge conduit, culvert, building wire, fence, rock-gravel, refuse, fill, structure or matter in, along, across or projecting into any channel or regulatory flood hazard area which may impede, retard or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water, or that is placed where the flow of water might carry the same downstream to the damage of life or property.

182. “Off-premise sign” means a sign which advertises or promotes merchandise, service, goods, or entertainment which are sold, produced, manufactured or furnished at a place other than on the property on which the sign is located.

183. "Off-site mitigation" means to compensate for impacts to shoreline functions away from the site that is impacted by development.

184. “Oil” means petroleum or any petroleum product in liquid, semi-liquid, or gaseous form including but not limited to crude oil, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredging spoil.

185. “Ongoing agriculture” means those activities conducted on lands defined in RCW 84.34.020(2), and those activities involved in the production of crops and livestock, including but not limited to, operation and maintenance of existing farm and stock ponds or drainage ditches, irrigation systems, changes between agricultural activities, and maintenance or repair of existing serviceable structures and facilities. Activities that bring an area into agricultural use are not part of an ongoing activity. An operation ceases to be ongoing when the area on which it was conducted has been converted to a non-agricultural use, or has lain idle for more than five consecutive years unless that idle land is registered in a federal or state soils conservation program.

186. “On-premise sign” means a sign incidental to a lawful use of the premises on which it is located, advertising the business transacted, services rendered, goods sold or products produced on the premises or the name of the business, person, firm, or corporation occupying the premises

187. “Open space” means any parcel or area of land or water not covered by structures, hard surfacing, parking areas and other impervious surfaces except for pedestrian or bicycle pathways, or where otherwise provided by this Program or other county or city ordinance and set aside, dedicated, for active or passive recreation, visual enjoyment or critical area development buffers, as established in critical area regulations.

188. "Ordinary high water mark" on all lakes, streams, and tidal water is that 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 fresh water shall be the line of mean high water .

    a. The following criteria clarify this mark on lakes, and streams:
    b. Lakes. Where the ordinary high water mark cannot be found, it shall be the line of mean high water;
    c. Streams. Where the ordinary high water mark cannot be found, it shall be the line of mean high water. For braided streams, the ordinary high water mark is found on the banks forming the outer limits of the depression within which the braiding occurs;

187. “Party of record” includes all persons, agencies or organizations who have submitted written comments in response to a notice of application; made oral comments in a formal public hearing conducted on the application; or notified local government of

their desire to receive a copy of the final decision on a permit and who have provided an address for delivery of such notice by mail.

188. “Piers” means fixed platforms above the water, perpendicular to the shoreline.

189. “Point” means a low profile shore promontory that may be either the wave-cut shelf remaining from an ancient bluff or the final accretional phase of a hooked spit that closed the leeward side gap. Points are accretion shoreforms characterized by converging berms accreted by storm waves that enclose a lagoon, marsh, or meadow, depending on the point's development stage.

190. “Point bar” means an accretion shoreform created by deposition of sand and gravel on the inside, convex side of a meander bend. Most material is transported downstream as sediment and bedload at times of high current velocity, or flood stage, from eroding banks or other bars upstream.

191. "Pond" means an open body of water, generally equal to or greater than 6.6 feet deep, that persists throughout the year and occurs in a depression of land or expanded part of a stream and has less than thirty percent (30%) aerial coverage by trees, shrubs, or persistent emergent vegetation. Ponds are generally smaller than lakes. Farm ponds are excluded from this definition. Beaver ponds that are two (2) years old or less are excluded from this definition.

192. "Potable" means water that is suitable for drinking by the public (Chapter 246-290 WAC).

193. “Preservation” means actions taken to ensure the permanent protection of existing, ecologically important areas that the local jurisdiction has deemed worthy of long-term protection.

194. "Prevalent vegetation" means the plant community or communities that occur in an area during a given period. The prevalent vegetation is characterized by the dominant macrophytic species that comprise the plant community

195. “Primary association” means the use of a habitat area by a listed or priority species for breeding/spawning, rearing young, resting, roosting, feeding, foraging, and/or migrating on a frequent and/or regular basis during the appropriate season(s) as well as habitats that are used less frequently/regularly but which provide for essential life cycle functions such as breeding/nesting/spawning.

196. “Priority habitat” means a habitat type with unique or significant value to one or more species. An area classified and mapped as priority habitat must have one or more of the following attributes: Comparatively high fish or wildlife density; comparatively high fish or wildlife species diversity; fish spawning habitat; important wildlife habitat; important fish or wildlife seasonal range; important fish or wildlife movement corridor;

rearing and foraging habitat; refuge; limited availability; high vulnerability to habitat alteration; unique or dependent species; or shellfish bed. A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to fish and wildlife. A priority habitat may also be described by a successional stage. Alternatively, a priority habitat may consist of a specific habitat element (such as talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain priority and/or non-priority fish and wildlife (WAC 173-26-020(24)).

197. "Priority species" means species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels. Priority species are those that meet any of the criteria listed below.

    Criterion 1. State-listed or state proposed species. State-listed species are those native fish and wildlife species legally designated as endangered (WAC 232-12-014), threatened (WAC 232-12-011), or sensitive (WAC 232-12-011). State proposed species are those fish and wildlife species that will be reviewed by the Department of Fish and Wildlife (POL-M-6001) for possible listing as endangered, threatened, or sensitive according to the process and criteria defined in WAC 232-12-297.

    Criterion 2. Vulnerable aggregations. Vulnerable aggregations include those species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to congregate. Examples include heron colonies, seabird concentrations, and marine mammal congregations.

    Criterion 3. Species of recreational, commercial, and/or tribal importance. Native and nonnative fish, shellfish, and wildlife species of recreational or commercial importance and recognized species used for tribal ceremonial and subsistence purposes that are vulnerable to habitat loss or degradation.

    Criterion 4. Species listed under the federal Endangered Species Act as either proposed, threatened, or endangered (WAC).

198. “Projecting sign” means a sign that is attached to and projects at an angle from a building's exterior wall.

199. "Provisions" means policies, regulations, standards, guideline criteria or environment designations.

200. “Public access” means the public's right to get to and use the state's public waters, the water/land interface and associated shoreline area. It includes physical access that is either lateral (areas paralleling the shore) or perpendicular (an easement or public corridor to the shore), and/or visual access facilitated by scenic roads and

overlooks, viewing towers and other public sites or facilities. See also Community Access.

201. “Public interest” means the interest shared by the citizens of the state or community at large in the affairs of government, or some interest by which their rights or liabilities are affected including, but not limited to, an effect on public property or on health, safety, or general welfare resulting from adverse effects of a use or development.

202. “Public utility” means a use owned or operated by a public or publicly licensed or franchised agency that provides essential public services such as telephone exchanges, electric substations, radio and television stations, wireless communications services, gas and water regulation stations and other facilities of this nature.

203. “Qualified professional or qualified consultant” mean a person with experience and training with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905(4). A qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, soil science, engineering, environmental studies, fisheries, geology, geomorphology or related field, and related work experience and meet the following criteria:
    a. A qualified professional for wetlands means a biologist who has a degree in biology, ecology, botany, or a closely related field and a minimum of five (5) years of professional experience in wetland identification and assessment in Eastern Washington.
    b. A qualified professional for habitat conservation areas means a biologist who has a degree in wildlife biology, ecology, fisheries, or closely related field and a minimum of five (5) years professional experience related to the subject species/habitat type.
    c. A qualified professional for geologically hazardous areas must be an engineer or geologist licensed in the state of Washington. An engineer must be licensed as a civil engineer pursuant to Chapter 18.43 RCW, to qualify. A geologist must be a practicing geologist licensed as a professional geologist pursuant to Chapter 18.22, RCW.
    d. A qualified professional for critical aquifer recharge areas means a Washington State licensed hydro-geologist, geologist, or engineer.

204. “Quasi-public” means uses associated with churches or some non-profit organizations that provide public benefits or services.

205. “Recharge” means the process involved in the absorption and addition of water from the unsaturated zone to ground water.

206. “Recreation” means an experience or activity in which an individual engages for personal enjoyment and satisfaction. Most shore-based recreation outdoor

recreation such as: fishing, hunting, beach combing, and rock climbing; various forms of boating, swimming, hiking, bicycling, horseback riding, camping, picnicking, watching or recording activities such as photography, painting, bird watching or viewing of water or shorelines, nature study and related activities.

207. “Recreational development” means development that provides opportunities for the refreshment of body and mind through forms of play, sports, relaxation, amusement or contemplation. It includes facilities for activities such as, but not limited to, skin diving, hiking, canoeing, kayaking, sailing, photography, viewing and fishing. It also includes facilities with more developed uses such as parks, campgrounds, golf courses and other outdoor recreation areas. It applies to both publicly and privately owned shoreline facilities intended for use by the general public, private club, group or association.

208. “Re-establishment” means measures taken to intentionally restore an altered or damaged natural feature or process including:
    a. Active steps taken to restore damaged wetlands, streams, protected habitat, and/or their buffers to the functioning condition that existed prior to an unauthorized alteration;
    b. Actions performed to re-establish structural and functional characteristics of the critical area that have been lost by alteration, past management activities, or other events; and
    c. Restoration can include restoration of wetland functions and values on a site where wetlands previous existed, but are no longer present due to lack of water or hydric soils.

209. “Rehabilitation” means a type of restoration action intended to repair natural or historic functions and processes. Activities could involve breaching a dike to reconnect wetlands to a floodplain or other activities that restore the natural water regime.

210. “Renovation” means to restore to an earlier condition as by repairing or remodeling. Renovation shall include any interior changes to the building and those exterior changes that do not substantially change the character of the existing structure.

211. “Repair or maintenance” mean an activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design and drain, dredge, fill, flood, or otherwise alter critical areas are not included in this definition.

212. “Resident fish” means a fish species that completes all stages of its life cycle within freshwater and frequently within a local area.

213. “Residential development” means one or more buildings, structures or portions thereof that are designed and used as a place for human habitation. Included are single, duplex or multi-family dwellings, apartment/condominium buildings, mobile homes, short and long subdivisions and other structures that serve to house people.

214. “Restore”, ”restoration” or ”ecological restoration” means the re-establishment 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.

215. “Revetment” means a sloped wall constructed of rip rap or other suitable material placed on stream banks or other shorelines to retard bank erosion from high velocity currents or waves respectively.

216. “Rills” means steep-sided channels resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery. Rill erosion tends to occur on slopes, particularly steep slopes with poor vegetative cover.

217. “Rip rap” means dense, hard, angular rock free from cracks or other defects conductive to weathering used for revetments or other flood control works.

218. “Riparian habitat” is the area adjacent to flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. This habitat includes the area with riparian vegetation and the riparian area of influence, and is delineated by function rather than form. Riparian habitat does not include those artificial riparian areas intentionally created from non-riparian sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, and landscape amenities.

219. “Riparian area” is an area with distinctive hydrology and vegetation between a stream or other body of water and the adjacent upland. This definition includes wetlands and those portions of flood plains and valley bottoms that support riparian vegetation. “Riparian habitat area” is a standard management area on either side of a stream or river that is designed to include the full range of riparian habitat functions. This includes riparian habitat and upland habitat designated by a measurement from the ordinary high water mark.

220. "Riparian vegetation" means vegetation that tolerates and/or requires moist conditions and periodic free flowing water thus creating a transitional zone between aquatic and terrestrial habitats which provides cover, shade and food sources for aquatic and terrestrial insects for fish species. Riparian vegetation and their root systems stabilizes stream banks, attenuates high water flows, provides wildlife

habitat and travel corridors, and provides a source of limbs and other woody debris to terrestrial and aquatic ecosystems, which, in turn, stabilize stream beds.

221. “Road” means an improved and maintained public or private road that provides vehicular circulation or principal means of access to abutting properties and may also include provisions for public utilities, pedestrian walkways, public open space and recreation areas, cut and fill slopes, and drainage.

222. “Roof sign” means a sign erected upon, against, or directly above a roof or on top of or above the parapet of a building; signs on mansard roofs shall be considered wall signs.

223. “Rural conservancy environment” means an area so designated pursuant to this Program.

224. “Seismic hazard areas“ means areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

225. “Sensitive area” means any area that is naturally unsuitable or undesirable for intensive human use or development due to its higher development costs or its value to region or community in its natural or present condition.

226. "SEPA" is the acronym for the State Environmental Policy Act.

227. "Shall" means a mandate; the action must be done.

228. “Shared moorage”, means dock facilities that would include joint use and/or community dock facilities.

229. "Shorelands" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of Chapter 90.58 RCW; the same to be designated as to location by the Department of Ecology. Any county or city may determine that portion of a one-hundred-year-flood plain to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet there from.

230. “Shoreline” means all of the water areas of the state within Douglas County, including reservoirs, and their associated wetlands, together with the lands underlying them; except (a) shorelines of state-wide significance; (b) shorelines on segments of streams upstream of a point where the mean annual flow is twenty feet per second or less and the wetlands associated with such upstream segments; and

(c) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes

231. “Shoreline jurisdiction” means all shorelines of the state and shorelands.

232. "Shoreline modifications" means those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

233. “Shoreline permit” means a shoreline exemption, shoreline substantial development permit, a shoreline conditional use, or a shoreline variance, or any combination thereof issued by Douglas County, the City of Bridgeport, City of East Wenatchee, or City of Rock Island, as appropriate, pursuant to RCW 90.58.

234. “Shoreline residential environment” means an area designated pursuant to this Program.

235. “Shoreline stabilization” is structural or non-structural modifications to the existing shoreline intended to reduce or prevent erosion of uplands or beaches. They are generally located parallel to the shoreline at or near the OHWM. Other construction classified as shore defense works include groins, jetties and breakwaters, which are intended to influence wave action, currents and/or the natural transport of sediments along the shoreline.

236. "Shorelines of statewide significance" means the following shorelines of the state:
    a. Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark;
    b. Those natural rivers or segments thereof as follows: Any east of the crest of the Cascade range downstream of a point where the annual flow is measured at two hundred cubic feet per second or more, or those portions of rivers east of the crest of the Cascade range downstream from the first three hundred square miles of drainage area, whichever is longer;
    c. Those shorelands associated with the above.

237. "Shorelines of the state" are the total of all "shorelines" and "shorelines of statewide significance" within the state.

238. “Should” means that the particular action is required unless there is a demonstrated, compelling reason, based on policy of the Act and this Program, against taking the action.

239. “Side yard” means the distance from the structure, such as a residence, to the parcel line. Examples: in the case of a residence it is the sides, but not the front or rear of the structure. In the case of a structure such as a dock, it means the distance along the shoreline to the parcel line.

240. “Sign” means an identification, description, illustration or device which is affixed to or represented, directly or indirectly, upon a structure or land, and which directs attention to a product, place, activity, person, institution, business or profession.

241. "Solid waste" shall have the same meaning attributed to the term as in Chapter WAC 173-304 as it now exists or may be amended or succeeded.

242. “Spit” means an accretion shoreform that is narrow in relation to length and extends parallel to or curves outward from shore; spits are also characterized by a substantial wave-built sand and gravel berm on the windward side, and a more gently sloping silt or marsh shore on the lagoon or leeward side; curved spits are called hooks.

243. “Statement of exemption” means a written statement by the Administrator that a particular development proposal is exempt from the substantial development permit requirement and is generally consistent with this Program including the policy of the Act (RCW 90.58.020) pursuant to Chapter 6.

244. "Streams" are those areas where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the annual passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined channel swales. The channel or bed need not contain water year round. This definition includes drainage ditches or other artificial water courses where natural streams existed prior to human alteration, and/or the waterway is used by anadromous or resident salmonid or other fish populations.

245. "Substantial development" as defined by RCW 90.58.030.

246. “Substantially degrade” means to cause significant ecological impact.

247. "Toe" means the lowest part of a slope or cliff; the downslope end of an alluvial fan, landslide, etc.

248. "Top" means the top of a slope; or in this Program it may be used as the highest point of contact above a landslide hazard area.

249. “Transportation facilities” means those structures and developments that aid in the movement of people, goods and services across land and water surfaces. They include roads, streets and highways, bridges and causeways, bikeways, trails, railroad facilities, ferry terminals, airports and other related facilities.

250. "Typically adapted" is a term that refers to a species being normally or commonly suited to a given set of environmental conditions, due to some feature of its morphology, physiology, or reproduction.

251. “Unavoidable” means adverse impacts that remain after all appropriate avoidance and minimization measures have been implemented.

252. “Upland” generally means dry lands landward of OHWM. Some usages of the word may also include the area above riparian or wetland vegetation, or the area above the shoreline jurisdictional boundary.

253. “Urban conservancy environment” means an area designated pursuant to this Program.

254. “Utilities” means any water, gas, sanitary or storm sewer, electrical, telephone, irrigation, drainage way, wire or television communication facility and/or service and all persons, companies or governmental agencies furnishing the same. 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.

255. “Utility development” includes but is not limited to facilities for distributing, processing, or storage of water, sewage, solid waste, storm drainage, electrical energy including electronic communications, and their administrative structures, as well as pipelines for petroleum products, and fire fighting facilities. Power plants are considered industrial.

256. "Variance" is a means to grant relief from the specific bulk, dimensional or performance standards set forth in the applicable master program and not a means to vary a use of a shoreline.

257. “Vegetative stabilization” means planting of vegetation to retain soil and retard erosion; reduce wave action, and retain bottom materials. It also means utilization of temporary structures or netting to enable plants to establish themselves in unstable areas.

258. "Very long duration" means a period of inundation from a single event that is greater than one month.

259. “Vessel” means ships, boats, barges, or any other floating craft which are designed and used for navigation and do not interfere with the normal public use of the water.

260. “Visual access” means access that provides a view of the shoreline or water, but does not allow physical access to the shoreline.

261. “Volcanic hazard areas” means geologically hazardous areas that are subject to pyroclastic flows, lava flows, debris avalanche, or inundation by debris flows, mudflows, or related flooding resulting from volcanic activity, as designated in critical area regulations.

262. “Wall sign” means any sign attached to or painted directly on the wall, or erected against and parallel to the wall of a building, not exceeding more than twelve inches from the wall.

263. “Water body” means a body of still or flowing water bounded by the OHWM.

264. "Water craft lift" is an in-water structure used for the dry berthing of vessels above the water level and lowering of vessels into the water periodically. A lift as herein defined is used to berth and launch a single vessel, suspended over the water's surface. A lift is generally a manufactured unit without a canopy cover and may be placed in the water adjacent to a dock or as stand-alone structure. A lift may be designed either for boats or personal watercraft.

265. "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.

266. "Water-enjoyment use" means a recreational use 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.

267. "Water-oriented use" means a use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.

268. “Water quality" means the physical characteristics of water within shoreline jurisdiction, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics. Where used in this Program, the term "water quantity" refers only to development and uses regulated under this Program and affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this Program, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340.

269. "Water-related use" means a use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon 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.

270. "Watershed" means a geographic region within which water drains into a particular river, stream or body of water.

271. "Well head protection area" means the area (surface and subsurface) managed to protect ground water based public water supplies.

272. “Weir” means a structure in a stream or river for measuring or regulating stream flow.

273. “Wet season” means the period generally between November 1 and March 30 of most years when soils are wet and prone to instability. The specific beginning and end of the wet season can vary from year to year depending on weather conditions.

274. “Wetlands” means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances support, a prevalence of vegetation typically 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 for non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass lines 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.

275. “Wetland buffer” means a designated area contiguous or adjacent to a wetland that is required for the continued maintenance, function, and ecological stability of the wetland.

276. “Wetland class” means the general appearance of the wetland based on the dominant vegetative life form or the physiography and composition of the substrate. The uppermost layer of vegetation that possesses an aerial coverage of thirty percent (30%) or greater of the wetland constitutes a wetland class. Multiple classes can exist in a single wetland. Types of wetland classes include forest, scrub/shrub, emergent, and open water.

277. "Wetland delineation" means the precise determination of wetland boundaries in the field according to the application of specific methodology as described in the 1997 Washington State Wetland Delineation Manual or 1987 edition, as amended, Corps of Engineers Wetlands Delineation Manual and the mapping thereof.

278. “Wetland edge” means the boundary of a wetland as delineated based on the definitions contained in this Program.

279. “Wetland mitigation bank” means a site where wetlands and buffers are restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar resources.

280. “Wood waste" means solid waste consisting of wood pieces or particles generated as a byproduct or waste from the manufacturing of wood products, handling and storage of raw materials and trees and stumps. This includes, but is not limited to, sawdust, chips, shavings, bark, pulp, hog fuel, and log sort yard waste, but does not include wood pieces or particles containing chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenate.

Acronym List

BMP Best Management Practice
BOD Biological Oxygen Demand
CRMP Cultural Resource Management Plan
DNR Department of Natural Resources
DOE Department of Ecology
ESA Endangered Species Act
FDA Food and Drug Administration
FEMA Federal Emergency Management Agency
FERC Federal Energy Regulatory Commission
GMA Growth Management Act
HPA Hydraulic Project Approval
IBC International Building Code
LID Low Impact Development
NMFS National Marine Fisheries Service
NRCS Natural Resource Conservation Service
OHWM Ordinary High Water Mark
PUD Public Utility District
RCW Revised Code of Washington
SEPA State Environmental Policy Act
SMA Shoreline Management Act
SMP Shoreline Management Program
TESC Temporary Erosion and Sediment Control
WAC Washington Administrative Code
WDFW Washington Department of Fish and Wildlife

9. Shoreline environment designation maps and descriptions

Environment designation site descriptions:

Columbia River (south to north) is a shoreline of statewide significance and is regulated under the SMP.

All Islands within the Columbia River are designated natural.

RM 441.0 to RM 442.2
Rural Conservancy. Begins at the east boundary of T20R22S13, the Douglas County line, and ends at the northeast corner of T20R22S13, approximately 350 feet east of the western boundary of T20R22S13.

RM 442.2 to RM 442.6
Shoreline Residential. Begins at the northeast corner of T20R22S13, approximately 350 feet east of the western boundary of T20R22S13, and ends at the west half of the east half of T20R22S14, approximately 650 feet east of the west boundary of the Rural Recreation Zoning District near Trinidad.

RM 442.6 to RM 448.5
Natural. Begins at the west half of the east half of T20R22S14, approximately 650 feet east of the west boundary of the Rural Recreation Zoning District near Trinidad, and ends at the south boundary of T21R22S28.

RM 448.5 to RM 455.5
Rural Conservancy. Begins at the south boundary of T21R22S28 and ends in the south half of the south half of T22R22S30, at the eastern edge of the City of Rock Island Urban Growth Area (2006).

RM 455.5 to RM 455.9
High Intensity. Begins in the south half of the south half of T22R22S30, at the eastern edge of the City of Rock Island Urban Growth Area (2006) and ends in the southwest ¼ of T22R21S30, at the eastern edge of the City of Rock City Limits (2008).

RM 459.9 to RM 456.7
High Intensity. Begins at the southeast ¼ of T22R21S25 at the eastern edge of the city limits of Rock Island and ends at the SE ¼ or the SW ¼ of T22R21S25 at the western edge of the city limits of Rock Island (2008).

RM 456.7 to RM 457.2

High Intensity. Begins at the SE ¼ or the SW ¼ of T22R21S25 at the western edge of the city limits of Rock Island and ends at the SE ¼ of T22R21S26 at the western edge of the City of Rock Island Urban Growth Area (2008).

RM 457.2 to RM 459.3
Rural Conservancy. Begins in the southeast ¼ of T22R21S26, at the western edge of the City of Rock Island Urban Growth Area (2008) and ends at the western boundary of T22R21S22.

RM 459.3 to RM 460.1
Natural. Begins at the western boundary of T22R21S22 and ends at the southwest ¼ of T22R21S21. Area owned by the Washington State Department of Fish and Wildlife.

RM 460.1 to RM 461.4
Rural Conservancy. Begins at the southwest ¼ of T22R21S21 and ends in the southwest ¼ of T22R21S20 at the eastern edge of the City of East Wenatchee Urban Growth Area. (2008)

RM 461.4 to RM 461.6
Shoreline Residential. Begins in the southwest ¼ of T22R21S20 at the eastern edge of the City of East Wenatchee Urban Growth Area (2008) and ends at the southeast ¼ of T22R21S19, approximately at the southeast boundary of Hydro Park.

RM 461.6 to RM 463.7
Urban Conservancy. Begins at the southeast ¼ of T22R21S19, approximately at the southeast boundary of Hydro Park, and ends in the SW ¼ of T22R20S13, approximately where Raymond St. would intersect the river.

RM 463.7 to RM 463.8
Shoreline Residential. Begins in the SW ¼ of T22R20S13, approximately where Raymond St. would intersect the river and ends at the east boundary of T22R20S13 with T22R20S14.

RM 463.8 to RM 464.3
High Intensity. Begins at the east boundary of T22R20S14 and ends at the east half of T22R20S14, at the southern extent of the city limits of East Wenatchee (2008).

RM 464.3 to RM 464.8
High Intensity. Begins at the east half of T22R20S14, at the southern extent of the city limits of East Wenatchee (2008), and ends approximately where Grant Road in East Wenatchee would intersect the river in the northwest ¼ of the northeast ¼ T22R20S14.

RM 464.8 to RM 466.4
Urban Conservancy. Begins in the northwest ¼ of the northeast ¼ T22R20S14, approximately where 1st St in East Wenatchee would intersect the river, and ends at the

east-west center line of T22R20S02, approximately where 15th St. in East Wenatchee would intersect the river.

RM 466.4 to RM 466.9
Natural. Begins at the east-west center line of T22R20S02, approximately where 15th St. in East Wenatchee would intersect the river, and ends at the northeast ¼ of the northeast ¼ of T22R20S03, approximately where 19th Street would extend to the river, at the northern extent of the city limits of East Wenatchee.

RM 466.4 to RM 467.3
Natural. Begins at the northeast ¼ of the northeast ¼ of T22R20S03, approximately where 19th Street would extend to the river, at the northern extent of the city limits of East Wenatchee, and ends at the SW ¼ of T23R20S34, approximately where Bellevue St. in East Wenatchee would intersect the river

RM 467.3 to RM 469.4
Urban Conservancy. Begins at the SW ¼ of T23R20S34, approximately where Bellevue St. in East Wenatchee would intersect the river, and ends just north of Odabashian Bridge at T23R20S22.

RM 469.4 to RM 473.3
Natural. Begins just north of Odabashian Bridge at T23R20S22 and ends at the north half of the north half of T23R20S02, just south of Rocky Reach Dam.

RM 473.3 to RM 475.0
Rural Conservancy. Begins at the north half of the north half of T23R20S02, just south of Rocky Reach Dam, and ends at the south boundary of T24R20S25.

RM 475.0 to RM 475.6
Shoreline Residential. Begins at the south boundary of T24R20S25 and ends at the south half of the south half of T24R21S19. Only includes that area zoned Rural Recreation (2008).

RM 475.6 to RM 476.7
Rural Conservancy. Begins at the south half of the south half of T24R21S19 and ends at the south half of the south half of T24R21S18.

RM 476.7 to RM 478.0
Shoreline Residential. Begins at the south half of the south half of T24R21S18 and ends at the southwest ¼ of T24R21S08. Only includes that area zoned Rural Recreation (2008).

RM 478.0 to RM 479.9

Rural Conservancy. Begins at the southwest ¼ of T24R21S08 and ends at the north half of T24R21S05.

RM 479.9 to RM 481.8
Shoreline Residential. Begins at the north half of T24R21S05 and ends at the south half of the north half of T25R21S29. Only includes that area zoned Rural Service Center (2008).

RM 481.8 to RM 490.4
Rural Conservancy. Begins at the south half of the north half of T25R21S29, the beginning of the zoning for the Orondo Rural Service Center, and ends at the south boundary of T26R21S16.

RM 490.4 to RM 491.0
Natural. Begins at the south boundary of T26R21S16 and ends at the east half of the east half of T26R21S16.

RM 491.0 to RM 491.5
Shoreline Residential. Begins at the east half of the east half of T26R21S16 and ends at the NW ¼ of T26R21S15, the northeast corner of Bauer's Landing Rural Recreation zoning designation. Only includes that area zoned Rural Recreation (2008).

RM 491.5 to RM 492.2
Rural Conservancy. Begins at the NW ¼ of T26R21S15, northeast corner of Bauer's Landing Rural Recreation zoning designation, and ends at the SW ¼ of T26R21S10.

RM 492.2 to RM 492.9
Natural. Begins at the SW ¼ of T26R21S10 and ends at the east half of the west half of T26R21S11, the southwest boundary of the Sun Cove Rural Service Center. Area includes the Chelan County Public Utility District properties.

RM 492.9 to RM 494.0
Shoreline Residential. Begins at the east half of the west half of T26R21S11, the southwest boundary of the Sun Cove Rural Service Center, and ends at the east half of the west half of T26R21S12, the northeast boundary of the Sun Cove Rural Service Center zoning boundary (2006). Only includes that area designated Rural Service Center (2006).

RM 494.0 to RM 507.8
Rural Conservancy. Begins at the east half of the west half of T26R21S12, the northeast boundary of the Sun Cove Rural Service Center zoning boundary (2006) and ends at the north-south center line of T27R23S10.

RM 507.8 to RM 523.0
Natural. Begins at the north-south center line of T27R23S10 and ends at the eastern boundary of T29R23S01.

RM 523.0 to RM 530.0
Rural Conservancy. Begins at the eastern boundary of T29R23S01 and ends at the SW ¼ of T30R24S23, Brewster Bridge.

RM 530.0 to RM 532.9
Natural. Begins at the SW ¼ of T30R24S23, Brewster Bridge, and ends at the east boundary of the southwest ¼ of T30R25S19.

RM 532.9 to RM 533.1
Rural Conservancy. Begins at the east boundary of the southwest ¼ of T30R25S19 and ends at the west half of the east half of T30R25S19.

RM 533.1 to RM 535.2
Natural. Begins at the west half of the east half of T30R25S19 and ends at the east half of the east half of T30R25S20.

RM 535.2 to RM 535.7
Rural Conservancy. Begins at the east half of the east half of T30R25S20 and ends at the east half of the east half of T30R25S21.

RM 535.7 to RM 538.7
Natural. Begins at the east half of the east half of T30R25S21 and ends at the east-west center line of T30R25S28.

RM 538.7 to RM 539.0
Rural Conservancy. Begins at the east-west center line of T30R25S28 and ends at the eastern boundary of T30R25S28.

RM 539.0 to RM 540.3
Natural. Begins at the eastern boundary of T30R25S28 and ends in the southwest ¼ of T30R25S34.

RM 540.3 to RM 542.3
Rural Conservancy. Begins in the southwest ¼ of T30R25S34 and ends at the west boundary of T29R25S10, the western boundary of the Bridgeport Urban Growth Area (2008).

RM 542.3 to RM 542.5
Shoreline Residential. Begins at the west boundary of T29R25S10, the western boundary of the Bridgeport Urban Growth Area (2008) and ends at the southern boundary of T29R25S10, at the city limits of Bridgeport.

RM 542.5 to RM 543.1
Shoreline Residential. Begins at the southern boundary of T29R25S10, at the city limits of Bridgeport (2008) and ends at the center of T29R25S15.

RM 543.1 to RM 544.4
Mixed Use. Begins at the center of T29R25S15 and ends at the west half of the east half of T29R25S23, SR 17 Bridge. Includes the area of Bridgeport zoned Tourist Commercial (2008) plus Marina Park.

RM 544.4 to RM 544.7
Urban Conservancy. Begins at the west half of the east half of T29R25S23, SR 17 Bridge, and ends at the west boundary of T29R25S24 at the city limits of Bridgeport (2008)

RM 544.7 to RM 545.4
Urban Conservancy. Begins at the west boundary of T29R25S24 at the city limits of Bridgeport (2008), and ends in the east half of the east half of T29R25S24 at the Bridgeport Urban Growth Area as of 2008.

RM 545.4 to RM 550.6
Rural Conservancy. Begins in the east half of the east half of T29R25S24 at the Bridgeport Urban Growth Area as of 2008 and ends at the west half of the east half of T29R26S03.

RM 550.6 to RM 567.8
Natural. Begins in the west half of the east half of T29R26S03 and ends in the east half of the east half of T30R28S09

RM 567.8 to RM 568.9
Rural Conservancy. Begins in the east half of the east half of T30R28S09 and ends in the east half of the east half of T30R28S10

RM 568.9 to RM 577.3
Natural. Begins in the east half of the east half of T30R28S10 and ends in the east half of the east half of T31R29S35, except RM 575.3 to RM 576.0.

RM 575.3 to RM 576.0
Rural Conservancy. Located in T31R29S34.

RM 577.3 to RM 578.1
Rural Conservancy. Begins in the east half of the east half of T31R29S35 and ends in the east half of the west half of T31R29S36.

RM 578.1 to RM 580.4
Natural. Begins in east half of the west half of T31R29S36 and ends in the east half of the west half of T31R30S33.

RM 580.4 to RM 580.8
Rural Conservancy. Begins in the east half of the west half of T31R30S33 and ends in the east half of the east half of T31R30S33.

RM 580.8 to RM 589.4
Natural. Begins in the east half of the east half of T31R30S33 and ends at the vertical center line of T29R30S01.

RM 589.4 to RM 589.9
Rural Conservancy. Begins at the vertical center line of T29R30S01 and ends at the east side of T29R30S12.

RM 589.9 to RM 595.7
Natural. Begins at east side of T29R30S12 and ends at the Town of Coulee Dam city limits.

RM 595.7 to RM 596.2
Begins at the northern Town of Coulee Dam city limits on the west side of the Columbia River and ends at the Douglas County line. See that jurisdiction's shoreline plan; it is not included in the Douglas County Regional Shoreline Master Program.

Lakes listed here are shorelines of the state and are regulated under the SMP.

Rock Island Lakes:
Blue Heron- entire lake is designated Rural Conservancy.

Big Bow Lake- Within the northeast ¼ of T22R21S23 from 120˚9'19"W by 47˚23'5"N westerly to 120˚9'44"W by 47˚23'1"N, Natural, the remainder of the lake is Rural Conservancy.

Hideaway Lake- Within the southwest ¼ of T22R21S24 from 120˚9'4"W by 47˚23'3"N southerly to 120˚9'3"W by 47˚23'1.5"N, and from 120˚8'37"W by 47˚22'58.5"N southerly to 120˚8'35"W by 47˚22'55"N Rural Conservancy, the remainder of the lake is Natural.

Hammond's Lake- Within the northwest ¼ of T22R22S30 (east side of lake) from 120˚7'26"W by 47˚22'18"N southerly to 120˚7'16"W by 47˚21'56"N, Shoreline Residential, the remainder of the lake is High Intensity.

Marina Lake- Within the northeast ¼ of T22R21S25 (west side of lake) from 120˚8'18"W by 47˚22'30.5"N southerly to 120˚8'17"W by 47˚22'24.5"N, Shoreline Residential, the remainder of the lake is High Intensity.

Pit Lake- Within the northeast ¼ of T22R21S25 (east side of lake) from 120˚8'24"W by 47˚22'36.5"N southerly to 120˚8'24"W by 47˚22'32"N, High Intensity, the remainder of the lake is Shoreline Residential.

Putter's Pond- Within the northwest ¼ of T22R22S30 (north side of lake) from 120˚7'56"W by 47˚22'35"N westerly to 120˚8'21"W by 47˚22'33.5"N, and within the northeast ¼ of T22R21S24 (west side of lake) from 120˚8'21"W by 47˚22'31"N easterly to 120˚8'18"W by 47˚22'31"N, Shoreline Residential, the remainder of the lake is High Intensity.

Interior Lakes:
The following lakes are designated natural in their entirety:
Cornehl, Klinkhammer Lakes, Elbow, Smith, Black, Stallard, Haynes, U292825, U292831, U292922, U302936a, and U302936b.

Bennett Lake- entire lake designated Rural Conservancy.

Wilson Lake- Within the northwest ¼ of T29R29S22 from 119˚8'39"W by 48˚0'9"N westerly to 119˚9'10"W by 48˚0'8"N, Rural Conservancy, the remainder of the lake is Natural.

Jameson Lake- Within the northwest ¼ of T25R26S06 from 119˚36'56.5"W by 47˚41'42.5"N westerly to 119˚37'37"W by 47˚41'45"N and within the southwest ¼ of T25R25S12 from 119˚37'28.5"W by 47˚40'36.5"N southwesterly to 119˚38'4"W by 47˚39'34"N, Rural Conservancy, the remainder of the lake is Natural.

Grimes Lake- Within the northwest ¼ of T26R26S29 from 119˚35'24"W by 47˚43'28.5"N southwesterly to 119˚36'3"W by 47˚43'17.5"N, Rural Conservancy, the remainder of the lake is Natural.

U292902- Within the northwest ¼ of T29R29S02 from 119˚7'53"W by 48˚2'38"N westerly to 119˚7'43"W by 48˚2'29"N, Rural Conservancy, the remainder of the lake is Natural.

Banks Lake- Within T28R29S22 Rural Conservancy, within T28R29S29, T26R28S01, T26R28S14, T26R28S22, T25R28S04, T25R28S09, T25R28S20, and T25R28S29 Natural.

Shoreline environment designation maps:

Appendix A. Inventory and analysis

A.1 Ecosystem-wide processes and characterization

This section applies to the ecosystem-wide functions and processes described in WAC 173.206.201 (3)d.i. The discussion includes climate and weather, geology, soils, vegetation and land uses, water resource development, hydrography, hydrology, water quality, water uses, aquatic/fish resources, limiting factors, riparian condition, fine sediment, water quantity and quality, agricultural, urban and rural development, exotic species, terrestrial/wildlife resources, and a discussion on habitat types. It is important to keep in mind that within Douglas County there are no streams or rivers except for the Columbia River, so several elements suggested in the WAC guidelines do not apply, such as discussions on base flows, timing, volume and distribution of large woody debris, channel migration and others.

Nearly all of the lakes are isolated and are closed basins. Area of drainage was not determined for most as the topography is flat to lightly rolling making boundaries difficult to discern- both in GIS and on paper. Many are alkaline and very little information, if any, exists for them. Lakes are specifically discussed in the reach sections because most have only one or two reaches. Hyporheic functions are largely unknown within the area.

The spatial and temporal connectivity within watersheds and along shorelines were considered using a habitat rating system described in the geographic information system (GIS) inventory description. Drainage networks are largely open and connected between the interior lakes, but restricted either vertically or horizontally along the river, typically by development or roads. This was also addressed in the aforementioned analysis. One component of drainages running into the Columbia River is their use as corridors for mule deer. It is recognized that these exist, although the area along the jurisdictional area of the river is minimal. Douglas County critical areas standards are included in Appendix H and address this subject.

Climate and Weather

The climate of Douglas County is influenced by elevation, topography, distance and direction from the ocean, prevailing westerly winds and the position and intensity of the high and low pressure centers in the western Pacific Ocean. Located in the rain shadow of the Cascade Mountain Range, the area is classified as arid to semiarid with low levels of annual precipitation, cold winters and hot, dry summers. Precipitation can vary widely in relation to topographic features but in general much of the subbasin receives less than 15 inches of annual precipitation and most of that precipitation falls in winter.

Air temperatures vary widely depending on topography and location. Summertime air temperatures generally exceed 100 ºF for one to several days each year. Winter temperatures can also drop below 0 ºF, but in general they are in the 20 to 40 ºF range.

Along the Columbia River, winter and spring air temperatures remain very stable. The growing season ranges from 170 days (May-September) at Bridgeport and East Wenatchee to 135 days on the eastern plateau.

Due to the climate and geology, interior lakes and wetlands can vary quite dramatically from year to year. Most of the lakes are closed basins, so dryer and wetter years affect water quantity and quality.

Geology

Douglas County's topography ranges from lowland areas along the Columbia River corridor to a high point on Badger Mountain with an approximate elevation of 4100 feet, but it is, for the most part, a mildly rolling plateau. Besides being surrounded by water, the County has several streams and lakes that provide a range of recreational opportunities.

Douglas County is located close to the geographical center of Washington State. It lies on the northern edge of the Columbia Basin in the shelter of the Cascade Mountains to its West. It is bordered on the north and west by the Columbia River and on the east by the Grand Coulee Equalization Reservoir (Banks Lake) and Sun Lakes. Roughly oval in shape, it is about 70 miles long and 40 miles wide encompassing 1,831 square miles with its main axis lying in a northeasterly direction.

Douglas County is on the western edge of the extensive Columbia River Plateau formed by the extrusion of lava throughout much of Eastern Washington during the Eocene, Miocene and Pliocene epochs. The region was warped into the form of broad basins, some of which were formed by locally steeper folding and by faulting. During the Pleistocene or glacial epoch, the sub-basins accumulated deposits of clay, silt, sand and gravel. Some of the deposits left by the glaciers are more conspicuous. The gigantic blocks of basalt called haystack rocks (some of which are larger than a good sized house) were transported by glaciers and dropped in an area known as a terminal moraine, which marks the end of the glaciers' southward journey.

Three physiographic areas influence the geology of Douglas County and the Columbia River: the Columbia Mountain/Highlands to the north, the North Cascade Range to the west and the Columbia Basalt Plain to the east and south. The Columbia River flows over mainly Paleozoic metamorphic and intrusive rocks north of Rock Island Dam, while south of the dam the river passes through the Columbia basalt group. Major landforms include Dyer Hill, Waterville Plateau, Moses Coulee, and the Badger Mountain area.

Soils

The US Department of Agriculture has recognized 16 separate soil types within Douglas County. Along the Columbia River corridor the soils are predominantly sandy and gravely, which, when combined with irrigation, provide an excellent medium for orchards. Except for those found in the coulees and other geologic breaks, the remaining soils are typically a form of silt-loam utilized primarily for dryland row crops.

Vegetation/Land Uses
Vegetation in Douglas County consists mainly of steppe and shrub steppe vegetation interspersed with dryland agriculture and CRP. Forest vegetation is generally confined to the Badger Mountain area and in pockets on steep slopes along the Columbia River. Along the Columbia River below Chief Joseph Dam irrigated agriculture is common. Present vegetative communities vary widely from historic conditions because much of the county is cultivated or grazed by livestock.
Major land uses in include agriculture, livestock grazing, and suburban development. As the human population in the area grows, pressure on natural resources intensifies. There are six incorporated cities within the County; Bridgeport, Coulee Dam, East Wenatchee, Mansfield, Rock Island, and Waterville. Bridgeport, Coulee Dam, East Wenatchee and Rock Island are all located adjacent to the Columbia River.

Water resource development
Five Columbia River dams are located within Douglas County: Chief Joseph, Wells, Rocky Reach, Rock Island, and Wanapum dams. All Columbia River dams, with the exception of Chief Joseph Dam, have upstream fish passage facilities and also provide downstream passage for juvenile salmonids through collection facilities or fish spill. These dams provide an economical power supply and numerous recreational and economic benefits. Grand Coulee Dam is immediately adjacent to Douglas County (in Grant County) although the operations affect Lake Rufus Woods and operations of all hydro-electric facilities below it.

Hydrography
The Columbia River travels about 155 river miles, forming the county's boundary on the north and west. Below Chief Joseph Dam, the Columbia River flows in a westerly direction and turns south at the eastern edge of the Cascade Mountains. Several minor tributaries and drainages join this stretch of the Columbia. These include: Foster, Pine Canyon, Rock Island, and Moses Coulee drainages. Jameson and Grimes Lakes are the largest lakes (coulee lakes) in the county. The two largest watersheds located within the county are Foster Creek (WRIA 50) and Moses Coulee (WRIA 44). Grand Coulee Equalization Reservoir (Banks Lake) and the Sun lakes border the east.

Hydrology
Hydrology in the area primarily reflects a snowmelt system. Generally, snow accumulates in the surrounding areas from November to March, then melts and produces peak runoff during April and May, although the Columbia River peaks in May/June. During late summer and fall, stream flows in tributary streams often decline substantially and remain relatively low through April. Heavy rainfall in late fall or early winter can also lead to increased runoff, and in the past these rain-on-snow events in the eastern Cascades have caused some of the most significant flooding events in the region.

Water quality- Columbia River
The Columbia River has been classified by Ecology as “Class A” water. On a scale ranging from Class AA (extraordinary) to Class C (fair), Class A waters are rated as excellent. State and federal regulations require that Class A waters meet or exceed certain requirements for all uses. There is still cause for concern. Primary concerns include levels of dissolved gases, changes in stream temperatures, turbidity levels and exposure to environmental contaminates above biological thresholds for fish species utilizing the river. These concerns are generally related to hydropower production, past mining practices, and agriculture. The hydroelectric projects in Douglas County on the Columbia River are “run-of-river” with reservoirs that have little storage capacity. Water velocities are generally fast enough to prevent the formation of a thermocline and the associated depletion of oxygen in deeper waters. Water quality parameters affected by hydropower production include TDG, water temperature, dissolved oxygen, turbidity, suspended sediments and nutrients.

Water uses
Flows in the Columbia River are regulated and managed to provide for hydropower production, flood control, fish passage, irrigation, and other uses. Instream flows for the Columbia River were first established in 1980 under the Instream Resources Protection Program (codified in Chapter 173-563 WAC).

Aquatic/Fish resources
The waters within the lakes, streams and Columbia River support at least 42 species of indigenous and introduced fish. At least five anadromous fish species are found in the Columbia River, including spring, summer/fall Chinook (*Oncorhynchus tshawytscha*), summer steelhead (*O. mykiss*), sockeye salmon *(O. nerka*), Coho salmon (*O. kisutch),* and pacific lamprey (*Lampetra tridentata*). The Columbia River serves as a spawning, rearing and migration corridor to and from the Pacific Ocean each year for adult and juvenile salmon, steelhead, and pacific lamprey. Most fish species however, spawn and rear in tributary streams away from the Columbia River. Fall Chinook salmon spawning has been observed in limited areas in the Columbia River and in the mouth of the Chelan River.

Whitefish, sturgeon, trout, and char were the dominant resident species in the river before reservoir inundation. Bull trout, rainbow, white fish and white sturgeon are currently present in the reservoir along with numerous non-native species. Rainbow trout are present in the mid-Columbia reservoirs; however they are likely the result of hatchery steelhead and resident rainbow trout production programs in nearby tributaries. Resident rainbow trout do not appear to be self-sustaining in the reservoirs, though self-sustaining populations of rainbow, cutthroat, and brook trout are maintained in the tributaries (Chelan County PUD 1998; Zook 1983). It is believed that white sturgeon also spawn in the Columbia River (Chelan County PUD, unpublished data, 2001; Grant County PUD re-licensing documents, 2002).
Hydropower development and production in the mid-Columbia created a subsequent shift in resident species composition toward dominance by cool water non-game

species such as sucker, chub, northern pikeminnow, and shiners. Walleye, bass, peamouth, chiselmouth, carp, and perch are also found in the system.

Most of the lakes within Douglas County are of two types, coulee and kettle lakes, but also include the oxbow lakes around the City of Rock Island formed by the Columbia River. Most of the interior lakes are alkaline, although the two largest lakes support fish (Jameson and Grimes). Jameson is stocked annually by WDFW with rainbow trout and Grimes has Lahontan cutthroat trout. Both lakes have algae blooms. Peter Burgoon, Water Quality Engineering, has been providing assistance to the Douglas County Watershed Planning Association for investigating the algae and water quality concerns. The main concerns have been blue green algae- *Microcystis* capable of producing toxins (mid summer) and the *Oscillatoria* spp. that turns the lakes red in late fall/winter, although the coloration can occur at anytime.

In 2005 the peak *Oscillatoria* at the start of fishing season (end of April) followed by a muddy brown color in July just before the fish kill. The fish kill was caused by low oxygen when the algae count went from 1,200,000 to 300,000 counts/liter in a two week period.

Limiting Factors

A combination of factors has negatively impacted the viability several species within the area. These include, residential development and urbanization, road construction and maintenance, mining, grazing, hydropower development and water diversions, forest management, fish management (hatcheries and harvest regulations); entrainment (process by which aquatic organisms are pulled through a diversion or other device) into diversion channels, and exotic species. The affects of these actions is to degrade and fragment fish and wildlife habitat.

Riparian Condition

Undisturbed riparian systems are rare in the region. Riparian habitat diversity has declined and is undeveloped in some areas, whereas other areas have increased. Low-bank riparian habitat is extremely rare along the river and some areas that were once dominated by cottonwood have been lost. Some of this habitat was lost because of the development of hydropower on the river that altered the natural flood regime. However, in many areas, extremely high flow events prior to installation of the dams scoured what little vegetation there was. Shorelines along the Columbia River now tend to exhibit lake fringe riparian conditions in many areas, not historically present. Other factors, including agricultural conversion and water withdrawals have also impacted riparian systems in the region. As a result, some of the upper middle Columbia now exhibits steep shorelines and sparse riparian vegetation that provide limited fish and wildlife habitat.

Embayments connected to the Columbia River Columbia via culverts, small channels or elevated water tables, provide special wildlife values (e.g. Rock Island Lakes). The reduced water fluctuation and protection from wave action is beneficial to wildlife,

directly and indirectly, and as a result those conditions promote diverse riparian and wetland vegetative communities.

Fine Sediment
Smoothing of the hydrograph and lack of significant reservoir fluctuation from Columbia Basin hydroelectric development has increased the amount of fine sediment present in Columbia River cobble substrate, especially in the lower portions of reservoirs. Columbia River anadromous salmonid spawning is concentrated at the upstream portions of reservoirs, where it is generally assumed river hydraulics are sufficient to maintain well-sorted substrates that are relatively free of fine sediment. Water velocity in the upstream reservoir areas is also sufficient for adult anadromous salmonids to move cobble substrate for redd construction.

Water Quantity and Quality
Columbia River flows average more than 180,000 cubic feet per second (cfs) in the region. Most of this flow comes from upriver areas in the Columbia River Basin. Upriver contributions from the Columbia Basin in Canada provide 99,200 cfs of average flow in the Columbia River, and much of the balance comes from the Kettle and Spokane rivers. Average flow contributions from the three largest tributaries in the area (the Okanogan, Methow and Wenatchee rivers) provide another 7,860 cfs to the Columbia River Columbia River. Hydroelectric operations at Grand Coulee Dam greatly influence river flows for downstream hydroelectric operations.

Agricultural Development
Agricultural development in the region has altered or eliminated approximately one third of the native shrub steppe habitat and fragmented riparian/floodplain habitat. Agricultural operations have increased sediment loads and introduced pesticides and fertilizers into streams, wetlands, and other water bodies. Conversion to agriculture has decreased the overall quantity of habitat for many native species, but disproportionate loss of specific communities, such as deep soil shrub steppe may be particularly critical for certain habitat specialists. The quality of remaining habitat is reduced as fragmentation increases especially for core sensitive species.

Urban and Rural Development
Residential/urban sprawl and rural development have resulted in the loss of large areas of habitat and have increased fragmentation and harassment of wildlife, particularly large areas of habitat that functions as winter refuge for native wildlife. Most of these areas are at low elevations and are along the Columbia River corridor. In addition, the lower Moses Coulee area serves as winter range for several species, primarily mule deer. As the human population continues to grow, urban and rural residential areas continue to spread into once wild areas and agricultural lands that may have been prime habitat for wildlife. Also, proximity to agriculture or suburban development leads to a high density of nest parasites (brown-headed cowbird), exotic nest competitors (European starling), and domestic predators (cats). Disturbance by humans in the form of highway traffic, noise and light pollution, and recreational activities (particularly during

nesting season and in high-use recreation areas) also have the potential to displace fish and wildlife and force them to use less desirable habitat. For example, the state highways along both sides of the Columbia River from Wenatchee to Brewster have high rates of automobile accidents involving deer.

