SHORELINE MASTER PROGRAM
CITY OF WOODLAND

EFFECTIVE AUGUST 29, 2016

CITATION

Parametrix and The Watershed Company. 2015.
Shoreline Master Program - City of Woodland.
Prepared by Parametrix and The Watershed Company.

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1. Introduction

1.1 Title

This document shall be known and may be cited as the City of Woodland (City) Shoreline Master Program (this Program).

1.2 Adoption Authority

This Program is adopted under the authority granted by the Shoreline Management Act (SMA, or the Act) of 1971 (Revised Code of Washington [RCW] 90.58) and Chapter 173-26 of the Washington Administrative Code (WAC) as amended.

1.3 Purpose and Intent

A. To guide the future use and development of shorelines in the City in a positive, effective, and equitable manner consistent with the Act;

B. 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 the City's shorelines; and

C. To experience no net loss of shoreline ecological functions and processes and to plan for restoring shorelines that have been impaired or degraded by adopting and fostering the following policy contained in RCW 90.58.020, Legislative Findings 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. . . .

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 of the water."

1.4 Governing Principles

A. The goals, policies, and regulations of this Program are intended to be consistent with the Washington State (State) shoreline master program guidelines in Chapter 173-26 of the WAC. The goals, policies, and regulations are informed by the Governing Principles in WAC 173-26-186 and the policy statements of RCW 90.58.020.

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

C. Regulatory or administrative actions contained herein in Chapter 8, Shoreline Administration and Permits, must not unconstitutionally infringe on private property rights or result in an unconstitutional taking of private property.

D. The regulatory provisions of this Program are limited to shorelines of the state, whereas the planning functions of this Program extend beyond the designated shoreline boundaries, given that activities outside the shoreline jurisdiction may affect shorelines of the state.

E. The policies and regulations established by this Program must be integrated and coordinated with those policies and rules of the Woodland Comprehensive Plan and development regulations adopted under the Growth Management Act (RCW 36.70A) and RCW 34.05.328, Significant Legislative Rules.

F. Protecting the shoreline environment is an essential statewide policy goal, consistent with other policy goals. This Program protects shoreline ecosystems from such impairments in the following ways:

    1. By using a process that identifies, inventories, and ensures meaningful understanding of current and potential ecological functions provided by shorelines;

    2. 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 WAC 173-26-201(2)(e), Environmental impact mitigation;

3. By including policies and regulations to address cumulative impacts and by fairly allocating the burden of addressing such impacts among development opportunities; and

4. By including regulations and regulatory incentives designed to protect shoreline ecological functions, and to restore impaired ecological functions where such functions have been identified.

1.5 Liberal Construction

As provided for in RCW 90.58.900, Liberal Construction, the Act is exempted from the rule of strict construction; the Act and this Program shall therefore 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.

1.6 Severability

Should any Section, Subsection, paragraph, sentence, clause or phrase of this Program or its application to any person or situation be declared unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining portions of this ordinance or its application to any other person or situation. The City Council of the City of Woodland (City Council) hereby declares that it would have adopted this ordinance and each Section, Subsection sentence, clause, phrase or portion thereof irrespective of the fact that any one or more Sections, Subsections, clauses, phrases or portions be declared invalid or unconstitutional.

1.7 Relationship to Other Plans and Regulations

A. Proponents of shoreline use or development shall comply with all applicable laws prior to commencing any shoreline use or development.

B. 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.

C. Uses, developments, and activities regulated by this Program may also be subject to the provisions of the following: the City of Woodland Comprehensive Plan; the Washington State Environmental Policy Act (SEPA; RCW 43.21C and WAC 197-11); other provisions of Woodland Municipal Code (WMC), specifically WMC Title 17 Zoning; and various other provisions of local, state, and federal law, as may be amended.

D. In the event this Program conflicts with other applicable City policies or regulations, they must be interpreted and construed so that all the language used is given effect, with no portion rendered meaningless or superfluous, and unless otherwise stated,

the provisions that provide the most protection to shoreline ecological processes and functions shall prevail.

E. Projects and plans in shoreline jurisdiction that have been previously approved through local and state reviews in accordance with the Shoreline Master Program in effect at the time are subject the provisions in place at the time of their approval and shall remain in full force and effects until such time that they expire or are expressly changed by the City and Ecology as appropriate. Major changes that were not included in the originally approved permit will be subject to the policies and regulations of this Program.

1.8 Effective Date

This Program and all amendments thereto shall take effect fourteen (14) days after written notice of approval from the Washington State Department of Ecology (Ecology) and shall apply to new applications submitted on or after that date and to applications that have not been determined to be fully complete by that date.

2. Definitions

The following definitions shall be used to guide the implementation of this Program. In the event of any question about the use, applicability, or interpretation of these terms, the City shall make an administrative determination in consultation with Ecology, as appropriate.

Accessory - A use, building or structure that is subordinate to and the use of which is incidental to that of the main activity, structure, building or use on the same lot or parcel. If an accessory structure is attached to the main building by a common wall or roof, such accessory building shall be considered a main part of the main building.

Accretion - The growth of land by the addition of material transported by wind and/or water.

Act - The Washington State Shoreline Management Act of 1971, as amended, Chapter RCW 90.58.

Act (for the purposes of Appendix B, Critical Areas Regulations) - The Growth Management Act (GMA).

Adjacent lands - Lands adjacent to the shorelines of the state (not within shoreline jurisdiction) (RCW 90.58.340).

Adjacent to - (for the purposes of Appendix B, Critical Areas Regulations) Immediately adjoining (in contact with the boundary of the subject area) or within a distance that is less than that needed to separate activities from critical areas to ensure protection of the function and values of the critical areas. Additionally, any activity or development located:

1. On a site immediately adjoining a critical area;

2. A distance equal to or less than the required critical area buffer or zoning and building setback requirements;

3. A distance equal to or less than one-half mile (2,640 feet) from a bald eagle's nest;

4. A distance equal to or less than 300 feet upland from a stream, wetland or waterbody;

5. Bordering or within the floodway, floodplain, or channel migration zone; or

6. A distance equal to or less than 200 feet from a critical aquifer recharge area.

Agriculture or **agricultural activities** - 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 (plowed and tilled, but left unseeded); allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities

to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation.

Agricultural equipment and **agricultural facilities** - Includes, but is not limited to:

1. 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;

2. Corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands;

3. Farm residences and associated equipment, lands, and facilities; and

4. Roadside stands and on-farm markets for marketing fruit or vegetables.

Agricultural land - Those specific land areas on which agricultural activities are conducted as of the date of adoption of a local master program pursuant to these guidelines 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.

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

Agricultural uses (existing and ongoing) (for purposes of implementing Appendix B) - Farming, horticulture, aquaculture, irrigation or grazing of animals, and those activities involved in the production of crops or livestock, for example:

1. The operation and maintenance of farm and stock ponds or drainage ditches;

2. The operation and maintenance of all irrigation systems and their components;

3. Changes between agricultural activities (i.e., crops to grazing, farming to fallow);

4. Fencing activity;

5. Normal maintenance, repair, or operation of existing agricultural-related structures, facilities, or improved areas;

6. Preparation of the land for agricultural uses.

Alteration - A human action which results in a physical change to the existing condition of land or improvements including but not limited to: clearing vegetation, filling and grading and construction of structures or facilities including impervious surfaces.

Amendment - A revision, update, addition, deletion, and/or reenactment to an existing shoreline master program.

Anadromous fish - Any fish that spans and rears in freshwater and matures in the marine environment.

Applicant - Any person or business entity, which applies for a development proposal, permit, or approval, who is the owner of the land on which the proposed activity would be located, a contract purchaser, or authorized agent of such a person.

Appurtenance - A structure or development customarily incidental to and located upon the same lot occupied by the main use or building.

Appurtenance, residential - A structure or development incidental to a single-family residence.

Aquaculture - The culture or farming of fish, shellfish, or other aquatic plants and animals. Aquaculture does not include the harvest of wild geoduck associated with the state managed wildstock geoduck fishery.

Aquifer - A geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

Aquifer recharge area - Areas which, due to the presence of certain soils, geology, and surface water, act to recharge groundwater by percolation. (Also critical aquifer recharge area.)

Associated wetlands - Those wetlands that are in proximity to and either influence or are influenced by tidal waters or a lake, river or stream subject to the Shoreline Management Act.

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

Base flood - A flood event having a one percent chance of being equaled or exceeded in any given year, also referred to as the one-hundred-year flood.

Berm - A linear mound or series of mounds of earth, sand or gravel generally paralleling the water at or landward of the OHWM. Also a linear mound used to screen an adjacent activity, such as a parking lot, from transmitting excess noise and glare.

Best management practices (BMP) - The schedules of activities, prohibitions of practices, maintenance procedures, and structural or managerial practices approved by Ecology that, when used singly or in combination, control, prevent or reduce the release of pollutants and other adverse impacts to waters of the State.

Bioengineering - The use of biological elements, such as the planting of vegetation, often in conjunction with engineered systems, to provide a structural shoreline stabilization measure with minimal negative impact to the shoreline ecology.

Boating facility for the purposes of this Program - Any public or private facility for mooring, storing, or transfer of materials from vessels on the water, such as docks and piers, including on-land related facilities such as approaches and ramps, and includes any private and publicly accessible launch sites or facilities. A boating facility does not include on-land accessory facilities such as parking or storage. Docks, buoys, and marine railways that are accessory to four (4) or fewer single-family residences are also not boating facilities.

Breakwater - A structure aligned parallel to shore, sometimes shore-connected, that provides protection from waves.

Buffer - An area adjacent to a critical area that functions to avoid loss or diminution of the ecologic functions and values of the critical area. Specifically, a buffer may:

1. Preserve the ecologic functions and values of a system including, but not limited to, providing microclimate conditions, shading, input of organic material, and sediments; room for variation and changes in natural wetland, river, or stream characteristics; providing for habitat for lifecycle stages of species normally associated with the resource;

2. Physically isolate a critical area such as a wetland, river, or stream from potential disturbance and harmful intrusion from surrounding uses using distance, height, visual, and/or sound barriers, and generally including dense native vegetation, but also may include human-made features such as fences and other barriers; and

3. Act to minimize risk to the public from loss of life, well-being, or property damage resulting from natural disasters such as from landslide or flooding.