While urban areas comprise only a small percentage of the land base within the county, their habitat impacts are significant. Cities and towns within the region are largely built along streams and rivers. Channelization and development along streams has eliminated riparian and wetland habitats. Expansion of urban areas creates stormwater drainage, and homes built along streams have affected both water quality and the ability of the floodplain to function normally. Removal of woody, overhanging vegetation along some of the stream corridors may have increased stream temperatures to the point that they are unable to support coldwater biota. In addition, mowing, burning, and tillage of developed uplands removes habitat for upland nesting birds such as red-winged blackbird and gadwall.

Rural development patterns are also a great concern for fish, wildlife, and their habitats. Several areas have had land subdivided into lots small enough that fragmentation, noxious weeds, continuous disturbance by domestic animals, and similar issues are having negative impacts. One example of that is along the Columbia River where shoreline development is occurring in many places and is at high risk of negatively affecting fish and wildlife on both sides of the river from Chief Joseph Dam to Wanapum Dam. Shoreline development in this area is likely to affect migrating birds and water quality, and it separates the shore from the uplands for terrestrial species.

Exotic Species

The spread of non-native plant and wildlife species poses a threat to wildlife habitat quality and to fish and wildlife species. Noxious weeds (e.g., cheatgrass, thread-leaved sedge, diffuse knapweed, Dalmatian toadflax, reed canary grass, purple loosestrife, perennial pepperweed, Russian knapweed, Canada thistle, Russian olive, etc.) can threaten the abundance of native wetland and upland plant species utilized by wildlife. For example, Eurasian water milfoil surveys conducted by the CCPUD during the mid 1980s found that milfoil is infiltrating native aquatic plant beds and displacing these native plant species (NPCC 2002). Knapweed and Dalmatian toadflax are two target species of plants that several agricultural programs work to retard along roads and in shrub steppe areas. Exotic fish and wildlife species (e.g., carp, European starling, walleye, and smallmouth bass) can compete with native fish and wildlife for resources, potentially leading to the decline of the native species. For example, carp within a wetland disturb submergent vegetation and destroy habitat for emergent aquatic insects and thus affect the productivity of the wetland.

Terrestrial / Wildlife resources

There are an estimated 349 wildlife species that likely occur in the county (NPCC, 2003). Of these species, 111 (31%) are closely associated with riparian and wetland habitat and 74 (21%) consume salmonids during some portion of their life cycle. Three wildlife species that occur in the area are listed federally and 30 species are listed in Washington as Threatened, Endangered, or Candidate species. A total of 98 bird species are listed as Washington or Idaho State Partners in Flight priority and focal species. A total of 50 wildlife species are managed as game species in Washington.

Habitat Types

Douglas County has 10 wildlife habitat types, which are briefly described in the table below. Detailed descriptions of these habitat types can be found in Appendix B of Ashley and Stovall (unpub. rpt., 2004). Much of this section comes whole or part from their report.

Dramatic changes in wildlife habitat have occurred throughout the region since pre-European settlement (circa 1850). The most significant habitat losses include the loss of 39 percent of shrub steppe habitat.

Wildlife habitat types within the region (IBIS, 2003).

Habitat Type	Brief Description
Eastside (Interior) Mixed Conifer Forest	Coniferous forests and woodlands, Douglas-fir commonly present, up to 8 other conifer species present, understory shrub and grass/forb layers typical, mid-montane.
Ponderosa Pine Woodland	Ponderosa pine dominated woodland or savannah, often with Douglas-fir; shrub, forb, or grass understory; lower elevation forest above steppe, shrub steppe.
Upland Aspen Forest	Quaking aspen (*Populus tremuloides*) is the characteristic and dominant tree in this habitat. Scattered ponderosa pine (Pinus ponderosa) or Douglas-fir (Pseudotsuga menziesii) may be present.
Eastside (Interior) Grasslands	Dominated by short to medium height native bunchgrass with forbs, cryptogam crust.
Shrub steppe	Sagebrush and/or bitterbrush dominated; bunchgrass understory with forbs, cryptogam crust.
Agriculture, Pasture, and Mixed Environs	Cropland, orchards, vineyards, nurseries, pastures, and grasslands modified by heavy grazing; associated structures.
Urban and Mixed Environs	High, medium, and low (10-29 percent impervious ground) density development.
Open Water – Lakes, Rivers, and Streams	Lakes, are typically adjacent to Herbaceous Wetlands, while rivers and streams typically adjoin Eastside Riparian Wetlands and Herbaceous Wetlands
Herbaceous Wetlands	Generally a mix of emergent herbaceous plants with a grass-like life form (graminoids). Various grasses or grass-like plants dominate or co-dominate these habitats.
Eastside (Interior) Riparian Wetlands	Shrublands, woodlands and forest, less commonly grasslands, often multi-layered canopy with shrubs, graminoids, forbs below.

Shrub steppe occurred primarily in the eastern areas of the region and included three shrub-dominated steppe vegetation zones: three-tipped sage, central arid and big sage/fescue (Cassidy 1997).

Sage sparrows, Brewer's sparrows, sage thrashers, and sage grouse are considered shrub steppe obligates, and numerous other species are associated primarily with shrub steppe at a regional scale. In a recent analysis of birds at risk within the interior Columbia Basin, the majority of species identified as of high management concern were shrub steppe species. Over half of these species have experienced long-term population declines (Saab and Rich 1997).

Eastside (Interior) Riparian Wetlands

Prior to 1850, riparian habitats were found at all elevations and on all stream gradients; they were the lifeblood for most wildlife species with up to 80 percent of all wildlife species dependent upon these areas at some time in their lifecycle (Thomas 1979). Many riparian habitats were maintained by beaver activity which was prominent throughout the west. Beaver-dammed streams created pools that harbored fish and other species; their dams also reduced flooding and diversified and broadened the riparian habitat. The other important ecological process which affected riparian areas was natural flooding that redistributed sediments and established new sites for riparian vegetation to become established.

Riparian vegetation was restricted in the arid Intermountain West, but was nonetheless fairly diverse. It was characterized by a mosaic of plant communities occurring at irregular intervals along streams and dominated singularly or in some combination by grass-forbs, shrub thickets, and mature forests with tall deciduous trees. Common shrubs and trees in riparian zones included several species of willows, red-osier dogwood, hackberry, mountain alder, Wood's rose, snowberry, currant, black cottonwood, water birch, paper birch, aspen, peachleaf willow, and mountain alder. Herbaceous understories were very diverse, but typically included several species of sedges along with many dicot species.

Riparian areas have been extensively impacted within the Columbia Plateau such that undisturbed riparian systems are rare (Knutson and Naef 1997). Impacts have been greatest at low elevations and in valleys where agricultural conversion, altered stream channel morphology, and water withdrawal have played significant roles in changing the character of streams and associated riparian areas. Losses in lower elevations include large areas once dominated by cottonwoods that contributed considerable structure to riparian habitats. In higher elevations, stream degradation occurred with the trapping of beaver in the early 1800s, which began the gradual unraveling of stream function that was greatly accelerated with the introduction of livestock grazing. Woody vegetation has been extensively suppressed by grazing in some areas, many of which continue to be grazed. Herbaceous vegetation has also been highly altered with the introduction of Kentucky bluegrass that has spread to many riparian areas, forming a sod at the

exclusion of other herbaceous species. The implications of riparian area degradation and alteration are wide ranging for bird populations which utilize these habitats for nesting, foraging and resting. Secondary effects which have impacted insect fauna have reduced or altered potential foods for birds as well.

Within the past 100 years, an estimated 95 percent of this habitat has been altered, degraded, or destroyed by a wide range of human activities including river channelization, unmanaged livestock grazing, clearing for agriculture, water impoundments, urbanization, timber harvest, exotic plant invasion, recreational impacts, groundwater pumping, and fire (Krueper Unknown). Together, these activities have dramatically altered the structural and functional integrity of western riparian habitats (Johnson *et al.* 1977; Dobyns 1981; Bock *et al.* 1993; Krueper 1993; Fleischner 1994; Horning 1994; Ohmart 1994, 1995; Cooperrider and Wilcove 1995; Krueper 1996). At present, natural riparian communities persist only as isolated remnants of once vast, interconnected webs of rivers, streams, marshes, and vegetated washes.
Quigley and Arbelbide (1997) concluded that the cottonwood-willow cover type covers significantly less in area now than before 1900 in the Inland Pacific Northwest. The authors concluded that although riparian shrubland occupied only 2 percent of the landscape, they estimated it to have declined to 0.5 percent of the landscape. Approximately 40 percent of riparian shrublands occurred above 3,280 feet msl prior to 1900; now nearly 80 percent is found above that elevation. This change reflects losses to agricultural development, road development, dams, and other flood-control activities. The current riparian shrublands contain many exotic plant species and generally are less productive than historically. Quigley and Arbelbide (1997) found that riparian woodland was always rare and the change in extent from the past is substantial.

The Northwest Habitat Institute (NHI) riparian habitat data are incomplete; therefore, riparian floodplain habitats are not well represented on NHI maps (accurate habitat type maps, especially those detailing riparian/wetland habitats, are needed to improve assessment quality and support management strategies/actions). Subbasin wildlife managers, however, believe that significant physical and functional losses have occurred to these important riparian habitats from hydroelectric facility construction and inundation, agricultural development, and livestock grazing.
Riparian wetland habitat dominated by woody plants is found throughout eastern Washington. Mountain alder-willow riparian shrublands are major habitats in the forested zones of eastern Washington. Eastside lowland willow and other riparian shrublands are the major riparian types throughout eastern Washington at lower elevations. Black cottonwood riparian habitats occur throughout eastern Washington at low to middle elevations. Quaking aspen wetlands and riparian habitats are widespread but rarely a major component throughout eastern Washington. Ponderosa pine-Douglas-fir riparian habitat occurs only around the periphery of the Columbia Basin in Washington and up into lower montane forests.

Riparian wetland habitat appears along perennial and intermittent rivers and streams. This habitat also appears in impounded wetlands and along lakes and ponds. Their

associated streams flow along low to high gradients. The riparian and wetland forests are usually in fairly narrow bands along the moving water that follows a corridor along montane or valley streams. The most typical stand is limited to 100-200 feet from streams. Riparian forests also appear on sites subject to temporary flooding during spring runoff. Irrigation of stream sides and toe slopes provides more water than precipitation and is important in the development of this habitat, particularly in drier climatic regions. Hydro-geomorphic surfaces along streams supporting this habitat have seasonally to temporarily flooded hydrologic regimes. Eastside riparian wetland habitats are found from 100 to 9,500 feet in elevation.

Eastside riparian wetland habitat occurs along streams, seeps, and lakes within the eastside mixed conifer forest, ponderosa pine forest and woodlands, western juniper and mountain Mahogany woodlands, and part of the shrub steppe habitat. This habitat may be described as occupying warm montane and adjacent valley and plain riparian environments. Eastside riparian wetland habitat structure includes shrublands, woodlands, and forest communities. Stands are closed to open canopies and often multi-layered. A typical riparian habitat would be a mosaic of forest, woodland, and shrubland patches along a stream course. The tree layer can be dominated by broadleaf, conifer, or mixed canopies. Tall shrub layers, with and without trees, are deciduous and often nearly completely closed thickets. These woody riparian habitats have an undergrowth of low shrubs or dense patches of grasses, sedges, or forbs. Tall shrub communities (20-98 feet, occasionally tall enough to be considered woodlands or forests) can be interspersed with sedge meadows or moist, forb-rich grasslands. Intermittently flooded riparian habitat has ground cover composed of steppe grasses and forbs. Rocks and boulders may be a prominent feature in this habitat.

Herbaceous Wetlands

According to the Interactive Biodiversity Information System (IBIS) database (2003), there are an estimated 3,514 acres of herbaceous wetland habitat currently in the Subbasin, which is an underestimate while an analysis of National Wetlands Inventory NWI data (Publication FWS 1999-0518) estimated 6,032 acres. Subbasin planners relied on a combination of data sources to depict current herbaceous wetlands distribution in the subbasin. Although there are no historic data to make comparisons, the actual number of acres or absolute magnitude of the change is less important than recognizing a loss of herbaceous wetlands habitat has occurred and the lack of permanent protection continues to place this habitat type at further risk.

Habitat Structure and Composition

Physical

Herbaceous wetlands include depressional wetlands of two basic types: lacustrine and palustrine (i.e., around lakes/ponds and swampy areas). This habitat is found on permanently flooded sites that are usually associated with oxbow lakes, dune lakes, or potholes. Seasonally to semi-permanently flooded wetlands are found where standing freshwater is present through part of the growing season and the soils stay saturated throughout the season. In the Columbia Basin, many of the herbaceous wetlands lie in

topographic depressions that are not within the active channel of a stream or river. Wetlands in an active channel or that are frequently flooded (at least once every two years) are classified as “riverine”. Depressional wetlands are located in the channeled scablands, wind blown loess and sand dunes, glacial kettles or potholes, and alluvial and basalt terraces, particularly along the Columbia River (Hruby and Stanley 2000).

Herbaceous wetlands are also classified as either alkali or freshwater wetlands. Alkali wetlands are not as common on the landscape as freshwater wetlands in the Columbia Basin, but they do provide some unique habitat features. The ecological processes in these wetlands are dominated by the high salt concentrations in the water. The most visible result of the salt is a unique set of plants that have adapted to these conditions. Only a few species have adapted to these conditions and the species richness in alkali systems is much lower than in freshwater systems. Although richness may be low, abundance can be very high for those species that have adapted (especially among some invertebrates) (Hruby and Stanley 2000).
Depressional freshwater wetlands are defined as those whose conductivity is consistently below 2000 µSiemens/cm. The water regime in non-alkali wetlands tends to be dominated by surface runoff or groundwater in areas where inflow exceeds water losses through evaporation or evapo-transpiration.

Herbaceous wetland habitat is maintained through a variety of hydrologic regimes that limit or exclude invasion by large woody plants. Habitats are permanently flooded, semi-permanently flooded, or flooded seasonally and may remain saturated through most of the growing season. Most wetlands are resistant to fire and those that are dry enough to burn usually burn in the fall. Most plants are sprouting species and recover quickly. Beavers play an important role in creating ponds and other impoundments in this habitat. Trampling and grazing by large native mammals is a natural process that creates habitat patches and influences tree invasion and success (IBIS 2003).

During years with adequate precipitation, wetlands in Grant, Douglas, Okanogan, and Lincoln counties support the most productive and diverse waterfowl breeding communities in the Pacific Northwest. Grasslands and shrub steppe habitats surrounding these wetlands provide habitat for upland nesting ducks. The Columbia Basin Irrigation Project has created numerous wetlands that are more persistent but less productive for breeding waterfowl as a result of wetland succession and invasion by exotic, undesirable vegetation. The crops that are grown in this Subbasin, in concert with large reservoirs, wetlands, canals, and wasteways provide ideal conditions for many species of migrating and wintering waterfowl (Quinn 2001).

Vegetative
The herbaceous wetland habitat is generally a mix of emergent herbaceous plants with a grass-like life form (graminoids). Various grasses or grass-like plants dominate or co-dominate these habitats. Cattails (*Typha latifolia*) occur widely, sometimes adjacent to open water with aquatic bed plants. Several bulrush species (*Scirpus acutus, S. tabernaemontani, S. maritimus, S. americanus*, *S. nevadensis*) occur in nearly pure

stands or in mosaics with cattails or sedges (*Carex* spp.). These meadows often occur with deep or shallow water habitats with floating or rooting aquatic forbs. Herbaceous cover is open to dense. The habitat can be comprised of tule marshes >6.6 ft (2 m) tall or sedge meadows and wetlands <3.3 ft (1 m) tall. Shrubs or trees are not a common part of this herbaceous habitat although willow (*Salix* spp.) or other woody plants occasionally occur along margins. Important introduced grasses that increase and can dominate with disturbance in this wetland habitat include reed canary grass (*Phalaris arundinacea*), tall fescue (*Festuca arundinacea)* and Kentucky bluegrass (*Poa pratensis*) (IBIS 2003).

Many plants found in alkali systems are unique such as *Distichlis spicata, Scirpus maritimus* or *Scirpus americanu*s. These plants tend to be sparse and relatively short (<1m). As a result, alkali systems often have extensive mudflats and meadows of short grass that attract certain species of waterfowl and shorebirds. Alkali wetlands provide critical habitat for many species of migratory birds (Hruby and Stanley 2000).

Fresh water wetlands with water present greater than nine months typically have a ring of bulrush *(Scirpus spp*.) or cattails *(Typha spp*.) around an area of open water (or mudflats in very dry years). White water buttercup *(Ranunculus aquatili*s), burreed *(Sparganium emersum*), American water-plaintain *(Alisma plantago-aquatica*), or American water-plaintain *(Alisma plantago-aquatic*a) can also be present (Hruby and Stanley 2000).

Herbaceous wetlands are often in a mosaic with shrub- or tree-dominated wetland habitat. Woody species can successfully invade emergent wetlands when this herbaceous habitat dries. Emergent wetland plants invade open-water habitat as soil substrate is exposed; e.g., aquatic sedge and Northwest Territory sedge (*Carex utriculata*) are pioneers following beaver dam breaks. As habitats flood, woody species decrease to patches on higher substrate (soil, organic matter, and large woody debris) and emergent plants increase unless the flooding is permanent. Fire suppression can lead to woody species invasion in drier herbaceous wetland habitats (IBIS 2003).

A.2 Data inventory and materials

The inventory is a compilation of all pertinent and available data, plans, studies, inventories, and other applicable information. Existing reports, information, aerial photos and GIS data were thoroughly evaluated (see characterization for details). Working inventory maps were created at the appropriate scale for analysis for use by the technical group to assist with decisions on reach breaks, data inclusion or exclusion, assumptions, and other related planning.

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USGS, 2003. Higgins, Johnna L. Determination of Upstream Boundary Points on Southeastern Washington Streams and Rivers Under the Requirements of the Shoreline Management Act of 1971. Prepared in cooperation with the Washington Department of Ecology, Tacoma, Washington. Water-Resources Investigations Report 03-4042.

A.3 Characterization

Characterization - The following information was collected and mapped in GIS:

1. Shoreline and adjacent land use patterns, transportation, and utility facilities, including the extent of existing structures, impervious surfaces, vegetation and shoreline modifications in shoreline jurisdiction.
2. Critical areas, including wetlands, aquifer recharge areas, fish and wildlife conservation areas, geologically hazardous areas, frequently flooded areas, and shorelines of statewide significance.
3. Degraded areas and sites with potential for ecological restoration. Criteria for selection of these sites will be assembled in conjunction with Douglas County staff and the technical committee.
4. Areas of special interest, such as priority habitats, rapidly developing waterfronts, previously identified toxic or hazardous material clean-up sites, or eroding shorelines.
5. Existing and potential shoreline public access sites, including public rights-of-way and utility corridors.
6. Conditions and regulations in shore lands and adjacent areas that affect shorelines, such as surface water management and land use regulations.

GIS information sources:
Chelan Public Utility District- erosion, aquatic plan and rare plant surveys.
Grant Public Utility District- erosion, habitat inventory
Washington Department of Ecology- Rivers, streams and lakes under shoreline jurisdiction
Washington Department of Fish and Wildlife- Priority Habitat and Species datasets
Farm Services Agency- digital aerial photos, 2004 and 1947
Douglas County- 1994 digital aerial photo, parcel layer, urban growth areas, roads
US Fish and Wildlife Service- National Wetlands Inventory (NWI)
NRCS- Douglas County soils inventory

Some errors were corrected with discussion with the Corps of Engineers for public access and right or way/easement information on Lake Rufus Woods (personal comm. Jan 2006).

The process began by using two bands of buffers, 200 feet wide (total of 400 feet). Fields were added as needs were identified, which are described below. Many of these can be mapped with legends, where as some add additional information for analyzing specific areas in a view (ArcView). Data has been summarized and entered into an Excel spreadsheet.

Fields in the table:

Composition	Attribute	Condition
Up_shore_a	Geohaz	Zoning
Jurisdicti	Reach	UGA
Pool	Soil	Habitat_qu
Develop_pr	NWI_match	Notes
Musym	Mukey	Area_Feet
Perimeter_Feet	Acres	

Environment Designations determined at the middle or end of the SMP process will be a separate GIS shapefile. The order above is how the table looks now- fields can be moved around or renamed, subject to length limitations.

Composition Categories

Bare	Building	Cliff
Cultural Feature	Dam	Dock
Dryland Ag	Gravel Road	Gravel/sand
Industrial	Irrigated Ag	Irrigation Return?
Island	Parking Lot	Ponderosa pine/Shrub steppe
Railroad	Ramp	Riparian
Road	Rock	Rock/Shrub steppe
Rock/gravel	Sand	Sand/gravel
Shrub steppe	Trees/shrubs	Utilities
Wastewater Treatment	Water	Water Pipeline
Wetland	Yard	

Gross level similarities of the categories were used to assist with reach identification with other fields as noted.

Wetlands limitation- the data was created using aerial photos, so they may not be “officially” wetlands because the soils were not tested. We did use NWI after creating to make sure what was in that dataset was covered. Recall the USFWS was using a much coarser level of digitizing than we did (scale), so we likely caught more than they did, particularly along the Columbia River. The Douglas County soils layer is not at a fine enough scale to have wetland soils types determined in most cases.

Attribute and Condition reflect additional information that can assist the user with details, such as road name or paved. In some cases areas were added here as well, such as Sun Cove or Daroga State Park- see separate spreadsheet for the list.

Up_shore_a- a label field for upland, shoreline (jurisdiction), water front, aquatic (water), island or in water structure. Water Front was used to distinguish polygons that actually are touching the water body. Island has a second (actual) habitat listed in the attribute field.

Geohaz- since the soils layer was spliced in, the current CAO layer for soils in Douglas County was used to address this component- Y/N value.

Jurisdiction and UGA fields- county, city limits and UGAs added as fields (Jurisdiction and UGA). Jurisdiction has 5 listings (4 cities and County). In the UGA field UGA, City Limits and Rural were used. The UGAs and City Limits have the appropriate name. Total of 7 since Bridgeport and Coulee Dam UGAs are essentially the same as the city limits.

Reach- identification on the Columbia River pool to pool (i.e. Rock Island 1, Rock Island 2 etc.), and interior lakes as determined by attributes in the inventory (development, agriculture, natural features etc.).
Pool- the five pools on the Columbia River- Wanapum, Rock Island, Rocky Reach, Wells, and Lake Rufus Woods. Used to assist with reach identification.

Soil- the Douglas County soils layer was “spliced” into the shoreline layer, thereby doubling the number of records. The name, soil number (musym), and key field (mukey) were added. The key field allows joining related datasets from NRCS to the records.

Habitat_qu- habitat quality- note that there a five fields total for habitat attributes. This section is intended to address the following elements in WAC 173.206.201: (2)c, (3)c.ii, (3)c.iv, (3)d.i.A.II, (3)d.i.C, and (3)d.i.D. These elements consider habitat for aquatic, shoreline-dependent and upland (shrub steppe) birds, invertebrates, mammals and amphibians.

Development_pr- this is a broad “potential for development” field based on zoning, parcel sizes and access. There are a three of areas where ownership was considered- below Rock Island Dam (LLC [increase potential] and U.S. ownerships [lower potential]), East Wenatchee area (WSDOT ownership) and in the Wells pool (DCPUD ownership lowers the potential). Existing structures were labeled as high (see maps).

NWI_match- does the drawn polygon coincide with the National Wetland Inventory (Y/N answer)?

Notes- again additional information, for example, lake names were added to all the polygons around a lake in this field.

The criteria include consideration for roads, vertical and horizontal direction of habitat use and function (i.e. along the shoreline or perpendicular to the shoreline), and diversity of habitats. The measures and distances were derived from a variety of sources and local conditions, such as the steep slopes that separate the types of land uses immediately above the Columbia River and the interior plateau. These criteria were developed by the technical review team- Alliance Consulting Group, Douglas County, Washington Department of Fish and Wildlife and Department of Ecology, Douglas, Chelan and Grant County PUD's.

Criteria	**Measure**	**High functioning**	**Medium functioning**	**Low functioning**
Roads	Distance to habitat	1.0 mile or more	0.1-0.9 miles	< 0.1 miles
Continuous/ connectivity	Depth upland	> 2 miles unbroken	1-2 miles unbroken	< 1 mile unbroken
Corridor- linear along the shoreline	Continuous natural feature along shore.	>2 miles	0.5-2 miles	< 0.5 miles
Critical habitat features (PHS)	Single or multiple habitat types- adjacency	3 or more habitat types clustered	2 habitat types clustered	1 habitat type- no cluster

For each category points were assigned to the level of function: High functioning -3, Medium functioning 2, Low functioning 1. The points were then multiplied for each criterion to get a qualitative numerical value. For example if roads were low functioning (1), Continuous connectivity a (2), Corridor (3) and Critical habitat types (2) then the resulting score would be 12 (1x2x3x2). This gives a final number that can distinguish some level of biodiversity. It does not consider special circumstances, such as alkaline lakes, which can have a high density or organisms, but is limited in the number of different species (species richness). This particular analysis is just one of several to consider in the shoreline review process.

A second habitat analysis, using the same parameters, used a different calculation for the habitat values was completed late in the RSMP update. The values were added together for the four functions and divided by four. So using the previous example above (1+2+3+2) and dividing by four the result is two (2). The range of values is zero to four, instead of zero to 81 (see section A.4.). The results of this analysis are not discussed or summarized in the text below because of time constraints, but can be found in Appendix E. Tables. The results do not appear to be significantly different, but give a more balanced comparison of the reaches. This analysis, and using the first

calculation, was also applied to the environment designations, also in Appendix E, to compare types of designations with the habitat value. Comparing the two the additive formula (second analysis) appears to give an overall better judgment on the value of the habitat.

Critical habitat features- habitat types in PHS.

Cliff	Talus	Cottonwood Groves (tree component)
Riparian	Wetlands	
Shrub steppe	Island	

Aquatic beds, aspen stands and caves were considered, but no inventory of these types was available during analysis. Ability to depict from aerial photos was not possible as well. Cottonwood groves were considered and while hard to detect species, in most cases a deciduous tree component was visible via aerial photographs and considered to consist mostly of cottonwoods, or trees having some similar functions. Individual trees (not in clumps) were not separated in the inventory.

References specific to this section.

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A.4 Analysis- reaches

Reaches are areas along a shoreline with similar characteristics that are separated from other areas that are distinctly different. The reaches created a course level that may or may not be the same as the environment designation; environment designations are a finer level of detail, typically smaller in area or length. The reaches were developed to

assist with developing environment designations, describe environmental conditions and assist with restoration planning for the SMP.

For all reaches please refer to tables for specific details on wetland types. The types were derived from the National Wetlands Inventory (NWI) categorizations, and not on wetland typing. No soil surveys were done on any wetland. Zoning, parcel and public land information was derived from existing data from the cities and county GIS datasets and matched to the 200 foot shoreline jurisdictional boundary. Habitat numbers should be considered in the overall range of values using the minimum, maximum, mean and median values listed below. The format below begins with the Columbia River and follows with the interior lakes in alphabetical order.

Habitat values
Minimum= 0
Maximum= 81
Mean= 18.0
Median= 6.6

Additionally, the reach review included evaluating Washington Department of Fish and Wildlife Priority Habitat and Species data. The data has point and polygon data. The point data is summarized by number of species and points found on or adjacent to the shorelines. The polygon data is summarized by numbers and types of habitat mapped within 400 feet of the shoreline. The acres are listed as well, but many overlap, therefore the interpretation should be as a relative indicator. It should be noted that some of the information is mapped better in some areas than others, for example on the Wanapum pool there are no points in Douglas County near the shoreline except right at Rock Island Dam, although there is no doubt there are species using habitat in that area.

Columbia River reaches starting at the southern most area of the County (Crescent Bar) and moving north and east to Grand Coulee Dam.

Wanapum 1
This reach begins at the southern Douglas County line and extends westerly for approximately 1 mile, and contains 44 acres. With the exception of a home site at the very beginning of the reach, the shoreline is in a relatively natural state with an unusual wetland/cliff habitat area in the center. There are six wetland types (NWI) in the reach. The habitat rating average of 4.9 is due to limited vertical and horizontal corridor functions (barriers) and proximity to a major road. The majority of the area is shrub steppe and has steep slopes, and 98% soils of a geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in steep shrub steppe mixed with some houses, then irrigated and dryland agriculture followed by the plateau with shrub steppe and dryland agricultural uses. The area is zoned as Rural Recreation, and partially under a Planned Residential Development overlay. The average parcel size is 5.1 acres, with 20 acres of public lands that are located on the shoreline (GCPUD).

Impervious surfaces cover 0.6% of the area. Given the slope, ownership, and five priority habitats, the habitat from the waterward side probably has a higher value to wildlife than the rating would indicate.

Polygon Species Habitat	Acres
Chukar	33.8
Mule Deer	33.8

Wanapum 2
This reach begins at the Columbia Cliffs development and extends westerly for approximately 0.6 miles, and contains 27.3 acres. The shoreline is in a state of relatively urban level development (35 buildings within 200 feet) and shoreline alterations. There have been rock/earthen piers built, with two boat docks and a launch site. There are five wetland types (NWI) in the reach. The habitat rating average of 0.6 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number of roads. The uplands are primarily in steep shrub steppe mixed with some houses, then irrigated and dryland agriculture followed by the plateau with shrub steppe and dryland agricultural uses. The majority of the area is developed recreational housing and yards, and 95% soils of a geologic hazard as defined under the DCC. The area is zoned as Rural Recreation, and partially under a Planned Residential Development overlay. The average parcel size is 5.5 acres, with 7.4 acres of public lands that are located on the shoreline (GCPUD). Impervious surfaces cover 11.5% of the area.

Polygon Species Habitat	Acres
Chukar	22.5
Common Loon	0.3
Mule Deer	22.5
Waterfowl Concentrations	0.1

Wanapum 3
This reach begins at the western end of the Columbia Cliffs development and extends westerly for approximately 2.1 miles, and contains 95.4 acres. There are no buildings within the shoreline and the shoreline is in a relatively natural state with some sandy escarpments in the eastern section. There are six wetland types (NWI) in the reach. The habitat rating average of 15.6 is due to the gravel roads, although use is likely limited (primitive, single lane, natural surface roads) and the railroad and State Highway 28

occurring in the uplands. The majority of the area is shrub steppe and has steep to moderate slopes, and 80% soils of a geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in irrigated agriculture followed by cliff/talus and then by the plateau with shrub steppe and dryland agricultural uses. The area is almost entirely zoned as Rural Resource 20. The average parcel size is 22.7 acres, with 47.6 acres of public lands that are located on the shoreline (GCPUD). Impervious surfaces cover 1.7% of the area. Given the slope, ownership, four priority habitats, relative isolation and the length of riparian along the western half of the reach, the habitat from the waterward side probably has a higher value to wildlife than the rating would indicate.

Polygon Species Habitat	**Acres**
Chukar	20.3
Common Loon	0.3
Mule Deer	20.3
Waterfowl Concentrations	0.3

Wanapum 4
This reach begins at river mile (RM) 444.9 of the Columbia River and extends northerly for approximately 2.5 miles, and contains 110.1 acres. There is one building, probably an irrigation pump house, within the shoreline and the shoreline is in a relatively natural state with some gravel roads and what appears to be an un-permitted boat ramp (gravel). There are six wetland types (NWI) in the reach. The habitat rating average of 10.4 is due to the gravel roads, although most of them likely have limited use (primitive, single lane, natural surface roads) and the railroad and State Highway 28 occurring in the uplands. The majority of the area is shrub steppe and has moderate slopes, and 64% soils of a geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in irrigated agriculture followed by cliff/talus and then by the plateau with shrub steppe and dryland agricultural uses. Wetlands comprise approximately 10% of the area. There is one larger island (just under 1 acre) in the middle of the reach. The area is almost entirely zoned as Commercial Agriculture 10, with less than 5% Rural Resource 20. The average parcel size is 114.2 acres, with 57.6 acres of public lands. Impervious surfaces cover 7.9% of the area.

Polygon Species Habitat	Acres
Common Loon	0.7
Waterfowl Concentrations	0.7

Wanapum 5
This reach begins at RM 447.4 of the Columbia River and extends northerly for approximately 2.1 miles, and contains 93.1 acres. There are no buildings, but there are utilities (high tensile electric lines) and in the central section railroad within the shoreline. There are some gravel roads and the mouth of Moses Coulee drains through this reach. There are six wetland types (NWI) in the reach. The habitat rating average of 5.4 is due to the gravel roads, although most of them likely have limited use (primitive, single lane, natural surface roads) and the railroad occurring in the shoreline area. The majority of the area is shrub steppe and has moderate slopes, and 43.5% soils of a geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in irrigated agriculture followed by cliff/talus and then by the plateau with shrub steppe and dryland agricultural uses. Wetlands comprise approximately 15% of the area. There area several small islands that occur in the reach. Given the six priority habitats, and some protection limiting access via the railroad, the habitat from the waterward side probably has a higher value to wildlife than the rating would indicate. The area is almost entirely zoned as Commercial Agriculture 10, with less than 1% Rural Resource 20. The average parcel size is 229.9 acres, with 2.6 acres of public lands. Impervious surfaces cover 11.9% of the area.

No WDFW PHS data for this reach.

Wanapum 6
This reach begins at RM 449.5 of the Columbia River and extends northerly for approximately 2.8 miles, and contains 155.7 acres. There are no buildings, but there are utilities (high tensile electric lines) and in the central section railroad within the shoreline and some buildings just outside of the 200 foot area. There are some gravel roads through this reach. There are six wetland types (NWI) in the reach, and total wetland area is about 10%. The habitat rating average of 5.2 is due to the gravel roads, although most of them likely have limited use (primitive, single lane, natural surface roads) and the railroad occurring in the shoreline area. The majority of the area is shrub steppe and has moderate slopes, and 34.5% soils of a geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in irrigated agriculture followed by cliff/talus and then by the plateau with shrub steppe and dryland agricultural uses. There area several small islands and one large island, sand bar composition that is less than 15 acres, in the middle of the reach. The area is zoned as Commercial Agriculture 10 (50%), and Rural Resource 20. The average parcel size is 86.2 acres, with 52.8 acres of public lands. Impervious surfaces cover 10.7% of the area.

Polygon Species Habitat	Acres
Islands	5.2
Mule Deer	0.1
Riparian Zones	14.1

Wanapum 7
This reach begins at RM 452.3 and extends northerly for approximately 1.1 miles ending at Rock Island Dam, and contains 66.1 acres. The shoreline is in almost completely altered as the railroad, old highway right of way and State Hwy 28 are adjacent to the river (an abundance of armoring). There are five wetland types (NWI) in the reach. The habitat rating average of 2.9 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number of roads/railroad. The soils are comprised of 95% geologic hazard as defined under the DCC. The uplands are primarily in cliff/talus followed by the plateau with shrub steppe and dryland agricultural uses. The area is zoned as Rural Resource 20. The average parcel size is 120.2 acres, with 66.1 acres of public lands (or railroad) that are located on the shoreline- the entire area (CCPUD and WSDOT). Impervious surfaces cover 40.1% of the area (road, railroad and armor).

Polygon Species Habitat	Acres
Chukar	17.4
Mule Deer	17.4
Riparian Zones	0.2
Talus Slopes	17.4

PHS Points- one Golden Eagle nesting site.

Rock Island 1
This reach begins at Rock Island Dam, RM 453.4, extends westerly for approximately 2.5 miles, and contains 128.7 acres. The shoreline is in almost completely altered as the dam, railroad and State Hwy 28 are adjacent to the river (an abundance of armoring), although the northern portion contains extensive wetlands, 34% of the total area. The structures have created wetlands both isolated and connected to the Columbia River. There are six wetland types (NWI) in the reach. The habitat rating average of 17 is due to the amount of wetland habitat, vertical and horizontal corridor

functions above the dam affected area and other priority habitat types. Russian olive makes up a significant portion of the wetland plant community. The soils are comprised of 25% geologic hazard as defined under the DCC. The uplands are primarily in shrub steppe and cliff/talus followed by the plateau with dryland agricultural uses. Rock Island Creek enters this reach approximately at the midpoint. The area is predominantly zoned Rural Resource 20 (47%) and Commercial Agriculture 10 (24%), with some Public and Residential Low designated areas. The average parcel size is 24.3 acres, with 111.5 acres of public lands. Impervious surfaces cover 25% of the area (includes the dam).

Polygon Species Habitat	**Acres**
Bald Eagle	57.3
Great Blue Heron	1.2
Islands	12.5
Riparian Zones	53.6
Waterfowl Concentrations	3.7
Wetlands	12

PHS Points- one Blue Heron- colony nesting on islands

Rock Island 2
This reach begins at RM 455.9, extends westerly for approximately 1.2 miles, and contains 67.7 acres. There are five wetland types (NWI) in the reach. The habitat rating average of 4.9 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number of roads/railroad. The soils are comprised of 22% geologic hazard as defined under the DCC. The area is predominantly zoned Industrial (78%) with some Public and Rural Resource 2 designated areas. This reach is completely within the Rock Island Urban Growth Area, has the railroad crossing and three high tensile wire bundles across the Columbia River at it's western edge. The uplands are primarily in residential development and industrial areas that breaks up to steep slopes followed by a terrace with dryland and irrigated agricultural uses. The average parcel size is 13.4 acres, with 11.3 acres of public lands. This reach has both Douglas County and City of Rock Island jurisdictional areas. Impervious surfaces cover 6.1% of the area.

Polygon Species Habitat	Acres
Bald Eagle	0.1
Cliffs/bluffs	0.1
Islands	2.1
Riparian Zones	5.1
Wetlands	0.3

Rock Island 3
This reach begins at the RM 457.1 and extends westerly for approximately 4.3 miles to the East Wenatchee Urban Growth Area boundary, and contains 206.2 acres. The shoreline is in a mix of irrigated agriculture and moderate rural density and has many shoreline alterations. Much of the residential developed area is housing and yards, with intermittent areas that are in a natural state (linear strips of shrub steppe with limited riparian areas or wetlands), and 20.4% soils of a geologic hazard as defined under the DCC. Much of the development in this reach has occurred in the last 10 years. There have been rock/earthen piers, 17 boat docks and two boat launch sites built along the shorelines. Two residences have larger beach areas with float planes moored in embayments and trail systems. There are six wetland types (NWI) in the reach, and has several large rock outcrops on the shoreline and on small islands. The habitat rating average of 3.2 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or locations of roads. The uplands are primarily in irrigated agriculture that breaks up to steep slopes followed by a terrace with irrigated agricultural uses and the Pangborn Industrial Area and Airport. Most of the area is zoned as Rural Resource 2, and partially under a Planned Residential Development overlay, and very small areas (<1%) of 4 other designations. The average parcel size is 3.8 acres, with 86 acres of public lands. Impervious surfaces cover 9.4% of the area.

Polygon Species Habitat	Acres
Bald Eagle	0.1
Great Blue Heron	0.1
Islands	1.9
Riparian Zones	43

Polygon Species Habitat	Acres
Waterfowl Concentrations	0.1

Rock Island 4
This reach begins at the RM 461.4 and extends northwesterly for approximately 4.1 miles to the walking bridge in the City of East Wenatchee, and contains 194.8 acres. The shoreline is in a mix of relatively urban level development, including an older manufactured home park near the start of the reach and has some shoreline alterations. Much of the area is lined by State Highway 28, with intermittent areas that are in a natural state (shrub steppe linear strips with limited riparian areas or wetlands), and 10.8% soils of a geologic hazard as defined under the DCC. The proximity of the highway has kept encroachment by other land uses from occurring in the upper half of the reach. There is one boat dock and one boat launch site built along the shoreline- Hydro Park. Hydro Park is located near the midpoint of the reach. This park has a public boat launch, picnicking, swimming and baseball sporting facilities. There are six wetland types (NWI) in the reach. The habitat rating average of 1.1 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number/location of roads, although the upper half of the reach has more functioning components that the lower half. The uplands are primarily in residential development that breaks up to steep slopes followed by a terrace with dryland agriculture uses. All of the area is zoned with urban designations- 10 different types. Overall there are 85 acres of residential zoning types (44%) and the remaining commercial types. The average parcel size is 3.6 acres, with 125.1 acres of public lands (mostly WSDOT right of way). This reach has both Douglas County and City of East Wenatchee jurisdictional areas. Impervious surfaces cover 24.1% of the area (mostly highway- 23.6%).

Polygon Species Habitat	Acres
Great Blue Heron	8.4
Mule Deer	0.3
Riparian Zones	0.1

Rock Island 5
This reach begins at the RM 465.4 and extends northerly for approximately 4.8 miles to RM 470.2, or the approximate extent of the East Wenatchee Urban Growth Area, and contains 258.4 acres. The shoreline has some shoreline alterations, one boat launch (undeveloped site near Odabashian Bridge) and a beach area, but is largely protected from development through it’s ownership by the WSDOT (right of way) and the Apple Capital Loop Trail system. Much of the area is in a natural state- shrub steppe with some extensive forested riparian areas or wetlands), and 20.8% soils of a geologic

hazard as defined under the DCC. There are six wetland types (NWI) in the reach, and an island at Porter's Pond (near the Douglas County Public Services Building and trail entrance off of 19th Street). The NWI wetland types compose 34% of the area. The habitat rating average of 5 is due to the limited vertical corridor functions (barriers) and number/location of roads and trail system. Most of the area is zoned with urban designations- 7 different types. The uplands are primarily in residential development that breaks up to steep slopes to a terrace (Fancher Heights). Sand Canyon is the only stream in this reach, which derives most of its source of water from irrigation operations April-October. Blue Grade Canyon has a channel, but only would flow during extremely high water years, and then temporarily. Overall there are 169.9 acres of residential zoning types (66%) and the remaining commercial types and one agricultural designation (1%). The average parcel size is 5.3 acres, with 224.3 acres of public lands (mostly WSDOT right of way). This reach has both Douglas County and City of East Wenatchee jurisdictional areas. Impervious surfaces cover 13.2% of the area.

Polygon Species Habitat	**Acres**
Bald Eagle	125.3
Cavity Nesting Ducks	33.8
Great Blue Heron	33.8
Mule Deer	0.4
Riparian Zones	92.3
Waterfowl Concentrations	33.8
Wood Duck	28.4

Rock Island 6

This reach begins at the RM 470.2 and extends northerly for approximately 3.4 miles to Rocky Reach Dam, and contains 177.3 acres. The shoreline has few alterations, and is largely protected from development through it's ownership by the WSDOT (right of way), the Apple Capital Loop Trail system and CCPUD ownership near the dam. Much of the area is in a natural state- some extensive forested riparian areas or wetlands), and 23.7% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach comprising 42% of the area. The habitat rating average of 7.1 is due to the limited vertical corridor functions (barriers) and number/location of roads and trail system. The uplands are primarily in irrigated agriculture that breaks up to steep slopes that extend up to Badger Mountain. All of the area is zoned in Commercial Agriculture 5 (55%) or 10 (45%). The average parcel size is 39.7 acres, with 169.6

acres of public lands (mostly WSDOT right of way and CCPUD). Impervious surfaces cover 2% of the area.

Polygon Species Habitat	Acres
Bald Eagle	4
Cavity Nesting Ducks	1
Great Blue Heron	1
Riparian Zones	87.7
Waterfowl Concentrations	1

Rocky Reach 1- Turtle Rock Island
This reach includes the entire Turtle Rock Island, approximately 2.9 miles of shoreline, and contains 160.5 acres. The island is in a relatively natural state composed of rocky shrub steppe with some riparian/wetland areas mostly located on the south end. There are five wetland types (NWI) on the island. The habitat rating average of 15.4 is due to the Eastbank Fish Hatchery (WDFW/DCPUD), one dock and the low number of priority habitat types. The northern end of the island has steep to moderate slopes, whereas the south end, where the hatchery facility is located, is flatter. Eighteen percent of soils are of a geologic hazard as defined under the Douglas County Code (DCC). The area is entirely zoned as Rural Resource 20. The island is one parcel, all of which are public lands (CCPUD). Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Bald Eagle	315.9
Islands	155.7
Waterfowl Concentrations	165.1

Rocky Reach 2
This reach begins at the Rocky Reach Dam and extends north for approximately 34.2 miles to just north of Beebe Bridge at RM 507.8, and contains 1854.8 acres. The shoreline is in a mix of irrigated agriculture and moderate rural density and has many shoreline alterations. There are several denser areas of development including the Town of Orondo, Sun Cove (Lake Entiat Estates), Bauer's Landing, Long View Orchards, Sanford Shores, and Columbia Point. Much of the residential developed area

is housing and yards or irrigated agriculture, with intermittent areas that are in a natural state (linear strips of shrub steppe with limited riparian areas or wetlands), and 48.7% soils of a geologic hazard as defined under the DCC. US Highway 2/97 follows the river throughout this reach, and at several points provides the bank of the river (rock armor). There have been rock/earthen piers, 77 boat docks and nine boat launch sites built along the shorelines. Some of the docks and most of the boat launches are located in one of the four major shoreline parks in this reach; Lincoln Rock, Orondo, Daroga and Beebe parks. Two of the major developments have large beach areas with community boat launches and docks; Bauer's Landing and Sun Cove. There are six wetland types (NWI) in the reach, and there are several large rock outcrops on the shoreline and very small islands. The uplands are primarily in irrigated agriculture mixed with low density rural development, followed by steep shrub steppe, mixed with some houses near Beebe Bridge, then by the plateau with shrub steppe and dryland agricultural uses. The habitat rating average of 3.1 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or locations of roads, and extensive developed areas, although there are six different priority habitat types. Pine Canyon (at Orondo) and McNeil Canyon (near Beebe Bridge) watersheds drain into the Columbia River in this reach. There are six different types zoning in this reach. Most of the area is zoned as Rural Resource 5 (50%), followed by Rural Recreation (16%) and Rural Resource 20 (15%) and some are under a Recreation Overlay zone. The other designations include Rural Service Center (Orondo) and Commercial Agriculture 10 (south end). The average parcel size is 14.3 acres, with 408.4 acres (26%) of public lands. Impervious surfaces cover 15.1% of the area (includes the dam, roads are 12.1%).

According to Chelan County PUD data there are 28 areas where rare plants occur, all in the southern two-thirds of the reach (approximately the southern boundary to Bauer's Landing). There are also 23 areas with significant sized aquatic plant beds.

Polygon Species Habitat	**Acres**
Bald Eagle	401.8
Common Loon	7.4
Islands	0.5
Lewis' Woodpecker	23.3
Mule Deer	357.9
Riparian Zones	34.9
Sharp-tailed Grouse	33.4

Polygon Species Habitat	Acres
Waterfowl Concentrations	347.6
Wetlands	54.2

PHS Points- Two sites of loons, nesting and breeding.

Rocky Reach 3
This reach begins at RM 507.8 and extends northerly for approximately 7.7 miles to Wells Dam, and contains 394.7 acres. There are no buildings within the reach and the shoreline is in a relatively natural state, shrub steppe that continues upland for long distances, with some sandy/gravel escarpments. There are six wetland types (NWI) in the reach. The habitat rating average of 35 is due to the lack of roads and development, although only three habitats were located within the reach. Only 1.5% of the areas are in wetland/riparian habitat. The majority of the area is shrub steppe and has steep to moderate slopes, and 69.8% soils of a geologic hazard as defined under the Douglas County Code (DCC). The area is entirely zoned as Rural Resource 20. The average parcel size is 168.6 acres, with 374.5 acres (95%) of public lands that are located on the shoreline. Impervious surfaces cover 0.2% of the area.

According to Chelan County PUD data there are three areas where rare plants occur, all in the southern two-thirds of the reach (approximately the southern boundary to Bauer's Landing). There are also three areas with significant sized aquatic plant beds.

Polygon Species Habitat	Acres
Bald Eagle	4.2
Chukar	298.9
Common Loon	0.4
Mule Deer	390.1
Sharp-tailed Grouse	390.1
Waterfowl Concentrations	2

Columbia River Wells Pool reaches listed below are almost entirely owned by the Douglas County PUD; the shoreline itself is entirely owned by the DCPUD with the

exception of the island set aside for wildlife habitat across from the mouth of the Okanogan River.

Wells 1
This reach begins at Wells Dam and extends northerly for approximately 7.8 miles to RM 523.3, and contains 399.5 acres. The shoreline is in a relatively natural state, shrub steppe that continues upland for long distances with some sandy/gravel escarpments. There are five wetland types (NWI) in the reach. The habitat rating average of 35 is due to the lack of roads and development, although only three habitats were located within the reach. The majority of the area is shrub steppe and has steep to moderate slopes, and 63.5% soils of a geologic hazard as defined under the Douglas County Code (DCC). The area is almost entirely zoned as Rural Resource 20, with 5.1% in Commercial Agriculture 10. The average parcel size is 88.3 acres, with 151.8 acres (38%) of public lands that are located on the shoreline. Impervious surfaces cover 7.3% of the area (Wells Dam).

Polygon Species Habitat	**Acres**
American White Pelican	17.2
Bald Eagle	66.9
California Quail	10.2
Chukar	344.9
Common Loon	44.5
Mule Deer	352.2
Riparian Zones	42.5
Sharp-tailed Grouse	504.6
Shrub steppe	131.9
Waterfowl Concentrations	103.8

Wells 2
This reach begins at RM 523.3 and extends westerly for approximately 6.7 miles to the Brewster Bridge (SR 17), and contains 321.4 acres. The shoreline is in a mix of irrigated agriculture and rural density development with few shoreline alterations. Much of the irrigated agriculture area is divided with intermittent areas that are in a natural state

(linear strips of shrub steppe with limited riparian areas or wetlands), and 17.4% soils of a geologic hazard as defined under the DCC. There are six wetland types (NWI) in the reach (20.4% of the area), and there are several small islands. The habitat rating average of 36.4 is due several habitats located within the reach and limited encroachment by upland activities. The uplands are primarily in irrigated agriculture that breaks up to steep slopes followed by the plateau- a mix of shrub steppe and dryland agriculture. The area is almost entirely zoned as Commercial Agriculture 10, with 5% in Rural Resource 20. The average parcel size is 22.5 acres, with 86.1 acres of public lands. Impervious surfaces cover 8.2% of the area (7.4% roads).

Polygon Species Habitat	**Acres**
Bald Eagle	184.3
California Quail	288.6
Canada Goose	3.3
Chukar	0.1
Cliffs/bluffs	0.1
Common Loon	20.6
Islands	2.7
Mule Deer	300.2
Riparian Zones	172.8
Sharp-tailed Grouse	8.7
Shrub steppe	67.8
Waterfowl Concentrations	327

PHS Points- Three separate osprey nesting sites.

Wells 3
This reach begins at the Brewster Bridge and extends easterly for approximately 9 miles to RM 539, and contains 453.8 acres. The shoreline is in a mix of irrigated agriculture and rural density development with few shoreline alterations. Much of the residential developed area is housing and yards, with intermittent areas that are in a natural state

(linear strips of shrub steppe with limited riparian areas or wetlands), and 15.7% soils of a geologic hazard as defined under the DCC. There are six wetland types (NWI) in the reach (24.2% of the area), and there are several islands, some with small wetlands and vegetation, and one large island across from the mouth of the Okanogan River that the WDFW manages. The habitat rating average of 17.1 is due irrigated agriculture that fractures the habitat in many places and roads. The uplands are primarily in irrigated agriculture for 2-3 miles inland that breaks up to steep slopes followed by the plateau- a mix of shrub steppe and dryland agriculture. The area is mostly zoned as Rural Resource 20 (61.9%), followed by Rural Resource 5, (38%) and Resource Service Center (Rocky Butte Town site). The average parcel size is 31.9 acres, with 334 acres (73.6%) of public lands. Impervious surfaces cover 4.8% of the area (4.6% roads).