Building height in Shoreline Management Act jurisdiction only - The vertical distance between average grade and the highest part of the coping of a flat roof, or the deck line of a mansard roof, or the average height of the highest gable of a pitched or hipped roof. The height of a stepped or terraced building is the maximum height of any segment of the building. 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. Temporary construction equipment is excluded in this calculation.

Bulkhead - A structure of timber, concrete, steel, rock, or similar substance located parallel to the shore, which has as its primary purpose to contain and prevent the loss of soil by erosion, wave, or current action.

Channel migration zone (CMZ) - 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. The "channel migration zone" does not include areas that are separated from the active river channel by legally existing artificial structures or channel constraints that limit channel movement. Examples of such structures and constraints include transportation facilities built above or constructed to remain intact through a 100-year flood (such as an arterial road, public road serving as a sole access route, or, a state or federal highway or a railroad), levees, and other lawfully established structures that are significant investments likely to be repaired and maintained even if damaged.

City - The City of Woodland, Washington.

Clearing - The destruction or removal of vegetation from a site by physical, mechanical, chemical or other means. This does not include landscape maintenance or pruning consistent with accepted horticultural practices, which does not impair the health or survival of the trees or native vegetation.

Commercial - A business use or activity at a scale greater than a home occupancy business involving retail or wholesale marketing of goods and services. Commercial uses are further defined in CMC Title 18 Zoning.

Commercial fishing - The activity of capturing fish and other seafood under a commercial license.

Compensatory mitigation - Replacing project-induced losses or impacts to a critical area.

Conditional use - A use, development, or substantial development that is classified as a conditional use, or is not classified within this Program, and requires a Shoreline Conditional Use Permit (SCUP) pursuant to WAC 173-27-160.

Conservation easement - An easement on a particular piece of real property that restricts or eliminates the building of structures or other improvements and activities that would result in encroachment onto a designated buffer.

Covered moorage - A roofed structure over a boat, either with or without walls and typically supported by posts mounted on the dock.

Critical aquifer recharge area - Areas with a critical recharging effect on aquifers used for potable water as defined by the Washington State Growth Management Act and as designated in Appendix B, of this Program.

Critical areas - Those areas and ecosystems as defined under RCW 36.70A and this program, which include:

1. Wetlands;

2. Areas with a critical recharging effect on aquifers used for potable waters;

3. Fish and wildlife habitat conservation areas;

4. Frequently flooded areas; and

5. Geologically hazardous areas.

Critical habitat - Specific geographical areas that possess physical or biological features that are essential to the conservation of federally listed species. These designated areas may require special management considerations or protection.

Cumulative impacts or effects - The results of incremental actions when added to past, present, and reasonably foreseeable future actions. Cumulative impacts can be deemed substantial and subject to mitigation conditions even though they may consist of individual actions having relatively minor impacts.

Cumulative impact or effect - Under National Environmental Policy Act (NEPA) regulations, the incremental environmental impact or effect of the action together with the impacts of past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions (40 CFR 1508.7). Under Endangered Species Act Section 7 regulations, the effects of future state or private activities not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation (50 CFR 402.02).

Date of filing - The date upon actual receipt by Ecology of the City's decision except as provided for below:

1. With regard to a permit for a variance or a conditional use, "date of filing" means the date the decision of Ecology is transmitted by Ecology to the City.

2. When the City simultaneously transmits to Ecology its decision on a shoreline permit with its approval of either a shoreline conditional use or variance, or both, "date of filing" has the same meaning as defined in 1.

Degraded - To have suffered a decrease in naturally occurring functions and values due to activities undertaken or managed by persons on or off a site.

Department - The Woodland Department of Public Works.

Developable area - A site or portion of a site that may be utilized as the location of development, in accordance with the rules of this Chapter.

Development - An activity 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 that may interfere with the normal public use of the surface of the waters overlying lands subject to the Shorelines Management Act of 1971 at any state of water level (RCW 90.58.030(3d)). See also Substantial Development.

Dike - An artificial embankment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.

Director - The City of Woodland director of public works, or designee.

Dock - A structure built over or floating upon the water and used as a landing place for boats and other marine transport, fishing, swimming, and other recreational uses. A dock typically consists of the combination of one or more of the following elements: pier, ramp, and/or float.

Dredging - The removal of earth, sand, gravel, silt, or debris from below the ordinary high water mark of any river, stream, pond, lake, or other water body and beneath the area of seasonal saturation of any wetland.

Ecological functions or **shoreline functions** - 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.

Ecosystem-wide processes - 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.

Edge - The outer edge of a stream's bank width or, where applicable, the OHWM.

Enhancement - Alterations performed to improve the condition of an existing environmentally degraded area so that the functions provided are of a higher quality. Enhancements are to be distinguished from resource creation or restoration projects.

Erosion - The general process or the group of processes whereby the material of the earth's crust are loosened, dissolved, or worn away, and simultaneously moved from one place to another, by natural forces, that include weathering, solution, corrosion, and transportation, but usually exclude mass wasting (American Geological Institute, 1998).

Erosion hazard areas - See "geologic hazard areas."

ESA - The Endangered Species Act, specifically Section (4)(d), Protective Regulations.

Essential public facilities - Are broadly defined as being those types of facilities that are typically difficult to site. This definition includes but is not limited to, airports, state education facilities, state and regional transportation facilities, state and local correctional

facilities, solid waste handling facilities, medical care facilities, mental health facilities, and group homes (RCW 36.70A.200(1)).

Excavation - The mechanical removal or displacement of earth material.

Exempt/Exemption - Developments that are 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, as hereafter amended, that are not required to obtain a shoreline substantial development permit (SSDP), but which must otherwise comply with applicable provisions of the act and this Program.

Existing and ongoing agricultural activities - See "agricultural activities."

Fair market value - 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 (WAC 173-27-030(8)).

Feasible - That an action, such as a development project, mitigation, or restoration requirement, meets all of the following conditions:

1. 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;

2. The action provides a reasonable likelihood of achieving its intended purpose; and

3. 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. In determining an action's infeasibility, the City may weigh the action's relative public costs and public benefits, considered in short- and long-term timeframes.

Fill - 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.

Fill material - A deposit of earth or other natural or man-made material placed by artificial means.

Fish - As used in these regulations, refers to resident game fish; anadromous fish; and specified salmonids listed as endangered or threatened under the Federal Endangered Species Act, Section (4)(d), Protective Regulations, or the Washington State List of Threatened and Endangered Species.

Fish and wildlife habitat conservation areas - Includes the following areas:

1. Areas with which endangered, threatened and sensitive species have a primary association;

2. Habitats and species of local importance;

3. Commercial and recreational shellfish areas;

4. Smelt spawning areas;

5. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;

6. Water of the state (refer to WAC 222-16-030);

7. Lakes, ponds, streams and rivers planted with game fish by a governmental or tribal entity; and

8. State natural area preserves and natural resource conservation areas.

Float - An anchored (not directly to the shore) floating platform that is free to rise and fall with water levels and is used for water-dependent recreational activities such as boat mooring, swimming or diving. Floats may stand alone with no over-water connection to shore or may be located at the end of a pier or ramp.

Floating home - A single-family dwelling unit constructed on a float, that is moored, anchored, or otherwise secured in waters, and is not a vessel, even though it may be capable of being towed. (Also see “houseboat”)

Flood or **flooding** - A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

Flood hazard reduction - Measures taken to reduce flood damage or hazards. Flood hazard reduction measures may consist of nonstructural or indirect measures, such as setbacks, land use controls, wetland restoration, dike removal, use relocation, bioengineering measures, and storm water management programs; and of structural measures, such as dikes, levees, and floodwalls intended to contain flow within the channel, channel realignment, and elevation of structures consistent with the National Flood Insurance Program.

Floodplain - Synonymous with one hundred-year floodplain and 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.

Flood protection elevation - The elevation that is one foot above the base flood elevation.

Floodway - The area, as identified in a master program, that either:

1. Has been established in federal emergency management agency flood insurance rate maps or floodway maps; or

2. 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.

Food web - The system of interlocking and interdependent food chains.

Forest practices - Any activity conducted on or directly related to forest land and relating to growing, harvesting, or processing timber. These activities include but are not limited to: road and trail construction, final and intermediate harvesting, precommercial thinning, reforestation, fertilization, prevention and suppression of disease and insects, salvage of trees, and brush control (WAC 222-16-010(21)).

Frequently flooded areas - Those areas of special flood hazard which are commonly identified as critical areas in local government development regulations.

Game fish - “Game fish,” as described in the Washington Game Code, spend their life cycle in freshwater. Steelhead, Sea-Run Cutthroat and Dolly Varden trout are anadromous game fish and should not be confused with resident game fish.

Geologically hazardous area - Areas that, because of their susceptibility to erosion, sliding, earthquake, or other geological events, may not be suited to siting commercial, residential, or industrial development due to health, safety or environmental standards. Types of geologically hazardous areas include erosion, landslide, seismic, mine, and volcanic.

Geologist - A person who has earned a degree in geology from an accredited college or university or a person who has equivalent educational training and has experience as a practicing geologist and who is state-licensed as a geologist.

Geotechnical assessment - An assessment prepared by a geologist or geotechnical engineer licensed with the state of Washington as a civil engineer, which evaluates the site conditions and the effects of a proposal and identifies mitigating measures necessary to insure that the risks associated with geologic hazards will be eliminated.

Geotechnical engineer - A practicing geotechnical engineer licensed as a professional civil engineer with the state of Washington with experience in landslide and slope stability evaluation.

Geotechnical report or **geotechnical analysis** - A scientific study or evaluation conducted by a qualified expert 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.

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

Groin - A barrier-type structure extending from the stream bank into a waterbody for the purpose of the protection of a shoreline and adjacent upland by influencing the movement of water and/or deposition of material.

Groundwater - That part of the subsurface water that is in the saturated zone all waters that exist beneath the land surface or beneath the bed of any stream, lake or reservoir, or other body of surface water within the boundaries of this state, including underground streams, from which wells, springs, and groundwater runoff are supplied, whatever may be the geological formation or structure in which such water stands or flows, percolates or otherwise moves.