Polygon Species Habitat	**Acres**
American White Pelican	179.2
Bald Eagle	426
California Quail	225.4
Canada Goose	94.1
Cavity Nesting Ducks	94.1
Chukar	43
Cliffs/bluffs	43
Common Loon	81.8
Islands	94.1
Mule Deer	49.4
Ring-necked Pheasant	201.8
Riparian Zones	114.1
Sharp-tailed Grouse	6.4
Shrub steppe	106.7
Waterfowl Concentrations	407.6

PHS Points- Four osprey nesting sites, one burrowing owl site, one heron rookery, and one golden eagle, unknown use.

Wells 4
This reach begins at the RM 539 and extends easterly for approximately 3.3 miles to the Bridgeport Urban Growth Area, and contains 204.2 acres. The shoreline is in a mix of irrigated agriculture and rural density development with few shoreline alterations. Much of the residential developed area is housing and yards, along with intermixed irrigated agriculture and areas that are in a natural state (linear strips of shrub steppe with limited riparian areas or wetlands), and 33.2% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach (25.7% of the area). The habitat rating average of 3.8 is due irrigated agriculture and rural development that fractures the habitat in many places and roads. The uplands are primarily in irrigated agriculture for 2-3 miles inland that breaks up to steep slopes followed by the plateau- a mix of shrub steppe and dryland agriculture. The area is mostly zoned as Rural Resource 5 (48.8%), followed by Commercial Agriculture 10 (23.1), Rural Resource 20 (14.5%) and Resource Service Center- 13.4% (Rocky Butte and Downing Town sites). The average parcel size is 10.2 acres, with 91.9 acres (45%) of public lands. Impervious surfaces cover 4.9% of the area (4.2% roads).

Polygon Species Habitat	**Acres**
American White Pelican	5.5
Bald Eagle	72.3
California Quail	133.9
Canada Goose	0.9
Cavity Nesting Ducks	0.9
Chukar	1.9
Common Loon	5.5
Islands	0.9
Mule Deer	1.9
Ring-necked Pheasant	51.8

Polygon Species Habitat	Acres
Riparian Zones	60.6
Shrub steppe	51.8
Waterfowl Concentrations	61.5

Wells 5
This reach begins at the Bridgeport Urban Growth Area, RM 542.3, and extends easterly for approximately 2.7 miles to Chief Joseph Dam, and contains 144.3 acres. The shoreline is in a mix of urban level development, much of which is residential area of housing and yards, and has some shoreline alterations. There are some agricultural activities, but not directly in contact with the waters edge. Near Chief Joseph Dam the US Corps of Engineers has a park and some parking area. This section, which Foster Creek flows through, is armored to prevent erosion. There are two docks and two boat ramps within Marina Park, which also includes a manmade inlet; one ramp and the two docks are located there. The waterfront itself is a strip of narrow land with intermittent areas that are in a natural state (shrub steppe linear strips with limited riparian areas or wetlands), and 19.3% soils of a geologic hazard as defined under the DCC. The DCPUD ownership has kept encroachment by other land uses from occurring along the shore. There are four wetland types (NWI) in the reach. The habitat rating average of 3 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number/location of roads and urban development. The uplands are primarily in residential development that breaks up to steep slopes followed by a terrace with dryland agriculture uses. Foster Creek watershed drains into this reach just below Chief Joseph Dam. That stream has use by spring Chinook salmon (rearing) and steelhead trout (spawning and rearing) (unpublished data- FCCD, WDOE 2001-2006). The zoning designations include public (88%), followed by multi-family (6.3%) and Rural Resource 20 (5.1%). The average parcel size is 1.6 acres, with 89.9 acres of public lands (95%). This reach has both Douglas County and City of Bridgeport jurisdictional areas. Impervious surfaces cover 11.5% of the area.

Polygon Species Habitat	Acres
Bald Eagle	91.6
California Quail	87.6
Mule Deer	37
Riparian Zones	91.6

Polygon Species Habitat	Acres
Sharp-tailed Grouse	37
Waterfowl Concentrations	63.1

Lake Rufus Woods
Lake Rufus Woods is the longest pool on the Columbia River in Douglas County (51.3 miles). Eleven reaches were identified. A common feature to these reaches is that there are long narrow bands (6-15 feet) of somewhat less stable gravel and sand shorelines that erode because of their soils composition, slope, wave action, and hydro operations. This reservoir has a significant rainbow trout fishery, enhanced by commercial net pen raised triploid rainbow trout operations on the Okanogan County (Colville Reservation) side of the river. There are also kokanee salmon, which spawn in areas such as the Nespelem River, bull trout (rare), several sucker species, sculpins, some warm-water species, such as bass and sunfish, carp and sturgeon. Chief Joseph Dam blocks any anadromous use in the area above the dam.

Rufus Woods 1
This reach begins at Chief Joseph Dam extends northerly for approximately 0.8 miles ending at RM 545.7, and contains 95.6 acres. The shoreline is in almost completely altered as the dam facilities, rock armoring, and three boat ramps and docks comprise most of the shoreline. There are two wetland types (NWI) in the reach. The habitat rating average of 0.6 is due to very limited existing habitat. The soils are comprised of 8.6% geologic hazard as defined under the DCC. The uplands are primarily shrub steppe and dryland agricultural uses. The area is zoned as Rural Resource 20 (36%) and Public (64%). The average parcel size is 88.4 acres, with 94.8 acres (99.2%) of public lands (USCOE). Impervious surfaces cover 60.1% of the area (dam, roads, and armor).

Polygon Species Habitat	Acres
Bald Eagle	108.9
California Quail	95.6
Chukar	0.1
Mule Deer	79.5
Riparian Zones	148.3

Polygon Species Habitat	Acres
Sharp-tailed Grouse	40.1
Waterfowl Concentrations	0.1

Rufus Woods 2
This reach begins at RM 545.7 and extends easterly for approximately 2.7 miles, and contains 140.7 acres. The shoreline is in a mix of shrub steppe small areas of irrigated agriculture and with few shoreline alterations, and 70.5% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach. The habitat rating average of 6.1 is due to the irrigated agriculture, low number of habitat types and roads. The uplands are primarily a mix of irrigated agriculture, shrub steppe and dryland agriculture. The area is mostly zoned as Commercial Agriculture 10 (48.8%), followed by Dryland Agriculture (19.9%) and Rural Resource 20 (18.4%). The average parcel size is 38.2 acres, with 69.8 acres (50%) of public lands. Impervious surfaces cover 10% of the area (9.9% roads).

Polygon Species Habitat	Acres
Bald Eagle	34.5
California Quail	17.5
Chukar	123.2
Mule Deer	123.4
Ring-necked Pheasant	1.9
Riparian Zones	36.4
Sharp-tailed Grouse	15.7
Waterfowl Concentrations	15.4

PHS Points- one sagebrush vole and one white-tailed jack rabbit.

Rufus Woods 3
This reach begins at RM 548.4 and extends easterly for approximately 2.3 miles, and contains 121.4 acres. The shoreline is in a mix of irrigated agriculture and shrub steppe with few shoreline alterations, and 33.1% soils of a geologic hazard as defined under

the DCC. This reach was separated out between reach 2 and 4 because the level of irrigated agriculture (>30%) in the shoreline area is substantially higher than areas above or below it. There are three wetland types (NWI) in the reach. The habitat rating average of 7.5 is due to irrigated agriculture, low number of habitat types and roads. The uplands are primarily a mix of irrigated agriculture, shrub steppe and dryland agriculture. The area is mostly zoned entirely as Commercial Agriculture 10. The average parcel size is 77.3 acres, with 15.1 acres (12%) of public lands. Impervious surfaces cover 1.5% of the area (gravel roads).

Polygon Species Habitat	**Acres**
Bald Eagle	64.1
Chukar	121.3
Mule Deer	89.4
Riparian Zones	64
Waterfowl Concentrations	32.1

Rufus Woods 4
This reach begins at RM 550.7 and extends easterly for approximately 17.4 miles, and contains 944.4 acres. The shoreline is in a mostly shrub steppe with small areas of irrigated or dryland agriculture, has few shoreline alterations, and 57.9% soils of a geologic hazard as defined under the DCC (steeper slopes). There is one public access point, Brandt's Landing, with minimal services (approximately 7 miles upstream from Chief Joseph Dam. There are five wetland types (NWI) in the reach that comprise 11% of the reach. The habitat rating average of 30.8 is due to the higher number of habitat types, the horizontal and vertical depth of habitat and minimal number of roads. This reach has a large island with shrub steppe habitat on it (43.4 acres). The uplands are primarily a mix of shrub steppe and dryland agriculture. The area is mostly zoned as Rural Resource 20 (95.8%), with Commercial Agriculture 10 (2.8%), followed by Dryland Agriculture (1.4%). The average parcel size is 113.3 acres, with 668.6 acres (71%) of public lands. Impervious surfaces cover 1% of the area (roads).

Polygon Species Habitat	**Acres**
Bald Eagle	415.8
Chukar	898

Polygon Species Habitat	Acres
Islands	18
Mule Deer	557.6
Riparian Zones	372.7
Waterfowl Concentrations	75.4

PHS Points- one pallid bats, one bald eagle nest site, and two golden eagle, unknown use.

Rufus Woods 5
This reach begins at RM 568 and extends easterly for approximately 1 mile, and contains 42.4 acres. The shoreline is in a mostly dryland agriculture and shrub steppe with substantial area of wetlands, has few shoreline alterations, and 41.3% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach that comprise 18% of the reach. The habitat rating average of 0.8 is due to the high amount of dryland agriculture, low number of habitat types and roads. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (75.8%), and Dryland Agriculture (24.1%). The average parcel size is 78.8 acres, with 0.1 acres of public lands. Impervious surfaces cover 6.3% of the area (roads).

Polygon Species Habitat	Acres
Bald Eagle	24.3
Chukar	37.9
Mule Deer	18.1
Riparian Zones	19.9
Waterfowl Concentrations	4.4

Rufus Woods 6
This reach begins at RM 569 and extends easterly for approximately 8.3 miles, and contains 440.2 acres. The shoreline is in a mostly shrub steppe with small areas of dryland agriculture, has few shoreline alterations, and 60.8% soils of a geologic hazard as defined under the DCC (steeper slopes). There are six wetland types (NWI) in the

reach that comprise 6.5% of the reach. The habitat rating average of 39.9 is due to the number of habitat types, the horizontal and vertical depth of habitat and no roads in along the shoreline. The uplands are primarily a mix of shrub steppe and dryland agriculture. The area is zoned as Rural Resource 20 (36%) and Dryland Agriculture (64%). The average parcel size is 90.9 acres, with 124.6 acres (28%) of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Bald Eagle	258.2
Chukar	350.4
Mule Deer	272.5
Riparian Zones	237.3
Waterfowl Concentrations	20.9

PHS Points- two bald eagle nests and two golden eagle nests.

Rufus Woods 7
This reach begins at RM 577.3 and extends easterly for approximately 0.9 miles, and contains 35.4 acres. The shoreline is in a mostly irrigated agriculture and shrub steppe, has few shoreline alterations, and 32.7% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach that comprise less than 1% of the area. The habitat rating average of 16.5 is due to the lower number of habitat types, the horizontal depth of habitat and no roads in along the shoreline. The uplands are primarily a mix of irrigated agriculture, shrub steppe, and dryland agriculture. The area is zoned as Dryland Agriculture (93%) and Rural Resource 20 (7%). The average parcel size is 91.6 acres, with 0 acres of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Bald Eagle	17.5
Mule Deer	35.2
Riparian Zones	17.2
Waterfowl Concentrations	0.3

Rufus Woods 8
This reach begins at RM 578.1 and extends easterly for approximately 2.3 miles, and contains 125.3 acres. The shoreline is in a mostly shrub steppe and shrub steppe-ponderosa pine (70%) and dryland agriculture, has few shoreline alterations, and 70.5% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach that comprise less than 1% of the area. The habitat rating average of 74.9 is due to the number of habitat types, the horizontal and vertical depth of habitat and no roads in along the shoreline. The uplands are primarily shrub steppe. The area is zoned as Dryland Agriculture (18%) and Rural Resource 20 (82%). The average parcel size is 162.2 acres, with 53.6 acres (43%) of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Bald Eagle	50.9
Mule Deer	122.1
Riparian Zones	47.7
Waterfowl Concentrations	3.2

PHS Points- two bald eagle winter roosts and one golden eagle, unknown use.

Rufus Woods 9
This reach begins at RM 580.4 and extends easterly for approximately 0.9 miles, and contains 35.4 acres. The shoreline is in a mostly shrub steppe (nearly 100%), has few shoreline alterations, and no soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach that comprise less than 1% of the area. The habitat rating average of 12 is due to the number of habitat types, and the limited vertical depth of habitat (the 200 to 400+ foot area above the shoreline is all under irrigated agriculture). The uplands are primarily irrigated agriculture, shrub steppe and dryland agriculture. The area is zoned entirely as Dryland Agriculture. The average parcel size is 246.9 acres, with 0 acres of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Bald Eagle	15.1
Mule Deer	16.9

Polygon Species Habitat	Acres
Riparian Zones	12.7
Waterfowl Concentrations	2.4

Rufus Woods 10
This reach begins at RM 580.9 and extends easterly for approximately 14.8 miles, and contains 721.7 acres. The shoreline is in a mostly shrub steppe with sandy escarpments and talus slopes, has substantial shoreline alterations in the upper 2-3 miles (rock armor/stabilization), and 62% soils of a geologic hazard as defined under the DCC (steeper slopes). There are three wetland types (NWI) in the reach that comprise 0.5% of the reach. The habitat rating average of 33.8 is due to the higher number of habitat types, the horizontal and vertical depth of habitat and low number of roads (most in the upper 1-2 miles). This reach has a several small islands. The uplands are primarily a mix of shrub steppe and dryland agriculture. The area is mostly zoned as Rural Resource 20 (83%), with some Dryland Agriculture (17%). The average parcel size is 144.2 acres, with 256.2 acres (35.5%) of public lands. Impervious surfaces cover <1% of the area (roads).

Polygon Species Habitat	Acres
Bald Eagle	430.5
Chukar	235.6
Islands	20.9
Mule Deer	680.5
Riparian Zones	360.6
Rocky Mountain Elk	0.5
Sharp-tailed Grouse	14.6
Waterfowl Concentrations	16.8

PHS Points- Two bald eagle nest sites, and one golden eagle, unknown use.

Rufus Woods 11
This reach begins at the Coulee Dam Urban Growth Area and extends easterly for approximately 0.5 miles to Grand Coulee Dam, and contains 23.5 acres. The shoreline is in a mix of urban level development, much of which is residential area of housing and yards, and has some shoreline alterations. The waterfront itself is a strip of narrow land with rock armoring, and 98.5% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach (<1%). The habitat rating average of 0.2 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number/location of roads and urban development. The uplands are primarily in residential development that breaks up to steep slopes and rock faces followed by a terrace with dryland agriculture uses and shrub steppe. The zoning designations data was not available for the City of Coulee Dam. The average parcel size is 7.3 acres, with 12.7 acres of public lands (54%). Impervious surfaces cover 4.4% of the area (does not include rock armor).

Polygon Species Habitat	**Acres**
Bald Eagle	4.7
Chukar	0.1
Mule Deer	0.2
Riparian Zones	0.1
Rocky Mountain Elk	19.1

PHS Points- one golden eagle, unknown use.

Interior lakes.
Rock Island Teacup Area (Oxbow Lakes)
The series of lakes that make up this subsection are hydrologically connected to each other and to the Columbia River through groundwater interactions. Putter's Pond is a series of small lakes that includes Pit and Marina Lakes as they are separated only by thin slivers of land (about a car width), much of which has been changing as there is a gravel mining operation that has been deepening the lakes (improving fish habitat and reducing the level of aquatic vegetation) and providing these narrow bands of sand and gravel to improve the recreational values of the lakes. These lakes are an old oxbow (channel) of the Columbia River that formed when the Malaga slide occurred approximately 11-12,000 years ago (Charlie Mason, personal communication, May 2006). This area prior to the slide was covered by Glacial Lake Wenatchee, which covered an area roughly from Moses Coulee to Rocky Reach Dam. At the time of the original adoption of the SMP these lakes were just small wetland areas, but with the raising of the pool behind Rock Island in the early 1970s, water seeped through the

ground and raised these low lying areas into lakes that are both large enough and hydrologically connected to fall under within the criteria.

Big Bow Lake 1
This reach is mostly on the southern side of the lake, is 1.1 miles in length, and contains 58.5 acres. The shoreline is in a mix of irrigated agriculture and moderate rural density residential development and has one boat launch and a dock. Much of the residential developed area is housing and yards or irrigated agriculture, and 8.5% soils of a geologic hazard as defined under the DCC. There are six wetland types (NWI) in the reach and comprises 69% of the area and has several non-native species of trees. The uplands are primarily in irrigated agriculture mixed with low density rural development. The habitat rating average of 1.1 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or locations of roads, and developed areas. There are three different types of zoning in this reach. Most of the area is zoned as Rural Resource 2 (92%), followed by Residential Low (8%) and Rural Resource 5 (<1%). The average parcel size is 4.2 acres, with 16.1 acres (28%) of public lands (CCPUD). Impervious surfaces cover 8.9% of the area (roads 6.6%).

Polygon Species Habitat	**Acres**
Wetlands- part of this includes most of Blue Heron Lake	61.5

Big Bow Lake 2
This reach is on the northern shore of the lake, is approximately 0.7 miles in length, and contains 36.5 acres. The shoreline is in a relatively natural state; shrub steppe continues upland to an area of irrigated agriculture east of Pangborn Memorial Airport. There are five wetland types (NWI) in the reach and comprises 70% of the area and has several non-native species of trees. The habitat rating average of 2.7 is due to the limited habitat types, vertical and horizontal corridor functions and number or location of roads. The remaining area is shrub steppe and has moderate slopes, and 10.4% soils of a geologic hazard as defined under the Douglas County Code (DCC). Most of the area is zoned as Rural Resource 5 (54%), followed by Rural Resource 2 (46%). The average parcel size is 11.8 acres, with 8 acres (22%) of public lands (CCPUD) that are located on the shoreline. Impervious surfaces cover 6.3% of the area (roads 5.9%).

Polygon Species Habitat	**Acres**
Wetlands	6.3

Blue Heron Lake
Blue Heron Lake only has one reach as it is similar around the entire area. The length is approximately 0.8 miles in length, and contains 40.3 acres. The shoreline is in a relatively natural state; shrub steppe continues upland above a band of developed area

to an area of irrigated agriculture east of Pangborn Memorial Airport. There are five wetland types (NWI) in the reach and comprises 28% of the area and has several non-native species of trees. The habitat rating average of 0.8 is due to the limited habitat types, vertical and horizontal corridor functions, buildings and number or location of roads, including SR28. The area has no soils of a geologic hazard as defined under the Douglas County Code (DCC). All of the area is zoned as Rural Resource Rural Resource 2. The average parcel size is 4.7 acres, with 3.5 acres (8.8%) of public lands (CCPUD) that are located on the shoreline. Impervious surfaces cover 16.2% of the area (roads 15.3%).

Polygon Species Habitat	**Acres**
Wetlands	8.2

Hammond Lake 1
This reach on the western half of the lake, is 1.2 miles in length, and contains 49.4 acres. The south shore of the lake, along SR28 is included in the Rock Island Reach One description. The shoreline is in a mix of recreational uses, Rock Island Golf Course, low density residential development and a small area of irrigated agriculture. There is one boat launch on the north side of the lake. Much of the residential developed area is housing and yards, and 13.2% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach and comprises 13% of the area and has several non-native species of trees, including Russian olive. The uplands are primarily in irrigated agriculture on the north east end, and golf course on the rest. The habitat rating average of 1.2 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or location of developed areas, although the golf course is used extensively by Canada Geese year around. There are four different types of zoning in this reach. Most of the area is zoned as Public (79%), followed by Mixed Recreation (21%), and Rural Resource 20 (<1%), Residential Low (<1%). The average parcel size is 15.3 acres, with 16.1 acres (81%) of public lands (City of Rock Island). Impervious surfaces cover 2.8% of the area (roads).

Polygon Species Habitat	**Acres**
Wetlands	9.8

Hammond Lake 2
This reach is on the western half of the lake, is 0.6 miles in length, and contains 24.3 acres. The shoreline is in a mix of low density residential development, shrub steppe and irrigated agriculture. There is one unimproved boat launch on the southeast corner of the lake. Much of the residential developed area is housing and yards, and 27.6% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach and comprises 15% of the area and has several non-native species

of trees, including Russian olive. The uplands are primarily in irrigated agriculture and shrub steppe, leading to cliffs and talus that are located on the east side of Battermann Road. The habitat rating average of 1.9 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or location of developed areas. There are five different types of zoning in this reach. Most of the area is zoned as Rural Resource 20 (56%), followed by Residential Low (30%), Commercial Agriculture 10 (8%), Public (5%), and Mixed Recreation (<1%). The average parcel size is 28.5 acres, with 3.5 acres (14%) of public lands (City of Rock Island). Impervious surfaces cover 20.4% of the area (roads).

Polygon Species Habitat	**Acres**
Wetlands part of this includes a portion of Putters Lake	83.4

Hideaway Lake 1
This reach is mostly on the southern side of the lake, is 0.5 miles in length, and contains 32.7 acres. The shoreline is in a mix of wetlands, irrigated agriculture, and low rural density residential development. There is a water utility on the southeast corner of the lake. Most of the area is wetlands (64%), and 11% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach that includes several non-native species of trees. The uplands are primarily in irrigated agriculture mixed with low density rural development. The habitat rating average of 2.7 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or locations of roads, and developed areas. There are three different types of zoning in this reach. Most of the area is zoned as Rural Resource 2 (46%), followed by Rural Resource 5 (32%) and Residential Low (22%). The average parcel size is 3.9 acres, with 14.1 acres (43%) of public lands (CCPUD). Impervious surfaces cover 3.1% of the area.

Polygon Species Habitat	**Acres**
Wetlands	15.4

Hideaway Lake 2
This reach is on the northern shore of the lake, is approximately 0.4 miles in length, and contains 36.5 acres. The shoreline is in a relatively natural state; shrub steppe (86% of the area) continues upland to an area of irrigated agriculture east of Pangborn Memorial Airport. There are five wetland types (NWI) in the reach and comprises 14% of the area and has several non-native species of trees. The habitat rating average of 4 is due to the limited habitat types, vertical and horizontal corridor functions and number or location of roads. The remaining area is shrub steppe and has moderate slopes, and 10.4% soils of a geologic hazard as defined under the Douglas County Code (DCC). Most of the area is zoned as Rural Resource 5 (83%), followed by Rural Resource 2

(17%). The average parcel size is 23.8 acres, with 17.6 acres (72%) of public lands (CCPUD) that are located on the shoreline. Impervious surfaces cover 0% of the area. Though the habitat rating is low, in a discussion with Ray Pearson (Rock Island City Councilman) he has observed that bobcat, otters, muskrat, beaver and other species utilizing this lake and some of the others in the Rock Island teacup.

Polygon Species Habitat	**Acres**
Wetlands	6.5

Putter's Pond 1, includes part of Pit Lake
This reach includes part of Pit Lake, a juvenile fishing pond. The reach is on the northwestern part of the lake, is 0.5 miles in length, and contains 17.7 acres. The shoreline is in a mix of residential development within the City of Rock Island, and 2.8% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach and comprises 2.8% of the area. The uplands are in residential and commercial development. The habitat rating average of 0.4 reflects those attributes; limited existing habitat, vertical and horizontal corridor functions (barriers) and developed areas. There are four different types of zoning in this reach. Most of the area is zoned as Residential Low (64%), Commercial (18%), Public (18%), and Mixed Recreation (<1%). The average parcel size is 1 acre, with 4.4 acres (25%) of public lands (City of Rock Island). Impervious surfaces cover 28.4% of the area (16.1% roads).

Polygon Species Habitat	**Acres**
Wetlands	1.9

Putter's Pond 2, includes part of Pit Lake
This reach includes part of Pit Lake, a juvenile fishing pond. The reach is on the north part of the lake, is 0.8 miles in length, and contains 26.2 acres. The shoreline is in a mix of recreational uses and undeveloped area above Saunders Road (but within the urban growth area) and 0.8% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach and comprises 11% of the area. The uplands are primarily in shrub steppe and irrigated agriculture. The habitat rating average of 1.2 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or location of developed areas. There are three different types of zoning in this reach. Most of the area is zoned as Mixed Recreation (77%), Public (23%), followed by Residential Low (<1%). The average parcel size is 16.2 acres, with 9.5 acres (36%) of public lands (City of Rock Island). Impervious surfaces cover 26.2% of the area (roads).

Polygon Species Habitat	Acres
Wetlands	1

Putter's Pond 3
This reach is on the northeastern part of the lake, is 0.5 miles in length, and contains 16.7 acres (some area shared with Hammond Lake Reach 1). The shoreline is all part of the Rock Island Golf Course and has 3.6% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach and comprises <1% of the area. The uplands are primarily part of Hammond Lake or in shrub steppe to the northeast. The habitat rating average of 0 is due to no priority habitats, vertical and horizontal corridor functions (barriers), although the golf course is used extensively by Canada Geese year around. The entire area is zoned as Public. The average parcel size is 11.8 acres, with 100% in public lands (City of Rock Island). Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Wetlands	1.6

Putter's Pond 4
This reach is comprised of rock, sand and gravel- the dividing lanes/peninsulas created between the small lakes making up this area. There are trees and wetland habitat areas intermixed among the shoreline areas of this reach. The length is approximately 0.3 miles and 11.2 acres. Please note the shorelines are shared among the other reaches so the short length is misleading.

Polygon Species Habitat	Acres
Wetlands	8.1

Putter's Pond 5- includes part of Marine Lake
This reach is on the western part of the lake, is 0.4 miles in length, and contains 14.8 acres. The shoreline is in industrial and residential uses, and 0% soils of a geologic hazard as defined under the DCC. The industrial use is the sand and gravel mining operation along the south end of the reach, near SR28. There are three wetland types (NWI) in the reach and comprises 3.3% of the area and has several non-native species of trees, including Russian olive. The uplands are commercial and residential development (City of Rock Island). The habitat rating average of 0.5 is due to the limited existing habitat, vertical and horizontal corridor functions (barriers) and number or location of developed areas. There are two different types of zoning in this reach. Most of the area is zoned as Tourist Commercial (98%) and Public (2%), followed. The

average parcel size is 6.5 acres, with 5.3 acres (36%) of public lands (City of Rock Island). Impervious surfaces cover 30% of the area (21% roads).

Polygon Species Habitat	**Acres**
Wetlands	2.1

Putter's Pond 6- includes most of Marina Lake
This reach includes most of Marina Lake. The reach is on the western part of the lake, is 0.2 miles in length, and contains 7 acres. The shoreline is in a mix of residential development within the City of Rock Island, and 0% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach and comprises 11.5% of the area. The uplands are in residential and commercial development. The habitat rating average of 1.5 reflects those attributes; limited existing habitat, vertical and horizontal corridor functions (barriers) and developed areas. There are three different types of zoning in this reach. Most of the area is zoned as Residential Low (83%), Commercial (1.4%), and Rural Resource 20 (16%). The average parcel size is 3.8 acres, with 0 acres of public lands. Impervious surfaces cover 11.3% of the area (roads).

Polygon Species Habitat	**Acres**
Wetlands	0.1

Banks Lake Area (Coulee Lakes, in the Grand Coulee)
Banks Lake 1
This reach of Banks Lake includes seven separate sections of shoreline that intersect the Douglas County line on the east side of the county that have common features. The southernmost extent is just above Dryfalls Dam (US Highway 2) and extends north/northeast for to Township 28 north, Range 29 east, Section 29, has a combined length of 4.7 miles and contains 232.2 acres. The shoreline is in a relatively natural state with substantial cliff and talus habitat (50%). There are some recreational sites in the southern most area with boating facilities, but the facilities themselves are in Grant County except for some of the parking lot area. There are four wetland types (NWI) in the reach (4.7% of the area). The habitat rating average of 43.4 is due to the number of priority habitat types, vertical and horizontal corridor functions and limited roads and access. The majority of the rest of the area is rocky shrub steppe and has steep slopes, and 100% of the soils considered geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in steep shrub steppe mixed talus and cliff, and dryland agriculture on the plateau. The area is mostly zoned as Rural Resource 20 (90%), with some Dryland Agriculture (10%). The average parcel size is 226.5 acres, with 227.1 acres (98%) of public lands that are part of the Banks Lake Recreational

Area. Impervious surfaces cover 2.4% of the area (roads and parking lot), which does not include rock and talus slopes.

Polygon Species Habitat	Acres
American White Pelican	9.7
Bald Eagle	30.4
Chukar	16.6
Cliffs/bluffs	141.4
Mule Deer	155.9
Riparian Zones	30.1
Sage Grouse	11.7
Waterfowl Concentrations	7

Banks Lake 2
This reach of Banks Lake is one section of shoreline that intersects the Douglas County line on the east side of the county in the Barker Canyon area, has a length of 1.3 miles and contains 57 acres. The shoreline is mostly shrub steppe (81%) with some trees (both native and non-native) and a small island (rock). There are some recreational uses along the shoreline and a possible undeveloped boat launch. There are 5 wetland types (NWI) in the reach (4.6% of the area). The habitat rating average of 12.6 is due to the limited vertical and horizontal corridor functions from the primitive roads that crisscross much of the shoreline. One hundred percent of the soils area considered geologic hazard as defined under the Douglas County Code (DCC). The uplands are primarily in steep shrub steppe mixed talus and cliff, and dryland agriculture on the plateau. The area is mostly zoned as entirely as Rural Resource 20. The average parcel size is 277.2 acres, with 57 acres (100%) of public lands that are part of the Banks Lake Recreational Area. Impervious surfaces cover 6.8% of the area (roads and parking lot).

Polygon Species Habitat	Acres
Bald Eagle	67.6
Cliffs/bluffs	2

Polygon Species Habitat	Acres
Riparian Zones	10.6
Sage Grouse	12.3

Jameson Lake Area (Coulee Lakes in the Moses Coulee)

Grimes Lake 1

This is an alkaline lake that is the upper most of the three lakes in this area connected by a stream channel and wetlands to Bennett Lake, and has a small dam at the outlet that was built in the 1930s. This reach has a length of approximately 1.1 miles, and contains 50.3 acres and forms the east side of the lake. The shoreline has extensive cliff, talus and rocky shrub steppe habitats that extend well beyond the 200 foot jurisdictional area, with roads and agriculture (livestock) uses on the southern end the shoreline, and 80.6% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach comprising 9.2% of the area. The habitat rating average of 55.4 is due the number of habitat types, the horizontal and vertical habitat features and very limited alterations. The uplands are primarily a mix dryland agriculture, cliffs, talus and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 214.9 acres, with 0% of public lands. Impervious surfaces cover 0.3% of the area (roads).

Polygon Species Habitat	Acres
Cliffs/bluffs	22.9
Mule Deer	25.4
Sage Grouse	66.7
Waterfowl Concentrations	2
Wetlands	1.1

Grimes Lake 2

This reach has a length of approximately 1 mile, and contains 45.2 acres and forms the northeast end of the lake. The shoreline primarily shrub steppe habitat (87%) that extends well beyond the 200 foot jurisdictional area, and 92.1% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI), some isolated, in the reach comprising 13.6% of the area. The habitat rating average of 81 is due the number of habitat types, the horizontal and vertical habitat features and no visible shoreline alterations. The uplands are primarily a mix dryland agriculture, cliffs, talus

and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 176 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Cliffs/bluffs	1.9
Mule Deer	33.7
Riparian Zones	8.4
Sage Grouse	51.3
Waterfowl Concentrations	1.2

PHS Points- one prairie hawk nesting site.

Grimes Lake 3
This reach has a length of approximately 1.2 miles, and contains 52.9 acres and forms the west side of the lake. The shoreline has extensive cliff, talus and rocky shrub steppe habitats that extend well beyond the 200 foot jurisdictional area, has two isolated ponds, and 91.4% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach comprising 12% of the area. The habitat rating average of 81 is due to the number of habitat types, the horizontal and vertical habitat features and no visible shoreline alterations. The uplands are primarily a mix dryland agriculture, cliffs, talus and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 135.1 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Cliffs/bluffs	9.7
Mule Deer	43
Riparian Zones	0.5
Sage Grouse	125.1
Waterfowl Concentrations	1

Grimes Lake 4
This reach has a length of approximately 0.8 miles, and contains 33.3 acres and forms the southeast side of the lake. The shoreline is primarily shrub steppe habitat (70%) that extends well beyond the 200 foot jurisdictional area, and 95.3% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach comprising 27% of the area. The habitat rating average of 32.7 is due to the number of habitat types, the horizontal and vertical habitat features but with some roads and limited alterations at the south end. The uplands are primarily a mix dryland agriculture, cliffs, talus and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 174.7 acres, with 0% of public lands. Impervious surfaces cover 3.7% of the area (roads).

Polygon Species Habitat	**Acres**
Mule Deer	12.9
Sage Grouse	45.1
Waterfowl Concentrations	20.4
Wetlands	20.2

Bennett Lake
This is an alkaline lake that is intermediate lake between Grimes and Jameson Lakes, connected by a stream channel and wetlands that overlap the jurisdictional areas. The lake has one reach that has a length of approximately 1.7 miles, and contains 167.3 acres. The shoreline has extensive wetlands that extend well beyond he 200 foot jurisdictional area (hence the large number of acres), has a small dam on the south end (built in the 1930s), with roads and agriculture (livestock) uses on/near the shoreline, and 80.6% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach. The habitat rating average of 9.7 is due to the amount roads that limit the horizontal and vertical habitat features. The uplands are primarily a mix of pasture, dryland agriculture, cliffs, talus and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 253.9 acres, with 9.5% of public lands. Impervious surfaces cover 1.7% of the area (roads).

Polygon Species Habitat	**Acres**
Cliffs/bluffs	15.5
Mule Deer	101.3

Polygon Species Habitat	Acres
Sage Grouse	257.5
Waterfowl Concentrations	70.8
Wetlands	70.8

Jameson Lake 1
This is an alkaline lake that is the lower most of the three lakes in this area connected by a stream channel and wetlands to Bennett Lake. This reach has a length of approximately 1.7 miles, and contains 75.9 acres and forms the southeast side of the lake. The shoreline has extensive alterations, including 2 boat launches, a recreation resort, a paved road which is immediately adjacent to the water front, and a state recreational area with facilities. Ninety-seven percent of the soils are a geologic hazard for development as defined under the DCC. There are four wetland types (NWI) in the reach comprising 4.4% of the area. The habitat rating average of 6.2 is due to the number extent of the alterations and limited habitat functions. The uplands are primarily shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 105.9 acres, with 87% of public lands. Impervious surfaces cover 30% of the area (22.7% roads).

Polygon Species Habitat	Acres
Cliffs/bluffs	1
Mule Deer	72.6
Sage Grouse	148.2
Waterfowl Concentrations	2.8

Jameson Lake 2
This reach has a length of approximately 3.2 miles, and contains 143.1 acres and forms the west side of the lake. The shoreline has extensive cliff, talus and rocky shrub steppe habitats that extend well beyond the 200 foot jurisdictional area, has a couple of islands, and 81.9% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach comprising only 2% of the area. The habitat rating average of 74.6 is due to the number of habitat types, the horizontal and vertical habitat features and no visible alterations. The uplands are primarily a mix dryland agriculture, cliffs, talus and shrub steppe. The area is zoned entirely as Rural Resource 20. The average

parcel size is 123.4 acres, with 50% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Cliffs/bluffs	49.2
Mule Deer	90.5
Sage Grouse	185.4
Waterfowl Concentrations	3.4

PHS Points- two prairie hawk nest sites and one peregrine falcon, unknown use.

Jameson Lake 3
This reach has a length of approximately 1.3 miles, and contains 58.3 acres and forms the north end of the lake. The shoreline has extensive alterations, including 2 docks and a boat launch, a recreation resort, and a network of roads which many are immediately adjacent to the water front. Forty-two percent of the soils are a geologic hazard for development as defined under the DCC. There are five wetland types (NWI) in the reach comprising 27% of the area. The habitat rating average of 3 is due to the extent of the alterations and limited habitat functions. The uplands are primarily wetlands to the north and shrub steppe, cliff and talus to the east and west. The area is zoned entirely as Rural Resource 20. The average parcel size is 277.8 acres, with 0.5% of public lands. Impervious surfaces cover 19% of the area (4.2% roads).

Polygon Species Habitat	Acres
Cliffs/bluffs	4.1
Mule Deer	53.9
Sage Grouse	97.8
Waterfowl Concentrations	0.3

Jameson Lake 4
This reach has a length of approximately 1.5 miles, and contains 67 acres and forms the east side of the lake. The shoreline has extensive cliff, talus and rocky shrub steppe habitats that extend well beyond the 200 foot jurisdictional area, and 99.6% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the

reach comprising only <1% of the area. The habitat rating average of 76.5 is due to the number of habitat types, the horizontal and vertical habitat features and no visible alterations. The uplands are primarily a mix dryland agriculture, cliffs, talus and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 190.3 acres, with 48% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Cliffs/bluffs	25.8
Mule Deer	40.9
Sage Grouse	108
Shrub steppe	6.6
Waterfowl Concentrations	0.3

Other plateau lakes (Kettle Lakes)
Most of these lakes are alkaline in water type, and become much more so during the mid summer to early fall. These lakes were created by depressions left during glaciation and are commonly called pothole lakes, similar to those in other parts of the Columbia Basin. Throughout this region most lakes are used heavily by migratory birds, mostly waterfowl. Many of the lakes are used by deer and livestock for water, although when the alkalinity raises those that provide lower alkalinity or freshwater get more intensively used.

Black Lake 1
This lake has two reaches and is has a water quality that is weakly alkaline; reach one has a length of approximately 0.3 miles, and contains 13 acres. Reach one was separated because of its unique habitat features on the southwest side. The shoreline is comprised of 90% wetlands with a large tree component and talus/rock habitats, has no visible shoreline alterations, and 99% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach. The habitat rating average of 67.5 is due to the high amount of wetland area, long horizontal and vertical habitat features, but an unusual composition of habitat types and no roads. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 360.7 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Mule Deer	60.1
Riparian Zones	0.7

Black Lake 2
This reach is almost completely shrub steppe (92%) that has a length of approximately 1.3 miles, and contains 68.7 acres. The shoreline is has some wetlands, has no visible shoreline alterations, and 90.5% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach. The habitat rating average of 55.4 is due to the long horizontal and vertical habitat features, number of habitat types and few roads. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned entirely as Rural Resource 20. The average parcel size is 370.9 acres, with 0% of public lands. Impervious surfaces cover 1.8% of the area (road).

Polygon Species Habitat	Acres
Mule Deer	68.7

Cornehl Lake
This lake has one reach that has a length of approximately 0.9 miles, and contains 179.7 acres. The shoreline has extensive wetlands that extend well beyond he 200 foot jurisdictional area (hence the large number of acres), has few, if any, shoreline alterations, and 90.3% soils of a geologic hazard as defined under the DCC. There are five wetland types (NWI) in the reach. The habitat rating average of 23.1 is due to the high amount of wetland area, long horizontal and vertical habitat features, but a low number of habitat types and few roads. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (91 and Dryland Agriculture (9%). The average parcel size is 218.8 acres, with 0.1% of public lands. Impervious surfaces cover 0.2% of the area (road at north end). Given the extent of wetlands and some cliff and talus habitat in the nearby uplands, the habitat probably has a much higher value to wildlife than the rating would indicate.

Tim Behne, Foster Creek Conservation District, visited Cornehl Lake with land owner Gene Wimerskirch. He said the lake used to be much smaller and that hay was cut on the west end (now under water) in the old days. He also mentioned that the Calvary camped there one winter during the last of the Indian populations in the area. This lake may be the reason for the high temperatures in West Foster Creek.

Polygon Species Habitat	Acres
Sage Grouse	201.8
Sharp-tailed Grouse	23.8
Waterfowl Concentrations	178
Wetlands	178

Elbow Lake
This lake has one reach and it has a water quality that is strongly alkaline and subject to drying up during dry seasons/years; the length is approximately 0.9 miles, and contains 55 acres. The shoreline is comprised of 88% shrub steppe with the remainder wetlands, has no visible shoreline alterations, and 30.3% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach. The habitat rating average of 6.6 is due to the limited number of habitat types and proximity to a major road. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (51%) and Dryland Agriculture (49%). The average parcel size is 644.3 acres, with 55% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Sage Grouse	74.9
Waterfowl Concentrations	22.9

Haynes Lake
This lake has one reach is 1.5 miles in, and contains 103.3 acres. The shoreline is comprised of 39% shrub steppe with the remainder extensive wetlands, has one dock, and 60.6% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach. The habitat rating average of 5.6 is due to the limited number of habitat types and limited vertical extent of habitat. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Dryland Agriculture. The average parcel size is 124.4 acres, with 0% of public lands. Impervious surfaces cover 0% of the area. A comment in the visioning document stated that there are many turtles in this lake.

Polygon Species Habitat	Acres
Sage Grouse	147.6
Sandhill Crane	295.3

Klinkhammer Lakes
This lake has one reach, although there are actually two lakes that are virtually identical in characteristics and is has a water quality that is alkaline; the length is approximately 2.1 miles, and contains 104.7 acres. The shoreline is comprised of 88% shrub steppe with the remainder wetlands, has no visible shoreline alterations, and 36% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach. The habitat rating average of 24 is due to the limited number of habitat types. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (99.5%) and Dryland Agriculture (0.5%). The average parcel size is 265.9 acres, with 1.7% of public lands. Impervious surfaces cover 0% of the area. Historically there was an attempt to stock fish, but local area residents conclude that survival wasn't likely due to the alkalinity. This lake and several others in the area were historically used by local residents for ice skating before most of the homesteads were abandoned.

Polygon Species Habitat	Acres
Sage Grouse	188.5
Sandhill Crane	188.3

Smith Lake
This lake has one reach and is of fresh water quality and spring fed (2004 photo indicates an algae bloom); the length is approximately 1 mile, and contains 58.6 acres. The shoreline is comprised of 83% shrub steppe, has no visible shoreline alterations, and 89.1% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach (10.2% of the area). The habitat rating average of 34.1 is due to the number of habitat types, long horizontal and vertical habitat features, and proximity to a major road. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (56.5%) and Dryland Agriculture (43.5%). The average parcel size is 603.2 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Waterfowl Concentrations	109.1

Stallard Lake
This lake has one reach of 0.9 miles, and contains 71.3 acres. The shoreline is comprised extensive wetlands and 76.6% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach. The habitat rating average of 4.8 is due to the limited number of habitat types and limited vertical extent of habitat. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Dryland Agriculture. The average parcel size is 90.1 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Sage Grouse	105.4
Sandhill Crane	210.8

Unnamed 29-29-2 1
This lake has two reaches and is has a water quality that is alkaline; the length is approximately 0.5 miles, and contains 29.6 acres. The shoreline is comprised of dryland agriculture, shrub steppe and 17.4% wetlands, has no visible shoreline alterations, and 92.6% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach. The habitat rating average of 5.3 is due to the limited number of habitat types and proximity of dryland agriculture. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (10%) and Dryland Agriculture (90%). The average parcel size is 520.8 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Waterfowl Concentrations	24.5

Unnamed 29-29-2 2
This reach has a length of approximately 0.6 miles, and contains 35.4 acres. The shoreline is comprised of dryland agriculture, shrub steppe and 61.6% wetlands, has no visible shoreline alterations, and 88.4% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach. The habitat rating average of 13.5 is due to the limited number of habitat types and proximity of dryland agriculture. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is

zoned as Rural Resource 20 (23%) and Dryland Agriculture (77%). The average parcel size is 501.1 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Waterfowl Concentrations	2.5

Unnamed 29-29-22
This lake has one reach and is of alkaline water quality; the length is approximately 1 mile, and contains 57.8 acres. The shoreline is comprised of 89% shrub steppe, has no visible shoreline alterations, and 23.7% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach (10.6% of the area). The habitat rating average of 9.9 is due to the number of limited habitat types, long horizontal and vertical habitat features, and proximity to a major road. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Dryland Agriculture. The average parcel size is 160.3 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Sage Grouse	88.9
Waterfowl Concentrations	35.6

PHS Points- one white tailed jack rabbit.

Unnamed 30-29-36
This lake has one reach and is of alkaline water quality; the length is approximately 0.9 miles, and contains 59.8 acres. The shoreline is comprised of 56% shrub steppe, has no visible shoreline alterations, and 45.7% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach (44% of the area). The habitat rating average of 9.5 is due to the limited number of habitat types, long horizontal and vertical habitat features, and proximity to a major road. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (90%) and Dryland Agriculture (10%). The average parcel size is 230.3 acres, with 20% of public lands. Impervious surfaces cover 0.2% of the area.

Polygon Species Habitat	Acres
Waterfowl Concentrations	28.8

PHS Points- one peregrine falcon, perching use.

Unnamed 30-29-36b
This lake has one reach and is of alkaline water quality, although likely less than many other lakes as the 2004 photo indicates an algae bloom, characteristic of several freshwater lakes in the same photo (e.g. Smith Lake). The length is approximately 1 mile, and contains 58.6 acres. The shoreline is comprised of 83% shrub steppe, has no visible shoreline alterations, and 89.1% soils of a geologic hazard as defined under the DCC. There are four wetland types (NWI) in the reach (10.2% of the area). The habitat rating average of 34.1 is due to the number of habitat types, long horizontal and vertical habitat features, and proximity to a major road. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (56.5%) and Dryland Agriculture (43.5%). The average parcel size is 603.2 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	**Acres**
Waterfowl Concentrations	27.1

Wilson Lake 1
This lake has two reaches and is of unknown water quality; the length of this reach is approximately 0.5 miles, and contains 25.9 acres. The shoreline is almost completed altered by dryland agriculture, a farm in close proximity to the shoreline, and 67.5% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach (<1% of the area). The habitat rating average of 0.1 reflects the highly altered shoreline. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (31%) and Dryland Agriculture (69%). The average parcel size is 120.6 acres, with 0% of public lands. Impervious surfaces cover 6.6% of the area (4.6% roads).

Polygon Species Habitat	**Acres**
Waterfowl Concentrations	49.9

Wilson Lake 2
The length of this reach is approximately 1 mile, and contains 51.7 acres. The shoreline is comprised of 14% shrub steppe, and 66% soils of a geologic hazard as defined under the DCC. There are three wetland types (NWI) in the reach (59% of the area). The habitat rating average of 81 is due to the number of habitat types and long horizontal and vertical habitat features. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (40%) and Dryland Agriculture (60%). The average parcel size is 203.3 acres, with 0% of public lands. Impervious

surfaces cover 0% of the area. Although this reach rated very high on habitat functions, because it is small and the amount of alteration on the north side (reach 1) would substantially reduce its value for wildlife habitat functions.

Polygon Species Habitat	Acres
Waterfowl Concentrations	4.3

Unnamed Lake T29 R28 S25
This lake has one reach and is has a water quality that is alkaline and subject to dramatic changes in lake levels between wet and dry seasons/years; the length is approximately 1.0 mile, and contains 56 acres. The shoreline is comprised of 100% shrub steppe, has no visible shoreline alterations, and 85% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach. The habitat rating average of 54 is due to the lack of roads, vertical and horizontal continuity of habitat, but has a limited number of habitat types. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Dryland Agriculture (100%), likely in CRP. The average parcel size is 480 acres, with 0% of public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Sage Grouse	56
Waterfowl Concentrations	20.5

Unnamed Lake T29 R28 S31
This lake has one reach and is has a water quality that is alkaline and subject to dramatic changes in lake levels between wet and dry seasons/years; the length is approximately 0.7 miles, and contains 46 acres. The shoreline is comprised of 100% shrub steppe, has no visible shoreline alterations, and 30% soils of a geologic hazard as defined under the DCC. There are two wetland types (NWI) in the reach. The habitat rating average of 54 is due to the lack of roads, vertical and horizontal continuity of habitat, but has a limited number of habitat types. The uplands are primarily a mix of dryland agriculture and shrub steppe. The area is zoned as Rural Resource 20 (60%) and Dryland Agriculture (40%). The average parcel size is 323 acres, with 50% in public lands. Impervious surfaces cover 0% of the area.

Polygon Species Habitat	Acres
Sage Grouse	46
Waterfowl Concentrations	20

A.5 Public access

The public access for shorelines in Douglas County is most extensive on the Columbia River. The discussion below separates the river into pools and lists lakes that have established public access. Those lakes not listed do not have any developed public access, although many have public lands near or adjacent to them that allows limited remote access. On the Columbia River, the inventory is limited to the Douglas County side, but there will be discussion of where more developed areas either in Grant, Okanogan or Chelan County exist.

Wanapum Pool
There are no developed public access areas to the water within Douglas County, although there are two areas with undeveloped access off of Spanish Castle Road. There is a private community recreational facility for boating near Trinidad (Columbia Cliffs), and just outside of the County is Crescent Bar (Grant County) - a major resort area with privately owned publicly accessible boating facilities. The Chelan County PUD has a boat ramp on the Chelan County side just below Rock Island Dam, but is not for public use.

Rock Island Pool
There is one major boating/recreational facility on the Douglas County side- Hydro-Park. There is also one undeveloped site just above Odabashian Bridge. On the Chelan County side there are two additional facilities within the City of Wenatchee- Orondo Street Boat Launch and Confluence State Park.

Rocky Reach (Lake Entiat)
Public facilities include Lincoln Rock Park, Orondo Park, Daroga Park, and Beebe Park. Community facilities include Bauer's Landing and Sun Cove (Lake Entiat Estates). The City of Entiat, Chelan Falls, and at least one more facility in Chelan County- the Wenatchee Boat Club.

Wells Pool (Lake Pateros)
One public facility, Marina Park in the City of Bridgeport. Other facilities in Okanogan County exist at Pateros and Brewster.

Rufus Woods
Two public facilities- one just above Chief Joseph Dam and one remote area that is not a fully developed facility about 7 miles upstream (Brandt's Landing). The only other site is in Okanogan (Seaton's Grove).

Jameson Lake
One major facility managed by WDFW and one smaller developed site owned by Jack's Resort.

Grimes Lake
One site not fully developed.

Banks Lake
The developed sites are all outside of Douglas County, and one possible undeveloped site may exist in the Barker Canyon area. There are numerous sites that are in Grant County- the entire lake is managed by the National Park Service. Developed sites include two on the south end- one on each side of Dryfalls Dam, two minor facilities along the east shore, and two major facilities near Electric City.

Analysis and justification for removal of Moses Coulee and Atkins Lake from the RSMP

Moses Coulee and the Shoreline Management Act

The purpose of this paper is to create a scientifically justified and reasonable discussion for removing Moses Coulee from the Columbia River to the mouth of Douglas Creek as defined in WAC 173-18-130.

The Moses Coulee Water Resource Inventory Area (WRIA) 44 is located close to the geographic center of Washington State in the "Big Bend" area of the Columbia River. WRIA 44 is approximately 1,213 square miles watershed (776,222 acres). It extends southwest from central Douglas County before emptying into the Columbia River at River Mile 447.0). A small portion of WRIA 44 lies within Grant County. The primary tributaries in the watershed are Douglas Creek, Rattlesnake Creek and McCarteney Creek. There are two large closed basin lakes in the upper end of the watershed- Jameson and Grimes Lakes.