Growth Management Act (GMA) - RCW 36.70A and as amended.

Guidelines - Those standards adopted by the Washington Department of Ecology to implement the policy of RCW 90.58 for regulation of use of the shorelines of the state prior to adoption of master programs. Such standards shall also provide criteria for local governments and Ecology in developing and amending master programs.

Habitat conservation areas - Areas designated as fish and wildlife habitat conservation areas.

Hazard tree - Dead or dying trees, dead parts of live trees, or unstable live trees (due to structural defects or other factors) that are within striking distance of people or. Hazard trees have the potential to cause property damage, personal injury or fatality in the event of a failure.

High intensity land use - Includes land uses which are associated with high levels of human disturbance or substantial wetland habitat impacts including, but not limited to, commercial, urban, industrial, and residential uses (more than one unit/acre).

Impervious surface - A hard surface area that prevents or retards the entry of water into the soil mantle as under natural conditions prior to development or that causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater.

In-kind compensation - To replace wetlands with substitute wetlands whose characteristics closely approximate those destroyed or degraded by a regulated activity.

Institutional - A use or development whose purpose is to serve or promote a government, educational, charitable, or religious organization or its mission. Examples include, but are not limited to: community centers, educational facilities, government offices, health care facilities, and religious facilities.

In-stream structure - 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.

Intermittent streams - A stream which flows only at certain times when it receives water from springs or from some other source, such as melting snow or rain.

Invasive - A nonnative plant or animal species that either:

1. Causes or may cause significant displacement in range, a reduction in abundance, or otherwise threatens, native species in their natural communities;

2. Threatens or may threaten natural resources or their use in the state;

3. Causes or may cause economic damage to commercial or recreational activities that are dependent upon state waters; or

Threatens or harms human health (RCW 77.08.010(28)).

Isolated wetlands - Those wetlands that are outside of and not contiguous to any one-hundred-year floodplain of a lake, river, or stream, and have no contiguous hydric soil or hydrophytic vegetation between the wetland and any surface water.

Lake - A naturally existing or artificially created body of standing water, including reservoirs, 20 acres or greater in size, which exists on a year-round basis and occurs in a depression of land or expanded part of a stream.

Landfill - A disposal facility or part of a facility at which solid waste is placed in or on land.

Landslide - Abrupt downslope movement of a mass of soil or rock.

Landslide hazard areas - Areas that are potentially subject to risk of mass movement due to a geologic landslide resulting from a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect (exposure), geologic structure, groundwater, or other factors.

Lot - A platted or unplatted parcel of land of record either unoccupied, occupied, or to be occupied by a principal use or structure together with such yards and open spaces.

Low-intensity land use - And includes land uses which are associated with low levels of human disturbance or low wetland habitat impacts and are compatible with the natural environment, including, but not limited to, forestry (cutting of trees only), unpaved trails, low-intensity open space and similar low-impact uses.

Marina - Any commercial or club-owned facility consisting of docks or piers serving five or more vessels or a shared moorage serving a subdivision serving 10 or more vessels.

Marine railway - Inclined tracks extending into the water so that a vessel can be hauled up on a cradle or platform.

May - The action is acceptable, provided it conforms to the provisions of this Chapter.

Merchantable Trees - Live trees, 6 inches in diameter at breast height (DBH) and larger, unless documentation of current, local market conditions are submitted and accepted by the local jurisdiction indicating non-marketability.

Mining - The removal of sand, gravel, soil, minerals, and other earth materials for commercial and other uses.

Mitigation - Actions designed to replace project-induced losses or impacts to shoreline resources, including, but not limited to, restoration, creation, or enhancement. Mitigation in jurisdictional shoreline areas should be sequenced in the following order:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;

2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

6. Monitoring the impact and taking appropriate corrective measures.

Mitigation, in-kind - Replacement of shoreline resources, such as wetlands or surface water systems with substitute wetlands or surface water systems whose characteristics and functions and values closely approximate those destroyed or degraded by a regulated activity.

Mitigation, out-of-kind - Replacement of shoreline resources, such as surface water systems or wetlands with substitute surface water systems or wetlands whose characteristics do not closely approximate those destroyed or degraded by a regulated activity.

Mitigation plan - A plan that outlines the activities that will be undertaken to alleviate project impacts. The plan generally contains: a site and project description; an environmental assessment of the functions and values of the site that will be impacted; a description of the proposed mitigation; the goals and objectives of the proposed mitigation; the performance standards against which success will be measured; monitoring of and reporting on the success of the mitigation; and a contingency plan in case of failure.

Mixed use within an area subject to the jurisdiction of the Shoreline Management Act - A combination of compatible uses within one development, in which water-oriented and non-water-oriented uses are included.

Moderate-intensity land use - Includes land uses that have a moderate level of disturbance and impact to wetlands including, but not limited to, residential (less than one unit/acre), paved trails, utility corridor or right-of-way and moderate-intensity open space (parks with biking, jogging, etc.).

Monitoring - Evaluating the impacts of development proposals on the biological, hydrologic and geologic elements of a system and assessing the performance of required mitigation measures. Monitoring is achieved through the collection and analysis of data by various methods for the purposes of understanding and documenting changes in natural ecosystems and features, including the gathering of baseline data.

Multiple use - A combination of compatible uses within one development, and may include commercial, multi-family, and recreation uses, among others.

Must - A mandate; the action is required.

Native vegetation - Plant species that are indigenous to the area and which reasonably could have been expected to naturally occur on the site. Native vegetation does not include noxious weeds.

Natural or **existing topography** - The topography of the lot, parcel, or tract of real property immediately prior to any site preparation or grading, including excavation or filling;

Nonconforming lot, **use**, or **structure** - A pre-existing parcel which was lawfully created prior to the effective date of this Program but does not meet minimum size or other dimensional requirements, a use which was legally established prior to the effective date of this Program, which would not be permitted as a new use in the area in which it is located under the terms of this Program, or a structure lawfully erected prior to the effective date of this Program or a site altered or improved which does not meet current standards for setbacks, buffers, vegetation conservation, landscaping, public access, screening, or other regulations for the area in which it is located due to changes in regulations since its establishment.

No net loss of ecological functions - The maintenance of existing ecological processes and functions.

1. No net loss of ecological functions on the level of the City - that the ecological processes and functions are maintained within a watershed or other functional catchment area. Regulations may result in localized cumulative impacts or loss of some localized ecological processes and functions, as long as the ecological processes and functions of the system are maintained. Maintenance of system ecological processes and functions may require compensating measures that offset localized degradation.

2. On a project basis - that permitted use or alteration of a site will not result in on-site or off-site deterioration of the existing condition of ecological functions that existed prior to initiation of use or alterations as a direct or indirect result of the project.

3. No net loss is achieved both through avoidance and minimization of adverse impacts as well as compensation for impacts that cannot be avoided. Compensation may include on-site or off-site mitigation of ecological functions to compensate for localized degradation.

Non-water-dependent use - Those uses which are not dependent on a waterfront location.

Non-water-oriented use - Those uses which are not water-dependent, water-related, or water-enjoyment.

Noxious weeds - Any plant which, when established, is highly destructive, competitive, or difficult to control. The county maintains a noxious weed list.

Off-site compensation - To replace wetlands away from the site on which a wetland has been impacted by a regulated activity.

On-site compensation - To replace wetlands on the site on which a wetland has been impacted by a regulated activity.

Open space - An area that is intended to provide light and air, view, use, or passage of persons or animals which is almost entirely unobstructed by buildings, paved areas, or other human-made structures, and is designed or preserved for environmental, habitat, scenic, or recreational purposes.

Ordinary high water mark (OHWM) - The mark on the shores of all waters 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 ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland; provided, that in any area where the ordinary high water line cannot be found the ordinary high water line adjoining saltwater shall be the line of mean higher high water and the ordinary high water line adjoining freshwater shall be the elevation of the mean annual flood.

Over-water structure - A structure or other construction located waterward of the Ordinary High Water Mark (OHWM) or a structure or other construction erected on piling above the surface of the water, or upon a float.

Permit - Any Shoreline Substantial Development Permit, Shoreline Variance, or Shoreline Conditional Use Permit, or revision authorized under the Act (RCW 90.58).

Pier - Docks and similar structures consisting of a fixed and/or floating platform extending from the shore over the water. This definition does not include overwater trails.

Pond(s) - A naturally existing or artificially created body of standing water under twenty (20) acres which exists on a year-round basis and occurs in a depression of land or expanded part of a stream.

Potentially hazardous substances - Hazardous materials as well as other materials if discharged or improperly disposed may present a risk to water resources.

Priority habitat - 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;
- Refugia habitat;
- Limited availability;

- High vulnerability to habitat alteration; or
- Unique or dependent species.

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 (such as, old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (such as a consolidated marine/estuarine shoreline, talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain priority and/or nonpriority fish and wildlife.

Priority species - 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.

1. 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.

2. 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.

3. 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.

4. Criterion 4. Species listed under the federal Endangered Species Act as either proposed, threatened, or endangered.

Provisions - Policies, regulations, standards, guideline criteria or shoreline environment designations.

Public access - Physical and/or visual approach to and along the shoreline available to the general public.

Public interest - 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 a use or development (WAC 173-27-030(14)).

Qualified professional - A person with experience, education, and/or professional degrees and training pertaining to the critical area in question as described for each critical area below. Qualified professionals will also possess experience with performing site evaluations, analyzing critical area functions and values, analyzing critical area impacts, and recommending critical area mitigation and restoration. The City shall require professionals to demonstrate the basis for qualifications and shall make final determination as to qualifications. Demonstration of qualifications may include, but not be limited to, professional certification(s) and/or recognition through publication of technical papers or journals. Qualified professionals for each critical area are as follows:

1. Wetlands. Biologist or wetland ecologist who has a bachelor's degree in biological science from an accredited college or university, at least two years of experience under the supervision of a practicing wetland professional, and experience delineating wetlands, preparing wetland reports, conducting function assessments, and developing and implementing mitigation plans.