Regulatory framework
In WAC 173-18-040, Streams and rivers further defined shorelines of statewide significance as:

> 2. (b) Eastern Washington. The following provisions describe either of the following points on those rivers in Eastern Washington, whichever is farther upstream;

(i) The point at which the mean annual flow exceeds two hundred cubic feet per second, or

(ii) The lowest extremity of the first three hundred square miles of drainage area east of the crest of the Cascade Range; provided that either of said points which is utilized is within the jurisdiction of chapter 90.58 RCW.

(iii) The following provisions additionally list said river in all counties below said point through which said river passes.

It is 2b(ii) that included Moses Coulee in the Shoreline Master Program based on it's watershed size at what is called a boundary point, which is located at the confluence of Douglas Creek and Moses Coulee (Sec. 36, T23N, R23E) and extends to the Columbia River.

Recent studies
USGS
The USGS, in cooperation with Ecology, began updating upstream boundary points in 1990. In 1971 the State was divided into 13 hydrologic regions which were also used in this study. From 1990 through 1998, the USGS updated upstream boundary points for all northeastern and western Washington streams and rivers for which Ecology has regulatory responsibility.
Most of the streams and rivers of interest in their study area do not have streamflow records so using a direct-measurement approach for determining upstream boundary points was not feasible because (1) the use of stream-gauging records to determine mean annual discharges would require continuous operation of a number of new streamflow gages on each stream over a period of years, (2) the locations at which to measure the streams would not be known beforehand, and (3) the cost of operating the large number of gages required would be economically impractical.

The 1971 USGS study concluded that only drainage area and mean annual precipitation were needed in order to determine mean annual discharge at ungauged sites (David H. Appel, U.S. Geological Survey, written commun., 1971).

There were several steps to determining the equation for putting boundary points in, but this particular step from their report was the key:

> The point on a river at which the mean annual discharge was determined to be 200 cfs was designated as the upstream boundary of the shoreline of statewide significance for the river unless the corresponding drainage area at that point was greater than 300 square miles. In the latter case, steps 1-4 were repeated at upstream trial points until the location of the point having a drainage area of 300 sq. mi. was determined. That point was designated as the upstream boundary point for the shoreline of statewide significance.

The data used for the modeling effort included Douglas Creek; USGS site 4612463000 Douglas Creek near Alstown depicted 4.18 cfs mean annual flow, 10.00 inches annual precipitation, 99.9 square miles drainage area. Data sets summarized from 1949–55, 1963–68 data.

What was not considered was that some sites had no records as no flow occurred on a continuous basis (therefore no gage records). Such is the case with Moses Coulee. USGS stream naming conventions and graphical stream representations on topographic maps also confirm no flow occurring, only a dry channel, which remains unnamed up to the point where Douglas Creek enters Moses Coulee.

PGG
Pacific Groundwater Group describes Douglas Creek/Moses Coulee (PGG 2003):

> Douglas Creek winds north-south across most of WRIA 44. The streambed initially consists of fine sediment, but enters a bedrock valley not far along its course. The Creek flows through the valley for approximately half of its total length and then enters Moses Coulee where the substrate changes to coarse alluvium. Within Moses Coulee the creek flow recharges completely to the underlying groundwater and the creek does not discharge to the Columbia River.
>
> Rattlesnake Creek trends east-west across WRIA 44. The creek can be roughly divided into three sections based on substrate conditions; the eastern portion consists of coarse alluvium, the middle is bedrock, and the west end is undefined alluvium. The stream likely loses water on the western, downstream reach and loses all of its water to the underlying groundwater before reaching Douglas Creek.

In their modeling exercise, mean annual flow of Douglas and Rattlesnake Creeks combined, which would be at the boundary point, is 14.4 cfs. This exercise used USGS data models as well, but takes into account more variables versus the model used by USGS and WDOE in the previous discussion. PGG also notes that the aquifer is discontinuous, that is, the flows entering Moses Coulee are not supported by the aquifer, but rather, the water drains through the alluvium into the aquifer far below the surface.

In Moses Coulee historical accounts some flow has occurred in wet years expressed near the mouth as the elevation and depth of aquifer decline rapidly. In addition, historically there have been years where large flood events from weather events (rain or Chinook winds) combined with saturated soil or frozen soils with snow conditions that likely exceeded 20 cfs, but only for a short duration (1-5 days) documented in the Douglas County Hazard Mitigation Plan.

Foster Creek Conservation District
Data collected by Foster Creek Conservation District depicts a lower mean annual flow, at approximately 12 cfs in Douglas Creek near Moses Coulee for the last several years, although the region as a whole has been experiencing drought-like conditions for several years.

Summary
Given this abundance of information, it would seem prudent to remove Moses Coulee from consideration in the revision of the Douglas County Regional Shoreline Master Program. In addition, there are other regulatory considerations that would usurp regulations under the Plan. There are several critical areas ordinances to protect any isolated resources, including geological hazards, frequently flood areas and fish and wildlife conservation areas. There is also the Douglas County Flood Hazard Management Plan which discusses remediation for flooding events which is more suitable for the conditions occurring within Moses Coulee.

Within the Shoreline Management Act there are criteria to provide for reasonable access to water and water-related uses. Within Moses Coulee (for the channel) there are no water-related uses as no water exists within the Coulee for these uses to occur.

References:
Bartu, K., and C. Andonaegui. 2001. Salmon and steelhead habitat limiting factors report for the Foster and Moses Coulee watersheds Water Resource Inventory Areas (WRIA) 50 and 44. Report prepared by the Washington State Conservation Commission, Olympia, WA, and the Foster Creek Conservation District, Waterville, WA. Final report. March, 2001. 114p + appendices.

Douglas County Transportation and Land Services. Douglas County Hazard Mitigation Plan. 2003.

PGG (Pacific Groundwater Group, Montgomery Water Group, Inc., R2 Resource Consultants). 2003. WRIA 44/50 final phase 2 basin assessment. Prepared for Foster Creek Conservation District, Waterville, WA.

NPCC (Northwest Power and Conservation Council). 2004. Upper Middle Mainstem Subbasin Plan. Northwest Power and Conservation Council, Portland, OR.

USGS, 2003. *Higgins, Johnna L*. Determination of Upstream Boundary Points on Southeastern Washington Streams and Rivers Under the Requirements of the Shoreline Management Act of 1971. Prepared in cooperation with the Washington Department of Ecology, Tacoma, Washington. Water-Resources Investigations Report 03-4042.

Atkins Lake

Atkins Lake is an intermittent lake that has not had water in it since the early 1980s (Jim Davis, personal communication, May, 2006). Jim Davis has lived (easy viewing distance) near the lake for all of his life, close to 60 years, and out of those 60 years, he thought maybe 12 years the lake has had water in it. He did acknowledge that early in his childhood there was water in it and some fringe brush vegetation (see 1947 aerial). His observation is that early farming practices (horse drawn) had minimal effects on the water retention in the soil (retained), and as equipment improved erosion and runoff increased, thereby allowing more water to enter the basin. In the last 10-20 years tillage practices and CRP have likely increased soil moisture/water retention, therefore decreasing runoff and the ability for water to gather in low lying areas like Atkins Lake. Indeed, discussions with various farmers and ranchers in the Douglas County Watershed Planning Unit have stated similar observations with area lakes. He mentioned the soils were somewhat impermeable as well. He observed that the last time water stayed in the lake was about 1982.

From Douglas County PUD website:

Jim Davis is a fourth generation wheat farmer, raised on the family farm in the Saint Andrews area of Douglas County where he presently resides. A 1964 graduate of Coulee City High School, Jim received a Bachelor of Arts degree in Education from Eastern Washington University. A graduate of the Washington Agriculture and Forestry Education Foundation Leadership Program, Jim is also a Kellogg Fellow in Food and Agriculture policy at Resources for the Future, a Washington, DC research foundation.

No local, state or federal agency data can be found related to the lake, water levels or water quality. Several aerial photos, 1947, 1994, and 2004 show no water, and in fact depict much of the lake bottom being farmed. A field trip in May 2006, the lake was all under cultivation except for a very small area on the west side with some basin wild rye and other steppe grasses present. All of these indicators reflect a lake not having resources warranting inclusion in the Shoreline Master Program for Douglas County. Other mechanisms, such as frequently flooded regulations are more applicable to the circumstances to this intermittent lake.

Appendix B. Restoration plan

B.1 Introduction

State guidelines establish that local governments include a real and meaningful strategy to address shoreline restoration. *"Restoration means the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, re-vegetation, removal of intrusive structures, and removal or treatment of toxic materials. Restoration does not imply returning to aboriginal or pre-European settlement conditions."* (WAC 173-26-020).

Restoration differs from protection measures established by the shoreline master program. Protection measures are intended to maintain baseline functions and values. Restoration occurs mainly via goals, policies, and voluntary or incentive based mechanisms.

This Plan establishes a restoration goal, objectives, and policy priorities to actively encourage and facilitate restoration in the county. Participation in ongoing restoration programs by the cities and the county, where appropriate, and support for these programs is identified as an important component of this plan. Opportunities have been identified for further development of educational, voluntary and incentive based restoration approaches. Monitoring these ongoing efforts for the 213 miles of shoreline in Douglas County will be an ongoing process with benchmarks coinciding with shoreline master program updates every 7 years. The results of this monitoring will assist the cities and the county in updating and managing their approach to the restoration of identified degraded shoreline functions.

B.2 Purpose and scope

This Plan has been prepared to comply with the state's SMP guidelines for restoration planning (WAC 173-26-201 (2) (f)). The guidelines recommend that restoration plans:

- Identify degraded areas, impaired ecological functions, and sites with potential for restoration;
- Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions;
- Identify existing and ongoing projects and programs that are currently being implemented, or are reasonably assured of being implemented (based on an evaluation of funding likely in the foreseeable future), which are designed to contribute to local restoration goals;
- Identify additional projects and programs needed to achieve local restoration goals, and implementations strategies, including identifying prospective funding sources for those projects and programs;
- Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals; and

- Provide 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.

This restoration plan is focused on tools such as economic incentives, broad funding sources such as Salmon Restoration Funding, volunteer programs, and other strategies. The guidelines establish that since restoration planning must reflect the individual conditions of a shoreline, restoration planning provisions will vary based upon:

- Size of jurisdiction
- Extent and condition of shorelines
- Availability of grants, volunteer programs, and other tools
- The nature of the ecological functions to be addressed

The approach chosen by the cities and county is reflective of ongoing efforts and programs in the region; as well as a commitment by the jurisdictions to move forward with additional educational and incentive based programs.

B.3 Priority needs/areas

Background and methods

Identification of sites with potential for restoration

The Inventory and Characterization section of the Shoreline Master Program, Douglas County Watershed Plan, and the two conservation districts (Foster Creek and South Douglas) have all identified a number of proposed restoration projects and areas with potential for restoration. Unfortunately the Douglas County Watershed Plan did not address the Columbia River. However, broad countywide programs were included that could affect the river. The plan addresses upland processes, primarily agricultural practices and programs, such as the Conservation Reserve Program (CRP), to reduce erosion and sediment transport. Erosion and sediment transport likely affect some of the upland lakes; i.e. there are very few areas of shoreline uses on the lakes besides agriculture. These programs have been successful in reducing these effects, although direct monitoring of the lakes does not occur except for Banks, Jameson and Grimes lakes (see SMP introduction). Jameson and Grimes both have more local attention as they support fisheries and have recreational resources developed. The three public utility districts have identified areas where erosion is occurring along the Columbia River and are included in the discussion of potential restoration areas.

Fish passage restoration potential only applies to the Columbia River dams (the only river in the SMP). The responsibility for passage, or mitigation for, lies with the operators of each dam; i.e. the three PUD's and US Army Corps of Engineers and is beyond the scope of this Plan.

The local and state salmon recovery plans list the Columbia as a low priority for restoration projects such that little interest has been generated to identify sites in need of restoration.

Implementation and construction of proposed restoration projects are carried out by the respective county agencies, utility and conservation districts, municipalities, or private interests. In addition, State and Federal agencies such as the Washington Department of Fish and Wildlife, the US Fish and Wildlife Service, and others may be involved in direct project implementation, or as a partner in a multi-jurisdictional effort.

Public versus private lands
Nearly 85% of Douglas County is privately owned, although within the shoreline jurisdictional area approximately 40% of the land is owned by public agencies, primarily the public utility districts and Washington State Department of Transportation. Specific areas of public lands on the Columbia River have been designated natural, mostly PUD owned, to ensure minimal potential alteration, which is consistent with PUD goals and objectives. Most of this occurs in Wells and Wanapum pools. In addition, Banks Lake is almost entirely publicly owned and designated natural. Most of the upland lakes have also been designated natural as they are relatively inaccessible and alkaline in nature.

To provide a general countywide overview of project types, projects can be categorized as follows:

I. Develop and maintain programs to protect and restore shoreline natural resources and functions – Educate and provide assistance to property owners and the general public on how to protect and restore habitat and shoreline functions.

II. Restore riparian areas – Activities include planting of riparian and upland vegetation, maintenance, weeding and invasive weed control.

III. Protect and restore sediment processes – Protect vegetative cover, control runoff from roads, remediate landslides, and enhance bridges.

IV. Protect and Restore wetlands – Restore hydrology and vegetation in freshwater, estuarine and adjacent wetlands.

V. Acquire/remove shoreline structures – Acquire and remove bulkheads, armoring, marinas, piers, and other structures to restore shoreline function.

VI. Protect Existing Habitat – protect through environment designations and regulations.

Priorities for restoration activities should be focused in:
1. Areas that extend or connect contiguous functioning shorelines

2. Areas where there is functioning upland habitat
3. Areas where uplands are not disconnected by roads, railroads or other obstructions within the 200 foot jurisdictional area
4. Areas currently impaired in an area proposed for development.

Areas of potential restoration and suggested approaches

Interior Lakes

The interior lakes not specifically listed are considered functioning and not at immediate risk by development or alterations. Many have some livestock grazing occurring, and several have dryland agricultural activities upland (above the 200 foot jurisdictional area) that may have some effects to the lakes. Extensive on-going agricultural practice improvements through NRCS and Conservation Districts should retain or improve shoreline ecological functions.

Lakes that are alkaline are designated as a Type 1 wetland within the DCC, receiving the maximum protection as they are considered irreplaceable; i.e. they cannot be duplicated through creation of wetlands.

Banks Lake Shoreline- Barker Canyon area- under management of the National Park Service (Bureau of Reclamation/Banks Lake Equalization Project).
Recreational and environmental improvements have been identified in the Banks Lake Recreation EIS. Accessible areas to Banks Lake are publicly owned and mitigation or restoration lies with the National Park Service.

Jameson Lake
South end- most of the shoreline in the reach is hardened or lined with a road that accesses recreational area(s) along the lake. Much of this area is owned and managed by the WDFW. Where private lands exist in the very southern extent, work could be done with landowners to improve vegetation components and create/improve target areas for recreational use. Some of this may be done through the WDFW and Foster Creek Conservation District.

North end- Continue to improve agricultural practices through programs with the NRCS and Foster Creek Conservation District (FCCD). At the present FCCD is investigating water quality issues identified by the Watershed Planning Unit to identify target(s) for management. The campground area is hardened around the lake. Because of fluctuating lake levels and poor soils, improving the plant community along the banks would prove very difficult.

Grimes Lake- On the south end, grazing of livestock occurs within 200 feet, which may or may not be impairing the shoreline. An in-depth inventory of shoreline conditions should be considered in the near future. Continue to improve agricultural practices through programs with the NRCS and Foster Creek Conservation District.

Bennett Lake- Grazing of livestock occurs within 200 feet, which may or may not be impairing the shoreline. An in-depth inventory of shoreline conditions should be considered in the near future. Continue to improve agricultural practices through programs with the NRCS and Foster Creek Conservation District.

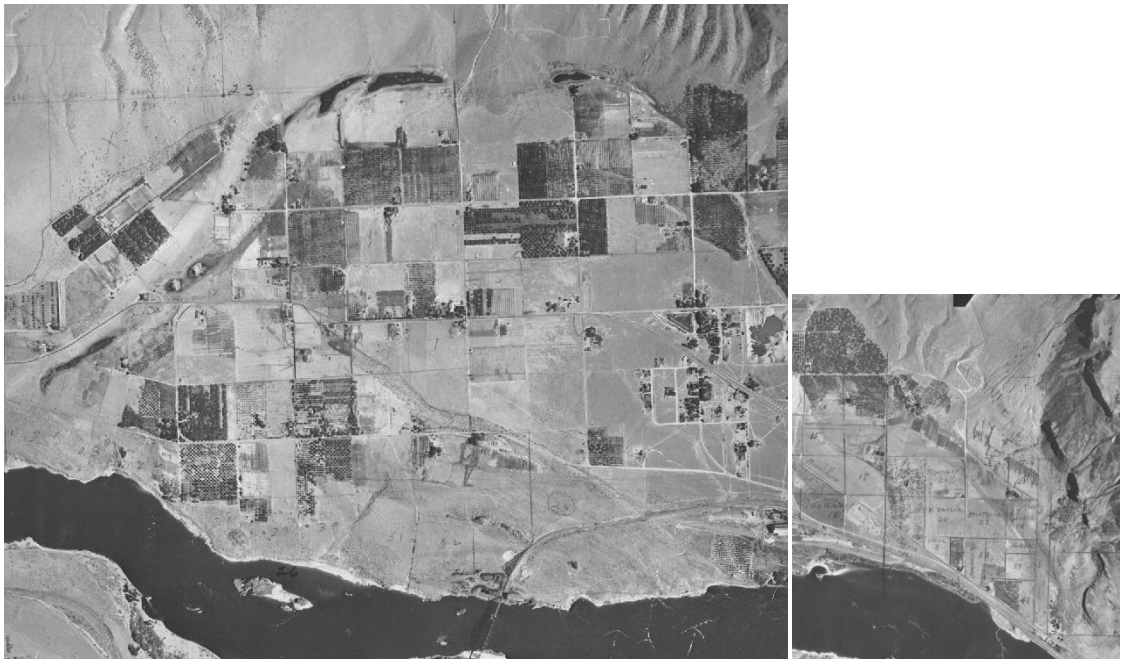
Wilson Lake- Dryland agriculture occurs within 200 feet, which may or may not be impairing the shoreline. An in-depth inventory of shoreline conditions should be considered in the near future. Continue to improve agricultural practices through programs with the NRCS and Foster Creek Conservation District.

Lake U292902- Dryland agriculture occurs within 200 feet, which may or may not be impairing the shoreline. An in-depth inventory of shoreline conditions should be considered in the near future. Continue to improve agricultural practices through programs with the NRCS and Foster Creek Conservation District.

Rock Island Lakes

Since these lakes came into existence in the early 1970s, impairment is a judgment that does not fit very well. The land under the lakes had been used for other purposes before it became flooded. Over time the shorelines have developed wetland characteristics and currently provide wildlife habitat and recreational resources for the community. A Lake Enhancement Committee was formed several years ago and continues to work to improve the community's resources around the lakes. This process includes shoreline and aquatic weed management and educational opportunities for citizens. In addition, the Washington State Department of Fish and Wildlife stocks fish in most of the lakes to enhance recreational opportunities and the Chelan County PUD has on-going noxious weed control on the shorelines and both are integral with the Lake Enhancement Committee.

Rock Island Lakes circa 1949



Rock Island Lakes 2004

Putters- Non-native vegetation occurs (Russian olive, purple loosestrife etc.), some of which is being controlled by the CCPUD and some through the Rock Island Aquatic

Weed Plan (milfoil). Replacement of non-native trees with native species could enhance the wildlife and recreational uses. Gravel extraction operations are underway to improve the lake(s) by increasing the depth, while maintaining commercial viability. This should help with control of milfoil and improve the fisheries. While gravel operations are ongoing the shoreline vegetation is impaired. As gravel operations decline in future years, plantings could improve the condition of the shoreline. Elsewhere the golf course surrounds the lake and has natural vegetation (thin strip) around the shorelines. In future expansion of the golf course, consideration should be given to designing areas compatible with, or an improvement upon, wildlife resources of shoreline areas.

Big Bow- Non-native vegetation occurs (Russian olive, purple loosestrife etc.), some of which is being controlled by the CCPUD and some through the Rock Island Aquatic Weed Plan (milfoil). Replacement of non-native trees with native species could enhance the wildlife and recreational uses.

Hammond- Non-native vegetation occurs (Russian olive, purple loosestrife etc.), some of which is being controlled by the CCPUD and some through the Rock Island Aquatic Weed Plan (milfoil). Replacement of non-native trees with native species could enhance the wildlife and recreational uses. The golf course surrounds the northern and western part of the lake and has natural vegetation (thin strip) around the shorelines. Future expansion of the golf course should consider designing areas compatible with, or improvement upon, wildlife resources of shoreline areas.

Pit- Designed to be a juvenile fishing pond, there are areas that could be improved through vegetation management compatible with keeping access for fishing. While noted in this section of the SMP, this area's highest priority is in maintaining and/or improving its recreational resource that the community and State of Washington has a considerable investment in.

Columbia River

All three of the public utility districts (and, in Lake Rufus Woods, the US Army Corps of Engineers) expend considerable effort addressing the erosion areas of the pools, improving wildlife habitat within their properties, and managing or providing most of the recreational areas with public shoreline access on the Columbia River. They also are obligated to comply with management plans and mitigation approved by the Federal Energy Regulatory Commission. Most of the impaired areas are associated with the dams themselves (which have been mitigated and are not likely to change), the location of the highways (again, not likely to change for safety and infrastructure reasons), and the areas where agricultural and residential development occurs. Most of these areas are between Rock Island Dam and McNeil Canyon, and on or near Bridgeport Bar.

There are barriers to restoration on the Columbia River, particularly on private lands. There are numerous areas with bluffs, some of which were fill areas cleared for agriculture many years ago, where there is the potential to reconstruct functional shorelines and enhance opportunities for shoreline access. Because of flood

easements, federal regulatory requirements and permitting stipulations restoration of these areas is difficult.

Wanapum Pool

There are impaired shorelines just above and below Rock Island Dam, including armoring along the railroad and highway below Rock Island Dam. Because of infrastructure and safety issues remedies are limited in this area. Additional impairment occurs in the Trinidad area where homes with lawns and armoring occur on the shoreline (Columbia Cliffs and Rio Vista).

Rock Island Pool

There are a multitude of lawns/yards that extend to the shoreline, with relatively little armoring. Most irrigated agriculture has a small buffer (<20 feet) along the shoreline, but the orchards have replaced more upland habitat than shoreline vegetation. Many orchards support waterfowl concentrations as well (grazers). Within the East Wenatchee UGA most of the shoreline has been minimally affected as the WSDOT and CCPUD own the majority of the property. In the most southerly area there are some lawns and a manufactured home park that may be impairing some of the functions. A small area immediately north of Odabashian Bridge has impaired shorelines, a large infestation of knapweed, and is used as an unimproved boat launch. In the Rock Island industrial zoned area there is a large area between the railroad tracks and the shoreline that has impaired conditions. This area is immediately south of the old silica plant where wood chips, up to several feet deep, cover the surface up to the shoreline edge.

Along the Apple Capital Loop Trail there are many areas suitable for restoration by means of noxious weed control. There are also some areas of eroding bluffs just north of 19th street.

Rocky Reach Pool

A multitude of lawns/yards with some armoring extend to the shoreline. There is also significant armoring of the highway. Most irrigated agriculture has a small buffer (<20 feet) along the shoreline, but the orchards have replaced more upland habitat than shoreline vegetation. Many orchards support waterfowl concentrations as well (grazers). Specific areas of impairment are along the shorelines of the LAMIRDS designated- Lake Entiat Estates, Bauer's Landing, Sanford Shores, Columbia Pointe, Longview's Orchards, Lakeview Shores, Orondo, and Desert Shores. Two other areas with potential risk as well as opportunity for restoration are the Twin W Orchards and Beebe Orchard areas. Both have bluffs that are eroding that could potentially be improved both for access and functional shoreline restoration.

Wells Pool

Virtually all of the immediate shoreline is owned by Douglas County PUD. There are several areas of shoreline erosion just upstream from Wells Dam. Most of Bridgeport bar is maintained as wildlife mitigation area with limited access to the Columbia River.

Any development, restoration or protection of shorelines in this pool would require coordination and permitting with the Douglas County Public Utilities District.

Lake Rufus Woods

This pool has several areas of impaired shoreline due to erosion, which the US Army Corps of Engineers continues to work on. In addition, the USACOE has developed and maintains wildlife habitat improvements in Lake Rufus Woods. In, and just downstream of, the City of Coulee Dam most of the shoreline is armored to prevent erosion from water and power management of Grand Coulee Dam. WDFW maintains a wildlife area just below this area along the shoreline.

Timelines and funding

Multiple entities are responsible for systematically identifying, securing funding, designing, and constructing projects that provide regionally important watershed scale improvements to water quality and habitat improvements. The funding and timing with respect to design and construction of potential restoration projects is a continuous process. Funding sources is discussed in the section below.

B.4. Existing efforts and programs

This section lists the programmatic measures within Douglas County designed to foster shoreline restoration, achieve a no-net loss in shoreline and upland ecological processes, functions, and habitats. There are many programs in place that exist in the Upper Columbia Region. Most that occur in Douglas County are related to Natural Resource Conservation Service or Conservation District programs. The jurisdictions do not anticipate leading most restoration projects or programs. However, the SMP represents an important vehicle for facilitating and encouraging restoration projects and programs that could be led by public, private and/or non-profit entities. In addition, a table of potential funding sources has been included to assist with developing projects.

Table 1 below is an Inventory of management programs, sponsors or agencies, area affected by the programs and goals of the programs in the Upper Columbia River Basin.

Table 1. On-going Programs

Management Program	Sponsor/Lead Agency	Area affected by Program	Goal of the Program
Water Management Program	Bonneville Power Administration	Upper Columbia Basin	Establish prescriptions that apply to watershed mitigation projects
Conservation Reserve Program	Natural Resource Conservation Service	Agricultural croplands and farms in Douglas County	Reduce soil erosion on upland habitats through establishment of perennial vegetation on cropland
Conservation Innovation Grants	Conservation Districts	Agricultural croplands and farms in Douglas County	Voluntary program intended to stimulate the development and adoption of conservation approaches and technologies in environmental enhancement and protection

Management Program	Sponsor/Lead Agency	Area affected by Program	Goal of the Program
Environmental Quality Incentives Program	Natural Resource Conservation Service	Agricultural croplands and farms in Douglas County	Provides technical, educational, and financial assistance to eligible farmers and ranchers to address soil, water, and natural resource concerns.
Conservation Securities Program	Natural Resource Conservation Service	All agricultural operations on private croplands, rangeland, pasture land, and orchards in Douglas County	Voluntary program providing financial reward to eligible agricultural operations for stewardship and enhancement practices and activities
Watershed Management Act (2514)	Municipalities in Douglas County and Conservation Districts	WRIAs 44 and 50	Enables the development of planning units that conduct watershed planning and recommend management strategies.
Critical Areas Standards-Wetlands	Douglas County, Cities of Bridgeport, East Wenatchee and Rock Island	County building and development but not agricultural practices	Prevent cumulative adverse environmental effects on water quantity and quality, groundwater, wetlands, and rivers and streams.
Critical Areas Standards- Fish and Wildlife Conservation	Douglas County, Cities of Bridgeport, East Wenatchee and Rock Island	County building and development but not agricultural practices	Protect unique, fragile, and valuable elements of the environment.
Critical Areas Standards--Frequently Flooded Areas	Douglas County, Cities of Bridgeport, East Wenatchee and Rock Island	County building and development but not agricultural practices	Promotes public health, safety, and welfare by minimizing public and private losses due to flood conditions.
Critical Areas Standards-Geo-hazards	Douglas County, Cities of Bridgeport, East Wenatchee and Rock Island	County building and development but not agricultural practices	Protects the general public and resources from flooding, landslides, or steep-slopes failure.
Road Maintenance Program	Douglas County	All county roads (excluding state and private roads) in Douglas County	Minimize erosion and sediment delivery by implementing various methods.
Stormwater Program Chapter 19.40	Douglas County, City of East Wenatchee	Currently applies only to a portion of East Wenatchee as a utility program in Douglas County	Establish a comprehensive approach to surface and storm-water management that protects property, water quality, aquifers, fish, and increase public education, and preserve natural drainage systems.
Six Year Transportation Plan	Douglas County and cities	Stormwater drainage and management	Review transportation programs for consistency with the Counties Comprehensive Plans.

Management Program	Sponsor/Lead Agency	Area affected by Program	Goal of the Program
Douglas County Agricultural HCP	Foster Creek Conservation District	Agricultural croplands, farms, and ranches in Douglas County	Minimize and mitigate the incidental take of threatened and endangered species as a result of typical agricultural activities.
Upper Columbia Regional Fisheries Enhancement Group (RCW 77.95)	Same	Upper Columbia Basin	Enhance salmon and steelhead resources, maximize volunteer efforts, assist the state with achieving their fisheries goals, and help develop project designs
Upper Columbia Salmon Recovery Board	Chelan, Douglas, and Okanogan Counties and Colville Tribes and Yakama Nation	Upper Columbia Basin	Create and implement an ESU-level recovery plan for ESA-listed species in the Upper Columbia Basin
Salmon Recovery Planning Act (Lead Entity- 2496)	Douglas County- via Foster Creek Conservation District	Douglas County	Provides a framework for identifying limiting factors, developing, and funding restoration projects.
Habitat Conservation Plans	Chelan and Douglas County Public Utility Districts	Upper Columbia Basin (upstream from Rock Island Dam)	Achieve “no net impact” on anadromous salmonids
Northern Pike-minnow Population Reduction Program	Chelan, Douglas, and Grant Public Utility Districts	Mainstem Columbia River	Reduce Pike-minnow predation on smolts
Wells Hydroelectric Project Wildlife Mitigation Program	Douglas County PUD	Upper Basin	Secure, protect, and restore wildlife habitat.
Ecotoxicology and Environmental Fish Health Program and Environmental Assessment Program	NOAA Fisheries	Upper Columbia Basin	Assess the effects of human activities on the health of wild fish.
Conservation Technical Assistance Program	Natural Resource Conservation Service	Upper Columbia Basin	Provide conservation technical assistance to landowners and agencies on planning and natural resource conservation.
Emergency Watershed Protection Program	Natural Resource Conservation Service	Upper Columbia Basin	Undertake emergency measures to protect life and property from floods, drought, and products of erosion.
Farm and Rangeland Protection Program	Natural Resource Conservation Service	Upper Columbia Basin	Protect farm and rangeland and create an easement
Grassland Reserve Program	Natural Resource Conservation Service	Upper Columbia Basin	Protect range and pasture lands from development (subdivision)

Management Program	Sponsor/Lead Agency	Area affected by Program	Goal of the Program
Grazing Lands Conservation Initiative	Natural Resource Conservation Service	Upper Columbia Basin	Maintain and improve management, productivity, and health of privately-owned grazing lands
Resource Conservation and Development Program	Natural Resource Conservation Service	Upper Columbia Basin	Accelerate resource conservation and development
Soil and Water Conservation Assistance Program	Natural Resource Conservation Service	Upper Columbia Basin	Provide cost share and incentive payments to farmers and ranchers to address threats to soil, water, and natural resources
Watershed Protection, Watershed Surveys, and Flood Prevention Program	Natural Resource Conservation Service	Upper Columbia Basin	Assist agencies and participants to protect and restore watersheds from erosion, floodwater, and sediments.
Wetlands Reserve Program	Natural Resource Conservation Service	Upper Columbia Basin	Offers landowners opportunities to protect, restore, and enhance wetlands on their properties.
Wildlife Habitat Incentives Program	Natural Resource Conservation Service	Upper Columbia Basin	Provide incentives to develop and improve wildlife habitat on private lands.
Integrated Weed Management Program	Bureau of Land Management	Upper Columbia Basin	Inventory and complete ecological assessments for noxious weeds.
Land Exchange Program	Bureau of Land Management	Upper Columbia Basin	Provide for acquisition, use, disposal, and adjustment of land resources.
Leave No Trace Program	Bureau of Land Management	Upper Columbia Basin	Promote responsible use of public lands to recreationists participating in human-powered activities
Watchable Wildlife Initiative	Bureau of Land Management	Upper Columbia Basin	Provide wildlife viewing opportunities
Farm Service Agency Conservation Reserve Program	U.S. Department of Agriculture	Upper Columbia Basin	Help agricultural producers to protect environmentally sensitive lands.
Total Maximum Daily Load Program	U.S. Environmental Protection Agency	Upper Columbia Basin	Specify the maximum amount of a pollutant that a water body can receive and still meet water quality standards.
Fish and Wildlife Assistance Program	U.S. Fish and Wildlife Service	Upper Columbia Basin	Restore and maintain the health of fish and wildlife resources
Partners for Fish and Wildlife Program	U.S. Fish and Wildlife Service	Upper Columbia Basin	Assist private landowners restore wetlands and other important fish and wildlife habitats
Fish and Wildlife Mitigation Program	U.S. Fish and Wildlife Service	Upper Columbia Basin	Advocate fish and wildlife habitat needs within the basin
Partners in Flight Program	U.S. Fish and Wildlife Service	Upper Columbia Basin	Manage and conserve neotropical birds

Management Program	Sponsor/Lead Agency	Area affected by Program	Goal of the Program
Conservation Planning Program	U.S. Fish and Wildlife Service	Upper Columbia Basin	Work with private landowners, local and state governments, corporations and others to conserve and protect listed and unlisted species on non-Federal lands
Columbia River Regional Initiative/Water Resource Program	Washington State Department of Ecology	Upper Columbia Basin	Develop an integrated state program for managing water resources--to allow access to new water withdrawals while providing support for salmon recovery
Water Quality Program	Washington State Department of Ecology	Upper Columbia Basin	Protect, preserve, and restore water quality
Water Resource Program	Washington State Department of Ecology	Upper Columbia Basin	Manage watersheds, administer water rights, and restore and maintain stream flows.
Columbia River Instream Resource Protection Program	Washington State Department of Ecology	Upper Columbia Basin	Insure the future viability of instream resource values of the mainstem Columbia River, including fish, wildlife, aesthetics, navigation, and hydropower resource values
Aquatic Lands Enhancement Account	Washington State Department of Natural Resources	Upper Columbia Basin	Invest in projects that enhance and protect wildlife and fish habitat
Washington State Natural Areas Program	Washington State Department of Natural Resources	Upper Columbia Basin	Protect the best remaining examples of many ecological communities and outstanding examples of native ecosystems, habitat for listed species, and scenic landscapes
Conservation Reserve Enhancement Program	Washington State Conservation Commission	Upper Columbia Basin	Provide incentives to restore and improve salmon and steelhead habitat on private lands
Wetland and Fish and Wildlife Activities	Washington State Department of Transportation	Upper Columbia Basin	Maintain or implement activities that limit or reduce impacts to fish and wildlife and their habitats
State Parks Program	Washington State Parks and Recreation Commission	Upper Columbia Basin	Acquire, operate, manage, enhance, and protect a diverse system of recreational, cultural, historical, and natural sites

Potential funding sources

Funding for restoration or protection projects can be accomplished by using a variety of sources and cooperative ventures. On the Columbia River many projects would be coordinated, and potential funded, with one of the public utility districts and/or private landowners. Interior lakes would likely be coordinated with one of the conservation districts and/or private landowners. In either case, funding would need to be sought to

assist with these types of projects. Below is a list of some potential funding sources for a variety of restoration or protection projects for shoreline resources.

Table 2. Funding Sources

Grant Name	**Sponsoring Entity**	**Grant Size**
Acorn Foundation	Acorn Foundation	$5,000 – 10,000
Aquatic Lands Enhancement Account	Washington State Department of Natural Resources	$10,000 – 1M
Audubon		
Basin-wide Restoration New Starts General Investigation	US Army Corps of Engineers	Varies
City Fish Passage Barrier, Stormwater and Habitat Restoration Program	Washington State Department of Transportation	Varies
Coldwater Conservation Fund (CCF)	Trout Unlimited	Varies
Columbia River Basin Fish and Wildlife Program	Northwest Power and Conservation Commission (BPA)	Varies
Community Based Restoration Program	NOAA Fisheries	$1,000 - $500,000
Community Salmon Fund	National Fish and Wildlife Foundation	To $50,000
Cooperative Endangered Species Conservation Fund	US Fish and Wildlife Service	$1,000 – 14,000
Doris Duke Charitable Foundation	Doris Duke Charitable Foundation	Past Range $125,000 – 3m
FishAmerica Grant Program	FishAmerica Foundation	Varies
Five Star Restoration Program	Environmental Protection Agency	$5,000 – 20,000
FMC Corporation Bird and Habitat Conservation Fund	FMC Corporation and the National Fish and Wildlife Fdn.	Varies
Habitat Conservation	US Fish and Wildlife Service	Varies

Grant Name	Sponsoring Entity	Grant Size
Hugh and Jane Ferguson Foundation	Hugh and Jane Ferguson Foundation (Non-Profits only may apply)	$1,000 - $7,500
Landowner Incentive Program	Washington Dept of Fish Wildlife	Up to $50,000
Matching Aid to Restore States Habitat (MARSH)	Ducks Unlimited	Varies
Migratory Bird Conservancy	National Fish and Wildlife Fdn	$10,000 – 60,000
Native Plant Conservation Initiative	Bureau of Land Management, US Forest Service, US Fish and Wildlife Service, National Park Service	$10,000 – 50,000
Non-point Source Implementation Grant (319) Program	Environmental Protection Agency, Washington Dept of Ecology	Varies
North American Wetlands Conservation Act Grants Program	US Fish and Wildlife Service	$100,000 – 1M
Pacific Grassroots Salmon Initiative	National Fish and Wildlife Foundation	$5,000 – 100,000
Planning/Technical Assistance Program	Bureau of Reclamation	Varies
Regional Fisheries Enhancement Groups	Washington Dept of Fish Wildlife	$10,000 – 40,000
Resources for Community Collaboration	Sonoran Institute	Varies
Salmon Recovery Funding Board	Inter-Agency Commission	Varies
Section 204: Environmental Restoration Projects in Connection with Dredging	US Army Corps of Engineers	75% of total project modification costs
Section 206: Ecosystem Restoration Program	US Army Corps of Engineers	65% of total implementation cost

Grant Name	Sponsoring Entity	Grant Size
Transportation Environmental Research Program (TERP)	Federal Highway Administration	$20,000 – 50,000
Tributary Fund (HCP)	Chelan and Douglas County Public Utility Districts	Varies
Washington State Ecosystems Conservation Program	US Fish and Wildlife Service	$500 – 26,000
Western Community Stewardship Forum	Sonoran Institute	Varies
Wetland Protection Restoration and Stewardship Discretionary Funding	Environmental Protection Agency	$5,000 – 20,000

Incentive Programs

Consider a tax/fee system to directly fund shoreline restoration measures. One possibility is to have the County craft a preferential tax incentive through the Public Benefit Rating System administered by the County under the Open Space Taxation Act (RCW 84.34) to encourage private landowners to preserve and restore natural shore-zone features for "open space" tax relief. DOE has published a technical guidance document for local governments who wish to use this tool to improve landowner stewardship of natural resources. The guidance in this report provides "technically based property selection criteria designed to augment existing open space efforts with protection of key natural resource features which directly benefit the watershed. Communities can choose to use any portion, or all, of these criteria when tailoring a Public Benefit Rating System to address the specific watershed issues they are facing."

B.5. Restoration goals and policies

The governing principals of the shoreline update guidelines require cities and counties containing shorelines with impaired ecological functions to provide goals and policies to guide the restoration of those impaired shorelines. The regional shoreline staff and advisory committee compiled a list of potential restoration sites using data obtained during the inventory phase of the master program update, which identified impaired shoreline areas. Ongoing restoration efforts were included with the inventoried sites to create a comprehensive list of potential restoration opportunities. General and specific goals and policies have been developed and are listed below to address restoration of these various areas.

Restoration Prioritization

Priority should be given to restoration actions that:

1. Restore/retain connectivity between upland and riparian habitat, wetlands, and floodplain areas.
2. Reduce sediment loads.
3. Improve water quality.
4. Restore native vegetation.
5. Restoration projects that have a high benefit to cost ratio.
6. Restoration projects that contain an educational component.
7. Restoration projects that allow public opportunity to observe and or participate in restoration activities.

Restoration Goals Objectives and Policies

Goal

The goal of restoration is to achieve a net gain in shoreline ecological functions by providing for the timely repair and rehabilitation of impaired shorelines through a combination of public and private programs and actions.

Objectives

- Restoration projects shall be designed with the intent to achieve no net loss of ecological functions.

- Encourage cooperation between public agencies, private property owners, citizens, and volunteer groups for restoration projects.

- Facilitate restoration by expediting and simplifying the shoreline permit process for projects that are conducted solely for restoration purposes.

- Encourage public education of shoreline function and ecology in conjunction with restoration projects.

Policies

- Restoration and enhancement of shorelines should be designed using principles of landscape and conservation ecology and should restore or enhance chemical, physical, and biological watershed processes that create and sustain shoreline habitat structures and functions.

- Mitigation associated with shoreline development projects shall be designed and to achieve no net loss of ecological function.

- The county shall seek funding from state, federal, private and other sources to implement restoration, enhancement, and acquisition projects.

- Develop review guidelines that will streamline the review of restoration only projects.

- Encourage public and private shoreline owners to promote the proliferation of native, noninvasive wildlife, fish and plants.

- Restoration projects shall be coordinated with local public utility and conservation districts.

- Ensure that long-term maintenance and monitoring of restoration sites is included in the original permitting of the project.

- Allow for the use of tax incentive programs, mitigation banking, restoration grants, land swaps, or other programs, as they are developed to encourage restoration of shoreline ecological functions and protect habitat for fish, wildlife and plants.

- Jurisdictions shall pursue the development of a public benefit rating system that provides incentives for the restoration of the shoreline.

- Jurisdictions shall coordinate with state resource agencies to develop educational materials which promote the maintenance and restoration of shoreline functions. Educational materials shall provide resources for a variety of scenarios and trends occurring within the shoreline that are reflected in the inventory and analysis, such as: the conversion of agricultural land to non-agricultural use, existing and ongoing agricultural uses, and existing or planned residential and commercial development.

- Encourage the agricultural industry to continue to work closely with agencies, such as the Natural Resource Conservation Service and Foster Creek Conservation District, with expertise in agricultural practices and restoration to improve degraded shoreline functions.

<u>Rock Island Lakes</u>

Goal R1: Work toward removing non-native plants that have colonized the lakes.

Policy R1.1 – Coordinate with the Rock Island Lake Enhancement Committee and the Chelan County PUD to implement the Rock Island Weed Plan.

Policy R1.2 – Encourage and support joint volunteer and agency weed removal activities and programs, and develop guidelines for streamlined review of these activities.

B.6. Implementation and monitoring

In addition to project monitoring required for individual restoration and/or mitigation projects, the cities and the county should conduct system-wide monitoring of shoreline conditions and development activity, to the degree practical, recognizing that individual project monitoring does not provide an assessment of overall shoreline ecological health. The following three-prong approach is suggested:

1. Track information using GIS and the permitting systems as activities occur (development, restoration and mitigation), such as:

a. New shoreline development, by permit type
b. Unresolved compliance issues
c. Mitigation areas
d. Restoration areas

The county or city may require project proponents to monitor as part of project mitigation, which may be incorporated into this process. Regardless, as development and restoration activities occur in the shoreline area, the municipalities should seek to monitor shoreline conditions to determine whether both project specific and SMP overall goals are being achieved.

2. Periodically review and provide input to the regional ongoing monitoring programs/agencies, such as:

a. Washington Dept of Ecology water quality monitoring
b. Douglas County Watershed Planning Unit
c. Foster Creek Conservation District
d. Washington Department of Fish and Wildlife
e. The Nature Conservancy
f. Upper Columbia Salmon Recovery Board
g. The Public Utility Districts

Through this coordination with regional agencies, the municipalities should seek to identify any major environmental changes that might occur.

3. Re-review status of environmental processes and functions at the time of periodic SMP updates to, at a minimum, validate the effectiveness of the SMP. Re-review should consider what restoration activities actually occurred compared to stated goals, objectives and priorities, and whether restoration projects resulted in a net improvement of shoreline resources. Under the Shoreline Management Act, the SMP is required to result in no net loss of shoreline ecological functions. If this standard is found to not be met at the time of review, county or city will be required to take corrective actions. The goal for restoration is to achieve a net improvement. The cumulative effect of restoration

over the time between reviews should be evaluated along with an assessment of impacts of development that is not fully mitigated to determine effectiveness at achieving a net improvement to shoreline ecological resources.

To conduct a valid reassessment of the shoreline conditions every seven years, it is necessary to monitor, record and maintain key environmental metrics to allow a comparison with baseline conditions.

As monitoring occurs, the county and cities should reassess environmental conditions and restoration objectives. Those ecological processes and functions that are found to be worsening may need to become elevated in priority to prevent loss of critical resources. Alternatively, successful restoration may reduce the importance of some restoration objectives in the future.

Evaluation of shoreline conditions, permit activity, GIS data, and policy and regulatory effectiveness should occur at varying levels of detail consistent with the Regional Shoreline Master Program update cycle. A complete reassessment of conditions, policies and regulations should be considered every seven years.

Appendix C. Cumulative effects

This section describes the cumulative impacts, or effects, of the changes in designations and projected land use over the next 10-20 years. Discussion includes the description of no net loss of shoreline ecological functions, current circumstances-describing the changes that have occurred and what would be expected with present designations, policies and regulations, future expected changes as a result of proposed designations, goals, policies and regulations, and the beneficial effects of those changes.

The inventory and characterization phases of SMP development are critical to understanding the shoreline resources of a particular jurisdiction. This also establishes the base from which compliance with the standard of "no net loss" is to be measured for purposes of reviewing and approving the SMP.

WAC 173-26-186 (8) (d)

> Local master programs shall evaluate and consider cumulative impacts of reasonably foreseeable future development on shoreline ecological functions and other shoreline functions fostered by the policy goals of the act. 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.

The cumulative effects analysis considers the ecological functions of the shoreline that are affected by unregulated activities, development exempt from permitting, effects such as the incremental impact of residential bulkheads, residential piers, and runoff from newly developed properties. Accordingly, particular attention should be paid to policies and regulations that address platting or subdividing of property, laying of utilities, and mapping of streets that establish a pattern for future development that is to be regulated by the master program.

Cumulative impact analysis requires an understanding of the current use pattern and the impacts to shoreline ecological functions that have resulted from it, a reasonable estimation of future development potential and consideration of the beneficial effects of other applicable regulatory systems on future development. From this analysis, alternative scenarios for master program policies and regulations can be developed and the impact of those scenarios evaluated.

Impacts – The direct impacts, indirect impacts, and cumulative impacts of individual or multiple actions or events. Impacts are environmental, economic, social, and cultural in nature. Impacts may be beneficial, adverse, or perhaps both over different periods of time. For example, riparian restoration or enhancement will likely have direct adverse impacts over the short-term from the removal of existing ground cover of degraded sites

and the loss of erosion control that typically non-native or invasive species provided. The project, however, will likely result in net beneficial impacts over the long-term due to the new diverse native vegetation and the improved habitat and ecological functions that it will provide. Also, riparian restoration across the broader landscape over the long-term will likely have significant cumulative beneficial impacts.

Direct Impacts – The immediate impacts of an action or event. These include the immediate loss, change, or replacement of one type of environmental characteristic with another. Examples include the replacement of a shrub steppe environment with a residential development and its associated landscaping; the loss of benthic habitat with the placement of a pile; the diversion of surface and ground water due to grading and/or drainage systems; or the mortality of fish and benthic organisms from dredging.

Indirect Impacts – Interrelated and independent impacts caused by, or resulting from, an action or event. Examples include the increase, decrease, or shift in plants or animals utilizing the site, perhaps caused by changes in hydrology, microclimate, or habitat structure; decrease or increase in water quality or quantity; or the increase or decrease in mortality of plants or animals.

Cumulative Impacts – The combined impacts that accrue over time and space from a series of similar or related individual actions, including historic, present, and foreseeable future actions. Cumulative impacts are additive (linear) or interactive (nonlinear). Although each action may seem to have a negligible impact, the combined impacts could result in significant and perhaps widespread changes. Examples include the loss of habitat size, shape, or characteristic, including prey species, to sustain a particular species; alteration of the hydrologic characteristics of a drainage basin and the associated impacts to fish, wildlife, and plant species; or the starvation of a drift cell and its accretion shoreforms.

C.1 No net loss

WAC 173-26-201(2)(c) states:

> Master programs shall contain policies and regulations that assure, at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources. To achieve this standard while accommodating appropriate and necessary shoreline uses and development, master programs should establish and apply:
>
> - Environment designations with appropriate use and development standards; and
> - Provisions to address the impacts of specific common shoreline uses, development activities and modification actions; and
> - Provisions for the protection of critical areas within the shoreline; and
> - Provisions for mitigation measures and methods to address unanticipated impacts.

One of the most important policies in the SMA is the protection of shoreline natural resources. SMP's must achieve a 'no net loss of ecological functions' necessary to sustain shoreline natural resources as development and use of the shoreline continues over time. Influences outside of the shoreline jurisdiction place additional pressure on those same shoreline resources. (e.g. development of vacant lands, increase in impervious areas, loss of native vegetation, native soil disturbance).

The policy to achieve a 'no net loss of ecological functions' within shorelines highlights the uniqueness of local SMP's. Local SMP's are both a planning or, programmatic tool and a regulatory document. Ecological functions of our shorelines are a result of all the biological, physical and chemical processes within a watershed. Therefore local SMP's must address these processes by combining basin-wide restoration planning efforts with regulatory provisions all the way down the reach scale within one cohesive document. The proposed Regional Shoreline Master Program policies and regulations, and any required mitigation will assure a no net loss of ecological functions.

Critical areas discussion
Generally development proposals are reviewed by the guidance used for wetlands and riparian resources with regard to shorelines:

1. Avoiding the adverse impact altogether by not taking a certain action or parts of an action, or moving the action.
2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology and engineering, or by taking affirmative steps to avoid or reduce adverse impacts.
3. Rectifying the adverse impact by repairing, rehabilitating or restoring the affected environment.
4. Reducing or eliminating the adverse impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the adverse impact by replacing, enhancing, or providing similar substitute resources or environments.
6. Monitoring the impact and taking appropriate corrective measures.

C.2 Current circumstances affecting the shorelines and relevant natural processes

The current circumstances affecting shorelines were examined by comparing the changes in designations of the shorelines and the current uses and conditions based on the inventory and characterization (Appendix A). The current environment designations within jurisdictions in Douglas County were compared for expected changes that may occur based on the previous SMP designations and regulations and the proposed updated SMP.

The current uses on the shoreline were analyzed for the inventory and characterization of the shorelines. That analysis indicated that most shoreline development has or is occurring along the Columbia River shoreline between Rock Island Dam and just north of Beebe Bridge (McNeil Canyon). The majority of these areas have been, and are,

conversions from irrigated orchard to varying densities of residential development. This section of the shoreline is currently designated in the Comprehensive Plans in higher densities that the remaining rural areas. Several smaller areas, where existing denser development occurs, most of the shoreline is developed to an extent that no expected changes are likely to occur, with the exception of Orondo, a Rural Service Center. At the scale of the inventory no bulkheads were identified, but may occur at boat launches or older existing docks. Generally, bulkheads have been restricted by the public utility districts from shorelines within their project areas.

Within the City of East Wenatchee and urban growth area (UGA) very little development has occurred on the river. In fact, there is less than there was 100 years ago, when the river was used as a transportation corridor. Most of the shoreline is owned by the Washington State Department of Transportation, originally acquired for a riverfront highway, or by Chelan County Public Utilities District. Currently, a trail system and a wastewater treatment plant are the primary uses. Most zoning is residential, although some small areas are either mixed use or commercial.

The shorelines in the City of Bridgeport's UGA, similar to the City of East Wenatchee, does not have extensive development on the shorelines. Most of the jurisdictional shoreline is owned by the Douglas County Public Utility District or U.S. Army Corps of Engineers. The primary use occurring is recreational, Marina Park. Just above and below Chief Joseph Dam the Corps has armored the shoreline to prevent erosion from fluctuating water levels. There is also a boat launch above the dam. Private land adjacent to the PUD's property is zoned for varying levels of development, mostly residential. The PUD does have a landowner permit system that provides an opportunity for adjacent landowners to seek access to the shoreline, if within the PUD's management guidelines.

Rock Island's UGA along the Columbia River is a mix of industrial uses, at the south end, and undeveloped land. Much of the undeveloped area is basalt outcrop that would be difficult to develop or provide access to the river for upland development. The industrial activities are currently occurring inside the old silicon plant and related facilities. There is extensive shoreline alteration onsite. The lakes (6) around the Rock Island "Tea Cup" have a lot of community interest for recreational and economic development. Two of the lakes are currently under permit for gravel extraction, with the long-term intent of providing better habitat (depth) for fisheries and recreational opportunities. All of the other lakes provide recreational fisheries as well. The majority of property around the lakes is either owned by the City of Rock Island or the Chelan County Public Utilities District.

On the Waterville Plateau there is very little existing development on the interior lakes or Banks Lake due to ownership, proximity to existing developed areas, water availability and the water quality of most lakes being alkaline in nature. The vast majority of any land disturbances are agriculture related, grazing and dryland agriculture, and not from development.

The Columbia River is highly regulated by the hydro-electric system, such that natural processes are altered. In Douglas County some areas of the river are more riverine like and others lake like. For example, the shoreline vegetation and structure is similar to a lake system in many places- annual flooding regimes are minimal and have little to do with the structural components of a floodplain, although some erosion occurs along the shoreline where steeper slopes exist. In many near shore areas aquatic plants have established typical of a lake system as well. Some of the biological components within the water have retained a riverine composition; the building blocks of the ecosystem, phyto- and zooplankton, are riverine species and in densities typical of a river.

The 1975 Douglas County Regional Shoreline Master Program does not include any Natural Environment Designations. In the revised SMP, the citizen advisory committee and jurisdictions have designated significant areas of Natural in areas that are either remote, extremely difficult to develop because of talus or steep slopes, or lakes that are alkaline in nature.

C.3 Foreseeable future development and use of the shoreline

There is very minimal development likely to occur on the interior lakes or Banks Lake due to ownership (public or large landowners), proximity to existing development, and the water quality on most being alkaline in nature. Jameson Lake may have some recreational or rural residential related development occur on the north end- likely converting agricultural uses to others. On the south end of Jameson Lake very little development is expected to occur as most of the shoreline available for development has already occurred and the existing road lines the banks. The County records indicate almost no permits for development along any of the lakes in the last 10 years; only a couple in the Jameson Lake area.

The Columbia River

Because the future development is likely to be very different in each of the reservoirs, this discussion will be separated into those areas, with the urban areas discussed separately at the end.

Lake Rufus Woods

Most of this section of the river is designated Natural for a combination of factors: lack of development presently, poor accessibility, likelihood of demand for development in the future, extent of geologic hazards (steep or talus slopes), U.S. Corps of Engineers easement restrictions and ownership. Rural Conservancy was designated in areas where development may occur; agricultural areas and access points that presently exist. In the next 10-20 years the Corps is the most likely entity to improve or create shoreline access improvements, or other similar activities and is exempt from local permitting. Private development is most likely to occur in the section immediately upstream from Chief Joseph Dam where the zoning is Commercial Agriculture-10. The remaining shoreline is zoned either Dryland Ag-20 or Rural Resource 20. The proposed

policies and regulations for the two Environment Designations should provide adequate protection or mitigation of shoreline resources. Any development that is likely to occur would be a conversion of uses- irrigated or row crop agriculture to residential and/or with water dependent uses (docks, etc.).

Lake Pateros

The Douglas County Public Utility District owns virtually all of the shoreline, although not the entire 200 foot jurisdictional area in all places. Similar to the Corps of Engineers, the PUD has a landowner agreement that allows some limited activities to occur on the shoreline (once all other permits are approved). The PUD also manages some of the area for fish and wildlife. In addition, some of the upland shoreline is also owned by state agencies or the Colville Tribes that are designated for fish and wildlife uses. The shoreline from Crane Orchards to the City of Bridgeport is a mix of Natural and Rural Conservancy Environment Designations; specific areas that are planned for wildlife management or inaccessible being designated Natural. The area upstream from Wells Dam to Crane Orchards is largely inaccessible and has some steep and unstable slopes thereby preventing most development from occurring, and designated Natural. Within the City of Bridgeport Urban Growth Area there is a mix of urban environment designations that generally follow the Comprehensive Plan designations. The likelihood of any significant development occurring along the shorelines in the next 10-20 years is minimal; development is most likely to occur in the Bridgeport UGA.

The City of Bridgeport expects some development to occur along the Columbia River shorelines, although to date interest has been limited. The ownership by the Douglas County PUD and U.S. Army Corps of Engineers in large part controls the level of development. There is interest in some shoreline related commercial uses and possible access by adjacent landowners although since it is a small community, much of the access desired is provided by the facilities at Marina Park. The shoreline has been designated Urban Conservancy on public lands east of the SR 17 bridge, and either Shoreline Residential or Mixed Use west of the bridge. Because of the current conditions and mitigation required for proposals no net impact is expected.

Lake Entiat

Part of this section of river, from just north of McNeil Canyon south to Rocky Reach Dam, is likely to have the most development of all the Columbia River within Douglas County based on recent subdivisions of land, development, and zoning, including clustering provisions. This section is primarily designated Rural Conservancy, with small areas designated Natural and where local areas of more intense rural development, designated Shoreline Residential or Urban Conservancy. The Orondo Rural Service Center is the exception, designated Mixed Use to provide consistency with the Douglas County Comprehensive Plan. Upstream from McNeil Canyon to Wells Dam the shoreline is inaccessible and has very steep slopes that would prevent development from occurring in the next 10-20 years, and has been designated Natural. Chelan County PUD has flood easements along the entire reservoir, and in some areas owns the shorelines.

Rock Island Reservoir

This section of river is likely to have the second most development of all the Columbia River in Douglas County based on proximity to East Wenatchee, recent subdivisions of land, development, and zoning, including clustering provisions. The primary area where development may occur is south of the SR 28 bridge (George Sellar Bridge), designated a mix of Shoreline Residential, High Intensity, and Urban Conservancy. North of the George Sellar Bridge the shoreline is almost entirely owned by the Washington State Department of Transportation, which has been designated Urban Conservancy; one existing use, the Douglas County Sewer District facilities occurs in just north of the Bridge. This reservoir includes the cities of East Wenatchee and Rock Island, discussed below. Chelan County PUD has flood easements along the entire reservoir, and in some areas owns the shorelines.

Within the City of East Wenatchee UGA the development along the Columbia River most likely to occur is recreational in nature; additional trails and possible development of an additional boat access point. The upper banks, likely outside of the 200 foot jurisdictional area, will have increased residential development and some commercial development. The potential effect of development is increased use of the trail system, reduction in irrigated agricultural uses and stormwater runoff. Since the area is within a stormwater utility and regulated as such, stormwater runoff should have a very minor to negligible effect on the shorelines. Most of the shoreline has been designated Urban Conservancy because of the trail system and ownership, thereby providing adequate protection and regulation of shoreline uses. Because of the current conditions and mitigation required for proposals no net impact is expected.

The City of Rock Island shorelines, as previously discussed has inherent limitations to future development to most of the Columbia River. As provided for in the Restoration Plan, the developed industrial area has been identified as having potential for restoration. Over time it is likely that a net gain in shoreline functions could be realized through planning and development proposal mitigation. For the six lakes, various activities that are planned and in discussion in the community should improve the overall shoreline and aquatic functions. Gravel extraction operations, over the long-term, should improve the functions of Putter's and Marina lakes by providing a wide variety of lake and shore habitats. The golf course, should it expand, would be required to mitigate for any changes in the shorelines along Putter's and Hammond Lakes. Pit Lake, a juvenile fishing pond, may have additional recreational facilities incorporated, although they would not negatively affect the shorelines, and may improve conditions by concentrating some activities to specific sites. Hideaway Lake has been almost completely been designated natural; the Chelan County PUD owns almost all of the shoreline and annual recreational activities are expected to remain the same. Big Bow Lake, heavily used for recreational fisheries, may have some improvements in the established access sites, and may have some development occur that would replace existing orchards. Because of the current conditions and mitigation required for proposals no net impact is expected.

Wanapum Reservoir
This section is likely to have the third most development of all the Columbia River in Douglas County based on available land and zoning, including clustering provisions. Portions of the area are inaccessible, having very steep slopes and basalt outcrops that would prevent development from occurring. Grant County PUD has flood easements along the entire reservoir, and in many areas owns the shorelines.

C.4 Analysis of future development

Future development was examined developing two linear regression models. The first model was developed using the County Assessor records for sales of property located on the shorelines. The second model was based on building permits issued by the Transportation and Land Services Department for parcels within, or partially within, the shoreline jurisdiction. These two approaches were used to reflect what has occurred in recent years. A third analysis was completed on the shoreline based on all vacant parcels and parcels over 10 acres that are built, but have buildable area to approximate a future development scenario. Included in the analysis is the affect of clustering provisions. The result is what could happen at approximately full build-out- number of lots and dwelling units, and assuming different scenarios of lots sharing boating facility; a dock or similar mooring facility. The criteria developed to conduct the analysis include:

1. Zones that allow clustering were separated from those that do not; urban and agriculture designations;
2. No publicly owned land were included;
3. Vacant lots too small to be divided were added to dwelling units and boating facilities;
4. Boating facilities were estimated at 1, 2 and 4 lots per facility;
5. No critical areas were considered where a structure may not be able to be built;
6. Parcels include those in the land use inventory- residential over 1 acre, agriculture, and vacant;
7. Urban areas were calculated at ½ acre land divisions
8. Areas where community facilities were created, Bauer's Landing and Sun Cove, were not included in the boating facility calculation;
9. Other regulatory restrictions, such as Regional General Permits were not considered;
10. Lots configured in such a manner that shoreline division could NOT occur were not considered- likely a very small amount.

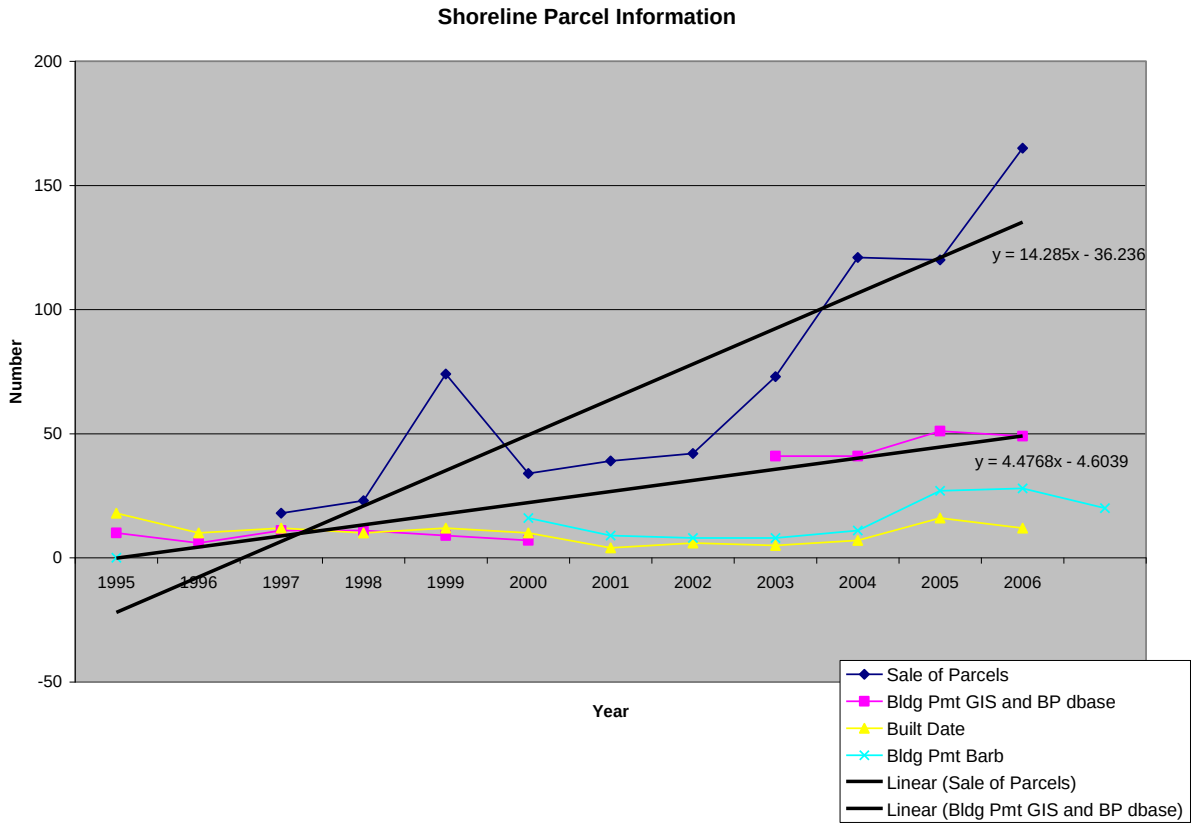
This third analysis also reflects full build-out and not representative of actual expectations based on past trends for the next 20 years as the linear regression models do.

<u>Linear regression models</u>

The linear regression models used actual data were depicted using the following calculations:

Sales (Y) = 14.285X – 36.236 and
Building Permits (Y) = 4.4768X – 4.6039

The chart below shows the actual data and the linear regression trend lines developed from that data.



Because records were difficult to match parcel numbers in the geographic information system (GIS) data, several sources were examined; Excel tables prior to initial use of tracking software, changes in the land use inventory (GIS parcel layer changes), and the newer permit tracking software. Building date data from the Douglas County Assessor's Office was also analyzed, but based on permit and sales data, was deemed to be too inaccurate (permits for things other than initial structure construction could not be easily separated/ascertained). Table 1 below depicts the final linear regression analysis and corresponding numbers in sales and building permits.

Table 1. Regression analysis of expected homes and lots.

Year	*Sales*	*Building Permits*
2004	103	41
2005	120	45
2006	134	50
2007	149	54
2008	163	59
2009	177	63
2010	191	68
2011	206	72
2012	220	77
2013	234	81
2014	249	86
2015	263	90
2016	277	95
2017	291	99
2018	306	104
2019	320	108
2020	334	113
2021	349	117
2022	363	122
2023	377	126
2024	391	131
2025	406	135
2026	420	139
2027	434	144
2028	449	148

This analysis does not necessarily indicate two things regarding sales: resales of property, and whether they are vacant or not at the date of sale. For the both analyses, it reflects only a linear affect; i.e. as property is divided, it is unclear if the overall development is linear or curvilinear (increasing at a rate that depicts something closer to an exponential type curve. Either way, building can be expected to be somewhere between the two datasets over the next twenty years, given the prior year's trend.

Parcel vacancy analysis

The table below reflects the cluster and development analysis at full build-out, given assumptions listed above. Deeded (Assessor's Office) and calculated (GIS) acres were used as there are discrepancies in each from drawing, measuring, or deed errors may have occurred. Therefore it can be expected that some number in between the two is close.

Table 2. Parcel development analysis.

Parcels in the analysis only include residential over 1 acre, agriculture and vacant. No public lands are included.						
The category "Cluster Zones" only includes those areas where bonus density can occur.					Urban was calculated at 1/2 acre divisions	
Does not consider critical areas limitations, or if the lot configuration is such that some of the lots could not occur in the 200' area.						
	RR-2.5 to 20		Urban and ag			
DEEDED ACRES	Cluster Zones		Non-cluster Zones			
Location	Existing Lots	Potential Lots	Existing Lots	Potential Lots	Total Potential Lots*	Dwelling Units**
Lake Entiat North	7	57	-	-	57	57
Lake Entiat South	219	1,317	76	725	2,042	2,069
Lake Pateros	41	180	40	150	330	333
RI Lakes	30	150	10	263	413	402
Rock Island	36	75	11	172	247	232
Rufus Woods	48	438	15	97	535	535
Wanapum	3	14	17	189	203	202
TOTAL	384	2,231	169	1,596	3,827	3,830
* includes lots with an existing dwelling unit						
** removed existing dwelling units to adjust total- only potentially new units included						
Dwelling units can be higher than potential lots. Those lots not divisible, but that are vacant or currently in agricultural use, get a value of 1						
CALCULATED ACRES	Cluster Zones		Non-cluster Zones			
Location	Existing Lots	Potential Lots	Existing Lots	Potential Lots	Total Potential Lots*	Dwelling Units**
Lake Entiat North	7	57	-	-	57	57
Lake Entiat South	80	1,153	2	714	1,867	1,895
Lake Pateros	42	161	40	142	303	306
RI Lakes	32	150	9	252	402	390
Rock Island	39	79	11	166	245	228
Rufus Woods	48	454	16	99	553	556

Wanapum	3	14	17	194	208	207
TOTAL	251	2,068	95	1,567	3,635	3,639
Potential water structures- docks, lifts. Varying number per group of lots is given, lots not available were accounted for.						
i.e. Bauer's and Lake Entiat Estates excluded since they have community docks.						
DEEDED ACRES						
Location	Docks @1 per lot	1 per 2 lots	1 per 4 lots*			
Lake Entiat North	57	29	17			
Lake Entiat South	2122	1231	780			
Lake Pateros	417	273	196			
RI Lakes	436	242	144			
Rock Island	260	159	102			
Rufus Woods	555	308	171			
Wanapum	118	72	46			
TOTAL	3,965	2,314	1,456			
*Individual Lots are calculated as one available per one lot- the rest are rounded up- i.e. if there are 2 lots possible, one dock.						
All lots within 50 feet of an inventoried dock or ramp were excluded. All public lands excluded.						
CALCULATED ACRES						
Location	Docks @1 per lot	1 per 2 lots	1 per 4 lots*			
Lake Entiat North	57	29	17			
Lake Entiat South	1916	1129	727			
Lake Pateros	391	261	190			
RI Lakes	423	238	139			
Rock Island	254	154	101			
Rufus Woods	575	312	178			
Wanapum	118	70	47			
TOTAL	3,734	2,193	1,399			

While doing a build out analysis can help with depicting trends, many assumptions go into the analysis that would reduce the numbers considerably. Changes in clustering provisions, including not allowing clustering in the Natural Environment Designation, lot widths, requirements in new plats for joint or community use facilities, critical areas standards, bulk, dimensional and density standards, impervious surface limitations,

infrastructure limitations, and underlying zoning would significantly reduce the calculations, although an exact number cannot be arrived at with great confidence. Generally what can be characterized are where most development is likely to occur and the increasing demands to uses, including recreation, within shorelines. The trend analysis supports the adoption of the plan, goals, objectives and regulations which seek to guide where and how development and shoreline activities may most appropriately be developed consistent with the intent and requirements of the Shoreline Management Act and the shoreline visioning report. The goals, objectives, policies and regulations were designed to achieve a no net loss to ecosystem values and functions, while recognizing projected demand of development expected to occur. It can also assist in long range planning of public facilities for recreation (where demand is likely to occur most) and measures to prevent conflicts with preferred uses of the shoreline in the future.

Development discussion- mitigation and avoidance of cumulative impacts
While the models above give a sense of development expected to occur in the future, several policies and regulations will limit the development on the shoreline and over/in water. Within Douglas County and the cities the predominant development expected to occur along shorelines is residential development and associated water dependent facilities, such as docks, lifts and mooring buoys. Very little commercial or industrial activities are expected within the next 20 years. Within the shoreline areas. The regulations provide direction for residential or other development, docks, and other related facilities, that may occur, and provides for mitigation where impacts may occur to achieve a no net loss of ecosystem functions and values balanced with protection of private property rights. Below is a discussion on Chapter 3 and the specific policies and regulations that apply to docks from Sections 4 and 5 as an example of the framework for that particular shoreline use. This example is given based on the analysis on docks provided previously in this Appendix. Following the dock discussion is a brief discussion on residential development and the regulatory framework in Chapters 3, 4 and 5.

Chapter 3 discusses all of the Environment Designations and specifically the table in Section 3.10 Use Matrix lists most activities that may be permitted in each of the designations. The Table specifically allows or restricts certain types of development that may be analyzed generally by allowed or permitted uses by Environment Designation. Development is generally more intense to less intense in the following order: High Intensity, Mixed Use, Shoreline Residential, Urban Conservancy, Rural Conservancy and Natural. This general scheme translates into the regulations in Chapters 4, 5, particularly in Section 5.13 Shoreline Bulk and Dimensional Standards, and Appendix H.

Dock facilities
Policy from Section 4.1- General
1. Shoreline use and development should occur in a manner that assures no net loss of existing ecological functions and processes and protects critical areas. Uses should be designed and conducted to avoid, minimize, or to fully mitigate in so far as practical, any damage to the ecology and environment.

Regulations from 4.1
1. Mitigation Sequencing – applicants shall demonstrate all reasonable efforts have been taken to mitigate potential adverse impacts in the following prioritized order:

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, such as project redesign, relocation, or timing, to avoid or reduce impacts;
c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project;
d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.

Policies from Section 4.2
1. The location, construction, operation, and maintenance of all shoreline uses and developments should maintain or enhance the quantity and quality of surface and ground water over the long-term.

Regulations from Section 4.2
3. Best management practices (BMP's) for control of erosion and sedimentation shall be implemented for all development in shorelines through an approved temporary erosion and sediment control plan, identified in the Stormwater Management Manual for Eastern Washington, as amended.

5. All building materials that may come in contact with water shall be constructed of untreated wood, cured concrete or steel. Materials used for decking or other structural components shall be approved by applicable state agencies for contact with water to avoid discharge of pollutants. Wood treated with creosote, arsenate compounds, copper chromium arsenic or pentachlorophenol is prohibited in shoreline water bodies.

Policies from Section 4.3
1. Native shoreline vegetation should be conserved to maintain shoreline ecological functions and/or processes and mitigate the direct, indirect and/or cumulative impacts of shoreline development, wherever feasible. Disturbance of native plant communities should be avoided. Disturbed areas should be revegetated with native plant species appropriate to the soil and hydrologic conditions.

2. Encourage noxious and invasive weed management and control. Control of such species should be done in a manner that retains onsite native vegetation, provides for erosion control, and protects water quality.

Regulations from Section 4.3
2. Where impacts to buffers are permitted under Section 4.1, Environmental Protection and Critical Areas, new developments shall be required to develop and implement a management and mitigation plan. When required, management and mitigation plans shall be prepared by a qualified biologist and shall be consistent with the requirements in Appendix H. Management and mitigation plans shall describe actions that will ensure no net loss of ecological functions. Vegetation shall be maintained over the life of the use and/or development by means of a conservation easement or similar legal instrument recorded with the County Auditor.

4. Native vegetation clearing shall be limited to the minimum necessary to accommodate approved shoreline development.

5. Removal of noxious weeds and/or invasive species shall be incorporated in management and mitigation plans, as necessary, to facilitate establishment of a stable community of native plants.

Policy from Section 4.6- Public Access
1. Access to shorelines should be incorporated in new development and may be physical and/or visual to provide the public with the opportunity to enjoy the water's edge, and view the water and shoreline.

3. Community access should be required for residential development.

Regulations from 4.6
1. Where required, provisions for adequate public or community access to the shoreline shall be incorporated into a shoreline development proposal, including land division, unless the applicant demonstrates that one or more of the following provisions apply:

a. Unavoidable health or safety hazards to the public exist which cannot be prevented by any practicable means;
b. Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions;
c. Unacceptable environmental harm will result from the public access which cannot be mitigated;
d. Significant undue and unavoidable conflict between the proposed access and adjacent uses would occur and cannot be mitigated;
e. The cost of providing the access or alternative amenity is unreasonably disproportionate to the long-term cost of the proposed development.
f. Provided further, that the applicant has first demonstrated and the county or city has determined in its findings that all reasonable alternatives have been exhausted, including but not limited to:

(1) Regulating access by such means as limiting hours of use to daylight hours;
(2) Designing separation of uses and activities, i.e., fences, terracing, hedges, landscaping, signage, etc.;
(3) Provision of an access at a site physically separated from the proposal such as a nearby street end, an off-site view point or trail system.

5. All residential development shall have access to the shoreline. Multi-unit residential development and land divisions shall provide community access to the shoreline.

8. Development uses and activities shall be designed and operated to avoid blocking, reducing, or adversely interfering with the public's physical access to the water and shorelines.

Policies from Section 5.10
1. Where other community or public moorage facilities are available, individual moorage associated with a single family residence will be discouraged.

2. New moorage, excluding docks (private, joint-use, and community) accessory to single family residences, should be permitted only when the applicant/proponent has demonstrated that a specific need exists to support intended water-dependent or public access use.

3. As an alternative to continued proliferation of individual private moorage, mooring buoys are preferred over docks or floats. Moorage facilities for new residential development of two or more lots or two or more dwelling units should provide shared moorage facilities.

5. Moorage should be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. The length, width and height of piers and docks should be no greater than necessary for safety and functional use.

7. Moorage facilities should not be constructed of materials that will adversely affect water quality or aquatic plants and animals.

8. New moorage facilities should be designed so as not to interfere with lawful public access to or use of shorelines.

9. Multiple agencies have permitting standards, requirements or limitations for the use and development of moorage facilities. Many of these agencies have specific ownership or easement rights. The county and cities should coordinate with federal, tribal, state and local agencies during the review of shoreline permits. The granting of a shoreline permit does not relieve a project from compliance with the standards of other agencies.

Regulations from 5.10

1. Shared moorage to serve new residential development shall be limited to the amount of moorage needed to serve lots within the development.

2. Residential moorage for individual lots is permitted in subdivisions legally established prior to February 20, 1975, where shared moorage has not already been developed or required; private moorage is also permitted for individual legal lots of record, not part of an approved subdivision. In these circumstances, moorage shall be limited to one private dock per shoreline residential lot. Lot owners shall be encouraged to utilize mooring buoys or to coordinate with adjoining property owners for shared moorage.

3. If moorage is to be provided as part of a new residential development of two or more dwelling units, moorage facilities shall be joint use or community docks. New residential developments shall contain a restriction on the face of the plat and restrictive covenants prohibiting individual docks and requiring joint use or community dock facilities. Community dock facilities should be encouraged. A site for shared moorage should be owned in undivided interest by property owners or managed by the homeowner's association as a common easement within the residential development. Community dock facilities should be available to property owners in the residential development for community access. If shared moorage is provided, the applicant/proponent shall file at the time of building permit submittal for the dock a legally enforceable joint use agreement or other legal instrument that, at minimum, addresses the following:

   a. Provisions for maintenance and operation;
   b. Easements or tracts for community access; and
   c. Provisions for joint or community use for all benefiting parties.

4. Commercial docks shall be permitted only for water-dependent uses, and if the applicant/proponent demonstrates that existing facilities in the vicinity, including marinas and shared moorage, are not adequate or feasible for the proposed water-dependent use.

5. Private moorage for float planes may be permitted accessory to existing or concurrently proposed moorage where construction would not adversely affect shoreline functions or processes, including wildlife use. Ecological restoration may be required to compensate for the greater intensity of activity associated with the use. An analysis of potential life and navigation safety impacts shall be required in addition to the inclusion of necessary avoidance or mitigation measures by a qualified professional.

6. New and substantially expanded piers and docks shall be constructed of materials that are approved by applicable federal and state agencies for use in water to avoid adverse effects on water quality or aquatic plants and animals in the long-term for both submerged portions of the dock and decking and other components. Wood treated with creosote, pentachlorophenol or other similarly toxic materials is prohibited.

7. Moorage facilities shall be the minimum size necessary to meet the needs of the proposed water-dependent use and shall observe the following criteria:

a. If allowed, only one private dock with one accessory float, and two watercraft lifts (the combination of one boat and one jet ski or other watercraft together) shall be permitted on a shoreline lot owned for residential or private recreational use.

b. Docks with or without a float shall be the minimum required to provide for moorage. Commercial docks shall be the minimum length necessary to serve the type of vessel served. Exceptions to these length standards are addressed below.

c. Docks on the Columbia River that exceed 100 feet in length or docks which exceed 50 feet in length on a lake or sites with unique site characteristics that may create navigational safety hazards shall prepare a navigational safety study.

d. Moorage shall be designed to avoid the need for maintenance dredging. The moorage of a boat larger than provided for in the original moorage design shall not be grounds for approval of dredging.

9. In order to minimize impacts on near shore areas and avoid reduction in ambient light level:

a. The width of piers, ramps, and floats shall be the minimum necessary and shall not exceed 4 feet in width, except where specific information on use patterns such as community docks may justify a greater width. Materials that will allow light to pass through the deck may be required where width exceeds 4 feet.

b. Dock surfaces designed to allow light penetration shall be used on walkways or gangplanks in nearshore areas.

11. Piers and docks shall use pile supports unless engineering studies demonstrate that pile supports are insufficient to ensure public safety. Rip-rapped or bulkheaded fills may be approved only as a conditional use and only when demonstrated that no feasible alternative is available. Mitigation shall be provided to ensure no net loss of shoreline ecological functions and processes.

12. Mooring buoys shall be placed at a distance specified by state and federal agencies to avoid near shore habitat and to minimize obstruction to navigation. Anchors and other design features shall meet Washington Department of Fish and Wildlife and/or Department of Natural Resources standards.

13. Commercial covered moorage may be permitted only where vessel construction or repair work is to be the primary activity and covered work areas are demonstrated to be necessary over water, including demonstration that adequate upland sites are not feasible. All other covered moorage is prohibited.

16. Moorage facilities shall be constructed and maintained so that no part of a facility creates hazardous conditions nor damages other shore property or natural features during predictable flood conditions. Floats shall be securely anchored.

18. Storage of fuel, oils, and other toxic materials is prohibited on docks and piers except portable containers when provided with secondary containment.

22. In the Natural Environment Designation moorage facilities must be compatible with the area's physical and visual character may be conditionally permitted subject to policies and regulations of this Program.

23. Moorage facilities shall avoid locations that will adversely impact shoreline ecological functions or processes.

24. Applicants for moorage facilities shall provide habitat surveys, critical area studies, and mitigation plans as required by Section 4.1, Ecological Protection and Critical Areas. A slope bathymetry map may be required when deemed beneficial by the Administrator for the review of the project proposal.

Given these constraints, Table 2 above demonstrates the differences in the number of facilities that may occur in the future at 2 to 4 lots per facility. Most of this activity is likely to occur on lands with agricultural uses that are converted to residential uses. Restoration and mitigation during the permitting or land division processes will provide a net benefit (increase) in ecological function as agricultural uses currently on-going typically control the width and size of the vegetation along the shorelines. Only a narrow band of riparian or wetland vegetation exists in these areas and area upland of there typically has a species composition of non-native and/or agricultural vegetation.. These areas are typically designated as Rural Conservancy in the County. Because of the current conditions and requirements for restoration and mitigation for development within the shoreline jurisdictional area, a no net loss, and in many cases an improvement, of ecological functions will be achieved. In areas designated Natural, increased review will occur through a conditional use permit to ensure a no net loss of ecological function; commercial types of activities are not allowed within the Natural designation. In addition, clustering of lots is not allowed in the Natural designation, which would also further limit the number of docks and residential development, and development density limited in Section 5.13 and by use of buffers and setbacks. Within the cities, most of the shoreline is publicly owned and not likely to develop in the same manner as the County. While this is not typical across the state, within Douglas County the urban shorelines are overall less developed than the Rural Conservancy designated areas due to the ownership pattern. Even so, the same policies and regulations apply with the exception of shoreline critical area standards in Appendix H.

Development Policies and Regulatory Framework (Residential, Commercial and Industrial)
In Chapter 3 the Environment Designation criteria is developed, and with the exception of the Mixed Use designation follows the state Shoreline Management Act guidelines. In the mapping of these designations the Inventory and Characterization was relied upon heavily, along with three guidelines: existing conditions, biological and physical characteristics and local comprehensive plan and zoning designations and regulations.

Using all the information and criteria, maps were developed. The following table lists the acres and percent of area designated within Douglas County and the cities.

Designation	Acres	Percent	Historic Acres	Percent
Natural	3398.7	54.6	0	0
Rural Conservancy	2043.7	32.8	5495.0***	93.5
Urban Conservancy	200.8	3.2	0	0
Shoreline Residential	221.2	3.6	0	0
Mixed Use**	38.6	0.6	0	0
High Intensity	134.89	2.2	382.8	6.5
Aquatic**	176.8	2.8	0	0
Total	6228.3			

*the area within the Coulee Dam city limits is not included
**not in use in 1975, the remaining match relatively close to the 1975 designations.
***includes a conservancy and a rural designation.
****equates to the existing urban designation.

Even though there are some changes in the areas covered and the types of designations and criteria, it is clear that the current proposed RSMP will reduce the potential impacts from the current program that was adopted in 1975. The current residential buffer in the SMP is 25 feet, whereas the proposed buffers range from 50 to 150 feet for allowed and permitted activities and an additional setback for structures that ranges from 10-15 feet. The current proposal also addresses and has more restrictions on some types of activities that the 1975 document did not address, such as lifts.

In the policy and regulatory sections, any activity that has the potential for impacts is addressed in section 4, 4 and Appendix H. Some of the most relevant policies and regulations include:

Policy from Section 4.1
1. Shoreline use and development should occur in a manner that assures no net loss of existing ecological functions and processes and protects critical areas. Uses should be designed and conducted to avoid, minimize, or to fully mitigate in so far as practical, any damage to the ecology and environment.

3. Development standards for density, lot frontage, setbacks, lot coverage, shoreline stabilization, vegetation conservation, buffers, critical areas, and water quality should protect existing shoreline ecological functions and processes. Review of shoreline development should consider potential impacts associated with proposed shoreline development when assessing compliance with this policy.

Regulations- Section 4.1
1. Mitigation Sequencing – applicants shall demonstrate all reasonable efforts have been taken to mitigate potential adverse impacts in the following prioritized order:

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, such as project redesign, relocation, or timing, to avoid or reduce impacts;
c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project;
d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.

2. The provisions of this section and appendix H shall apply to any use, alteration or development within shoreline jurisdiction, whether or not a shoreline permit or written statement of exemption is required.

3. Unless otherwise stated, critical area buffers shall be protected and/or enhanced pursuant to appendix H and all other applicable provisions of this Program.

5. The cumulative effects of individual development proposals shall be identified and evaluated to assure that no net loss standards are achieved.

With respect to shoreline alteration related to bank hardening, bulkheads and similar structures, there are strong policies and regulations to prevent development of such structures unless absolutely necessary. These have been added below from Section 5.14 Shoreline Stabilization. Because of the local conditions identified in the inventory and characterization and these policies and regulations, there is little expectation of permitting stabilization structures related to a development proposal. It is expected that there may be some very limited areas where public health, welfare and safety may be a concern and will be addressed in the permitting process to minimize the need for such structures.

Policies- Section 5.14
1. Alternatives to structures for shoreline protection should be used whenever possible. Such alternatives may include no action, increased building setbacks, building relocation, drainage controls, and bioengineering, including vegetative stabilization, and beach nourishment.

2. New or expanded structural shoreline stabilization for new primary structures should be avoided. Instead, structures should be located and designed to avoid the need for future shoreline stabilization where feasible. Land divisions should be designed to assure that future development of the created lots will not require structural shoreline stabilization for reasonable development to occur.

3. New or expanded structural shoreline stabilization should only be permitted where demonstrated to be necessary to protect an existing primary structure that is in imminent danger of loss or substantial damage, and where mitigation of impacts would not cause a net loss of shoreline ecological functions and processes.

Regulations- Section 5.14
1. New development or land divisions with a known or suspected geological hazard shall be set back from the geologic hazard or designed sufficiently to ensure that shoreline stabilization is not required during the life of the project, as demonstrated by a geotechnical analysis prepared in conformance with Section 4.1 Ecological Protection and Critical Areas.

2. New, expanded or replacement shoreline stabilization shall not be permitted unless it can be demonstrated that the proposed measures will not result in a net loss of shoreline ecological functions.

3. New or enlarged structural shoreline stabilization measures for an existing primary structure, including residences, is prohibited unless there is conclusive evidence, documented by a geotechnical analysis, that the structure is in danger from shoreline erosion caused by stream processes or waves. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis shall evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.

4. New shoreline stabilization for new water-dependent development is prohibited unless it can be demonstrated that:
a. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage; and
b. Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient; and
c. The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.

5. New shoreline stabilization for new non-water-dependent development, including single family residences, is prohibited unless it can be demonstrated that:
a. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage; and

b. Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient; and
c. 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 stream processes or waves.

6. Where shoreline stabilization is allowed, it shall consist of “soft”, flexible, and/or natural materials or other bioengineered approaches unless a geotechnical analysis demonstrates that such measures are infeasible.

7. Replacement of an existing shoreline stabilization structure with a similar structure is permitted if there is a demonstrated need to protect primary uses or structures or public facilities including roads and bridges, railways, and utility systems, from erosion caused by stream undercutting or wave action. A geotechnical analysis shall be required to document that alternative solutions are not feasible or do not provide sufficient protection. Existing shoreline stabilization structures that are being replaced shall be removed from the shoreline unless removal of such structures will cause significant damage to shoreline ecological functions or processes. Replacement walls, bulkheads or revetments shall not encroach waterward of the ordinary high water mark or the existing shore defense structure unless the primary use being protected is a residence that was occupied prior to January 1, 1992, and there is overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.

Commercial and industrial development that may be permitted, but are generally restricted more than residential development. The commercial development is restricted to High Intensity and Mixed Use environment designations. Very limited areas of commercial activity currently exists within the jurisdiction of the Shoreline Master Program. Most is in the form of a golf course in Rock Island, on lakes previously not included in the RSMP. These lakes were created in the mid 1970s after the last pool raise behind Rock Island Dam, but prior to the current SMP. Other areas have commercial development, but are located 200 or more feet from the OHWM. There is some limited interest in the City of Bridgeport, but no proposals have been processed to date.

While the industrial uses are restricted to those areas designated High Intensity, and then only if the underlying zoning includes industrial uses. At the date of the proposal, 2008, there is only one area that fits this description, which is in Rock Island along the Columbia River. The main reasons for this area being designated industrial is existing industrial uses and this area is the only place served by rail service. While neither the county or city has received any proposals within the jurisdictional area in the last 20-30 years, outside of public utility facilities, there may be a desire in the future. Some recent comprehensive reviews in the city indicates that there may be some changes in some of

the currently designated industrial area to commercial or mixed use development in the future.

Because of the policies and regulatory framework in the RSMP, particularly as it relates to restoration and mitigation measures, it is anticipated that any impacts from development to the shorelines will not cumulatively impact the shoreline itself due to development, although changes in use are expected, such as changes from agricultural uses to dispersed residential. While this is a change in the overall characteristic of the shorelines or nearby uplands, the changes are not seen as negatively impacting the shorelines themselves, by avoiding or mitigating cumulative impacts from permitted uses with adequate buffers, setbacks and mitigation measures, environment designations, and finally the following regulation in Section 4.1:

2. The provisions of this section and appendix H shall apply to any use, alteration or development within shoreline jurisdiction, whether or not a shoreline permit or written statement of exemption is required.

C.5 Beneficial effects of any established regulatory programs under other local, state, and federal laws

The most common permits and/or review issues required for many shoreline/water-related projects include:

1. Review for compliance with the State Environmental Policy Act (SEPA), usually completed by the local jurisdiction. This process is completed as a part of the shoreline permitting process. The purposes of the State Environmental Policy Act Chapter 43.21C RCW are: (1) To declare a state policy which will encourage productive and enjoyable harmony between man and his environment; (2) to promote efforts which will prevent or eliminate damage to the environment and biosphere; (3) and stimulate the health and welfare of man; and (4) to enrich the understanding of the ecological systems and natural resources important to the state and nation.

2. Review for compliance with “Critical Areas Regulations” required by the Growth Management Act (GMA), completed by the local jurisdiction. With the adoption of this Shoreline Plan, the critical areas ordinances are incorporated.

Many permits are coordinated under a Joint Aquatic Resources Permit Application (JARPA) form with the Local, State and Federal agencies. It is intended to coordinate some of the processes. Within all of the permitting processes is a requirement for mitigation that varies with the type of project and known impacts. Several of the following programs are included in the JARPA (Joint Aquatic Resource Permit Application) process. The processes in the JARPA include:

1. Shoreline Permit Application (Shoreline Exemption, Substantial Development, or Conditional Use)
2. Private Aids to Navigation from the U.S. Coastguard

3. Hydraulic Project Approval (HPA)
4. Aquatic Resource Use Authorization Notification
5. Section 10 Nationwide Permit.

More assistance can be found at the Office of Regulatory Assistance:
http://www.ecy.wa.gov/programs/sea/pac/index.html

3. A Hydraulic Project Approval (HPA) from the Washington State Department of Fish and Wildlife. As proved for in RCW 77.55 Construction projects in state waters: Except as provided in RCW 77.55.031, 77.55.051, and 77.55.041, in the event that any person or government agency desires to undertake a hydraulic project, the person or government agency shall, before commencing work thereon, secure the approval of the department in the form of a permit as to the adequacy of the means proposed for the protection of fish life.

HPAs http://wdfw.wa.gov/hab/hpapage.htm

4. 401 Water Quality Certification from the Washington State Department of Ecology. This certification is authorized through Chapter 90.48 RCW WATER POLLUTION CONTROL. It is declared to be the public policy of the state of Washington to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.

401 Permits
http://www.ecy.wa.gov/programs/sea/fed-permit/index.html
401 Water Quality Certification Handbook
http://apps.ecy.wa.gov/permithandbook/permitdetail.asp?id=43

5. Authorization from the US Army Corps of Engineers for compliance with Section 404 of the Centennial Clean Water Act.

6. Authorization from the US Army Corps of Engineers for compliance with Section 10 of the Rivers and Harbors Act.

Both #5 and 6 are regulated by using Regional General Permits or Biological Opinions. Some of these are explained below. Regional general permits have limits, both in duration and amount of development that can occur. If either the number or duration criteria are met then the federal agencies would have to coordinate and develop a new or revised permit to allow any type of extensions. Biological opinions can be for an individual project or somewhat programmatic (similar to an RGP).

Regional General Permits- main page
http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_RGPs

Regional General Permit 1
Authority: In accordance with 33 CFR 325.2(e)(2), the Seattle District of the U.S. Army Corps of Engineers (Corps) is issuing Regional General Permit 1 (RGP 1) that authorizes watercraft lifts and canopies in certain fresh and marine/estuarine waters within the State of Washington upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

Purpose: The purpose of RGP 1 is to authorize watercraft lifts and canopies in certain fresh and marine/estuarine waters within the State of Washington for the purpose of safe watercraft moorage.

Regional General Permit 5
Authority: In accordance with 33 CFR 325.2(e)(2), the U.S. Army Corps of Engineers (Corps) is issuing this regional general permit (RGP [5]) that authorizes certain activities in or affecting waters of the United States, including navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

Purpose: The purpose of this RGP [5] is to authorize the maintenance, modification and construction of residential overwater structures in the mid-Columbia (Rock Island to Chief Joseph Dam) and lower Okanogan Rivers in Washington State. The section of river where this RGP is applicable is described in “Location of Authorized Activities.” The maintenance, modification and construction of commercial structures or marinas are not authorized by this RGP.

For other actions a Biological Evaluation may be required. For example mooring buoys fall under the “Programmatic Biological Evaluation Mooring Buoys Version: 13 October 2000” which applies for the entire Columbia (as noted in that document). They also require the JARPA and drawings.

7. Landowner or easement holder authorization from one of the Public Utility Districts or from the Real Estate Division of the US Army Corps of Engineers (some entities refer to this as a “permit”). The PUD’s all require an authorization to alter shorelines.

US Army Corps of Engineers
The USACOE easements allow limited uses without restriction, such as passive recreation and grazing, and allow construction of improvements as reviewed and

approved by the Corps. Buildings that include human habitation are restricted to a higher extent than barns, corrals or irrigation systems. All of these easements are to an elevation line (except fences). Basic agricultural practices are allowed to be continued (livestock, dryland/irrigated agriculture), with the exception of timber and brush removal.

Douglas County PUD
The Public Utility District No. 1 of Douglas County (District) owns and operates the Wells Hydroelectric Project which is authorized under the Federal Power Act by the Federal Energy Regulatory Commission's (FERC) License #2149, as amended. All lands within the Wells Project boundary are project lands and are governed by the FERC license. The District also owns or controls certain land rights above the Wells Project boundary which are exercised in connection with the Wells Hydroelectric Project. The District is organized and operates under Title 54 of the Revised Code of Washington. The District also owns land and land rights for electrical and water transmission and distribution systems.

Grant County PUD
Public Utility District No. 2 of Grant County, Washington (Grant PUD) owns and operates the Priest Rapids Hydroelectric Project (Project) under a 50-year license that was issued by the Federal Energy Regulatory Commission (FERC) on November 4, 1955 (FERC Project No. 2114). The Project consists of two developments – Priest Rapids and Wanapum – under the single license. Grant PUD is in the process of obtaining a new FERC license. Within the license a Grant PUD Draft Shoreline Management Plan has been developed.

Chelan County PUD
Chelan County PUD is currently drafting land use policies and should have these available in the near future.

8. A lease from the Washington Department of Natural Resources. Chapter 79.105 RCW Aquatic lands — general. The purpose of RCW 79.105.060, 79.105.230, 79.105.280, and 79.105.010 through 79.105.040 is to articulate a management philosophy to guide the exercise of the state's ownership interest and the exercise of the department's management authority, and to establish standards for determining equitable and predictable lease rates for users of state-owned aquatic lands.

http://www.dnr.wa.gov/htdocs/aqr/
Mooring buoys
http://www.dnr.wa.gov/htdocs/aqr/mooring_bouy/pamphlet_bouys.pdf

9. A building permit from the county or city.

Appendix D. Monitoring and evaluation

In addition to project monitoring required for individual restoration and/or mitigation projects, the cities and the county should conduct system-wide monitoring of shoreline conditions and development activity, to the degree practical, recognizing that individual project monitoring does not provide an assessment of overall shoreline ecological health. The following three-prong approach shall be used:

1. Track information using GIS and the permitting systems as activities occur (development, restoration and mitigation), such as:

e. New shoreline development, by permit type
f. Unresolved compliance issues
g. Mitigation areas
h. Restoration areas

The county or city may require project proponents to monitor as part of project mitigation, which may be incorporated into this process. Regardless, as development and restoration activities occur in the shoreline area, the municipalities should seek to monitor shoreline conditions to determine whether both project specific and SMP overall goals are being achieved.

2. Periodically review and provide input to the regional ongoing monitoring programs/agencies, such as:

h. Washington Dept of Ecology water quality monitoring
i. Douglas County Watershed Planning Unit
j. Foster Creek Conservation District
k. Washington Department of Fish and Wildlife
l. The Nature Conservancy
m. Upper Columbia Salmon Recovery Board
n. The Public Utility Districts

Through this coordination with regional agencies, the municipalities should seek to identify any major environmental changes that might occur.

3. Re-review status of environmental processes and functions at the time of periodic SMP updates to, at a minimum, validate the effectiveness of the SMP. Re-review should consider what restoration activities actually occurred compared to stated goals, objectives and priorities, and whether restoration projects resulted in a net improvement of shoreline resources. Under the Shoreline Management Act, the SMP is required to result in no net loss of shoreline ecological resources. If this standard is found to not be met at the time of review, the county or city will be required to take corrective actions. The goal for restoration is to achieve a net improvement. The cumulative effect of

restoration over the time between reviews should be evaluated along with an assessment of impacts of development that is not fully mitigated to determine effectiveness at achieving a net improvement to shoreline ecological resources.

To conduct a valid reassessment of the shoreline conditions every seven years, it is necessary to monitor, record and maintain key environmental metrics to allow a comparison with baseline conditions.

As monitoring occurs, the county and cities should reassess environmental conditions and restoration objectives. Those ecological processes and functions that are found to be worsening may need to become elevated in priority to prevent loss of critical resources. Alternatively, successful restoration may reduce the importance of some restoration objectives in the future.

Evaluation of shoreline conditions, permit activity, GIS data, and policy and regulatory effectiveness should occur at varying levels of detail consistent with the Regional Shoreline Master Program update cycle. A complete reassessment of conditions, policies and regulations should be considered every seven years.