2. Fish and Wildlife Habitat Areas. Biologist/wildlife biologist/stream ecologist/habitat ecologist who has a bachelor's degree in biological, wildlife and/or stream ecology science from an accredited college or university and has at least two years of experience under the supervision of a practicing professional biologist or ecologist.

3. Geologically Hazardous Areas.

a. Geologist - a person who has a bachelor's degree in geologic sciences from an accredited college or university and at least five years of professional experience as described in WAC 308-15-040 and is licensed as a professional geologist in the State of Washington. The licensed geologist shall have demonstrated experience analyzing geologic hazards and preparing reports for the relevant type of hazard.

b. Hydrogeologist - a licensed geologist in the State of Washington with a specialty license in hydrogeology meeting the requirements of WAC 308-15-057. The licensed hydrogeologist shall have demonstrated experience analyzing hydrogeologic hazards and preparing reports for the relevant type of hazard.

c. Engineering geologist - a licensed geologist in the State of Washington with a specialty license in engineering geology meeting the requirements of WAC 308-15-055. The licensed engineering geologist shall have demonstrated experience analyzing geologic hazards and preparing reports for the relevant type of hazard.

d. Geotechnical engineer - a person who has a bachelor's degree in civil engineering from an accredited college or university and at least five years of experience as a practicing geotechnical engineer, and is a registered

professional engineer in the State of Washington (meeting the requirements of RCW 18.43.040). The licensed engineer shall have demonstrated experience conducting geotechnical investigations, analyzing geologic hazards, and preparing reports for the relevant type of hazard.

4. Critical Aquifer Recharge Areas. Hydrogeologist - a licensed geologist in the State of Washington with a specialty license in hydrogeology meeting the requirements of WAC 308-15-057. The licensed hydrogeologist shall have demonstrated experience analyzing critical aquifer recharge areas.

5. Frequently Flooded Areas.

a. Hydrogeologist - a licensed geologist in the State of Washington with a specialty license in hydrogeology meeting the requirements of WAC 308-15-057. The licensed hydrogeologist shall have demonstrated experience analyzing hydrogeologic hazards and preparing reports for the relevant type of hazard.

b. Fluvial geomorphologist - a person who has a bachelor's degree in earth sciences from an accredited college or university with applicable course work in fluvial geomorphology and at least five years of professional experience in fluvial geomorphology.

c. Hydraulics engineer - a person who has a bachelor's degree in civil engineering from an accredited college or university and at least five years of experience as a practicing hydraulics engineer, and is a registered professional engineer in the State of Washington (meeting the requirements of RCW 18.43.040). The licensed engineer shall have demonstrated experience conducting, analyzing and preparing reports for hydraulic investigations.

Qualified professional - An accredited or licensed professional with a combination of education and experience in the discipline appropriate for the subject matter that is being commented on; someone who would qualify as an expert in his or her field.

Recreation areas or **facilities** - Any private or public passive or active facility that provides for activities undertaken for pleasure or relaxation and for the refreshment of the mind and body that takes place in the outdoors or in a facility dedicated to the use including walking, fishing, photography, viewing, and bird-watching and may include parks, playgrounds, sports fields, paths and trails, beaches, or other recreation areas or facilities.

Residential - Buildings, structures or portions thereof that are designed and used as a place for human habitation. Included are single, duplex or multi-family dwellings, manufactured homes, and other structures that serve to house people, as well as the creation of new residential lots through land division. This definition includes accessory uses common to normal residential use, including but not limited to, residential appurtenances, accessory dwelling units, and home occupations.

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

Restoration - The actions taken to return a wetland or other critical area to a state in which its stability, functions and values approach its naturally occurring unaltered state as closely as possible.

Right-of-way - Land or easements dedicated for public roads, railways, public utilities, public levees, and public dikes.

Riparian - Areas that have vegetation requiring water year-round and seasonally. The width of these areas depends upon slope and vegetation cover.

Riparian habitat - Areas adjacent to aquatic systems with flowing water that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. Widths shall be measured from the ordinary high water mark or from the top of the bank if the ordinary high water mark cannot be identified. It includes the entire extent of the floodplain and the extent of vegetation adapted to wet conditions as well as adjacent upland plant communities that directly influence the stream system. Riparian habitat areas include those riparian areas severely altered or damaged due to human development activities.

Seismic hazard area - Areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

SEPA - The Washington State Environmental Policy Act, Chapter 43.21C RCW.

Setback (activity, building, structure) - The distance an activity, building, or structure must be located from the Ordinary High Water Mark, landward or waterward depending on if the use is allowed in the water or on land.

Shall - A mandate; the action must be done.

Shared or **joint-use moorage** - Interchangeable terms in this Program. These terms mean moorage constructed and utilized by more than one waterfront property owner or by a homeowner's association that owns waterfront property. Shared moorage includes moorage for pleasure craft and/or landing for water sports for use in common by shoreline residents or for use by patrons of a public park or quasipublic recreation area, including rental of non-powered craft. If a shared moorage provides moorage for more than ten slips then it is a marina.

Shorelands or **shoreland areas** - Those lands under the jurisdiction of the Shoreline Management Act extending landward for two hundred (200) feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred (200) feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters that are subject to the provisions of the Shoreline Management Act (RCW 90.58.030); the same to be designated as to location by Ecology.