Appendix E. Tables

1. Location of Environment Designations

Body of Water	Reach	Environment Designation	Legal Start	Legal End
Banks Lake	Banks Lake 1	Natural	S14T26R28 SW 1/4	S14T26R28 NE 1/4
Banks Lake	Banks Lake 1	Natural	S1T26R28 SE 1/4	S1T26R28 SE 1/4
Banks Lake	Banks Lake 1	Natural	S22T26R28 SE 1/4	S22T26R28 SE 1/4
Banks Lake	Banks Lake 1	Natural	S29T25R28 SE 1/4	S29T25R28 SE 1/4
Banks Lake	Banks Lake 1	Natural	S29T28R28 NE 1/4	S20T25R28 SE 1/4
Banks Lake	Banks Lake 1	Natural	S29T28R29 SE 1/4	S29T28R29 SE 1/4
Banks Lake	Banks Lake 1	Natural	S9T25R28 SE 1/4	S4T25R28 SE 1/4
Banks Lake	Banks Lake 2	Rural Conservancy	S22T28R29 SW 1/4	S22T28R29 SE 1/4
Bennett Lake	Bennett Lake	Rural Conservancy	S31T26R26 NW 1/4	S29T26R26 SW 1/4
Bennett Wetlands	Bennett Lake	Rural Conservancy	S30T26R26 SE 1/4	S29T26R26 SW 1/4
Bennett Wetlands	Grimes Lake 4	Rural Conservancy	S30T26R26 SE 1/4	S29T26R26 NW 1/4
Big Bow Lake 1	Big Bow Lake 1	Rural Conservancy	S23T22R21 SW 1/4	S24T22R21 SW 1/4
Big Bow Lake 1	Big Bow Lake 1	Rural Conservancy	S23T22R21 SW 1/4	S23T22R21 SW 1/4
Big Bow Lake 2	Big Bow Lake 2	Natural	S23T22R21 SE 1/4	S23T22R21 SE 1/4
Big Bow Lake 2	Big Bow Lake 2	Rural Conservancy	S23T22R21 SE 1/4	S23T22R21 SE 1/4
Black Lake	Black Lake 1	Natural	S7T30R30 SE 1/4	S7T30R30 SE 1/4
Black Lake	Black Lake 2	Natural	S7T30R30 SE 1/4	S7T30R30 SE 1/4
Blue Heron Lake 1	Blue Heron Lake 1	Rural Conservancy	S26T22R21 NW 1/4	S26T22R21 NW 1/4
Blue Heron Lake 1	Blue Heron Lake 1	Rural Conservancy	S26T22R21 NW 1/4	S26T22R21 NW 1/4
Columbia River and Wetlands	Rock Island 1	Rural Conservancy	RM 453.5	RM 453.95
Columbia River and Wetlands	Rock Island 1	Natural	RM 453.95	RM 454.9
Columbia River and Wetlands	Rock Island 1	Rural Conservancy	RM 454.9	RM 455.5
Columbia River and Wetlands	Rock Island 2	High Intensity	RM 455.5	RM 457.2
Columbia River and Wetlands	Rock Island 3	Rural Conservancy	RM 457.2	RM 459.5
Columbia River and Wetlands	Rock Island 3	Natural	RM 459.5	RM 460.2
Columbia River and Wetlands	Rock Island 3	Rural Conservancy	RM 460.2	RM 461.4
Columbia River and Wetlands	Rock Island 4	Shoreline Residential	RM 461.4	RM 461.7
Columbia River and Wetlands	Rock Island 4	Urban Conservancy	RM 461.7	RM 463.7
Columbia River and Wetlands	Rock Island 4	Shoreline Residential	RM 463.7	RM 463.8
Columbia River and Wetlands	Rock Island 4	High Intensity	RM 463.8	RM 464.7
Columbia River and Wetlands	Rock Island 4	Urban Conservancy	RM 464.7	RM 465.5
Columbia River and Wetlands	Rock Island 5	Urban Conservancy	RM 465.5	RM 466.5

Body of Water	Reach	Environment Designation	Legal Start	Legal End
Columbia River and Wetlands	Rock Island 5	Natural	RM 466.5	RM 467.3
Columbia River and Wetlands	Rock Island 5	Urban Conservancy	RM 467.3	RM 469.4
Columbia River and Wetlands	Rock Island 6	Natural	RM 469.4	RM 470.3
Columbia River and Wetlands	Rock Island 6	Natural	RM 470.3	RM 473.4
Columbia River and Wetlands	Rock Island 6	Rural Conservancy	RM 473.4	RM 473.7
Columbia River and Wetlands	Rocky Reach 2	High Intensity	RM 455.5	RM 457.2
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 473.7	RM 475.4
Columbia River and Wetlands	Rocky Reach 2	Shoreline Residential	RM 475.4	RM 475.8
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 475.8	RM 476.8
Columbia River and Wetlands	Rocky Reach 2	Shoreline Residential	RM 476.8	RM 478.1
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 478.1	RM 479.9
Columbia River and Wetlands	Rocky Reach 2	Shoreline Residential	RM 479.9	RM 481.8
Columbia River and Wetlands	Rocky Reach 2	Urban Conservancy	RM 481.2	RM 481.4
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 481.8	RM 490.3
Columbia River and Wetlands	Rocky Reach 2	Natural	RM 490.3	RM 490.8
Columbia River and Wetlands	Rocky Reach 2	Shoreline Residential	RM 490.8	RM 491.5
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 491.5	RM 492.1
Columbia River and Wetlands	Rocky Reach 2	Natural	RM 492.1	RM 492.8
Columbia River and Wetlands	Rocky Reach 2	Shoreline Residential	RM 492.8	RM 494
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 494.0	RM 502.1
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 502.1	RM 502.5
Columbia River and Wetlands	Rocky Reach 2	Rural Conservancy	RM 502.5	RM 507.6
Columbia River and Wetlands	Rocky Reach 3	Natural	RM 507.6	RM 515.5
Columbia River and Wetlands	Rufus Woods 1	Rural Conservancy	RM 545.5	RM 545.6
Columbia River and Wetlands	Rufus Woods 10	Natural	RM 580.9	RM 589.3
Columbia River and Wetlands	Rufus Woods 10	Rural Conservancy	RM 589.3	RM 589.8

Body of Water	Reach	Environment Designation	Legal Start	Legal End
Columbia River and Wetlands	Rufus Woods 10	Natural	RM 589.8	RM 595.7
Columbia River and Wetlands	Rufus Woods 11	See Coulee Dam	RM 595.7	RM 596.3
Columbia River and Wetlands	Rufus Woods 2	Rural Conservancy	RM 545.6	RM 548.2
Columbia River and Wetlands	Rufus Woods 2	Rural Conservancy	RM 546	RM 546
Columbia River and Wetlands	Rufus Woods 2	Rural Conservancy	RM 547.5	RM 547.5
Columbia River and Wetlands	Rufus Woods 3	Rural Conservancy	RM 548.2	RM 550.5
Columbia River and Wetlands	Rufus Woods 4	Natural	RM 550.5	RM 567.7
Columbia River and Wetlands	Rufus Woods 4	Natural	RM 562.5	RM 562.5
Columbia River and Wetlands	Rufus Woods 5	Rural Conservancy	RM 567.7	RM 569
Columbia River and Wetlands	Rufus Woods 6	Natural	RM 569	RM 577.2
Columbia River and Wetlands	Rufus Woods 7	Rural Conservancy	RM 577.2	RM 578.2
Columbia River and Wetlands	Rufus Woods 8	Natural	RM 578.2	RM 580.4
Columbia River and Wetlands	Rufus Woods 9	Rural Conservancy	RM 580.4	RM 580.9
Columbia River and Wetlands	Wanapum 1	Rural Conservancy	RM 441	RM 442.2
Columbia River and Wetlands	Wanapum 2	Shoreline Residential	RM 442.2	RM 442.7
Columbia River and Wetlands	Wanapum 3	Natural	RM 442.7	RM 444.9
Columbia River and Wetlands	Wanapum 4	Natural	RM 444.9	RM 448.5
Columbia River and Wetlands	Wanapum 5	Rural Conservancy	RM 448.5	RM 449.5
Columbia River and Wetlands	Wanapum 6	Rural Conservancy	RM 449.5	RM 452.3
Columbia River and Wetlands	Wanapum 7	Rural Conservancy	RM 452.3	RM 453.5
Columbia River and Wetlands	Wells 1	Natural	RM 515.5	RM 522.9
Columbia River and Wetlands	Wells 2	Rural Conservancy	RM 522.9	RM 530
Columbia River and Wetlands	Wells 2	Natural	RM 530	RM 532.7
Columbia River and Wetlands	Wells 2	Rural Conservancy	RM 532.7	RM 533
Columbia River and Wetlands	Wells 3	Natural	RM 533	RM 535.2
Columbia River and Wetlands	Wells 3	Rural Conservancy	RM 535.2	RM 535.6

Body of Water	Reach	Environment Designation	Legal Start	Legal End
Columbia River and Wetlands	Wells 3	Natural	RM 535.6	RM 539.5
Columbia River and Wetlands	Wells 3	Natural	RM 538.2	RM 539
Columbia River and Wetlands	Wells 3	Natural	RM 538.2	RM 538.7
Columbia River and Wetlands	Wells 3	Rural Conservancy	RM 538.8	RM 539
Columbia River and Wetlands	Wells 3	Natural	RM 539	RM 539.4
Columbia River and Wetlands	Wells 4	Rural Conservancy	RM 538.6	RM 538.8
Columbia River and Wetlands	Wells 4	Natural	RM 539	RM 539.1
Columbia River and Wetlands	Wells 4	Natural	RM 539.1	RM 539.5
Columbia River and Wetlands	Wells 4	Natural	RM 539.5	RM 540.3
Columbia River and Wetlands	Wells 4	Rural Conservancy	RM 540.3	RM 541
Columbia River and Wetlands	Wells 4	Rural Conservancy	RM 541	RM 541.3
Columbia River and Wetlands	Wells 4	Rural Conservancy	RM 541.3	RM 542.3
Columbia River and Wetlands	Wells 5	Shoreline Residential	RM 542.3	RM 543.1
Columbia River and Wetlands	Wells 5	Mixed Use	RM 543.1	RM 544.4
Columbia River and Wetlands	Wells 5	Urban Conservancy	RM 544.4	RM 545.5
Cornehl Lake	Cornehl Lake 1	Natural	S35T28R24	S35T28R24
Elbow Lake	Elbow Lake 1	Natural	S21T29R28 NE 1/4	S21T29R28 NE 1/4
Elbow Lake	Elbow Lake 1	Natural	S22T29R28 NW 1/4	S22T29R28 NW 1/4
Grimes Lake	Bennett Lake	Rural Conservancy	S30T26R26 SE 1/4	S30T26R26 SE 1/4
Grimes Lake	Grimes Lake 1	Natural	S30T26R26 NE 1/4	S20T26R26 SW 1/4
Grimes Lake	Grimes Lake 2	Natural	S20T26R26 SW 1/4	S20T26R26 NE 1/4
Grimes Lake	Grimes Lake 3	Natural	S29T26R26 NW 1/4	S20T26R26 NE 1/4
Grimes Lake	Grimes Lake 4	Rural Conservancy	S30T26R26 SE 1/4	S29T26R26 NW 1/4
Hammond Lake 1	Hammond Lake 1	High Intensity	S30T22R22 SW 1/4	S30T22R22 NW 1/4
Hammond Lake 2	Hammond Lake 2	Shoreline Residential	S30T22R22 SE 1/4	S30T22R22 NW 1/4
Haynes Lake 1	Haynes Lake 1	Natural	S33T26R27 SE 1/4	S28T26R27 SE 1/4
Hideaway 1	Hideaway 1	Natural	S24T22R21 SE 1/4	S24T22R21 SE 1/4
Hideaway 1	Hideaway 1	Rural Conservancy	S24T22R21 SE 1/4	S24T22R21 SE 1/4
Hideaway 2	Hideaway 2	Rural Conservancy	S24T22R21 SE 1/4	S24T22R21 SE 1/4
Jameson Lake	Jameson Lake 1	Rural Conservancy	S13T25R25 SW 1/4	S12T25R25 SE 1/4
Jameson Lake	Jameson Lake 2	Natural	S13T25R25 SW 1/4	S1T25R25 NE 1/4
Jameson Lake	Jameson Lake 3	Rural Conservancy	S1T25R25 NE 1/4	S6T25R26 NW 1/4
Jameson Lake	Jameson Lake 4	Natural	S12T25R25 SE 1/4	S6T25R26 NW 1/4
Jameson/Bennett	Bennett Lake	Rural Conservancy	S31T26R26 NW 1/4	S31T26R26 NW 1/4

Body of Water	Reach	Environment Designation	Legal Start	Legal End
Wetlands				
Jameson/Bennett Wetlands	Jameson Lake 3	Rural Conservancy	S36T26R25 SE 1/4	S36T26R25 SE 1/4
Klinkhammer Lakes	Klinkhammer Lakes 1	Natural	S20T29R27 NE 1/4	S17T29R27 SE 1/4
Putter's Pond 1	Putter's Pond 1	High Intensity	S30T22R22 SW 1/4	S25T22R21 NE 1/4
Putter's Pond 1 Includes Pit and Marina Lakes	Putter's Pond 1	Shoreline Residential	S25T22R21 NE 1/4	S25T22R21 NE 1/4
Putter's Pond 2 Includes Pit Lake	Putter's Pond 2	Shoreline Residential	S25T22R21 NE 1/4	S30T22R22 NW 1/4
Putter's Pond 3	Putter's Pond 3	High Intensity	S30T22R22 SW 1/4	S30T22R22 NW 1/4
Putter's Pond 4 Includes Pit and Marina Lakes	Putter's Pond 4	High Intensity	S25T22R21 NE 1/4	S25T22R21 NE 1/4
Smith Lake 1	Smith Lake 1	Natural	S7T29R30 SW 1/4	S7T29R30 SW 1/4
Stallard Lake 1	Stallard Lake 1	Natural	S34T26R27 NW 1/4	S28T26R27 SE 1/4
Unnamed 29-29-2 1	Unnamed 29-29-2 1	Rural Conservancy	S2T29R29 SE 1/4	S2T29R29 NE 1/4
Unnamed 29-29-2 2	Unnamed 29-29-2 2	Natural	S2T29R29 SE 1/4	S2T29R29 NE 1/4
Unnamed 29-29-22 1	Unnamed 29-29-22 1	Natural	S22T29R29 SW 1/4	S21T29R29 SE 1/4
Unnamed 30-29-36 1	Unnamed 30-29-36 1	Natural	S36T30R29 SW 1/4	S36T30R29 NW 1/4
Unnamed 30-29-36b 1	Unnamed 30-29-36b 1	Natural	S36T30R29 NE 1/4	S36T30R29 NE 1/4
Unnamed T26R27S32	T26R27S32 1	Natural	S32T26R27 SE 1/4	S32T26R27 SE 1/4
Unnamed T27R28S23	T27R28S23 1	Rural Conservancy	S23T27R28	S23T27R28
Unnamed T27R28S24	T27R28S24 1	Rural Conservancy	S24T27R28 SW 1/4	S24T27R28 SW 1/4
Unnamed T29R28S25	T29R28S25 1	Natural	S25T29R28 NE 1/4	S25T29R28 NE 1/4
Unnamed T29R28S31	T29R28S31 1	Natural	S31T29R28 SW 1/4	S31T29R28 SW 1/4
Wilson Lake 1	Wilson Lake 1	Rural Conservancy	S22T29R29 NE 1/4	S23T29R29 NW 1/4
Wilson Lake 2	Wilson Lake 2	Natural	S22T29R29 NE 1/4	S23T29R29 NW 1/4

Comments

1. Legal descriptions are River Mile to River Mile on the Columbia River, and for lakes a legal description start and end point of each designation, or a site location to the nearest 1/4 section.
2. For those with multiple river miles- in the start column there is a corresponding end point in the end column, in a respective order.

2. Habitat assessment of environment designations

Reach and Environment Designation	Env Designation	Ave Habitat Value Trial 2	Ave Habitat Value Trial 1	Acres
1 Banks Lake 1 Natural	Natural	2.22	46.29	232.2
10 Black Lake 2 Natural	Natural	2.32	62.15	68.7
100 T29R28S25 1 Natural	Natural	2.75	54.00	55.7
101 T29R28S31 1 Natural	Natural	2.75	54.00	45.8
102 Unnamed 29-29-2 1 Rural Conservancy	Rural Conservancy	0.90	4.71	29.6
103 Unnamed 29-29-2 2 Natural	Natural	1.94	14.22	35.4
104 Unnamed 29-29-22 1 Natural	Natural	1.65	9.74	57.8
105 Unnamed 30-29-36 1 Natural	Natural	1.60	9.63	59.8
106 Unnamed 30-29-36b 1 Natural	Natural	1.89	12.57	56.1
107 Wanapum 1 Rural Conservancy	Rural Conservancy	1.30	4.40	43.8
108 Wanapum 2 Shoreline Residential	Shoreline Residential	0.30	0.65	21.1
109 Wanapum 3 Natural	Natural	1.70	14.57	101.7
11 Blue Heron Lake 1 Rural Conservancy	Rural Conservancy	0.41	0.65	40.3
112 Wanapum 4 Natural	Natural	1.33	7.06	156.8
115 Wanapum 5 Rural Conservancy	Rural Conservancy	0.78	3.48	47.4
119 Wanapum 6 Rural Conservancy	Rural Conservancy	1.12	4.42	133.9
12 Cornehl Lake 1 Natural	Natural	2.25	23.40	179.7
120 Wanapum 7 Rural Conservancy	Rural Conservancy	1.00	5.79	61.9
121 Wells 1 Natural	Natural	2.42	40.80	365.8
13 Elbow Lake 1 Natural	Natural	1.68	8.11	55.0
131 Wells 2 Natural	Natural	0.82	1.25	73.0
132 Wells 2 Rural Conservancy	Rural Conservancy	0.42	1.86	349.2
14 Grimes Lake 1 Natural	Natural	2.46	55.00	49.4
140 Wells 3 Natural	Natural	1.35	17.50	277.3
144 Wells 3 Rural Conservancy	Rural Conservancy	0.21	0.49	10.3
145 Wells 3 Rural Conservancy	Rural Conservancy	0.46	0.74	24.0
146 Wells 4 Natural	Natural	0.91	2.54	72.7
147 Wells 4 Rural Conservancy	Rural Conservancy	0.63	1.54	96.7
148 Wells 4 Rural Conservancy	Rural Conservancy	0.67	1.64	17.2
149 Wells 5 Mixed Use	Mixed Use	0.30	1.02	74.8
15 Grimes Lake 2 Natural	Natural	3.00	81.00	45.2
156 Wells 5 Shoreline Residential	Shoreline Residential	0.41	1.33	34.3
157 Wells 5 Urban Conservancy	Urban Conservancy	0.35	0.47	79.3
158 Wilson Lake 1 Rural Conservancy	Rural Conservancy	0.05	0.10	25.9
159 Wilson Lake 2 Natural	Natural	0.91	2.98	51.7
16 Grimes Lake 3 Natural	Natural	2.97	80.27	53.6
17 Grimes Lake 4 Rural Conservancy	Rural Conservancy	2.01	29.27	34.4
18 Hammond Lake 1 High Intensity	High Intensity	0.67	4.66	49.9
19 Hammond Lake 2 Shoreline Residential	Shoreline Residential	0.81	2.39	25.0
20 Haynes Lake 1 Natural	Natural	1.58	6.14	103.3
21 Hideaway Natural	Natural	0.90	11.90	46.9

Reach and Environment Designation	Env Designation	Ave Habitat Value Trial 2	Ave Habitat Value Trial 1	Acres
22 Hideaway Rural Conservancy	Rural Conservancy	1.00	13.78	2.6
23 Hideaway Rural Conservancy	Rural Conservancy	0.90	2.40	7.5
24 Jameson Lake 1 Rural Conservancy	Rural Conservancy	1.01	6.48	75.7
25 Jameson Lake 2 Natural	Natural	2.87	70.93	137.1
3 Banks Lake 2 Rural Conservancy	Rural Conservancy	1.54	13.76	56.8
30 Jameson Lake 3 Rural Conservancy	Rural Conservancy	0.69	2.95	58.3
31 Jameson Lake 4 Natural	Natural	2.79	71.29	67.3
32 Klinkhammer Lakes 1 Natural	Natural	2.22	24.00	104.7
33 Putter's Pond 1 High Intensity	High Intensity	0.32	4.79	21.1
34 Putter's Pond 1 Shoreline Residential	Shoreline Residential	0.20	0.33	18.1
35 Putter's Pond 2 Shoreline Residential	Shoreline Residential	0.54	5.41	24.4
36 Putter's Pond 3 High Intensity	High Intensity	0.27	19.19	19.0
37 Putter's Pond 4 High Intensity	High Intensity	0.94	21.50	11.1
4 Bennett Lake Rural Conservancy	Rural Conservancy	1.72	9.84	147.2
41 Rock Island 1 Rural Conservancy	Rural Conservancy	0.86	3.55	87.9
42 Rock Island 2 High Intensity	High Intensity	1.00	5.69	53.2
43 Rock Island 2 High Intensity	High Intensity	0.89	2.41	30.4
48 Rock Island 3 Natural	Natural	1.10	2.68	37.4
5 Big Bow Lake 1 Rural Conservancy	Rural Conservancy	0.52	1.27	3.7
53 Rock Island 3 Rural Conservancy	Rural Conservancy	0.38	0.70	157.3
54 Rock Island 4 High Intensity	High Intensity	0.99	2.15	42.2
55 Rock Island 4 Shoreline Residential	Shoreline Residential	0.18	0.40	12.0
56 Rock Island 4 Shoreline Residential	Shoreline Residential	0.76	1.77	7.3
57 Rock Island 4 Urban Conservancy	Urban Conservancy	0.51	0.95	38.9
58 Rock Island 4 Urban Conservancy	Urban Conservancy	0.33	0.65	89.9
6 Big Bow Lake 1 Rural Conservancy	Rural Conservancy	0.41	4.97	53.9
62 Rock Island 5 Natural	Natural	0.80	2.28	44.1
64 Rock Island 5 Urban Conservancy	Urban Conservancy	0.86	2.85	158.1
65 Rock Island 6 Natural	Natural	1.16	6.22	158.3
66 Rock Island 6 Natural	Natural	1.27	5.84	54.9
67 Rock Island 6 Rural Conservancy	Rural Conservancy	0.61	0.98	15.8
68 Rocky Reach 1 Natural	Natural	1.64	17.86	160.5
7 Big Bow Lake 2 Natural	Natural	1.00	11.00	19.3
70 Rocky Reach 2 Natural	Natural	1.50	10.22	32.0
72 Rocky Reach 2 Natural	Natural	1.52	10.86	19.6
74 Rocky Reach 2 Rural Conservancy	Rural Conservancy	0.65	1.12	23.8
75 Rocky Reach 2 Rural Conservancy	Rural Conservancy	0.50	1.28	1404.9
76 Rocky Reach 2 Shoreline Residential	Shoreline Residential	0.30	0.74	70.5
77 Rocky Reach 2 Shoreline Residential	Shoreline Residential	0.25	1.80	99.8
78 Rocky Reach 2 Shoreline Residential	Shoreline Residential	0.08	0.17	28.9
79 Rocky Reach 2 Shoreline Residential	Shoreline	0.45	1.40	39.7

Reach and Environment Designation	Env Designation	Ave Habitat Value Trial 2	Ave Habitat Value Trial 1	Acres
	Residential			
8 Big Bow Lake 2 Rural Conservancy	Rural Conservancy	0.91	2.21	18.5
80 Rocky Reach 2 Shoreline Residential	Shoreline Residential	0.29	0.70	60.2
82 Rocky Reach 3 Natural	Natural	2.46	41.57	406.5
83 Rufus Woods 1 Rural Conservancy	Rural Conservancy	0.56	0.90	20.9
85 Rufus Woods 10 Natural	Natural	2.30	35.02	663.0
86 Rufus Woods 10 Rural Conservancy	Rural Conservancy	2.52	39.27	34.9
87 Rufus Woods 11 See Coulee Dam	See Coulee Dam	0.07	0.19	23.7
88 Rufus Woods 2 Rural Conservancy	Rural Conservancy	1.28	5.86	141.0
89 Rufus Woods 3 Rural Conservancy	Rural Conservancy	1.11	6.46	121.3
9 Black Lake 1 Natural	Natural	2.81	60.75	13.0
92 Rufus Woods 4 Natural	Natural	2.33	30.75	903.7
93 Rufus Woods 5 Rural Conservancy	Rural Conservancy	0.93	4.99	59.2
94 Rufus Woods 6 Natural	Natural	2.51	39.31	439.9
95 Rufus Woods 7 Rural Conservancy	Rural Conservancy	1.43	18.67	37.0
96 Rufus Woods 8 Natural	Natural	2.84	71.27	125.4
97 Rufus Woods 9 Rural Conservancy	Rural Conservancy	1.85	9.60	17.9
98 Smith Lake 1 Natural	Natural	2.44	38.53	58.6
99 Stallard Lake 1 Natural	Natural	1.54	4.71	71.3

Averages for designations original habitat	Sum	Average
Natural	1170.2	28.5
Rural Conservancy	210.1	6.2
Urban Conservancy	4.9	1.2
Shoreline Residential	17.1	1.4
Mixed Use	1.0	1.0
High Intensity	60.4	8.6

Averages for designations revised habitat	Sum	Average
Natural	78.5	1.9
Rural Conservancy	31.3	0.9
Urban Conservancy	2.1	0.5
Shoreline Residential	4.6	0.4
Mixed Use	0.3	0.3
High Intensity	5.1	0.7

3. Analysis summary of reaches

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
Wanapum 1	1	44.0	43.2	98.2	L/R-OW	12.6	Shrub steppe	62.6
					L2US1&2		Tree component	1.7
					L2US5		Talus	0.4
					PAB3		Cliff	2.5
					PFO6			
Wanapum 2	0.6	28.6	27.3	95.4	L/R-OW	2.3	Shrub steppe	8.6
					L2US1&2		Tree component	2.3
					PAB3			
					PFO6			
Wanapum 3	2.1	95.4	76.3	80.0	L/R-OW	11.4	Shrub steppe	69.3
					L2US1&2		Tree component	0.5
					L2US5		Talus	13.6
					PAB3			
					PFO6			
Wanapum 4	2.5	110.1	70.5	64.0	L/R-OW	9.9	Shrub steppe	80.5
					L2US1&2		Talus	0.1
					L2US5		Island	1.5
					PAB3			
					PFO6			
Wanapum 5	2.1	93.1	40.5	43.5	L/R-OW	14.5	Shrub steppe	48.6
					L2US1&2		Tree component	2.6
					L2US5		Talus	3.6
					PAB3		Island	1.5
					PFO6			
Wanapum 6	2.8	155.7	53.7	34.5	L/R-OW	9.8	Shrub steppe	47.9

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
					L2US1&2		Tree component	4.1
					L2US5		Island	16.5
					PAB3			
					PFO6			
Wanapum 7	1.1	66.1	63.1	95.5	R-OW	0	Shrub steppe	12.6
					L2RS1&2		Cliff	0.7
					L2US1&2		Talus	46.4
Rock Island 1	2.5	128.7	32.3	25.1	L/R-OW	33.7	Shrub steppe	15.1
					L2AB3			
					L2RS1&2		Talus	2.3
					L2US5		Tree component	5.8
					PFO6		Island	4.6
Rock Island 2	1.2	67.7	14.6	21.6	L/R-OW	4.3	Shrub steppe	56.2
					L2AB3			
					L2RS1&2		Island	0.5
					L2US5		Talus	0.3
Rock Island 3	4.3	206.2	42	20.4	L/R-OW	6.4	Shrub steppe	40.5
					L2AB3			
					L2RS1&2		Talus	2.9
					L2US5		Tree component	0.4
					PFO6		Island	10.2
Rock Island 4	4.1	194.8	21	10.8	L/R-OW	5.3	Shrub steppe	40.6
					L2AB3			
					L2RS1&2		Talus	1
					L2US5		Tree component	4.5

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
					PFO6			
Rock Island 5	4.8	258.4	53.8	20.8	L/R-OW	34.3	Shrub steppe	43.1
					L2AB3			
					L2RS1&2		Talus	0.4
					L2US5		Tree component	13.2
					PFO6		Island	1.8
Rock Island 6	3.4	177.3	42.1	23.7	R-5OW	41.8	Shrub steppe	29.8
					L2AB3		Talus	6.1
					L2US1			
					L2US5		Tree component	24.7
					PFO6			
Rocky Reach 1 (Turtle Rock)	2.9	160.5	29.8	18.6	L/R-OW	1.8	Shrub steppe	93
					L2AB3			
					L2RS2			
					L2US5		Tree component	
					PFO6			
Rocky Reach 2	34.2	1854.8	903.8	48.7	L/R-OW	13.4	Shrub steppe	23.6
					L2AB3		Cliff	0.1
					L2RS1&2		Talus	4.5
					L2US5		Tree component	8.1
					PFO6		Island	0.1

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
Rocky Reach 3	7.7	394.7	275.4	69.8	L/R-OW	1.5	Shrub steppe	88.1
					L2AB3			
					L2RS1&2			
					L2US1			
					L2US5		Island	0.1
Wells 1	7.8	399.5	253.7	63.5	L/R-OW	4.1	Shrub steppe	84.4
					L2US1&2		Island	
					L2US5			
					PAB3			
Wells 2	6.7	321.4	55.8	17.4	L/R-OW	20.4	Shrub steppe	16.3
					L2US1&2		Tree component	1.8
					L2US5		Island	2
					PAB3			
					PFO6			
Wells 3	9	453.8	71.4	15.7	L/R-OW	24.2	Shrub steppe	25.5
					L2US1&2		Tree component	1.3
					L2US5		Island	10.8
					PAB3			
					PFO6			
Wells 4	3.3	204.2	67.7	33.2	L/R-OW	25.7	Shrub steppe	44.7
					L2US1&2			
					L2US5			
					PAB3			
Wells 5	2.7	144.3	27.8	19.3	R-OW	13.2	Shrub steppe	32.1
					L2US1&2		Talus	6.6
					L2US5		Island	0.4

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
Rufus Woods 1	0.8	95.6	8.2	8.6	L/R-OW	0	Shrub steppe	29.6
					L2US1		Talus	10
Rufus Woods 10	0.5	721.7	446.5	61.9	L/R-OW	0.5	Shrub steppe	84.8
					L2US1		Island	6.3
					L2US5		Talus	3.3
Rufus Woods 11	14.8	23.5	23.2	98.5	R-OW	0	Shrub steppe	0.2
					L2US1		Talus/rock armor	70
Rufus Woods 2	2.7	140.7	99.2	70.5	L/R-OW	6.4	Shrub steppe	83.7
					L2US1			
					L2US5			
Rufus Woods 3	2.3	121.4	40.2	33.1	L/R-OW	0.5	Shrub steppe	62.6
					L2US1			
					L2US5			
Rufus Woods 4	17.4	944.4	547.1	57.9	L/R-OW	10.6	Shrub steppe	74.5
					L2US1		Island	4.6
					L2US5			
					PAB5			

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
					PSS6			
Rufus Woods 5	1	42.4	17.5	41.3	L/R-OW	17.8	Shrub steppe	26.3
					L2US1			
					L2US5			
Rufus Woods 6	8.3	440.2	267.8	60.8	L/R-OW	6.5	Shrub steppe	78.9
					L2US1			
					L2US5			
					PAB5			
					PFO6			
					PSS6			
Rufus Woods 7	0.9	35.4	11.6	32.7	L/R-OW	0	Shrub steppe	81.1
					L2US1			
Rufus Woods 8	2.3	125.3	88.3	70.5	L/R-OW	0.9	Shrub steppe	70.1
					L2US1			
					L2US5			
Rufus Woods 9	0.5	19.3	0	0.0	L/R-OW	0	Shrub steppe	100
					L2US1			
Banks Lake 1	4.7	232.2	232.2	100.0	L-OW	4.7	Talus	49.5
					L2RS2		Shrub steppe	39.7
					L2US1			
					L2US5		Cliff	
Banks Lake 2	1.3	57.0	57	100.0	L-OW	4.6	Shrub	81.2

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
							steppe	
					L2RS2		Tree component	0.2
					L2US1			
					L2US5		Island	0.8
					PFO6			
Bennett Lake	1.7	167.3	134.9	80.6	L-OW-I	69	Shrub steppe	29
					L2AB3			
					L2US1			
					L2US5			
Big Bow Lake 1	1.1	58.5	5	8.5	L-OW	69.9	Shrub steppe	6.4
					L2AB3			
					L2US1			
					L2US5		Tree component	29.2
					PFO6			
					PSS6			
Big Bow Lake 2	0.7	36.5	3.8	10.4	L-OW	24.5	Shrub steppe	65.6
					L2AB3			
					L2US5		Tree component	1.3
					PFO6			
					PSS6			
Black Lake 1	0.3	13.0	12.8	98.8	L-OW-I	90.1	Tree component	74.2
					L2US1			
					L2US5		Talus	9.9
					PFO6			
Black Lake 2	1.3	68.7	62.2	90.5	L-OW-I	6.6	Shrub steppe	91.6
					L2US1			
					L2US5		Tree component	

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
Blue Heron Lake 1	0.8	40.3	0	0.0	L-OW	27.7	Shrub steppe	19.1
					L2AB3			
					L2US5		Tree component	27.7
					PFO6			
					PSS6			
Cornehl Lake 1	0.9	179.7	162.3	90.3	L-OW	97.3	Shrub steppe	2.5
					L2AB3			
					L2US5			
					PEM1			
					PSS6			
Elbow Lake 1	4.1	55.0	16.7	30.3	L-OW-I	12.2	Shrub steppe	87.8
					L2US1			
					L2US5			
					PSS6			
Grimes Lake 1	1.1	50.3	41	81.6	L-OW-I	9.2	Shrub steppe	81.3
					L2US1			
					L2US5		Talus	5.6
					PSS6			
Grimes Lake 2	1	45.2	41.6	92.1	L-OW-I	13.6	Shrub steppe	86.3
					L2US1			
					L2US5			
					PSS6			
Grimes Lake 3	1.2	52.9	48.4	91.4	L-OW-I	11.9	Shrub steppe	60.9
					L2US1			
					L2US5		Tree component	0.8
					PFO6		Cliff	7.8

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
					PSS6		Talus	19.5
Grimes Lake 4	0.8	33.3	31.7	95.3	L-OW-I	26.5	Shrub steppe	69.8
					L2US1			
					L2US5			
					PSS6			
Hammond Lake 1	1.2	49.4	6.5	13.2	L-OW	13	Shrub steppe	7.7
					L2AB3			
					L2US5		Tree component	13
					PFO6			
					PSS6			
Hammond Lake 2	0.6	24.3	6.7	27.6	L-OW	14.9	Shrub steppe	53
					L2AB3			
					L2US5		Tree component	14.9
					PFO6			
					PSS6			
Haynes Lake 1	1.5	103.3	62.6	60.6	L-OW-I	60.6	Shrub steppe	39.3
					L2US1			
					L2US5			
					PSS6			
Hideaway Lake 1	0.5	32.7	3.6	11.0	L-OW	63.8	Shrub steppe	19.2
					L2AB3			
					L2US5		Tree component	
					PFO6			
					PSS6			
Hideaway Lake 2	0.4	24.3	7	28.8	L-OW	13.8	Shrub steppe	86.2
					L2AB3			

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
					L2US5		Tree component	11.2
					PFO6			
					PSS6			
Jameson Lake 1	1.7	75.9	73.8	97.2	L-OW-I	4.4	Shrub steppe	58.8
					L2US1			
					L2US5		Talus	0.3
					PSS6			
Jameson Lake 2	3.2	143.1	117.2	81.9	L-OW-I	2	Shrub steppe	47.9
					L2US1		Island	8.3
					L2US5		Tree component	0.6
					PFO6		Cliff	15.9
					PSS6		Talus	25.8
Jameson Lake 3	1.3	58.3	24.7	42.4	L-OW-I	26.7	Shrub steppe	6
					L2US1			
					L2US5		Tree component	4.2
					PFO6		Cliff	1.6
					PSS6		Talus	2.2
Jameson Lake 4	1.5	67.0	66.8	99.6	L-OW-I	0	Shrub steppe	19.9
					L2US1		Talus	17.1
							Cliff	16.6
Klinkhammer Lakes 1	2.1	104.7	37.6	35.9	L-OW-I	11.6	Shrub steppe	88.4
					L2US1			
					L2US5			
Putter's Pond 1	0.5	17.7	0.5	2.8	L-OW	5.7	Shrub steppe	5.2

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
					L2US1			
					PFO6		Tree component	5.7
Putter's Pond 2	0.8	26.2	0.2	0.8	L-OW	10.9	Shrub steppe	17.2
					PFO6		Tree component	10.9
							Island	1.4
Putter's Pond 3	0.5	16.7	0.6	3.6	L-OW	0		
					L2US1			
Putter's Pond 4	0.3	11.2	0	0.0	L-OW	19.6	Tree component	19.6
					L2US1			
					PFO6		Island	0.7
Putter's Pond 5	0.4	14.8	0	0.0	L-OW	3.3	Tree component	3.3
					L2US1			
					PFO6			
Putter's Pond 6	0.2	7.0	0	0.0	L-OW	11.5	Shrub steppe	41.5
					PFO6		Tree component	11.5
Smith Lake 1	1				L2US1			
z Algae bloom 2004 photo		58.6	52.2	89.1	L-OW	10.2	Shrub steppe	82.7
					L2US5			
					PSS6			

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
Stallard Lake 1	0.9	71.3	54.6	76.6	L-OW	100		
					L2US2			
					L2US5			
Unnamed 29-29-2 1	0.5	29.6	27.4	92.6	L-OW-I	17.4	Shrub steppe	39.7
					L2US2			
					L2US5			
Unnamed 29-29-2 2	0.6	35.4	31.3	88.4	L-OW-I	61.6	Shrub steppe	38.4
					L2US2			
					L2US5			
Unnamed 29-29-22 1	1	57.8	13.7	23.7	L-OW-I	10.6	Shrub steppe	89.4
					L2US2			
					L2US5			
Unnamed 30-29-36 1	0.9	59.8	27.3	45.7	L-OW-I	43.7	Shrub steppe	56
					L2US1&2			
					L2US5			
					PEM1			
Unnamed 30-29-36b 1	0.9				L2US2			
z Algae bloom 2004 photo		56.1	12.1	21.5	L-OW	43.1	Shrub steppe	56.9
z May be slightly alkaline.					L2US5			
					PFO6			
Wilson Lake 1	0.5	25.9	17.5	67.5	L-OW-I	0	Shrub steppe	2.9
					L2US2			

	Shoreline Totals		Geologic hazardous soils		Wetlands		Priority Habitat Types	
Reach	Length (mi)	Acres	Acres	Percent area	Types (NWI)	% area	Habitats	% area
Wilson Lake 2	1	51.7	34.1	66.0	L-OW-I	58.6	Shrub steppe	13.9
					L2US2			
					L2US5			
Unnamed 29-28-25	1	56	47.6	85.0	L-OW-I	21	Shrub steppe	100
					L2US2			
Unnamed 29-28-31	0.7	46	13.8	30.0	L-OW-I	21	Shrub steppe	100
					L2US2			

Land Use							Alterations				
Reach	Ave parcel size	Public acres	% Public Lands	Zoning	Acres	% area	# of docks	# of Boat launches	Impervious surfaces %	Percent roads	Average Habitat #
Wanapum 1	5.1	20.0	45.5	RREC	44.2	100.0			0.6	0.6	4.9
				PRD	35.1	79.4					
Wanapum 2	5.5	7.4	25.9	RREC	26.5	92.8	2	1	11.5	2.9	0.6
				RR20	2.1	7.2					
Wanapum 3	22.7	47.6	49.9	AC10	0.1	0.1			1.7	1.7	15.6
				RR20	95.3	99.9					
Wanapum 4	114.2	57.6	52.3	AC10	105.5	95.8		1	7.9	7.8	10.4
				RR20	4.6	4.2					
Wanapum 5	229.9	2.6	2.8	AC10	92.4	99.3		1	11.9	11.8	5.4
				RR20	0.7	0.8					
Wanapum 6	86.2	52.8	33.9	AC10	77.4	49.7		1	10.7	10.7	5.2
				RR20	78.3	50.3					
Wanapum 7	120.2	66.1	100	RR20	66.1	100			40.1	40.1	2.9
					0.0						
Rock Island 1	24.3	111.5	86.6	RL	0.5	0.4	1		25	16.4	17
				RR20	60.9	47.3					
				AC10	31.4	24.4					

Land Use							Alterations				
Reach	**Ave parcel size**	**Public acres**	**% Public Lands**	**Zoning**	**Acres**	**% area**	**# of docks**	**# of Boat launches**	**Impervious surfaces %**	**Percent roads**	**Average Habitat #**
				PU	6.2	4.8					
Rock Island 2	13.4	11.3	16.7	RR2	0.1	0.1			6.1	5.4	8.7
				IG	52.7	77.8					
				C	0.2	0.3					
				PU	6.0	8.9					
Rock Island 3	3.8	86.0	41.7	RM	0.6	0.3	17	2	9.4	6.4	3.2
				IG	0.0	<0.1					
				AC10	0.0	<0.1					
				RR2	202.6	92.7					
				PRD	15.3	7					
				RR20	0.0	<0.1					
Rock Island 4	3.6	125.1	64.2	RL	20.3	10.4	1	1	24.1	23.6	1.1
				RH	7.1	3.6					
				RO	48.1	24.7					
				RM	8.3	4.3					
				RR2	1.2	0.6					
				CBD	40.9	21.0					
				COP	17.3	8.9					
				CT	25.0	12.8					
				GC	15.0	7.7					
				WI	11.6	6.0					
Rock Island 5	5.3	224.3	86.8	RL	108.3	41.9		1	13.2	11	5
				AC5	2.6	1.0					
				RH	26.7	10.3					
				RM	34.9	13.5					
				CT	50.3	19.5					
				GC	15.5	6.0					
				WI	20.1	7.8					
Rock Island 6	39.7	169.6	95.7	RL	0.0	<0.1			2	0	7.1
				AC5	97.1	54.8					
				AC10	80.1	45.2					
Rocky Reach 1 (Turtle Rock)	208.3	160.5	100	RR20	160.5	100	1		0	0	15.4
					0.0						

Land Use							Alterations				
Reach	Ave parcel size	Public acres	% Public Lands	Zoning	Acres	% area	# of docks	# of Boat launches	Impervious surfaces %	Percent roads	Average Habitat #
Rocky Reach 2	14.3	480.4	25.9	RO	153.9	8.3	77	9	15.1	12.1	3.1
				AC10	48.2	2.6					
				RREC	294.9	15.9					
				RSC	146.5	7.9					
				RR5	934.8	50.4					
				RR20	276.4	14.9					
Rocky Reach 3	168.6	374.5	94.9	RR20	394.7	100			0.2	0.2	35
Wells 1	88.3	151.8	38	AC10	20.4	5.1			7.3	0.2	36.4
				RR20	379.1	94.9					
Wells 2	22.5	86.1	26.8	AC10	305.3	95			8.2	7.4	4.2
				RR20	15.7	4.9					
Wells 3	31.9	334.0	73.6	RSC	0.5	0.1			4.8	4.6	17.1
				RR5	172.5	38					
				RR20	280.9	61.9					
Wells 4	10.2	91.9	45	PU	0.2	0.1			4.9	4.2	3.8
				RSC	27.4	13.4					
				RR5	99.6	48.8					
				AC10	47.2	23.1					
				RR20	29.6	14.5					
Wells 5	1.6	89.9	62.3	PU	127.5	88.3	2	2	21.2	11.5	3
				AC10	0.4	0.3					
				R3 (MF)	9.1	6.3					
				RR20	7.4	5.1					

Land Use							Alterations				
Reach	**Ave parcel size**	**Public acres**	**% Public Lands**	**Zoning**	**Acres**	**% area**	**# of docks**	**# of Boat launches**	**Impervious surfaces %**	**Percent roads**	**Average Habitat #**
Rufus Woods 1	88.4	94.8	99.2	PU	61.3	64.1	3	1	60.1	1.6	0.6
				RR20	34.3	35.9					
Rufus Woods 10	144.2	256.2	35.5	AD	122.7	17			0.8	0.8	33.8
				RR20	599.0	83					
Rufus Woods 11	7.3	12.7	53.9	RR20	0.0	0.1			4.4	4.2	0.2
				City CD	23.5	99.9					
Rufus Woods 2	38.2	69.8	49.6	AD	28.0	19.9			10	9.9	6.1
				AC10	86.8	61.7					
				RR20	25.9	18.4					
Rufus Woods 3	77.3	15.1	12.4	AC10	121.4	100			1.5	1.5	7.5
Rufus Woods 4	113.3	668.6	70.8	AD	13.2	1.4			1	0.9	30.8
				AC10	26.4	2.8					
				RR20	904.7	95.8					
Rufus Woods 5	78.8	0.1	0.2	AD	10.2	24.1			6.3	6.3	0.8
				RR20	32.1	75.8					
Rufus Woods 6	90.9	124.6	28.3	AD	281.7	64			0	0	39.9
				RR20	158.5	36					

Land Use							Alterations				
Reach	Ave parcel size	Public acres	% Public Lands	Zoning	Acres	% area	# of docks	# of Boat launches	Impervious surfaces %	Percent roads	Average Habitat #
Rufus Woods 7	91.6	0.0	<0.1	AD	32.9	92.9			0	0	16.5
				RR20	2.5	7					
Rufus Woods 8	162.2	53.6	42.8	AD	21.9	17.5			0	0	74.9
				RR20	103.3	82.5					
Rufus Woods 9	246.9	0.0	0	AD	19.3	100			0	0	12
Banks Lake 1	226.5	227.1	97.8	AD	22.3	9.6			2.4	2.4	43.4
				RR20	209.9	90.4					
Banks Lake 2	277.2	57.0	100	RR20	57.0	100	1*	1*	6.8	5.4	12.6
Bennett Lake	253.9	9.5	5.7	RR20	167.3	100			1.7	1.7	9.7
Big Bow Lake 1	4.2	16.1	27.6	RL	4.4	7.5		1	8.9	6.6	1.1
				RR5	0.2	0.3					
				RR2	53.9	92.2					

Land Use							Alterations				
Reach	**Ave parcel size**	**Public acres**	**% Public Lands**	**Zoning**	**Acres**	**% area**	**# of docks**	**# of Boat launches**	**Impervious surfaces %**	**Percent roads**	**Average Habitat #**
Big Bow Lake 2	11.8	8.0	22	RR2	16.7	45.8			6.3	5.9	2.7
				RR5	19.7	54.1					
Black Lake 1	360.7	0.0	0	RR20	13.0	100			0	0	67.5
Black Lake 2	370.9	0.0	0	RR20	68.7	100			1.8	1.8	55.4
Blue Heron Lake 1	4.7	3.5	8.8	RR2	40.3	100			16.2	15.3	0.8
Cornehl Lake 1	218.8	0.2	0.1	AD	17.1	9.5			0.2	0.2	23.1
				RR20	162.7	90.5					
Elbow Lake 1	644.3	55.0	100	AD	26.7	48.6			0	0	6.6
				RR20	28.3	51.4					
Grimes Lake 1	214.9	0.0	0	RR20	50.3	100		1	0.3	0.3	55.4
Grimes Lake 2	176	0.0	0	RR20	45.2	100			0	0	81

Land Use							Alterations				
Reach	**Ave parcel size**	**Public acres**	**% Public Lands**	**Zoning**	**Acres**	**% area**	**# of docks**	**# of Boat launches**	**Impervious surfaces %**	**Percent roads**	**Average Habitat #**
Grimes Lake 3	135.1	0.0	0	RR20	52.9	100			0	0	81
Grimes Lake 4	174.7	0.0	0	RR20	33.3	100			3.7	3.7	32.7
Hammond Lake 1	15.3	39.8	80.5	MR	10.1	20.8		2	2.8	2.8	1.2
				RR20	0.1	0.2					
				RL	0.0	0.01					
				PU	38.3	78.9					
Hammond Lake 2	28.5	3.5	14.3	MR	#VALUE!	<0.1			20.4	20.4	1.9
				AC10	2.0	8.3					
				RL	7.4	30.4					
				RR20	13.7	56.2					
				PU	1.2	5					
Haynes Lake 1	124.4	0.0	0	AD	103.3	100	1		0	0	5.6
Hideaway Lake 1	3.9	14.1	43.3	RL	7.2	22			3.1	0	2.7
				RR5	10.4	31.9					
				RR2	15.1	46.2					
Hideaway Lake 2	23.8	17.6	72.4	RR2	4.1	16.8			0	0	4
				RR5	20.1	83					
Jameson Lake	105.9	65.9	86.8	RR20	75.9	100		2	30	22.7	6.2

Land Use							Alterations				
Reach	Ave parcel size	Public acres	% Public Lands	Zoning	Acres	% area	# of docks	# of Boat launches	Impervious surfaces %	Percent roads	Average Habitat #
1											
Jameson Lake 2	123.4	71.4	49.9	RR20	143.1	100			0	0	74.6
Jameson Lake 3	277.8	0.3	0.5	RR20	58.3	100	2	1	19	4.2	3
Jameson Lake 4	190.3	32.2	48.1	RR20	67.0	100			0	0	76.5
Klinkhammer Lakes 1	265.9	1.8	1.7	AD	0.5	0.5			0	0	24
				RR20	104.2	99.5					
Putter's Pond 1	1	4.4	25	MR	0.0	0.1			28.4	16.1	0.4
				C	3.2	18.3					
				PU	3.1	17.6					
				RL	11.3	64.2					
Putter's Pond 2	16.2	9.5	36.2	MR	19.4	77.3			26.2	26.2	1.2
				PU	5.7	22.8					
				RL	0.0	0.1					
Putter's Pond 3	11.8	16.7	100	PU	16.7	100			0	0	0

Land Use							Alterations				
Reach	Ave parcel size	Public acres	% Public Lands	Zoning	Acres	% area	# of docks	# of Boat launches	Impervious surfaces %	Percent roads	Average Habitat #
Putter's Pond 4	8.3	10.5	94.4	PU	7.1	64.6			0	0	1.8
				CT	3.9	35.4					
Putter's Pond 5	6.5	5.3	35.8	PU	0.2	1.8			29.9	20.8	0.5
				CT	12.7	98.2					
Putter's Pond 6	3.8	0.0	0	RR20	1.1	15.7			11.3	11.3	1.5
				C	0.1	1.4					
				RL	5.8	82.9					
Smith Lake 1											
z Algae bloom 2004 photo	603.2	0.0	0	AD	25.5	43.5			0	0	34.1
				RR20	33.1	56.5					
Stallard Lake 1	90.1	0.0	0	AD	71.3	100			0	0	4.8
Unnamed 29-29-2 1	520.8	0.0	0	AD	26.8	90.4			0	0	5.3
				RR20	2.8	9.6					
Unnamed 29-29-2 2	501.1	0.0	0	AD	27.3	77.1			0	0	13.5
				RR20	8.1	23					
Unnamed 29-29-22 1	160.3	0.0	0	AD	57.8	100			0	0	9.9

Land Use							Alterations				
Reach	**Ave parcel size**	**Public acres**	**% Public Lands**	**Zoning**	**Acres**	**% area**	**# of docks**	**# of Boat launches**	**Impervious surfaces %**	**Percent roads**	**Average Habitat #**
Unnamed 30-29-36 1	230.3	12.1	20.3	AD	6.2	10.3			0.2	0	9.5
				RR20	53.6	89.7					
Unnamed 30-29-36b 1											
z Algae bloom 2004 photo	239.3	0.0	<0.1	AD	56.1	100			0	0	12.6
z May be slightly alkaline.											
Wilson Lake 1	120.6	0.0	0	AD	17.8	68.6			6.6	4.6	0.1
				RR20	8.1	31.3					
Wilson Lake 2	203.3	0.0	0	AD	31.3	60.5			0.6	0.6	81
				RR20	20.4	39.5					
Unnamed 29-28-25	480	0	0	AD	56.0	100			0	0	54
Unnamed 29-28-31	323	160	50	RR20	27.6	60			0	0	54
				AD	18.4	40					

4. Reach break justifications

Reach	Length Mi	Start TRS or RM	Reach break justification	End
Wanapum 1	1.0	441.2	Southern Douglas County Line.	442.2
Wanapum 2	0.6	442.2	Urban level development and shoreline alterations.	442.83
Wanapum 3	2.1	442.83	Mostly natural environment.	444.9
Wanapum 4	2.5	444.9	Somewhat disturbed with access points (some non-permitted activities).	447.38
Wanapum 5	2.1	447.38	Mostly natural environment- Moses Coulee drainage ends here.	449.45
Wanapum 6	2.8	449.45	Somewhat disturbed with access points (some non-permitted activities).	452.28
Wanapum 7	1.1	452.28	Section is heavily armored with rock- railroad, dam and SR28.	453.42
Rock Island 1	2.5	453.42	Rock Island Dam.	455.94
Rock Island 2	1.2	455.94	Industrial uses, railroad.	457.12
Rock Island 3	4.3	457.12	Mixed agriculture and rural residential, not in UGA.	461.4
Rock Island 4	4.1	461.4	A more urbanized environment with substantial impervious surfaces (City of East Wenatchee) in UGA.	465.45
Rock Island 5	4.8	465.45	Somewhat of a protected environment with the loop trail and WSDOT ROW, in UGA.	470.22
Rock Island 6	3.4	470.22	Dominated by irrigated agriculture, some protection via trail system, out of UGA.	473.6
Rocky Reach 1	2.9	475	Turtle Rock Island	476
Rocky Reach 2	34.2	473.6	Rocky Reach Dam- agricultural uses with areas of near urban density of development (Orondo, Sun Cove, Bauer's Landing)	507.77
Rocky Reach 3	7.7	507.77	Above Beebe Bridge, remote area- mostly a natural environment.	515.5
Wells 1	7.8	515.5	Wells Dam, remote area- mostly a natural environment.	523.32
Wells 2	6.7	523.32	Agricultural uses dominate- Brewster Bridge	530
Wells 3	9.0	530	DCPUD/WDFW wildlife areas on Bridgeport Bar	539
Wells 4	3.3	539	Agricultural uses dominate	542.29
Wells 5	2.7	542.29	City of Bridgeport city limits- urbanized environment	544.95
Rufus Woods 1	0.8	544.95	Chief Joseph Dam and facilities	545.72
Rufus Woods 2	2.7	545.72	Mixed land use, irrigated and dryland agriculture, natural environs	548.38
Rufus Woods 3	2.3	548.38	Primary land use natural environs plus >30% irrigated agriculture	550.65
Rufus Woods 4	17.4	550.65	Primary land use natural, and 70% public ownership- some irrigated and dryland agriculture.	568
Rufus Woods 5	1.0	568	Dryland agriculture influence plus natural environs (<27%), significant wetland areas	569
Rufus Woods 6	8.3	569	Dryland agriculture land use plus significant natural areas- 28% public ownership	577.26
Rufus Woods 7	0.9	577.26	Primarily natural with no public ownership and dryland agriculture land use	578.12
Rufus Woods 8	2.3	578.12	Primarily natural with some dryland agriculture land use- >40% public ownership	580.39
Rufus Woods	0.5	580.39	All natural environs	580.86

Reach	Length Mi	Start TRS or RM	Reach break justification	End
9				
Rufus Woods 10	14.8	580.86	Primarily natural with talus and islands	595.69
Rufus Woods 11	0.5	595.69	City of Coulee Dam city limits- urbanized environment	596.23
Banks Lake 1	4.7	T25R28S29 SE1/4	Primarily surrounded by rock, cliff and talus habitats- broken in several sections along county line.	T28R29S29 SE1/4
Banks Lake 2	1.3	T28R29S22 SW1/4	Barker Canyon area- significantly less rock/cliff/talus on shoreline	T28R29S22 NE1/4
Bennett Lake	1.7	T26R26 S29,30,31	No breaks- all like area- alkaline lake with significant wetland areas surrounded by shrub steppe. Intermediate lake, between Grimes and Jameson Lakes.	
Big Bow Lake 1	1.1	T22R21S23 SW1/4	Denser residential development, south side mostly	T22R21S24 SW1/4
Big Bow Lake 2	0.7	T22R21S24 SW1/4	Much of area in natural state, mostly north side	T22R21S23 SW1/4
Black Lake 1	0.3	T20R30S8 SW1/4	This reach has talus/rock and significant forest habitat components, alkaline water	T20R30S7 SE1/4
Black Lake 2	1.3	T20R30S7 SE1/4	This reach is almost completely shrub steppe, alkaline water	T20R30S8 SW1/4
Blue Heron Lake 1	0.8	T22R21S23 SW1/4	No breaks- all like area some rural development surrounds lake.	T22R21S26 NW1/4
Cornehl Lake 1	0.9	T28R24 S35,26,25,36	No breaks- all like area- significant wetland area in relative isolation.	
Elbow Lake 1	0.9	T29R28S22	No breaks- all like area- remote lake, mostly shrub steppe, alkaline water	
Grimes Lake 1	1.1	T26R26 S29 NW1/4	Alkaline lake, area with significant rock/cliff/talus habitats immediately adjacent to it and rocky shrub steppe	T26R26 S20 SW 1/4
Grimes Lake 2	1.0	T26R26 S20 SW 1/4	Alkaline lake, area with shrub steppe dominating and isolated wetland areas	T26R26 S20 NE 1/4
Grimes Lake 3	1.2	T26R26 S20 NE 1/4	Alkaline lake, area with significant rock/cliff/talus habitats immediately adjacent to it and rocky shrub steppe- two separate ponded areas	T26R26 S29 NW1/4
Grimes Lake 4	0.8	T26R26 S29 NW1/4	Alkaline lake, area with significant wetland areas that lead through a channel to Bennett Lake, and then to Jameson Lake	T26R26 S29 NW1/4
Hammond Lake 1	1.2	T22R22S30 SW1/4	Denser residential development and golf course	T22R22S30 NW1/4
Hammond Lake 2	0.6	T22R22S30 NW1/4	Much of area adjacent to irrigated agriculture, significant tree component, although heavy Russian olive.	T22R22S30 SW1/4
Haynes Lake 1	1.5	T26R27 S28,33	No breaks- all like area- alkaline lake with significant wetland areas surrounded by shrub steppe	
Hideaway Lake 1	0.5	T22R21S23 SW1/4	Denser residential development, south side mostly	T22R21S23 SW1/4
Hideaway Lake 2	0.4	T22R21S23 SW1/4	Much of area in natural state, mostly north side	T22R21S23 SW1/4
Jameson Lake 1	1.7	T25R25 S12 SE 1/4	Alkaline lake, area with significant recreational development, much of which is state owned	T25R25 S13 SW 1/4
Jameson Lake 2	3.2	T25R25 S13 SW 1/4	Alkaline lake, area with significant rock/cliff/talus habitats immediately adjacent to it and rocky shrub steppe	T25R25 S1 NE 1/4

Reach	Length Mi	Start TRS or RM	Reach break justification	End
Jameson Lake 3	1.3	T25R25 S1 NE 1/4	Alkaline lake, area with significant recreational development and irrigated agriculture	T25R26 S6 NW 1/4
Jameson Lake 4	1.5	T25R26 S6 NW 1/4	Alkaline lake, area with significant rock/cliff/talus habitats immediately adjacent to it and rocky shrub steppe	T25R25 S12 SE 1/4
Klinkhammer Lakes 1	2.1	T29R27 S20,17	No breaks- all like area- two alkaline lakes, nearly identical and within 250 feet of each other, mostly shrub steppe	
Putter's Pond 1	0.5	T22R21S25 NE1/4	Surrounds part of Pit Lake (juvenile fishing pond) as well- primarily residential development	T22R21S25 NE1/4
Putter's Pond 2	0.8	T22R21S24 SE1/4	Surrounds part of Pit Lake (juvenile fishing pond) as well- primarily recreational with road separating uplands (undeveloped, but in UGA).	T22R22S30 NW1/4
Putter's Pond 3	0.5	T22R22S30 NW1/4	Primarily recreational developed (golf course).	T22R22S30 SW1/4
Putter's Pond 4	0.3	T22R22S30 SW1/4	Rock, sand and gravel- this reach is all the dividing lanes between the small lakes making up this area. Has many trees (cottonwoods).	T22R21S25 NE1/4
Putter's Pond 5	0.4	T22R21S25 NE1/4	Area with rock, sand and gravel mining operations	T22R21S25 NE1/4
Putter's Pond 6	0.2	T22R21S25 NE1/4	Primarily residential	T22R21S25 NE1/4
Smith Lake 1	1.0	T29R30S7	No breaks- all like area- unknown water quality (has algae bloom in 2004 photo) dominated by shrub steppe.	
Stallard Lake 1	0.9	T26R27 S27,28,33,34	No breaks- all like area- Extensive wetlands surrounded by shrub steppe	
Unnamed 29-29-2 1	0.5	T29R29S2 NE1/4	Alkaline lake with shrub steppe and dryland agriculture dominating area	T29R29S2 NE1/4
Unnamed 29-29-2 2	0.6	T29R29S2 NE1/4	Alkaline lake with extensive wetlands, plus shrub steppe	T29R29S2 NE1/4
Unnamed 29-29-22 1	1.0	T29R29 S21,22	No breaks- all like area- shrub steppe dominating area	
Unnamed 30-29-36 1	0.9	T30R29 S35,36	No breaks- all like area- extensive wetlands, plus shrub steppe	
Unnamed 30-29-36b 1	0.9	T30R29S36 NE1/4	No breaks- all like area- extensive wetlands, plus shrub steppe	
Wilson Lake 1	0.5	T29R29S22 NE1/4	Dryland agriculture and a farm dominates area	T29R29S23 NW1/4
Wilson Lake 2	1.0	T29R29S23 NW1/4	Extensive wetlands, plus shrub steppe	T29R29S22 NE1/4

Appendix F. Shoreline inventory maps

See separate Acrobat map file.

Appendix G. Shoreline reach maps

See separate Acrobat map file.

Appendix H. Shoreline critical areas regulations

This appendix to the Douglas County Regional Shoreline Master Program (RSMP) incorporates into the RSMP shoreline critical area regulations for the county and cities as they apply within the shoreline jurisdiction. As a regional document, this RSMP contains each jurisdiction's separate critical areas regulation. However, the applicability of the sections listed here are limited to the jurisdiction noted in each section. Development within the individual jurisdictions will be required to comply with those sections listed for that particular jurisdiction.

1. City of Bridgeport shoreline critical area regulations
2. City of Rock Island shoreline critical area regulations
3. City of East Wenatchee shoreline critical area regulations
4. Douglas County shoreline critical area regulations

1. City of Bridgeport shoreline critical area regulations (Insert Here)

2. City of Rock Island shoreline critical area regulations (Insert Here)

3. City of East Wenatchee shoreline critical area regulations (Insert Here)

4. Douglas County shoreline critical area regulations

Chapter 1 Critical Areas--General Provisions

1.010 Purpose.

The purpose of this chapter is to implement the Shoreline Management Act's policy of protection of shoreline natural resources through the protection and encouraged restoration of ecological functions necessary to sustain these resources; in conjunction with the other provisions of this Program.

1.020 Applicability.

A. When a chapter reference is used, it shall be inclusive of all of Appendix H.

B. The provisions of this chapter shall apply to all development activities within the shoreline jurisdiction of unincorporated Douglas County. Any development authorized to alter the condition of any land, water or vegetation; or to alter or construct any building, structure or improvement shall be in compliance with the requirements of this chapter.

C. In the event the provisions of this Program conflict with provisions of federal, state, county or city regulations, the provision that is the most protective of shoreline resources shall prevail, when consistent with SMA policy.

1.030 Reference maps and inventories.

The distribution of critical areas within Douglas County are described and displayed in reference materials and on maps maintained by Douglas County Land Services. These reference materials, in the most current form, are intended for general information only and do not depict site-specific designations. They are intended to advise Douglas County, applicants and other participants in the development permit process that a critical area may exist and that further study, review and consideration may be necessary. These reference materials shall include but are not limited to the following:

A. Maps.
   1. Natural Resource Conservation Service Soils Maps and Data, updated in 2007, as amended;
   2. Douglas County Steep Slopes Maps and Data, as amended;
   3. Flood Insurance Rate Maps (1978 and 1982) as amended;
   4. Flood Boundary and Floodway Maps (1978 and 1982) as amended;
   5. US Fish and Wildlife Service National Wetlands Inventory, as amended;
   6. U.S.G.S. 7.5 Minute Series Topographic Quadrangle Maps;
   7. Aerial photos;
   8. WDFW Priority Habitats and Species and Wildlife Heritage Maps and Data, 2001, as amended; and

9. Stream functional types developed using the USGS hydrology dataset and aerial photo interpretation of riparian vegetation presence by Chuck Jones, Alliance Consulting Group, Inc., 2007.

B. Documents.
1. Approved special reports previously completed for the subject property may be allowed if the site conditions are the same as observed in the previously developed report. Wetland delineation reports older than five years typically need to be updated in order to meet state and federal requirements;
2. The Flood Insurance Study for the Unincorporated Areas (1978, revised 1982)as amended;
3. Douglas County Countywide Comprehensive Plan, as amended;
4. Natural Resources Conservation Service Soil Survey -- Douglas County Soils Survey, as amended;
5. Federal Wetlands Delineation Manual (1987, as amended);
6. Washington State Wetlands Identification and Delineation Manual (WDOE #96-94, March 1997, as amended);
7. Washington State Wetlands Rating System for Eastern Washington-Revised (WDOE 04-06-015, as amended);
8. Management Recommendations for Washington's Priority Habitats and Species, May 1991, as amended;
9. Management Recommendations for Washington's Priority Habitats- Riparian, December 1997, as amended;
10. Priority Habitats and Species List, July 1999, as amended;
11. US Army Corps of Engineers. (2006). Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Wetlands Regulatory Assistance program, Environmental Lab ERDC/EL TRT-06-16, as amended;
12. Wetlands in Washington State- Volume 1: A Synthesis of the Science. Washington State Department of Ecology. Publication #05-06-006; and
13. Wetlands in Washington State- Volume 2: Guidance for Protecting and Managing Wetlands. Washington State Department of Ecology. Publication #05-06-008.

1.040 Disclosure.
The presence of any known or suspected critical areas on or within two hundred feet of property that is the subject of a development permit shall be identified by the applicant in the application materials submitted to Douglas County.

1.050 Review process.
Provisions of this chapter shall be considered and applied appropriately during development permit application reviews within shoreline jurisdiction. Review of development within frequently flooded areas, fish and wildlife habitat conservation areas and wetlands and any associated buffers within shoreline jurisdiction that does not require a development permit application shall be subject to the provisions of Section 1.080C of Appendix H.

1.060 Mitigation, maintenance, monitoring and contingency.

A. Mitigation, maintenance, monitoring and contingency plans shall be implemented by the developer to protect critical areas and their buffers as specified by the provisions of this Program.

B. The property owner shall be responsible for reporting to Douglas County Land Services and undertaking appropriate corrective action when monitoring reveals a significant deviation from predicted impacts or a failure of mitigation or maintenance measures.

1.070 Surety.

If a development proposal is subject to mitigation, maintenance or monitoring plans, an assurance device or surety may be required by the review authority in accordance with Chapter 7, of this Program.

1.080 Special reports.

A. In order to maintain and protect critical areas, as well as to assist in classifying and designating such areas, site-specific environmental information will be required when evaluating a development proposal.

B. Special reports shall be submitted for review and approval in conjunction with development applications when required by the review authority. Each chapter dealing with a specific critical area contains a description of when special reports may be required.

C. When no other application review process is required, final special reports shall be reviewed and approved pursuant to Chapter 7, subsection 7.3.020 or subsection 7.3.030 of this Program, as determined by the Administrator.

1.090 Special reports--responsibility for completion.

The preparation of special reports or tests required by this chapter is the responsibility of the applicant. Costs incurred by the county to engage technical consultants or for staff review and interpretation of data and findings submitted by or on behalf of the developer or applicant shall be reimbursed by the applicant in accordance with a schedule adopted by Douglas County.

1.100 Drainage and erosion control plan.

During project development the following standards apply:

A. All drainage and erosion control plans shall be prepared by an engineer or other qualified person as approved by the reviewing authority.

B. All drainage and erosion control plans shall address methods to minimize and contain soil within the project boundaries during construction and to provide for stormwater drainage from the site and its surroundings during and after construction.

C. All drainage and erosion control plans shall be prepared in conformance with the provisions of Section 4.2 Water Quality and the provisions of this Program; in addition to conformance with applicable state and local standards.

1.110 Geotechnical reports and analysis

A. Geotechnical reports and analysis shall be in conformance with Chapter 4 of Appendix H, and all applicable provisions of this Program.

1.120 Grading and excavation plan.

All grading and excavation plans shall be prepared by a professional engineer licensed to practice in the State of Washington, and it shall contain the following information:

A. A cover sheet showing the general vicinity and specific location of work, the name and address of the owner and the licensed civil engineer who prepared the plans;

B. Property limits and accurate contours of existing ground and details of terrain and area drainage.

C. Limits of proposed excavation and fill sites, finished contours and proposed drainage systems and/or facilities, including an estimated runoff served by the systems and/or facilities;

D. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen feet of the property;

E. Recommendations included in any soil engineering reports and/or an engineering geology reports shall be incorporated in the grading plans or specifications.

Chapter 2 Critical Areas--Wetlands

2.010 Authorized uses and activities.

Uses and activities allowed within designated wetlands or associated wetland buffers are those uses authorized by the Douglas County Regional Shoreline Master Program, subject to the provisions of this chapter.

2.020 Identification and rating.

A. All wetlands shall be identified and delineated in Douglas County to reflect the relative function, value and uniqueness of the wetland using the Washington State Wetlands Identification and Delineation Manual (WDOE, March 1997, as amended); in conjunction with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1987, as amended); and the US Army Corps of Engineers, (2006), Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Wetlands Regulatory Assistance Program, Environmental Lab ERDC/EL TRT-06-16, as amended. Douglas County may use the following information sources as guidance in identifying the presence of wetlands and the subsequent need for a wetland delineation study:
   1. Hydric soils, soils with significant soil inclusions, and "wet spots" identified within the Douglas County soil survey;
   2. National Wetlands Inventory;
   3. Previous wetland rating evaluation; and,
   4. On-site inspection.

B. Wetland boundary surveys and rating evaluations shall be conducted by a qualified professional biologist and use the Washington State Wetland Rating System for Eastern Washington-Revised(WDOE 04-06-015, as amended). The wetland boundary shall be field staked by the biologist and surveyed by a land surveyor for disclosure on all final plats, maps, etc.

C. The Administrator may waive the requirement for the survey for development if:
   1. The proposed development is not within three hundred feet of the associated wetlands; and
   2. There is adequate information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

D. The wetland boundary and any associated buffer area shall be identified on all plats, maps, plans and specifications submitted for the project.

E. An evaluation of any unrated wetland is necessary when there is a proposed development or activity to be located adjacent to, or within an area containing a wetland.

2.030 Designation.
Sites classified in accordance with the provisions of Section 2.020 of Appendix H are designated as wetlands.

2.035 Wetland management and mitigation plan.

A. A wetland management and mitigation plan shall be required when impacts associated with development within a wetland or wetland buffer are unavoidable, demonstrated by compliance with Section 2.035G of Appendix H.

B. Wetland management and mitigation plans shall be prepared by a qualified professional biologist who is knowledgeable of wetland conditions within North Central Washington.

C. In determining the extent and type of mitigation appropriate for the development, the plan shall evaluate the ecological processes that affect and influence critical area structure and function within the watershed or sub-basin; the individual and cumulative effects of the action upon the functions of the critical area and associated watershed; and note observed or predicted trends regarding specific wetland types in the watershed, in light of natural and human processes.

D. Where compensatory mitigation is necessary, the plan should seek to implement shoreline restoration objectives identified within the Douglas County Shoreline Restoration Plan, Appendix B.

E. The wetland management and mitigation plan shall demonstrate, when implemented, that there shall be no net loss of the ecological functions of the wetland and buffer area.

F. The wetland management and mitigation plan shall identify how impacts from the proposed project shall be mitigated, as well as the necessary monitoring and contingency actions for the continued maintenance of the wetland and its associated buffer.

G. Mitigation Sequence.
When an alteration or impact to a critical area is proposed, the biologist shall demonstrate that all reasonable efforts have been taken to mitigate impacts in the following prioritized order:

1. Avoiding the adverse impact altogether by not taking a certain action or parts of an action, or moving the action.
2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology and engineering, or by taking affirmative steps to avoid or reduce adverse impacts.
3. Rectifying the adverse impact by repairing, rehabilitating or restoring the affected environment.
4. Reducing or eliminating the adverse impact over time by preservation and maintenance operations during the life of the action.

5. Compensating for the adverse impact by replacing, enhancing, or providing similar substitute resources or environments.
6. Monitoring the impact and taking appropriate corrective measures.

Mitigation for development may include a sequenced combination of the above measures as needed to achieve the most effective protection or compensatory mitigation for critical area functions.

H. Mitigation Ratios.

Mitigation ratios shall be used when impacts to wetlands and/or wetland buffers cannot be avoided. Compensatory mitigation shall restore, create, rehabilitate or enhance equivalent or greater wetland and wetland buffer functions. Mitigation shall be located onsite unless the biologist can demonstrate, and the county approves that onsite mitigation will result in a net loss of ecological functions. If offsite mitigation measures are determined to be appropriate, offsite mitigation shall be located in the same watershed as the development, within Douglas County.

The mitigation ratios (mitigation amount:disturbed area) for impacts to wetlands by wetland type and buffer are:

Wetland Category	**Reestablishment or Creation[1,2]**	**Rehabilitation[1,2]**	**Enhancement[1,3] Only**
Category IV	1.5:1	3:1	6:1
Category III	2:1	4:1	8:1
Category II	4:1	8:1	16:1
Category I	6:1	8:1	24:1

[1]Natural heritage sites, alkali wetlands, and bogs are considered irreplaceable wetlands because they perform special functions that cannot be replaced through compensatory mitigation. Impacts to such wetlands would therefore result in a net loss of some functions no matter what kind of mitigation is provided.

[2]Provides gains in a whole suite of functions both at the site and landscape scale. Rehabilitation actions often focus on restoring environmental processes that have been disturbed or altered by previous or ongoing human activity. (restore environmental process of previous disturbances)

[3] Actions which provide gains in only a few functions. Enhancement actions often focus on structural or superficial improvements to a site and generally do not address larger scale environmental processes. (structural or superficial actions)

The mitigation ratios (mitigation amount:disturbed area) for impacts to the wetland buffer are 1:1 for development within the buffer; and a ratio of 2:1 for native vegetation removal within a buffer. Mitigation within wetland buffers for diverse, high quality habitat or offsite mitigation may require a higher level of mitigation. Wetland management and mitigation plans shall evaluate the need for a higher mitigation ratio on a site by site basis, dependent upon the ecological functions provided by the buffer area. Recommendations by resource agencies in evaluating appropriate buffer mitigation shall be encouraged.

I. Plan Contents.

The wetland management and mitigation plan shall contain a report that includes, but is not limited to, the following information:

1. Location maps, regional 1:24,000 and local 1:4,800;
2. A map or maps indicating the boundary delineation of the wetland; the width and length of all existing and proposed structures, utilities, roads, easements; wastewater and stormwater facilities; and adjacent land uses;
3. A description of the proposed project including the nature, density and intensity of the proposed development and the associated grading, structures, utilities, etc., in sufficient detail to allow analysis of such land use change upon the identified wetland and wetland buffer;
4. A detailed description of vegetative, faunal and hydrologic conditions, soil and substrate characteristics, and topographic features within and surrounding the wetland;
5. A detailed description of vegetative, faunal and hydrologic conditions, soil and substrate characteristics, and topographic features within any compensation site;
6. A detailed description of the proposed project's effect on the wetland and wetland buffer, and a discussion of any federal, state or local management recommendations which have been developed for the area;
7. A plan which explains how any adverse impacts created by the proposed development will be mitigated to ensure no net loss of ecological function. Methods may include, but are not limited to the following techniques:
    a. Establishment of buffer zones,
    b. Preservation of critically important plants and trees,
    c. Limitation of access to the wetland area,
    d. Seasonal restriction of construction activities,
    e. Establishment of a monitoring program within the plan,
    f. Drainage and erosion control techniques,
    g. Direct lights away from the wetland and buffer,
    h. Locate facilities that generate substantial noise away from the wetland and buffer,
    i. Establish covenants limiting the use of pesticides within one hundred-fifty feet of the wetland,
    j. Implement integrated pest management programs,
    k. Post signs at the outer edge of the critical area or buffer to clearly indicate the location of the critical area according to the direction of the county,

l. Plant buffer with native vegetation appropriate for the region to create screens or barriers to noise, light, human intrusion and discourage domestic animal intrusion, and
m. Use low impact development where appropriate.

8. A detailed discussion of on-going management practices which will protect the wetland after the project site has been fully developed, including proposed monitoring, contingency, maintenance and surety programs as provided for in Section 2.035 J of Appendix H.
9. A narrative which addresses Section 2.035 A-H of Appendix H.
10. A description of the biologist's qualifications and experience.

J. Performance Standards.

The following performance standards shall apply to compensatory mitigation projects:

1. Specific criteria shall be provided in the mitigation plan for evaluating whether or not the goals and objectives of the mitigation project are being met. Such criteria may include percent aerial cover and survival rates of planted vegetation, species abundance and diversity targets, habitat diversity indices, water quality improvement, flood retention, or other ecological, geological or hydrological criteria. Unless the site specific criteria dictate otherwise, default performance standards for the site shall meet mitigation planting survival of 100% for the first year and 80% plant survival for each of the 4 years following initial planting.
2. Mitigation must be installed no later than the next growing season after completion of site improvements, unless otherwise approved by the Administrator.
3. Where necessary, a temporary means of irrigation shall be installed for the mitigation plantings within the wetland, that are designed by a landscape architect or equivalent professional, as approved by the Administrator. Where necessary, the administrator may require a permanent means of irrigation be installed for mitigation plantings within the wetland buffer, given the arid conditions of the region. The design shall meet the specific needs of the wetland, riparian and shrub steppe vegetation, as may be applicable.
4. Monitoring reports by the biologist must include verification that the planting areas have less than 20% total non-native /invasive plant cover consisting of exotic and/or invasive species. Exotic and invasive species may include any species on the state noxious weed list or considered a noxious or problem weed by the Natural Conservation Services Department or local conservation districts.
5. Onsite monitoring and monitoring reports shall be submitted to Douglas County Transportation and Land Services 1 year after mitigation installation; 3 years after mitigation installation; and 5 years after mitigation installation. Monitoring reports shall be submitted by a qualified professional biologist. The biologist must verify that the conditions of approval and provisions in the wetland management and mitigation plan have been satisfied.
6. If the mitigation plan is not installed per the timeline defined in Section 2.035(J) of Appendix H, or monitoring reports indicate that mitigation is not achieving its goals in accordance with Section 2.035(J) of Appendix H, the Administrator may,

based on the recommendations of a qualified professional, increase the required monitoring up to 10 years after the initial mitigation installation, and require appropriate changes to the mitigation plan. The County may collect the proceeds of the mitigation plan bonds or surety and use those proceeds to install or complete the recommended changes when necessary. On-site monitoring and monitoring reports shall be submitted to Douglas County Transportation and Land Services 1, 3, and 5 years after mitigation installation and as additionally required by the Administrator when applicable

7. Mitigation sites shall be maintained to ensure that the mitigation and management plan objectives are successful. Maintenance shall include corrective actions to rectify problems, include rigorous, as-needed elimination of undesirable plants; protection of shrubs and small trees from competition by grasses and herbaceous plants, and repair and replacement of any dead plants.
8. Prior to site development and or building permit issuance, a performance surety agreement in conformance with Chapter 7 of this Program, must be entered into by the property owner and Douglas County. The surety agreement must include the complete costs for the mitigation and monitoring which may include but not be limited to: the cost of installation, delivery, plant material, soil amendments, permanent irrigation, seed mix, and 3 monitoring visits and reports by a qualified professional biologist, including Washington State Sales Tax. Douglas County must approve the quote for said improvements.
9. Sequential release of funds associated with the surety agreement shall be reviewed for conformance with the conditions of approval and the mitigation and management plan. Release of funds may occur in increments of 1/3 for substantial conformance with the plan and conditions of approval. Verification of conformance with the provisions of the mitigation and management plan and conditions of approval after 1 year of mitigation installation shall also allow for the full release of funds associated with irrigation systems, clearing and grubbing and any soil amendments. If the standards that are not met are only minimally out of compliance and contingency actions are actively being pursued by the property owner to bring the project into compliance, the county may choose to consider a partial release of the scheduled increment. Non-compliance can result in one or more of the following actions: carryover of the surety amount to the next review period; use of funds to remedy the nonconformance; scheduling a hearing with the Douglas County Hearing Examiner to review conformance with the conditions of approval and to determine what actions may be appropriate.

2.040 Application requirements.

Development permit applications shall provide appropriate information on forms provided by the review authority, including without limitation the information described below. Additional reports or information to identify potential impacts and mitigation measures to wetlands may be required if deemed necessary. Development within a wetland or its buffer shall provide the following information:

A. Wetland boundary survey and rating evaluation pursuant to Section 2.020 of Appendix H;

B. Wetland management and mitigation plan pursuant to Section 2.035 of Appendix H;

2.050 General standards.
The following minimum standards shall apply to all development activities occurring within designated wetlands and/or their buffers.

A. Except where permitted by this Program, wetlands and wetland buffers will be left undisturbed, unless the development proposal demonstrates that impacts to the wetland and/or buffer are unavoidable, demonstrated by compliance with Section 2.035G of Appendix H. Impacts must be addressed with appropriate mitigation and enhancement measures as determined on a site-specific basis in conformance with Section 2.035 of Appendix H.

B. Wetland Buffers
Appropriate buffer areas shall be maintained between all permitted uses and activities and the designated wetland. Provisions to identify the type of wetland and delineate its boundary are established in Section 2.020 of Appendix H, and must be conducted by a qualified professional biologist.

1. The width of a wetland buffer, as measured from the wetland edge established in the approved wetland boundary survey, shall be as follows:

Wetland Type	**Low – Moderate Intensity Dev.**	***High Intensity Development**
Wetland Type 1	150 feet.	250 feet
Wetland Type 2	100 feet	200 feet
Wetland Type 3	75 feet	150 feet
Wetland Type 4	50 feet	50 feet

* For the purposes of Section 2.050B of Appendix H, high intensity uses include: commercial, industrial, institutional, retail sales, residential (greater than 1 unit/acre), conversion from non-agricultural lands to high-intensity commercial agriculture (dairies, nurseries, hobby farms, feed mills, packing plants, agricultural processing plants or warehouses for the purposes of processing, packing, and storage of agricultural products), and high-intensity recreation (golf courses, ball fields).

2. Where a wetland is located within a riparian buffer, the buffer width, riparian or wetland, which provides the greatest degree of protection shall apply.
3. All buffers shall be measured from the wetland edge, as established by the approved wetland boundary survey.
4. Building setbacks from wetland buffers shall not apply where existing vegetation within the critical area buffer is part of a legally established recreational or residential development, including legally established non-conforming residential development, or prior agricultural use and is characterized by maintained landscaped lawn, or other area of disturbed vegetation with minimal habitat function, as determined by the Administrator. Temporary fencing of the buffer

area during construction activities shall still be required consistent with Section 2.050(B)(5) of Appendix H.

5. All buffer areas shall be temporarily fenced between the construction activity and the buffer with a highly visible and durable protective barrier during construction to prevent access and protect the designated wetland and associated buffer. The Administrator may waive this requirement if an alternative to fencing which achieves the same objective is proposed and approved.
6. Except as otherwise allowed, buffers shall be retained in their natural condition. Any habitat created, restored or enhanced as compensation for approved wetland alterations shall have the standard buffer required for the category of the created, restored or enhanced wetland.
7. Land divisions within designated wetland areas shall require a minimum lot frontage along the protective buffer or shoreline as outlined in this Program.
8. The width of the buffer shall be increased by the Administrator for a development project on a case-by-case basis when a larger buffer is necessary to protect the designated wetland function and value. The determination shall be based on site-specific and project-related conditions which include, without limitation:
   a. The designated wetland is used for feeding, nesting and resting by species proposed or listed by the federal or state government as endangered, threatened, sensitive, candidate, monitor or critical; or if it is outstanding potential habitat for those species or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees;
   b. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse wetland impacts;

C. Buffer Width Averaging.

Standard buffer widths may be modified by the Administrator for single family dwellings, for existing legal lots of record in place at the time of adoption of this Program, a development proposal by averaging buffer widths based on a report submitted by the applicant and prepared by a qualified professional biologist. Buffer width averaging shall only be allowed where the applicant demonstrates all of the following:

1. Averaging is necessary to avoid an extraordinary hardship to the applicant caused by circumstances peculiar to the property;
2. The designated wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation;
3. The width averaging shall not adversely affect or impact the designated wetland and buffer's functional value;
4. The total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.
5. The minimum buffer width of a Category I - IV wetland at it's narrowest point shall not be less than seventy-five (75) percent of the widths established under Section 2.050B of Appendix H;
6. The wetland buffer has not been reduced under any other provisions of this chapter. The buffer has not been varied or reduced by any prior actions administered by Douglas County. Sites which utilize buffer width averaging

are not eligible for any future buffer width reductions under any other provisions of this Program, except as administered under Section 6.8 Variances.

7. The variation of buffer widths on a site, via buffer width averaging, must be supported by best available science as demonstrated by the submittal and approval of a wetland management and mitigation plan in conformance with Section 2.035 of Appendix H.

D. Administrative Buffer Reduction.
The Administrator shall have the authority to reduce buffer widths on a case-by-case basis for single family dwelling units which would be placed on existing legal lots of record in place at the time of adoption of this Program; provided that the general standards for avoidance and minimization per Section 2.035G of Appendix H shall apply, and when the applicant demonstrates to the satisfaction of the Administrator that all of the following criteria have been met:

1. The buffer reduction shall not result in a net loss of functions of the wetland or wetland buffer.
2. The maximum buffer width reduction allowed shall not exceed twenty-five (25) percent.
3. The buffer width reduction is contingent upon the submittal and approval of a wetland management and mitigation plan in conformance with Section 2.035 of Appendix H.
4. The buffer has not been varied or reduced by any prior actions administered by Douglas County. Sites which utilize administrative buffer width reductions are not eligible for any future buffer width reductions, under any other provisions of this Program, except as administered under Section 6.8 Variances.

E. High Intensity Development – Administrative Buffer Reduction.
The Administrator shall have the authority to reduce buffer widths on a case-by-case basis for high intensity development associated with Type 1-3 wetlands, within legal lots of record in place at the time of adoption of this Program. For the purposes of this section, high intensity development is defined by Section 2.050(B)1 of Appendix H. The general standards for avoidance and minimization per Section 2.035G of Appendix H shall apply and the applicant must demonstrate to the satisfaction of the Administrator that all of the following criteria have been met:

1. The buffer reduction shall not result in a net loss of functions of the wetland or wetland buffer.
2. The maximum buffer width reduction allowed shall not exceed twenty-five (25) percent.
3. The buffer width reduction is contingent upon the submittal and approval of a wetland management and mitigation plan in conformance with Section 2.035 of Appendix H.
4. The buffer has not been varied or reduced by any prior actions administered by Douglas County. Sites which utilize administrative buffer width reductions are not eligible for any future buffer width reductions,

under any other provisions of this Program, except as administered under Section 6.8 Variances, of this Program.

2.060 Specific standards.
The following standards shall apply to the activity identified below, in addition to the general standards outlined in Section 2.050 of Appendix H.

A. Developments which contain a wetland or wetland buffer on site shall comply with the following minimum standards:
   1. All plats shall disclose the presence on each residential lot one building site, including access, that is suitable for development and which is not within the designated wetland or its associated buffer;
   2. All designated wetland areas and their proposed buffers shall be clearly identified on all final plats, maps, documents, etc.;
   3. Designated wetlands and their associated wetland buffers shall be designated and disclosed on the final plats, maps, documents, etc., as critical area tracts, nonbuildable lots and buffer areas or common areas. Ownership and control may be transferred to a homeowner's association or designated as an easement or covenant encumbering the property.
   4. All lots within a major subdivision, short plat or binding site plan shall have the outer edge of all required buffers clearly marked on site with permanent buffer edge markers. Buffer markers may be either buffer signs or steel posts painted with a standard color and label, as approved by the Administrator. The markers shall be field verified by the surveyor or biologist of record prior to final plat approval. Each lot shall contain a minimum of three buffer area markers located at the landward edge of the buffer perimeter for each habitat type; one located at each side property line and one midway between side property lines. Covenants for the subdivision shall incorporate a requirement stating that buffer area markers shall not be removed, or relocated, except as a may be approved by the Administrator.
   5. Residential developments with the potential for two or more dwelling units shall disclose on the face of the plat whether the development will be served by joint use or community dock facilities or a combination thereof. Access easements and dock locations shall be identified by a qualified professional biologist who will address the standards of Section 2.035G of Appendix H. The identification of access easements and dock locations is not a substitute for permitting required in order to develop moorage facilities and in no way guarantees such an approval.

B. Stream Crossings. Expansion or construction of stream crossings may be authorized within a designated wetland or wetland buffer, subject to the following minimum standards:
   1. Bridges are required for streams which support salmonids;
   2. All crossings using culverts shall use superspan or oversize culverts;
   3. Crossings shall not occur in salmonid spawning areas unless no other feasible crossing site exists;

4. Bridge piers or abutments shall not be placed in either the floodway or between the ordinary high water marks unless no other feasible alternative placement exists;
5. Crossings shall not diminish flood carrying capacity; and
6. Crossings shall serve multiple properties whenever possible.

C. Water dependent uses, as defined by this Program, may be located within a wetland or wetland buffer when the applicant or property owner can demonstrate compliance with Section 2.035 of Appendix H.

D. Trails and trail-related facilities.
Construction of public, private community and private trails and trail-related facilities, such as picnic tables, benches, interpretive centers and signs, viewing platforms and campsites may be authorized within designated resource lands and critical areas, subject to the following minimum standards:
1. Trail facilities shall, to the extent feasible, be placed on existing road grades, utility corridors, or any other previously disturbed areas;
2. Trail facilities shall minimize the removal of trees, shrubs, snags and important habitat features. Vegetation management performed in accordance with best management practices as part of ongoing maintenance to eliminate a hazard to trail users is considered consistent with this standard;
3. Viewing platforms, interpretive centers, campsites, picnic areas, benches and their associated access shall be designed and located to minimize disturbance of wildlife and/or critical characteristics of the affected conservation area;
4. All facilities shall be constructed with materials complementary to the surrounding environment;
5. Trail facilities that parallel the shoreline may be located in the outer 25 percent of the buffer area; and
   a. Commercial and public trails shall not exceed 10 feet in width
   b. Private trails shall not exceed 4 feet in width;
6. Except as provided in D.5 above, the width of commercial and public trails shall be consistent with Section 1020.06(1) of the Washington State Design Manual as in now exists or may hereafter be amended;
7. Trails that provide direct shoreline access shall not exceed 4 feet in width and shall be kept to the minimum number necessary to serve the intended purpose;
8. Review and analysis of a proposed trail facility shall demonstrate no net loss of ecological functions and values in conformance with this chapter; and
9. Trail facilities shall not be exempt from special report requirements, as may be required by this chapter.

2.070 Variances.
Applicants who are unable to comply with the specific dimensional or performance standards of this Chapter may seek approval pursuant to the variance standards of Section 6.8 Variances of this Program, in addition to satisfying the requirements identified below:

A. The project includes mitigation for unavoidable critical area and buffer impacts, consistent with the requirements of Section 2.035 of Appendix H.

B. The applicant can clearly demonstrate compliance with the avoidance and minimization standards established in subsection 2.035G of Appendix H.

Chapter 3 Critical Areas--Fish and Wildlife Habitat Conservation Areas

3.010 Authorized uses and activities.

Uses and activities allowed within designated habitat conservation areas are those uses authorized by the Douglas County Regional Shoreline Master Program, subject to the provisions of this chapter.

3.020 Identification.

A. All fish and wildlife habitat conservation areas shall be identified by Douglas County to reflect the relative function, value and uniqueness of the habitat area as established through an approved habitat ranking evaluation submitted by an applicant for development occurring on a site, in accordance with this Program. Douglas County may use the information sources in Section 1.030 of Appendix H as guidance in identifying the presence of potential fish and wildlife habitat conservation areas and the subsequent need for a habitat boundary survey along with an onsite inspection, if necessary.

B. Fish and wildlife habitat conservation areas include:
   1. Areas in which endangered, threatened, and sensitive species have a primary association;
   2. Habitats and species of local importance;
   3. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;
   4. Waters of the state;
   5. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
   6. State natural area preserves and natural resource conservation areas;
   7. Riparian areas;
   8. Lakes 20 acres and greater in size with a water depth of 6 feet or greater; or
   9. Intermittent and perennial streams.
   10. Priority habitats and species as identified by the Washington State Department of Fish and Wildlife Priority Habitats and Species Program.

C. Identification and regulation of all wetlands, lakes 20 acres or greater in size with a depth less than 6 feet, lakes under 20 acres in size, and ponds, shall be in accordance with Appendix H-Chapter 2 Critical Areas-- Wetlands.

D. Identification and regulation of ephemeral or intermittent drainages which do not contain wetland or riparian habitat shall be in accordance with Appendix H–Chapter 4 Critical Areas--Geologically Hazardous Areas and Appendix H- Chapter 6 Flood Damage Prevention.

3.030 Designation.

All existing areas of unincorporated Douglas County identified as stated in Section 3.020 of Appendix H, as determined by the Administrator, are designated as fish and wildlife habitat conservation areas. In addition to existing fish and wildlife habitat

conservation areas of unincorporated Douglas County identified as stated in Section 3.020 of Appendix H, the County may designate additional species, habitats of local importance, and/or wildlife corridors as follows:

A. In order to nominate an area, species, or corridor to the category of Locally important, an individual or organization must:
   1. Demonstrate a need for special consideration based on:
      a. Declining population,
      b. Sensitivity to habitat manipulation,
      c. Commercial, recreational, cultural, or other special value, or
      d. Maintenance of connectivity between habitat areas.
   2. Propose relevant management strategies considered effective and within the scope of this chapter;
   3. Identify effects on property ownership and use; and
   4. Provide a map showing the species or habitat location(s).

B. Submitted proposals shall be reviewed by the county and may be forwarded to the State Departments of Fish and Wildlife, Natural Resources, and/or other local, state, federal, and/or tribal agencies or experts for comments and recommendations regarding accuracy of data and effectiveness of proposed management strategies.

C. If the proposal is found to be complete, accurate, and consistent with the purposes and intent of this chapter and the various goals and objectives of the Douglas County Countywide Comprehensive Plan, the Growth Management Act, the Shoreline Management Act and this Program; the Board of County Commissioners will hold a public hearing to solicit comment. Approved nominations will then be processed as amendments to this Program in conformance with Chapter 7, in order to be considered as a designated locally important habitats, species, or corridors and if approved will be subject to the provisions of this chapter.

3.035 Habitat boundary survey.

A. A wildlife habitat boundary survey and evaluation shall be conducted by a qualified professional biologist, as appropriate, who is knowledgeable of wildlife habitat within North Central Washington. The wildlife habitat boundary shall be field staked by the biologist and surveyed by a land surveyor for disclosure on all final plats, maps, etc.

B. The Administrator may waive the requirement for the survey for minor development if:
   1. The proposed development is not within the extended proximity of the associated wildlife habitat;
   2. There is adequate information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures; and
   3. The applicant provides voluntary deed restrictions that are approved by the Administrator.

C. The wildlife habitat boundary and any associated buffer shall be identified on all plats, maps, plans and specifications submitted for the project.

3.037 Fish/wildlife habitat management and mitigation plan.

A. A fish/wildlife habitat management and mitigation plan shall be prepared by a qualified professional biologist who is knowledgeable of fish and wildlife habitat within North Central Washington.

B. In determining the extent and type of mitigation appropriate for the development, the plan shall evaluate the ecological processes that affect and influence critical area structure and function within the water shed or sub-basin; the individual and cumulative effects of the action upon the functions of the critical area and associated watershed; and note observed or predicted trends regarding specific wetland types in the watershed, in light of natural and human processes.

C. Where compensatory mitigation is necessary, the plan should seek to implement shoreline restoration objectives identified within the Douglas County Shoreline Restoration Plan, Appendix B.

D. The fish/wildlife habitat management and mitigation plan shall demonstrate, when implemented, no net loss of ecological functions of the habitat conservation area and buffer.

E. The fish/wildlife habitat management and mitigation plan shall identify how impacts from the proposed project shall be mitigated, as well as the necessary monitoring and contingency actions for the continued maintenance of the habitat conservation area and any associated buffer.

F. Mitigation Sequence.

When an alteration or impact to a critical area is proposed, the biologist shall demonstrate that all reasonable efforts have been taken to mitigate impacts in the following prioritized order:

1. Avoiding the adverse impact altogether by not taking a certain action or parts of an action, or moving the action.
2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology and engineering, or by taking affirmative steps to avoid or reduce adverse impacts.
3. Rectifying the adverse impact by repairing, rehabilitating or restoring the affected environment.
4. Reducing or eliminating the adverse impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the adverse impact by replacing, enhancing, or providing similar substitute resources or environments and monitoring the adverse impact and the mitigation project and taking appropriate corrective measures.

Mitigation for development may include a sequenced combination of the above measures as needed to achieve the most effective protection or compensatory mitigation for critical area functions.

G. Mitigation Ratios.

Mitigation ratios shall be used when impacts to riparian buffers, are unavoidable. Compensatory mitigation shall restore, create, rehabilitate or enhance equivalent or greater ecological functions. Mitigation shall be located onsite unless the biologist can demonstrate, and the county approves that onsite mitigation will result in a net loss of ecological functions. If offsite mitigation measures are determined to be appropriate, offsite mitigation shall be located in the same watershed as the development, within Douglas County.

The onsite mitigation ratio, (mitigation amount:disturbed area), shall be at a minimum ratio of 1:1 for development within riparian buffers. A ratio of 2:1 shall apply to native vegetation removal within these areas. Mitigation for diverse, high quality habitat or offsite mitigation may require a higher level of mitigation. Mitigation and management plans shall evaluate the need for a higher mitigation ratio on a site by site basis, dependent upon the ecological functions and values provided by the habitat. Recommendations by resource agencies in evaluating appropriate mitigation shall be encouraged.

H. Plan Contents.

The fish/wildlife habitat management and mitigation plan shall contain a report including but not limited to, the following information:

1. Location maps, regional 1:24,000 and local 1:4,800;
2. A map or maps indicating the boundary of the habitat conservation areas; the width and length of all existing and proposed structures, utilities, roads, easements; wastewater and stormwater facilities; and adjacent land uses;
3. A description of the proposed project including the nature, density and intensity of the proposed development and the associated grading, structures, roads, easements, wastewater facilities, stormwater facilities, utilities, etc., in sufficient detail to allow analysis of such land use change upon the habitat conservation area;
4. A detailed discussion of surface and subsurface hydrologic features both on and adjacent to the site where the review authority determines appropriate;
5. A description of the vegetation in the habitat conservation area, on the overall project site and adjacent to the site;
6. A detailed description of the proposed project's effect on the habitat conservation area, and a discussion of any federal, state or local management recommendations which have been developed for the species or habitats in the area;
7. A plan which explains how any adverse impacts created by the proposed development will be mitigated to ensure no net loss of ecological function. Methods may include, but are not limited to the following techniques:
   a. Establishment of buffer zones,

b. Preservation of critically important plants and trees,
c. Limitation of access to the habitat conservation area,
d. Seasonal restriction of construction activities,
e. Establishment of a timetable for periodic review of the plan,
f. Direct lights away from the habitat conservation area and buffer,
g. Locate facilities that generate substantial noise away from the habitat conservation area and buffer,
h. Establish covenants that limit the use of pesticides within the buffer or habitat area,
i. Implement integrated pest management programs,
j. Post signs at the outer edge of the habitat conservation area or buffer to clearly indicate the location of the critical area according to the direction of the county,
k. Plant buffer with native vegetation appropriate for the region to create screens or barriers to noise, light, human intrusion and discourage domestic animal intrusion,
l. Use low impact development where appropriate, and
m. Application of management recommendations developed by the Washington State Department of Fish and Wildlife through its Priority Habitat Species Program.

8. A detailed discussion of on-going management practices which will protect the habitat conservation area after the project site has been fully developed, including proposed monitoring, contingency, maintenance and surety programs as provided for in Section 3.037 I of Appendix H.
9. A narrative which addresses Section 3.037 A-G, of Appendix H.
10. A description of the biologist's qualifications and experience.

I. Performance Standards.

The following performance standards shall apply to compensatory mitigation projects:

1. Mitigation planting survival will be 100% for the first year, and 80% for each of the 4 years following.
2. Mitigation must be installed no later than the next growing season after completion of site improvements, unless otherwise approved by the Administrator.
3. Where necessary, a permanent means of irrigation shall be installed for the mitigation plantings that are designed by a landscape architect or equivalent professional, as approved by the Administrator. The design shall meet the specific needs of riparian and shrub steppe vegetation.
4. Monitoring reports by the biologist must include verification that the planting areas have less than 20% total non-native /invasive plant cover consisting of exotic and/or invasive species. Exotic and invasive species may include any species on the state noxious weed list, or considered a noxious or problem weed by the Natural Conservation Services Department or local conservation districts.
5. Onsite monitoring and monitoring reports shall be submitted to Douglas County Transportation and Land Services 1 year after mitigation installation; 3 years

after mitigation installation; and 5 years after mitigation installation. The length of time involved in monitoring and monitoring reports may be increased by the Administrator for a development project on a case-by-case basis when longer monitoring time is necessary to establish or re-establish functions and values of the mitigation site. Monitoring reports shall be submitted by a qualified professional biologist. The biologist must verify that the conditions of approval and provisions in the fish and wildlife management and mitigation plan have been satisfied.

6. If the mitigation plan is not installed per the timeline defined in Section 3.037(I) of Appendix H, or monitoring reports indicate that mitigation is not achieving its goals in accordance with Section 3.037(I) of Appendix H, the Administrator may, based on the recommendations of a qualified professional, increase the required monitoring to annually for up to 10 years after mitigation installation consistent with Section 2.035(J)(6) of Appendix H.
7. Mitigation sites shall be maintained to ensure that the mitigation and management plan objectives are successful. Maintenance shall include corrective actions to rectify problems, include rigorous, as-needed elimination of undesirable plants; protection of shrubs and small trees from competition by grasses and herbaceous plants, and repair and replacement of any dead plants.
8. Sequential release of funds associated with the surety agreement shall be reviewed for conformance with the conditions of approval and the mitigation and management plan. Release of funds may occur in increments of 1/3 for substantial conformance with the plan and conditions of approval. Verification of conformance with the provisions of the mitigation and management plan and conditions of approval after 1 year of mitigation installation shall also allow for the full release of funds associated with irrigation systems, clearing and grubbing and any soil amendments. If the standards that are not met are only minimally out of compliance and contingency actions are actively being pursued by the property owner to bring the project into compliance, the county may choose to consider a partial release of the scheduled increment. Non-compliance can result in one or more of the following actions: carryover of the surety amount to the next review period; use of funds to remedy the nonconformance; scheduling a hearing with the Douglas County Hearing Examiner to review conformance with the conditions of approval and to determine what actions may be appropriate.
8. Prior to site development and or building permit issuance, a performance surety agreement in conformance with Chapter 7 of this Program, must be entered into by the property owner and Douglas County. The surety agreement must include the complete costs for the mitigation and monitoring which may include but not be limited to: the cost of installation, delivery, plant material, soil amendments, permanent irrigation, seed mix, and 3 monitoring visits and reports by a qualified professional biologist, including Washington State Sales Tax. Douglas County must approve the quote for said improvements.

3.040 Application requirements.

Development permit applications shall provide appropriate information on forms provided by the review authority, including without limitation the information described

below. Additional reports or information to identify potential impacts and mitigation measures to fish and wildlife habitat conservation areas may be required if deemed necessary. Development within a fish and wildlife habitat conservation area or its buffer shall provide the following information:

A. The location and dimensions of all existing and proposed buildings, roads and other improvements, and their physical relationship to the habitat conservation area;

B. The location and type of any proposed buffers, including the identification of any other protective measures.

C. Wildlife habitat boundary survey and ranking evaluation pursuant to Section 3.035 of Appendix H;

D. Habitat management and mitigation plan pursuant to Section 3.037 of Appendix H;

E. A drainage and erosion control plan pursuant to Section 1.100 of Appendix H;

F. A grading and excavation plan pursuant to Section 1.120 of Appendix H.

3.050 General standards.
The following minimum standards shall apply to all development activities occurring within designated habitat conservation areas and their associated buffers.

A. Except as permitted by this chapter habitat conservation areas and buffers will be left undisturbed, unless the development proposal demonstrates that impacts to the habitat conservation area and/or buffer are unavoidable, demonstrated by compliance with Section 3.037F of Appendix H. Impacts must be addressed with appropriate mitigation and enhancement measures as determined on a site-specific basis in conformance with Section 3.037 of Appendix H.

B. Habitat Conservation Areas.
   1. Development occurring within a one thousand foot radius of a state or federal threatened, endangered, or sensitive species den, nesting, or breeding site, migration corridors or feeding areas of terrestrial species shall require a habitat management and mitigation plan.
   2. Cliff, cave and talus slope habitats shall have at least a fifty-foot buffer for safety and resource protection.
   3. Bald Eagles: an approved bald eagle management plan by the Washington Department of Fish and Wildlife meeting the requirement and guidelines of the Bald Eagle Protection Rules, WAC 232-12-292, as amended, satisfies the requirements of a habitat management and/or mitigation plan.
   4. Rocky Mountain Mule Deer Habitat: habitat connectivity and migration corridors for mule deer shall be considered in habitat management and/or mitigation plans.
   5. Development in or over all surface waters shall require a habitat mitigation plan.
   6. Riparian Habitat Conservation Protection:

a. An applicant or property owner who proposes a high intensity use or development within the shoreline jurisdiction shall hire a qualified biologist to determine if the site characteristics warrant an increase in buffer size to protect onsite ecological functions and values. The biologist shall prepare and submit a report which includes at a minimum the following items:
   1) Information documenting the described in Section 3.037(H)(1-6,10) of Appendix H.
   2) A written certified determination by the biologist as to whether a proposed high-intensity land use (defined by Section 3.05[B][6][a][3] of Appendix H) development will result in a net loss of ecological functions and values to the riparian buffer.
   3) A description of proposed management practices that high intensity use(s) or development(s) will use to protect the buffer area after the project site has been fully developed, to ensure no net loss of ecological function. High intensity uses include commercial, industrial, institutional, retail sales, residential (greater than 1 unit/acre except single family residential development on existing legal lots of record in place at the time of adoption of this Program), conversion from non-agricultural lands to high-intensity commercial agriculture (dairies, nurseries, hobby farms, feed mills, packing plants, agricultural processing plants or warehouses for the purposes of processing, packing, and storage of agricultural products), and high-intensity recreation (golf courses, ball fields). Management practices may include, but are not limited to the following techniques:
      a) Preservation of critically important plants and trees,
      b) Limitation of access to the habitat conservation area,
      c.) Seasonal restriction of construction activities,
      d) Direct lights away from the habitat conservation area and buffer,
      e) Locate facilities that generate substantial noise away from the habitat conservation area and buffer,
      f) Establish covenants that limit the use of pesticides within the buffer or habitat area,
      g) Implement integrated pest management programs,
      h) Post signs at the outer edge of the habitat conservation area or buffer to clearly indicate the location of the critical area according to the direction of the county,
      i) Plant buffer with native vegetation appropriate for the region to create screens or barriers to noise, light, human intrusion and discourage domestic animal intrusion,
      j) Use low impact development where appropriate.

b. Except as provided in this Program, the following minimum riparian buffer widths shall apply within the shoreline environment designations administered by Douglas County. Provisions have been established for structural setbacks, measured from the landward edge of the riparian buffer, established in Section 5.13, Bulk and Dimensional Standards, of this Program. Buffer widths include:

Environment Designations	**Riparian Buffer Width**
Perennial and intermittent streams in all environment designations	50 feet
High Intensity	50 feet
Rural Conservancy, Shoreline Residential, Urban Conservancy	75 feet
Natural	100 feet

(1) Building setbacks from riparian buffers shall not apply where existing vegetation within the critical area buffer is part of a legally established recreational or residential development, including legally established non-conforming residential development, or prior agricultural use and is characterized by maintained landscaped lawn, or other area of disturbed vegetation with minimal habitat function, as determined by the Administrator. Temporary fencing of the buffer area during construction activities shall still be required consistent with Section 3.050(C)(2) of Appendix H.

(2) Where a legally established road, railway, parking area, or other type of continuous impervious development crosses or extends along a shoreline or critical area buffer and is wider than 20 feet, the Administrator may approve a modification of the minimum required buffer width to the waterward edge of the improved continuous development provided the upland side of the continuous development area does not provide shoreline buffer function

C. Appropriate buffer areas shall be maintained between all permitted uses and activities and designated habitat conservation areas.

1. All buffers shall be measured horizontally on both sides of the stream or waterbody landward of the ordinary high water mark.
2. All buffer areas shall be temporarily fenced between the construction activity and the buffer with a highly visible and durable protective barrier during construction to prevent access and protect the designated habitat conservation area and associated buffer. The Administrator may waive this requirement if an alternative to fencing which achieves the same objective is proposed and approved.
3. Except as otherwise allowed, buffers shall be retained in their natural condition. Any habitat created, restored or enhanced as compensation for approved habitat

alterations shall have the standard buffer required for the type of habitat created, restored or enhanced.

4. The width of the buffer shall be increased by the Administrator for a development project on a case-by-case basis when a larger buffer is necessary to protect the designated habitat conservation area function and value. The determination shall be based on site-specific and project-related conditions, which include without limitation:
   a. The designated habitat conservation area is used for feeding, nesting and resting by species proposed or listed by the federal or state government as endangered, threatened, sensitive, candidate, monitor or critical; or if it is an outstanding potential habitat for those species or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees;
   b. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse habitat impacts;
   c. The report developed in compliance with Section 3.050(B)(6) of Appendix H indicates that the proposed high-intensity land use/ development would result in a net decrease in the riparian buffer's functions and values.

D. Buffer Width Averaging.

The riparian buffer widths may be modified by the Administrator for a development on existing legal lots of record in place at the time of adoption of this Program, by averaging buffer widths based on a report submitted by the applicant and prepared by a qualified professional biologist. Buffer width averaging shall only be allowed where the applicant demonstrates all of the following:

1. Averaging is necessary to avoid an extraordinary hardship to the applicant caused by circumstances peculiar to the property;
2. The designated habitat conservation area contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation;
3. The width averaging shall not adversely affect the designated habitat conservation area and buffer's functional value;
4. The total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.
5. The minimum buffer width at its narrowest point shall not be less than seventy-five (75) percent of the buffer width established under Section 3.050.B of Appendix H.
6. Sites which have had buffer widths reduced or modified by any prior action administered by Douglas County are not eligible for the provisions of this section. Sites which utilize this provision are not eligible for any future buffer width reductions, under any provision of this Program, except as administered under Section 6.8 Variances, of this Program.
7. The variation of buffer widths on a site, via buffer width averaging, must be supported by best available science as demonstrated by the submittal and approval of a fish and wildlife habitat conservation area management and mitigation plan in conformance with Section 3.037 of Appendix H.

E. Administrative Buffer Reduction.
The Administrator shall have the authority to reduce buffer width(s) established in Section 3.050(B)(6) of Appendix H on a case-by-case basis for single family dwelling units which would be placed on existing legal lots of record in place at the time of adoption of this Program; provided that the general standards for avoidance and minimization per Section 3.037F of Appendix H shall apply, and when the applicant demonstrates to the satisfaction of the Administrator that all of the following criteria have been met:

1. The buffer reduction shall not result in a net loss of functions of the habitat conservation area or buffer.
2. The maximum buffer width reduction allowed shall not exceed twenty-five (25) percent of the total required buffer established in Section 3.050(B)(6) of Appendix H.
3. The buffer width reduction is contingent upon the submittal and approval of a fish and wildlife habitat conservation area management and mitigation plan in conformance with Section 3.037 of Appendix H.
4. Sites which have had buffer widths reduced or modified by any prior action administered by Douglas County are not eligible for the provisions of this section. Sites which utilize this provision are not eligible for any future buffer width reductions, under any provision of this Program, except as administered under Section 6.8 Variances, of this Program.

3.060 Specific standards.
The following standards shall apply to the activity identified below, in addition to the general standards outlined in Section 3.050 of Appendix H.

A. Stream Crossings. Expansion or construction of stream crossings may be authorized within a designated habitat conservation area and buffer, subject to the following minimum standards:

1. Bridges are required for streams which support salmonids;
2. All crossings using culverts shall use superspan or oversize culverts;
3. Crossings shall not occur in salmonid spawning areas unless no other feasible crossing site exists;
4. Bridge piers or abutments shall not be placed in either the floodway or between the ordinary high water marks unless no other feasible alternative placement exists;
5. Crossings shall not diminish flood carrying capacity; and
6. Crossings shall serve multiple properties whenever possible.

B. Water dependent uses, as defined by this Program, may be located within a habitat conservation area or buffer when the applicant or property owner can demonstrate compliance with Section 3.037 of Appendix H.

C. Construction of public, private community and private trails and trail-related facilities, such as picnic tables, benches, interpretive centers and signs, viewing platforms and

campsites may be authorized within designated resource lands and critical areas, subject to the following minimum standards:

1. Trail facilities shall, to the extent feasible, be placed on existing road grades, utility corridors, or any other previously disturbed areas;
2. Trail facilities shall minimize the removal of trees, shrubs, snags and important habitat features. Vegetation management performed in accordance with best management practices as part of ongoing maintenance to eliminate a hazard to trail users is considered consistent with this standard;
3. Viewing platforms, interpretive centers, campsites, picnic areas, benches and their associated access shall be designed and located to minimize disturbance of wildlife and/or critical characteristics of the affected conservation area;
4. All facilities shall be constructed with materials complementary to the surrounding environment;
5. Trail facilities that parallel the shoreline may be located in the outer 25 percent of the buffer area; and
   a. Commercial and public trails shall not exceed 10 feet in width
   b. Private trails shall not exceed 4 feet in width;
6. Except as provided in C.5 above, the width of commercial and public trails shall be consistent with Section 1020.06(1) of the Washington State Design Manual as in now exists or may hereafter be amended;
7. Trails that provide direct shoreline access shall not exceed 4 feet in width and shall be kept to the minimum number necessary to serve the intended purpose;
8. Review and analysis of a proposed trail facility shall demonstrate no net loss of ecological functions and values in conformance with this chapter; and
9. Trail facilities shall not be exempt from special report requirements, as may be required by this chapter.

D. Developments authorized within a designated habitat conservation area or buffer shall comply with the following minimum standards:
   1. A habitat management and mitigation plan shall be required.
   2. Designated habitat conservation areas and their associated buffers shall be delineated and disclosed on final plats, maps, documents, etc., as critical area tracts, non buildable lots, buffer areas or common areas. Ownership and control may be transferred to a homeowner's association or designated as an easement or covenant encumbering the property.
   3. All lots within a major subdivision, short plat or binding site plan shall have the outer edge of all required buffers clearly marked on site with permanent buffer edge markers. Buffer markers may be either buffer signs or steel posts painted with a standard color and label, as approved by the Administrator. The markers shall be field verified by the surveyor or biologist of record prior to final plat approval. Each lot shall contain a minimum of three buffer area markers located at the landward edge of the buffer perimeter for each habitat type; one located at each side property line and one midway between side property lines. Covenants for the subdivision shall incorporate a requirement stating that buffer area markers shall not be removed, or relocated, except as a may be approved by the Administrator.

4. Residential developments with the potential for two or more dwelling units shall disclose on the face of the plat whether the development will be served by joint use or community dock facilities or a combination thereof. Access easements and dock locations shall be identified by a qualified professional biologist who will address the standards of Section 3.037F of Appendix H. The identification of access easements and dock locations is not a substitute for permitting required in order to develop moorage facilities and in no way guarantees such an approval.

E. View Corridors.

The development or maintenance of view corridors can provide the general public and property owners of single family residences, opportunities for visual access to water bodies associated with shoreline lots. One view corridor may be permitted per lot, when consistent with the provisions of this Chapter. A mitigation and management plan consistent with Section 3.037 of Appendix H must be submitted for review and approval; either with a complete building permit application for a new single family residence or associated with an existing single family residence.

1. In addition to the submittal of a complete mitigation and management plan, an applicant must submit the following materials:
   a. A signed Douglas County Master Application form by the property owner of the shoreline proposed for vegetation alterations.
   b. A scaled graphic which demonstrates a side, top and bottom parameter for the view corridor with existing vegetation and proposed alterations. The view corridor shall be limited to 25% of the width of the lot, or 25 feet, whichever distance is less.
   c. A graphic and/or site photos for the entire shoreline frontage which demonstrates that the homesite and proposed or existing home does or will not when constructed have a view corridor of the water body, taking into account site topography and the location of shoreline vegetation on the parcel.
2. Applications for view corridors must also be consistent with the following standards:
   a. Native vegetation removal shall be prohibited.
   b. Pruning of native vegetation shall not exceed 30% of a tree's limbs, and shrubs shall not be pruned to a height less than 6 feet. No tree topping shall occur. Pruning of vegetation waterward of the ordinary high water mark is prohibited.
   c. Non-native vegetation within a view corridor may be removed when the mitigation and management plan can demonstrate a net gain in site functions, and where impacts are mitigated at a ratio of 2:1.
   d. Whenever possible, view corridors shall be located in areas dominated with non-native vegetation and invasive species.
   e. Pruning shall be done in a manner that shall ensure the continued survival of vegetation.

f. The applicant's biologist shall clearly establish that fragmentation of fish and wildlife habitat will not occur, and that there is not a net loss of site ecological functions.
g. View corridors are not permitted in the natural environment designation.
h. A view corridor may be issued once for a property. No additional vegetation pruning for the view corridor is authorized except as may be permitted to maintain the approved view corridor from the regrowth of pruned limbs. Limitations and guidelines for this maintenance shall be established in the mitigation and management plan by the applicant's biologist, to be reviewed and approved by the Administrator.
i. Sites which have had buffer widths reduced or modified by any prior action administered by Douglas County are not eligible for the provisions of this section. Sites which utilize this provision are not eligible for any future buffer width reductions, under any provision of this Program, except as administered under Section 6.8 Variances, of this Program.

3.070 Variances.
Applicants who are unable to comply with the specific dimensional or performance standards of this chapter may seek approval pursuant to the variance standards of Section 6.8 Variances of this Program, in addition to satisfying the requirements identified below:

A. The project includes mitigation for unavoidable critical area and buffer impacts, consistent with the requirements of Section 3.037 of Appendix H.

B. The applicant can clearly demonstrate compliance with the avoidance and minimization standards established in subsection 3.037F of Appendix H.

Chapter 4 Critical Areas--Geologically Hazardous Areas

4.010 Permitted uses and activities.

Uses and activities allowed within designated geologically hazardous areas are those uses permitted by the Douglas County Regional Shoreline Master Program, subject to the provisions of this chapter.

4.020 Classification.

A. All geologically hazardous areas shall be classified by Douglas County according to the level of risk associated with the hazardous area as established through an approved geologic hazard risk assessment and/or a geotechnical report submitted by the applicant in accordance with the provisions of this chapter. Douglas County may use on-site inspections and the information sources identified in Section 1.030 of Appendix H as guidance in identifying the presence of potential geologically hazardous areas.

B. Geologically hazardous areas in Douglas County shall be classified according to the following system:
   1. Known or suspected risk;
   2. No risk; and
   3. Risk unknown.

C. Any land containing soils, geology or slopes that meet any of the following criteria shall be classified as having a known or suspected risk of being geologically hazardous areas:
   1. Areas identified by the United States Department of Agriculture Natural Resources Conservation Service as having a “severe” rill and inter-rill erosion hazard;
   2. Areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include any areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. Example of these may include, but are not limited to the following:
      a. Areas of historic failures, such as:
         1) Those areas delineated by the United States Department of Agriculture Natural Resources Conservation Service as having a “severe” limitation for building site development;
         2) Those areas mapped as class u (unstable), uos (unstable old slides), and urs (unstable recent slides) in the department of ecology coastal zone atlas; or
         3) Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published as the United States Geological Survey or Department of Natural Resources division of geology and earth resources.
      b. Areas with all three of the following characteristics:
         1) Slopes steeper than fifteen percent;

2) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
3) Springs or ground water seepage;

c. Areas that have shown movement during the Holocene epoch or which are underlain or covered by mass wastage debris of that epoch;
d. Slopes that are parallel or sub-parallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;
e. Slopes having gradients steeper than eighty percent subject to rockfall during seismic shaking;
f. Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action;
g. Areas that show evidence of, or are at risk from snow avalanches;
h. Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; and
i. Any area with a slope of forty-five percent or steeper and with a vertical relief of ten or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least ten feet of vertical relief.

3. Areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, or surface faulting. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington. The strength of ground shaking is primarily affected by:
   a. The magnitude of an earthquake;
   b. The distance from the source of an earthquake;
   c. The type of thickness of geologic materials at the surface; and
   d. The type of subsurface geologic structure.
4. Other geological events:
   a. Volcanic hazard areas shall include areas subject to pyroclastic flows, lava flows, debris avalanche, inundation by debris flows, mudflows, or related flooding resulting from volcanic activity.
   b. Mine hazard areas are those areas underlain by, adjacent to, or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts. Factors that should be considered include: Proximity to development, depth from ground surface to the mine working, and geologic material.

4.030 Designation.
All existing areas of unincorporated Douglas County classified as stated in Section 4.020 of Appendix H, as determined by the review authority, are designated as geologically hazardous areas.

4.040 Determination process—geologically hazardous area.
Douglas County shall review each development permit application to determine if the provisions of this chapter shall be initiated. In making the determination, the County may use any resources identified in Section 1.030 of Appendix H, as well as any previously completed special reports conducted in the vicinity of the subject proposal. The

following progressive steps shall occur upon a determination by the county that a geologically hazardous area may exist on a site proposed for a development permit:

A. Step One. Douglas County staff shall determine if there is any possible geologically hazardous area on-site designated by Section 4.030 of Appendix H. This determination shall be made following a review of information available and a site inspection if appropriate. If no hazard area is determined to be present, this chapter shall not apply to the review of the proposed development.

B. Step Two. If it is determined that a geologically hazardous area may be present, the applicant shall submit a geologic hazard area risk assessment prepared by an engineer or a geologist. The risk assessment shall include a description of the geology of the site and the proposed development; an assessment of the potential impact the project may have on the geologic hazard; an assessment of what potential impact the geologic hazard may have on the project; appropriate mitigation measures, if any; and a conclusion as to whether further analysis is necessary. The assessment shall be signed by and bear the seal of the engineer or geologist that prepared it. No further analysis shall be required if the geologic hazard area risk assessment concludes that there is no geologic hazard present on the site, nor will the project affect or be affected by any potential geologic hazards that may be nearby.

C. Step Three. If the professional preparing the risk assessment in step two concludes that further analysis is necessary, the applicant shall submit a geotechnical report consistent with the provisions of Sections 1.110 and 4.040D of Appendix H.

D. The geotechnical report shall include a certification from the engineering geologist or geotechnical engineer preparing the report, including the professionals stamp and signature. The geotechnical report shall include the following:
   1. A description of the geology of the site;
   2. Conclusions and recommendations regarding the effect of geologic conditions on the proposed development,
   3. Conclusions and recommendations on the suitability of the site to be developed;
   4. An evaluation of the actual presence of geologic conditions giving rise to the geologic hazard;
   5. An evaluation of the safety of the proposed project;
   6. Identification of construction practices, monitoring programs and other mitigation measures necessary;
   7. A bibliography of scientific citations shall be included as necessary;
   8. A statement regarding:
      a. The risk of damage from the project, both on- and off-site;
      b. Whether or not the project will materially increase the risk of occurrence of the hazard; and
      c. The specific measures incorporated into the design and operational plan of the project to eliminate or reduce the risk of damage due to the hazard.

E. All mitigation measures, construction techniques, recommendations and technical specifications provided in the geotechnical report shall be applied during the implementation of the proposal. The engineer of record shall submit sealed verification at the conclusion of construction that development occurred in conformance with the approved plans.

F. A proposed development cannot be approved if it is determined by the geotechnical report that either the proposed development or adjacent properties will be at risk of damage from the geologic hazard, or that the project will increase the risk of occurrence of the hazard, and there are no adequate mitigation measures to alleviate the risks.

Chapter 5 Critical Areas--Aquifer Recharge Areas

5.010 Permitted uses and activities.
Uses and activities permitted within designated aquifer recharge areas are those that are authorized in the Douglas County Regional Master Program, subject to the provisions of this chapter.

5.020 Classification.
All aquifer recharge areas shall be classified by Douglas County as any area located within the ten year capture zone identified by the Douglas County wellhead protection program.

5.030 Designation.
All existing areas of unincorporated Douglas County classified as stated in Section 5.020 of Appendix H of this chapter, as determined by the review authority, are hereby designated as aquifer recharge areas. The provisions of this chapter are specific to the following described areas:

Area A (Regional Wellfield)- Commencing at the intersection of the Douglas County Boundary with a westerly extension of the north line of Government Lot 8 in Section 35, Township 24 North, Range 20 East, W.M., said point being the TRUE POINT OF BEGINNING FOR THIS DESCRIPTION. Thence easterly along said extended north line to the east shoreline of the Columbia River. Thence continuing easterly along the north line of said Government Lot 8 to the northwest corner of the Southeast quarter of the Southeast quarter of said Section 35. Thence continuing easterly along the north line of said Southeast quarter of the Southeast quarter to the centerline of SR-97. Thence northeasterly along said centerline to the east line of the Northwest quarter of the Southwest quarter of Section 36, Township 24 North, Range 20 East, W.M. Thence northerly along said east line to the southeast corner of the Southwest quarter of the Northwest quarter of said Section 36. Thence continuing northerly along the east line of said Southwest quarter of the Northwest quarter to the southwest corner of the Northeast quarter of the Northwest quarter of said Section 36. Thence easterly along the south line of said Northeast quarter of the Northwest quarter to the east line of the west half of said Northeast quarter of the Northwest quarter. Thence northerly along said east line to the shoreline of the Columbia River. Thence continuing northerly on a northerly extension of said east line to an intersection with the Douglas County Boundary and the END OF THIS DESCRIPTION.

Area B (19th Street Wellfield)- Commencing at the intersection of the Douglas County Boundary with a westerly extension of the south line of Government Lot 9 in Section 34, Township 23 North, Range 20 East, W.M., said point being the TRUE POINT OF BEGINNING FOR THIS DESCRIPTION. Thence easterly along said westerly extension to the shoreline of the Columbia River. Thence continuing easterly along the south line of said Government Lot 9 to the southeast corner of said Section 34. Thence easterly along the south line of Section 35, Township 23 North, Range 20 East, W.M. to an intersection with a southerly extension of the easterly line of Lot 56, East Wenatchee

Land Company's (EWLC) Plat of Sections 34 and 35, Township 23 North, Range 20 East, W.M. Thence northerly along said southerly extension to the northeast corner of said Lot 56. Thence westerly along the north line of said Lot 56 to the northwest corner of said Lot 56 and the southwest corner of Lot 41, said EWLC plat. Thence northerly along the west line of said Lot 41 and Lot 40, said EWLC plat to the northwest corner of said Lot 40. Thence westerly to the southeast corner of Lot 32, said EWLC plat. Thence westerly along the south line of said Lot 32 and Lot 31, said EWLC plat, to the southwest corner of said Lot 31. Thence westerly along a westerly extension of the south line of said Lot 31 to the shoreline of the Columbia River. Thence continuing westerly along said westerly extension to the Douglas County Boundary. Thence southeasterly along said Douglas County Boundary to the TRUE POINT OF BEGINNING.

Area C (Kentucky Street Wellfield)- Commencing at the intersection of the Douglas County Boundary with a southerly extension of the east line of Lot 364, East Wenatchee Land Company's (EWLC) Plat of Section 19, Township 22 North, Range 21 East, W.M., said point being the TRUE POINT OF BEGINNING FOR THIS DESCRIPTION. Thence northerly along said southerly extension to the shoreline of the Columbia River. Thence continuing northerly along the east line of said Lot 36 and the east line of Lots 29, 20, 13 and 4, said EWLC plat of Section 19, to the northeast corner of said Lot 4. Thence northerly to the southeast corner of the Southwest quarter of the Southwest quarter of the Southeast quarter of Section 18, Township 22 North, Range 21 East, W.M. Thence northerly along the east line of the West half of the Southwest quarter of the Southeast quarter of said Section 18 to the northeast corner of the Northwest quarter of the Southwest quarter of the Southeast quarter of said Section 18. Thence westerly along the north line of said Northwest quarter of the Southwest quarter of the Southeast quarter to the northwest corner of said section subdivision. Thence westerly to the northeast corner of Lot 1, Block 4, Plat of Eden Orchard Tracts. Thence westerly along the north line of said Lot 1 to the northwest corner of said Lot 1. Thence northerly to the southeast corner of Lot 3, Block 1, said Plat of Eden Orchard Tracts. Thence northerly along the east line of said Lot 3 to the northeast corner of said Lot 3. Thence westerly along the north line of said Lot 3 to the northwest corner of said Lot 3. Thence westerly to the northeast corner of Lot 4, Block 2, said Plat of Eden Orchard Tracts. Thence westerly along the north line of said Lot 4 and Lot 3, Block 2, said Plat of Eden Orchard Tracts, to the northwest corner of said Lot 3. Thence southerly along the west line of said Lot 3 to the southwest corner of said Lot 3. Thence westerly to the northeast corner of Lot 49, East Wenatchee Land Company's (EWLC) Plat of Section 13, Township 22 North, Range 20 East, W.M. Thence westerly along the north line of said Lot 49 and Lot 50, said EWLC plat of Section 13, to the northwest corner of said Lot 50. Thence southerly along the west line of said Lot 50 to the southwest corner of said Lot 50 and the northeast corner of Lot 62, said EWLC plat of Section 13. Thence westerly along the north line of said Lot 62 and the north line of Lot 61, said EWLC plat of Section 13, to the northwest corner of said Lot 61. Thence southerly along the west line of said Lot 61 to the southwest corner of said Lot 61. Thence southerly to the northwest corner of the Northeast quarter of Section 24, Township 22 North, Range 20 East, W.M. Thence southerly along the west line of said Northeast quarter to the shoreline of the Columbia

River. Thence continuing southerly along said west line to an intersection with the Douglas County Boundary. Thence southeasterly along said Douglas County Boundary to the TRUE POINT OF BEGINNING.

Bridgeport Area A (City of Bridgeport Wellhead Protection Area Well No. 1, 2, and 3) - Commencing at the intersection of the Douglas County boundary, the Columbia River and the west right of-way line of SR 17 in the Northeast one quarter of Section 23, Township 29 North, Range 25 East, WM. Douglas County; said point being the TRUE POINT OF BEGINNING FOR THIS DESCRIPTION. Thence southwesterly to the intersection of the south right-of-way line of SR 17 and SR 173. Thence westerly along the south right-of-way line of SR 173 to the intersection of 27 Street. Thence southwesterly along the centerline of 27 Street to the centerline of Monroe Avenue. Thence a southwesterly direction to the northeast corner of Lot 22 in the Cornehl Subdivision, Douglas County. Thence continuing in a westerly direction along to the intersection of the City of Bridgeport municipal boundary and section line between Sections 22 and 23 within Township 29 North, Range 25 East, WM. Thence continuing in a westerly direction along the Bridgeport municipal boundary approximately 1,400 feet to the sixteenth line of Section 22 in Township 29 North Range 25 East, WM. Thence continuing in a westerly direction to the intersection of Bridgeport municipal boundary and the centerpoint between Section 15 and 22 in Township 29 North, Range 25 East. WM. Thence running in a northerly direction to the intersection of the Bridgeport municipal boundary and the southwest corner of Lot 6 Browns First Addition in the northwest one quarter of Section 15 in Township 29 North, Range 25 East, WM. Thence continuing in a northerly direction to the intersection of the northwest property boundary of Lot 3 Browns First Addition and SR 173. Thence running in a northwesterly direction between Lots 2 and 3 to the centerline of Columbia Avenue and 3rd Street. Thence running in a northeasterly direction along the centerline of 3rd Street to the intersection of the Douglas County boundary and the Columbia River. Thence running in a southwesterly direction along the Columbia River to the true point of beginning.

5.040 Application requirements.
Development permit applications shall provide appropriate information on forms provided by the review authority. Additional special reports or information to identify potential impacts and mitigation measures to aquifer recharge areas may be required if deemed necessary by the review authority.

5.050 General standards.
The following minimum standards shall apply to all development activities occurring within designated aquifer recharge areas.

A. Development activities within an aquifer recharge area shall be designed, developed and operated in a manner that will not potentially degrade Douglas County groundwater resources.
B. Any changes in land use or type of new facilities where substances of moderate risk are used, stored, treated or handled; or which produce moderate risk waste shall be designed to prevent the release of any such materials into the groundwater.

C. The following uses and activities shall be prohibited within a designated aquifer recharge area:
   1. The conversion of heating systems to fuel oil or the installation of new fuel oil heating systems;
   2. Accumulation of junk materials;
   3. Hazardous substance treatment, storage and disposal facilities;
   4. The negligent transportation of hazardous substances materials;
   5. Solid waste and inert debris landfills, transfer stations, recycling facilities;
   6. Petroleum product pipelines;
   7. Class I, II, III, IV and V underground injection wells, except 5D2 storm drainage wells, 5G30 special drainage wells and 5R21 aquifer recharge wells as identified by the federal Safe Drinking Water Act;
   8. Mineral extraction.

5.060 Specific standards.
The following standards shall apply to the activity identified below, in addition to the general standards outlined in Section 5.050 of Appendix H.

A. Aboveground Storage Tanks or Vaults. Construction of an aboveground storage tank or vault, regardless of the storage capacity, for the storage of moderate substances or dangerous wastes as defined by WAC 173-303 may be authorized subject to the following standards:
   1. The design of the storage tank or vault shall include an impervious containment area enclosing or underlying the tank, which is large enough to contain one hundred twenty percent of the volume of the tank.
   2. Leak and release detection equipment shall be installed on all tanks and vaults.

B. Underground Storage Tanks and Vaults. Construction of an underground storage tank or vault, regardless of the storage capacity, for the storage of moderate substances or dangerous wastes as defined by WAC 173-303 may be authorized subject to the following standards:
   1. The design of the storage tank or vault shall include an impervious containment area enclosing or underlying the tank, which is large enough to contain one hundred twenty percent of the volume of the tank.
   2. All storage tanks and vaults shall either be cathodically protected against corrosion, constructed of noncorrosive materials, or steel clad with noncorrosive materials.
   3. The lining of all tanks and vaults shall be compatible to the substance to be stored.
   4. Leak and release detection equipment shall be installed on all tanks and vaults.

C. Stormwater Standards and Requirements for 5D2 "Stormwater Drainage Wells"; 5G30 "Special Drainage Wells" and 5R21 "Aquifer Recharge Wells" as Identified by the Federal Safe Drinking Water Act.
   1. Soil Infiltration.

a. Infiltration rates less than 2.4 inches per hour shall construct and maintain a pre-settling basin prior to discharge.
b. Infiltration rates greater than or equal to 2.4 inches per hour shall provide water quality treatment using best management practices (BMP) prior to discharging to unsaturated soils.

2. Detention facilities shall be designed to reduce peak discharge and improve water quality.
   a. Detention volumes are represented by the area between the predeveloped and developed hydrograph for the county design storm. The minimum required to be retained in the detention basin before outfall to a stormwater drywell shall not exceed a volume for a six-month twenty-four-hour storm.
   b. Inlet and outlets placements shall be placed as far apart as possible to minimize short circuiting of the facility.
   c. All detention basins shall have an emergency overflow so the facility will not be damaged if runoff is exceeded.
3. Vegetated filter areas are vegetated channels that allow overland flow which effectively treats stormwater runoff.
   a. Flow depths shall not exceed six inches in depth and the preferred slope is two to four percent. Check dams with a six to twelve inch vertical drop shall be installed for slopes of four to six percent.
   b. The minimum length shall not be less than two linear feet.
   c. The maximum cross section shall not exceed three horizontal units to one vertical unit (3:1).
   d. The site shall be improved with a vegetative cover suitable for the filter area. Vegetation shall be permanently maintained in a manner acceptable to the county engineer.
4. Operation and Maintenance.
   a. The inlet flow spreader shall be kept free of leaves, rocks and other debris.
   b. Biofilters planted in grasses shall be mowed regularly to promote growth and pollutant uptake.
   c. Biofilters shall be periodically checked and sediments shall be removed by hand whenever sedimentation covers vegetation or begins to reduce the biofilter's capacity. Damaged areas shall be reseeded.

D. Surface Impoundments. Surface impoundments, defined by Chapter 173-303 WAC, shall be designed by a professional engineer and constructed with an impermeable liner and other components as appropriate to prevent discharge of any material on the ground surface and/or into the groundwater system. Surface impoundments shall be designed and constructed in accordance with applicable governing law, and have a minimum excess capacity equal to one hundred twenty percent of the projected volume of liquid to be contained including intentional and unintentional stormwater capture.
E. Minor Developments. All minor developments, which are processed according to Chapter 7, subsection 7.3.020 of this Program, proposed within an aquifer recharge area shall comply with the following standards:

1. Connection to a public sanitary sewer system or an approved community sewer system shall be required. If connection to sanitary sewer is not feasible, on-site septic systems proposed on lots of record legally existing on the date this chapter was enacted are permitted provided:
   a. The public health officer has designated the aquifer recharge area as an "area of special concern" in accordance with WAC 246-272-21501.
   b. The type of on-site system is approved by the Chelan-Douglas Health District upon finding that the design of the system will not be detrimental to the community water supply.
   c. The property owner shall enter a no protest agreement with the Douglas County Sewer District, or other sanitary sewer provider as appropriate to the property location, agreeing to not protest the formation of a local improvement district for the extension of sanitary sewer. This agreement shall be recorded with the Douglas County Auditor.
2. The connection to an approved public water service shall be required.

F. Major Developments. All major developments processed according to Chapter 7, subsection 7.3.030 or 7.3.040 of this Program authorized within an aquifer recharge area shall comply with the following minimum standards:
   1. Connection to a public sanitary sewer system or an approved community sewer system shall be required unless the public health officer has designated the aquifer recharge area as an "area of special concern" in accordance with WAC 246-272-21501.
   2. Connection to an approved public water system shall be required.
   3. All existing wells located on the subject property shall either be properly abandoned in accordance with the requirements of the Chelan-Douglas Health District and the Department of Ecology or designated for irrigation purposes only. If an existing well is designated for irrigation purposes, then the following shall apply:
      a. Evidence of a water right issued by the State of Washington for the use of the well shall be presented to the review authority. An application for a water right is not acceptable evidence of an actual right to appropriate water.
      b. Certification from the public health officer stating that the well is properly constructed and sealed to prevent any contaminants from entering the wellhead shall be submitted to the review authority.
   4. Stormwater detention and retention facilities shall be designed using best available science and management practices to separate chemical and biological pollutants from the water prior to infiltration. The use of injection wells is prohibited in accordance with Section 5.050(C) of Appendix H.
   5. An analysis shall be conducted to assess the impact to groundwater quality from the potential of nitrate loading to the groundwater.
   6. Areas highly susceptible of transporting contaminants to the groundwater (i.e., natural drainages, springs, wetlands, etc.), as determined by the review authority, shall be designated as open space. All impervious surfaces shall maintain a fifteen foot setback from areas identified as being highly susceptible and no amount of stormwater runoff shall be directed towards the susceptible area(s).

G. Parks, Schools and Recreation Facilities. Fertilizer and pesticide management practices of schools, parks, other recreation facilities and similar uses shall use best management practices as prescribed by the Washington State University Cooperative Extension Services.

H. All major and minor developments shall have an informational note placed on the face of plat stating "This subdivision is located within an aquifer recharge area. Best management practices shall be used for the containment of stormwater and the application of pesticides and fertilizers."

Chapter 6-- Flood Damage Prevention

6.010 Purpose and objectives.

A. It is the purpose of this chapter to promote the public health, safety, and general welfare, comply with applicable state law and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:
   1. Protect human life and health;
   2. Minimize expenditure of public money and costly flood control projects;
   3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
   4. Minimize prolonged business interruptions;
   5. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, roads and bridges located in areas of flood hazard;
   6. Help maintain a stable tax base by providing for the sound use and development in areas of flood hazard so as to minimize future flood blight areas;
   7. Provide a means by which potential purchasers of property can determine if that property is in an area of flood hazard; and
   8. Ensure that those who occupy the areas of flood hazard assume responsibility for their actions.

B. Methods of Reducing Flood Losses. In order to accomplish its purposes, 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 that 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 natural protective barriers, which help accommodate or channel floodwaters;
   4. Controlling filling, grading, dredging, and other development, which may increase flood damage; and
   5. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

6.020 Definitions.

Words, terms and phrases used in this chapter are defined in Chapter 8 Definitions, of this Program and supplemented herein. Unless specifically defined, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter it's most reasonable application.

A. "Area of shallow flooding" means a designated AO, or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding.

B. “Area of special flood hazard” means the land in the floodplain subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letter A.

C. “Basement” means any area of a building or structure having a floor that is subgrade, or below ground level, on all sides.

D. “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, convalescent homes, hospitals, police facilities, fire protection facilities, emergency response facilities, and installations which produce, use or store hazardous materials and/or hazardous waste.

E. “Elevated building” means, for insurance purposes, a nonbasement building which has its lowest elevated floor raised aboveground level by foundation walls, shear walls, post, piers, pilings, or columns.

F. “Existing manufactured home park or subdivision” means a manufactured home park 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 before July 13, 1987.

G. “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).

H. “Lowest floor” means the lowest floor or 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 found at Section 6.050(B)(1)(b) of Appendix H.

I. “New construction” means structures for which the “start of construction” commenced on or after the effective date of the requirements established in this chapter.

J. “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 July 13, 1987.

K. “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 the one hundred eighty 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 as clearing, grading and filling; nor does it include the installation of roads and/or walkways; nor does it include excavation for a basement, footings, piers, or foundation 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.

L. “Structure” means a walled and roofed building including a gas or liquid storage tank or manufactured home that is principally aboveground.

M. “Substantial damage” means damage of any origin, including intentional and unintentional demolition, sustained by a structure whereby the cost of restoring the structure exceeds fifty percent of its value before damage as determined by using the most recent ICBO construction tables.

N. “Substantial Improvement” means:
   1. Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent of the value of the structure, as determined by using the most recent ICBO construction tables, either:
      a. Before the improvement or repair is started, or
      b. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this 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 dimension of the structure.
   2. The term substantial improvement does not, however, include either:
      a. Any project for the improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions; or
      b. Any alteration of a structure listed on the national register of historic places or a state inventory of historic places.

6.030 General provisions.

A. Lands to Which This Chapter Applies. This chapter shall apply to all flood hazard areas within the unincorporated areas of the county within shoreline jurisdiction.

B. Basis for Establishing the Areas of Flood Hazard. The areas of flood hazard identified by the federal insurance administration in a scientific and engineering

report entitled “The Flood Insurance Study for the Unincorporated Areas” dated July 17, 1978, and as revised on May 17, 1982, with accompanying flood insurance rate maps is adopted by reference and declared to be a part of this chapter. The flood insurance study is on file at the offices of the Douglas County Department of Transportation and Land Services. Flood hazard areas also include those areas not designated in the flood insurance study but that have a historical pattern of flooding and mudslides. The best available information for flood hazard area identification as outlined in Section 6.040(D)(2) of Appendix H shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under that section.

C. Reference Datum. Certifications of the elevations of sites, structures and base flood levels shall use NAVD 1988 for the reference datum.

D. Compliance. 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.

E. Abrogation and Greater Restrictions. This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions, however, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

F. 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 board of commissioners and the review authority; and
   3. Deemed neither to limit nor repeal any other power.

G. 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. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of flood hazard or uses permitted in such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the county, any officer or employee thereof, for any flood damages that result from reliance on this chapter, any administrative decision lawfully made thereunder, or unauthorized actions by others.

6.040 Administration.

A. Establishment of Development Permit. A development permit shall be obtained before construction or development begins within any area of flood hazard established in Section 6.030(B) of Appendix H. The permit shall be for all buildings and structures including manufactured homes, as defined in Chapter 8 Definitions, of this Program and Section 6.020 of Appendix H, and for all other development,

including fill and other activities, also defined in Chapter 8 Definitions, of this Program and Section 6.020 of Appendix H. Depending upon the nature of the development, the proposal may also require review and approval of shoreline permits as specified by this Program.

B. Application for Development Permit. Application for a development permit shall be made on forms furnished by the review authority. The information to be submitted with the application shall be submitted in addition to that information necessary to obtain other permits, as well as for those developments and substantial improvements which require no other permit approvals and may include, but not be limited to:
   1. The nature, location, dimensions, and elevations of the project site;
   2. Typical cross sections disclosing both existing ground elevations, proposed ground elevations, height of existing structures, and height of proposed structures;
   3. Proposed land contours, where appropriate, if development involves grading, filling, cutting, or other alterations of land contours. When required, contours shall be at two-foot intervals for land with a slope of ten percent or less and five-foot intervals for land with a slope greater than ten percent;
   4. Dimensions and locations of existing structures to be maintained;
   5. Dimensions and locations of proposed structures;
   6. The source, composition and volume of fill materials;
   7. The composition and volume of any excavated materials and the identification of the proposed disposal site;
   8. The location of existing and proposed utilities such as water, sanitary sewer, storm water drainage, septic tanks and drainfields, gas and electricity;
   9. The elevation in relation to mean sea level, of the lowest floor (including basement) of all structures as certified by an engineer, surveyor or architect;
   10. The elevation in relation to mean sea level to which any structure has been flood proofed as certified by an engineer, surveyor or architect;
   11. Certification by an engineer or architect that the flood proofing methods for any nonresidential structure meet the flood proofing criteria in Section 6.050(B)(2) of Appendix H;
   12. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development; and
   13. Certification by an engineer demonstrating that any alteration or encroachments shall not result in any increase in flood levels during the occurrence of a base flood discharge.

C. Designation of the Review Authority. The Administrator is appointed to implement this chapter by granting or denying development permit applications in accordance with its provisions.

D. Duties and Responsibilities of the Review Authority. Duties of the review authority shall include, but not be limited to:
   1. Permit Review.

a. Review all development permits to determine the permit requirements of this chapter have been satisfied;
b. Refer development permit applications to federal, state, or local governmental agencies as appropriate in order for those agencies to determine applicability of their permit requirements to the development and enable them to contact the applicant directly regarding those requirements;
c. 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 Section 6.050(D)(1) of Appendix H are met.

2. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 6.030(B) of Appendix H, the review authority may obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Section 6.050(B) and (D) of Appendix H.
3. Information to be Obtained and Maintained.
   a. Where base flood elevation data is provided through the flood insurance study or required as in Section 6.040(D)(2) of Appendix H, obtain and record the certifications of the actual elevation (in relation to mean sea level) of the base flood elevation and the lowest habitable floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
   b. For all new or substantially improved flood proofed structures:
      1) Maintain the certifications of the actual elevation (in relation to mean sea level); and
      2) Maintain the flood proofing certifications required in section 6.040(B)(11) of Appendix H.
4. Alteration of Watercourses.
   a. Notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the federal insurance administration; and
   b. Require that maintenance be provided within the altered or relocated portion of the watercourse so that the flood-carrying capacity is not diminished.
5. Interpretation of FIRM Boundaries. Make interpretations where needed, as to exact location of the boundaries of the areas of flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions).

6.045 Variance procedure.

A. The Douglas County Hearing Examiner shall hear and decide requests for variances from the requirements of this chapter and appeals of decisions made after full administrative review (Subsection 7.3.030 of Chapter 7 of this Program).

B. There shall be no administrative appeal of a decision of the hearing examiner. An appeal of a decision of the hearing examiner shall be timely filed as a judicial appeal in the superior court in accordance with Section 6.15 of this Program.

C. The hearing examiner shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and the following:
   1. The danger that materials may be swept onto other lands to the injury of others;
   2. The danger to life and property due to flooding or erosion damage;
   3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
   4. The importance of the services provided by the proposed facility to the community;
   5. The necessity to the facility of a waterfront location, where applicable;
   6. The availability of alternative locations for the proposed use that are not subject to flooding or erosion damage;
   7. The compatibility of the proposed use with existing and anticipated development;
   8. The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
   9. The safety of access to the property in times of flood for ordinary and emergency vehicles;
   10. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and
   11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

D. Upon consideration of the factors of 6.045 C of Appendix H and the purposes of this chapter, the hearing examiner may attach such conditions to the granting of variances as deemed necessary to further the purposes of this chapter.

E. The review authority, or his/her designee, shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

F. Criteria for variances:
   1. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, provided that items 1 through 11 in 6.045 C of Appendix H have been fully considered. As the lot size increases the technical justification required for issuing the variance increases.
   2. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in this section.
   3. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
   4. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

5. Variances shall only be issued upon:
   a. A showing of good and sufficient cause;
   b. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
   c. 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 as identified in Section 6.045 C of Appendix H or conflict with existing local laws or ordinances.
6. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece or property; they are not personal in nature and 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 the flood elevations should be quite rare.
7. 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 except Section 6.045 F.1. of Appendix H, and otherwise complies with Section 6.050 A.1 of Appendix H (anchoring) and Section 6.050 A.2 of Appendix H (construction materials and methods).
8. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

6.050 Provisions for flood hazard reduction.

A. General Standards. In all areas of flood hazard the following standards are required:
   1. Anchoring.
      a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
      b. All manufactured homes must likewise 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 (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).
   2. Construction Materials and Methods.
      a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
      b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
      c. 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.

3. Utilities.
   a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
   b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and
   c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
4. Subdivisions, short subdivisions and binding site plans.
   a. All subdivisions, short subdivisions and binding site plans shall be consistent with the need to minimize flood damage;
   b. All subdivisions, short subdivisions and binding site plans shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
   c. All subdivisions, short subdivisions and binding site plans shall have adequate drainage provided to reduce exposure to flood damage;
   d. The base flood elevation shall be disclosed on the face of a final plat, final short plat or final binding site plan in a manner specified by the review authority. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated by the applicant for a subdivision, short subdivision, binding site plan or other proposed development; and
   e. A disclosure statement shall be placed on the face of final plats, final short plats and final binding site plans advising property owners and potential purchasers of the potential flood hazard on the property, and that certain activities are subject to compliance with this chapter and other applicable provisions of this Program.
5. Review of Building Permits. Where elevation data is not available, either through the flood insurance study or from another authoritative source (see Section 6.040(D)(2) of Appendix H), 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 certification by an engineer and use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

B. Specific Standards. In all areas of flood hazard where base flood elevation data has been provided as set forth in Section 6.030(B) of Appendix H or Section 6.040(D)(2) of Appendix H, the following provisions are required:
   1. Residential Construction.
      a. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above one foot higher than the base flood elevation.

b. 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 be certified by an engineer or architect and must meet or exceed the following minimum criteria:
   1) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;
   2) The bottom of all openings shall be no higher than one foot above grade;
   3) Openings may be equipped with screens, louvers, or other coverings or devices, provided, that they permit the automatic entry and exit of floodwaters.

2. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to or above one foot higher than the base flood elevation; or, together with attendant utility and sanitary facilities, shall:
   a. Be flood proofed so that below one foot above the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water;
   b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
   c. Be certified by an engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the review authority;
   d. Nonresidential structures that are elevated, not flood proofed, must meet the same standards for space below the lowest floor as described in Section 6.050(B)(1)(b) of Appendix H.
   e. Applicants that are flood proofing nonresidential buildings shall 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).
3. Manufactured Homes. All manufactured homes to be placed or substantially improved within Flood Zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above one foot higher than the base flood elevation and be securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement in accordance with the provisions of Section 6.050(A)(1)(b) of Appendix H.

C. Recreational Vehicles. Recreational vehicles placed on sites within Flood Zones A, A1-30, and AE shall be on the site for fewer than one hundred eighty consecutive days unless parked at an occupied single family residence, be fully licensed and ready for highway use, is on its wheels or a jacking system, is attached to the site

only by quick disconnect type utility and security systems, and has no permanently attached additions.

D. Floodways. Located within areas of flood hazard established in Section 6.030(B) of Appendix H are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters, which carry debris, potential projectiles, and erosion potential, the following provisions apply:
   1. Encroachments and obstructions, including fill, new construction, substantial improvements, and other uses are prohibited unless certification by a engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge;
   2. If subdivision 1 of this subsection D is satisfied, all new nonresidential construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this chapter.
   3. Construction or reconstruction of residential structures is prohibited within designated floodways except for repairs or improvements to a structure which do not increase the ground floor areas, the value of which in any twelve month period does not exceed fifty percent of the value of the structure, as determined by using the current ICBO construction tables either:
      a. Before the repair or improvement is started, or
      b. If the structure has been damaged by any means or demolished to any extent, and is being restored, before damage occurred.

      Not included in the fifty percent value standard are repairs or improvements to buildings and structures to comply with existing health, sanitary, or safety codes that have been identified by the review authority and that are the minimum necessary to assure safe living conditions or repairs or improvements to buildings or structures identified as historic places.

E. Grading and Filling. No fill, including fill for roads, and levees, grading; or excavating that unduly affects the efficiency or the capacity of the flood channel or floodway, or unduly decreases flood storage or increases flood heights, shall be permitted. Any proposed fill to be deposited in a flood hazard area shall not be contrary to the need for storage of floodwater nor shall the amount of fill be greater than is necessary to achieve the purpose for which the fill is intended. Fill materials shall be clean with a minimal potential for degrading water quality. All fill materials shall be protected against erosion with retaining walls or other mechanisms to deter erosion. If vegetative cover is chosen, the side slopes of the fill should not exceed two units of horizontal distance to one unit of vertical distance. All grading and fill activities shall be designed and certified by an engineer to conform to all applicable provisions of this Program.

F. Shallow Flood Areas (AO Zones) with Depth Designations.
   1. Shallow flooding areas appear on the FIRM as AO zones with depth designations. The base flood depth in these zones range from one to three feet where a clearly defined channel does not exist, or where the path of flooding is

unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

a. New construction and substantial improvements of residential structures within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building, one foot or more above the depth number specified on the FIRM, and at least two feet if no depth number is specified.
b. New construction and substantial improvements of nonresidential structures within AO zones shall either:
    1) Have the lowest floor (including basement) elevated above the highest grade adjacent to the building site, to or above the depth number specified on the FIRM and at least two feet if no depth number is specified; or
    2) Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. An engineer or architect shall certify compliance as in Section 6.050(B)(2)(c) of Appendix H if this method is used;
c. Adequate drainage paths designed by an engineer shall be required around structures on slopes to guide floodwaters around and away from proposed structures.
d. Recreational vehicles placed on sites within an AO zone must either:
    1) Be on the site for fewer than one hundred eighty consecutive days, or
    2) Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
    3) Meet the requirements of Section 6.050 F of Appendix H and the elevation and anchoring requirements for manufactured homes.

2. Where hazardous velocities are noted on the FIRM, consideration shall be given to mitigating the effects of these velocities through proper design and construction techniques and methods.

G. Encroachments. The cumulative effort of any proposed development, where combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than one foot at any point as certified by an engineer.

6.060 Critical facilities.

Construction of new critical facilities shall be, to the extent possible, located outside the limits of a flood hazard area. Construction of new critical facilities shall be permissible within a flood hazard area if no alternative feasible site is available. Critical facilities constructed within a flood hazard area shall have the lowest floor elevated three feet or more above the level of the base flood at the site. Flood proofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation

shall be provided to all critical facilities to the extent possible. The review authority shall require design and construction certifications prepared by an engineer, architect or surveyor, as appropriate to the aspect of the development, to assure compliance with this section and other applicable provisions of this Program.