Shorelines - All of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except (i) shorelines of statewide significance; (ii) shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and (iii) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes;

Shoreline areas and **shoreline jurisdiction** - All "shorelines of the state" and "shorelands" as defined in RCW 90.58.030.

Shorelines hearings board (SHB) - A quasi-judicial body established by the Act to hear appeals by any aggrieved party on the issuance of a substantial development permit, conditional uses, variance or, enforcement penalties. See RCW 90.58.170 and RCW 90.58.190.

Shoreline master program - The comprehensive use plan for a described area, and the use and development policies and 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. As provided in RCW 36.70A.480, the goals and policies of a shoreline master program approved under RCW 90.58 shall be considered an element of the City of Woodland's Comprehensive Plan. All other portions of this Program adopted under RCW 90.58, including use regulations, shall be considered a part of the City of Woodland's development regulations.

Shoreline modifications - 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.

Shoreline stabilization, hard - Shoreline erosion control practices using hardened structures that armor and stabilize the shoreline from further erosion. Hard structural shoreline stabilization typically uses concrete, boulders, dimensional lumber or other materials to construct linear, vertical or near-vertical faces. These include bulkheads, rip-rap, and similar structures.

Shoreline stabilization, soft - Shoreline erosion control measures that have a lesser impact on the ecological function of the shoreline by incorporating less rigid materials than hard stabilization techniques such as biotechnical vegetation measures and beach enhancement. Soft structural shoreline stabilization typically includes a mix of gravels, cobbles, boulders, logs and native vegetation placed to provide shore stability in a non-linear, generally sloping arrangement. Linear, vertical faces are an indicator of hard stabilization.

Shoreline Substantial Development Permit (SSDP) - The permit required by this Program for uses that are substantial developments in shoreline jurisdiction.

Shoreline Variance - A means to grant relief from the specific bulk, dimensional or performance standards set forth in this Program and not a means to vary a use of a shoreline. Shoreline Variances must be approved, approved with conditions, or denied by Ecology. See RCW 90.58.160.

Shorelines of the state - The total of all "shorelines" and "shorelines of statewide significance" within the state.

Shorelines of Statewide Significance (SSWS) - With respect to the City of Woodland, Shorelines of Statewide Significance are identified as the Lewis River (see RCW 90.58.030(2)(e)).

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

Significant - For the purposes of this Program, to be significant something must be an important aspect or quality inherent in some larger whole. The aspect or quality must be measurable by a factual and scientific standard. The burden of establishing that something is significant must be borne by the party asserting it. A significant adverse impact occurs if a change eliminates some important aspect or quality of the larger whole. The party asserting a significant impact has the burden of:

1. Identifying the aspects or qualities of the larger whole;

2. Identifying the inherent important aspects or qualities;

3. Identifying a factual and scientific standard to be used for measuring the impact; and

4. Establishing in a measurable fashion that an important aspect or quality will be impacted by such change.

Significant vegetation removal - The removal or alteration of trees, shrubs, and/or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning,

not including tree topping, where it does not affect ecological functions, does not constitute significant vegetation removal.

Site - Any parcel or combination of contiguous parcels, or right-of-way, or combination of contiguous rights-of-way under the applicant's ownership or control where the proposed project occurs.

Slope - An inclined earth surface, the inclination of which is expressed as the ratio of horizontal distance to vertical distance. In these regulations, slopes are generally expressed as a percentage; percentage of slope refers to a given rise in elevation over a given run in distance. A forty percent slope, for example, refers to a forty-foot rise in elevation over a distance of one hundred feet.

Snag - Any dead, partially dead, or defective (cull) tree at least 10 feet tall and 12 inches in diameter at breast height.

Species of local importance - Those species that are of local concern due to their population status or their sensitivity to habitat manipulation or that are game species.

Species, priority - Any fish or wildlife species requiring protective measures and/or management guidelines to ensure their persistence as genetically viable population levels as classified by the Department of Fish and Wildlife, including endangered, threatened, sensitive, candidate and monitor species, and those of recreational, commercial, or tribal importance.

Species, threatened - Any fish or wildlife species that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range without cooperative management or removal of threats, and is listed by the state or federal government as a threatened species.

Speculative fill - The placement of fill material when there is no development proposed or development permits, which may lead to piecemeal development that is contrary to the policies of this Program, the Act, and CMC.

Stream - Water contained within a channel, either perennial or intermittent, and classified according to WAC 222-16-030 or WAC 22-16-031 as listed under "water typing system." Streams do not include irrigation ditches, waste ways, drains, outfalls, operation spillways, channels, stormwater runoff facilities or other wholly artificial watercourses, except those that directly result from the modification to a natural watercourse.

Structure - A permanent or temporary edifice or building or any piece of work artificially built or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water, except for vessels (WAC 173-27-030(18)).

Substantial development, shoreline - Any development of which the total cost or fair market value exceeds six thousand, four hundred, and sixteen dollars, or any development

which materially interferes with the normal public use of the water or shorelines of the state. The dollar threshold established in this Subsection (3)(e) must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the bureau of labor and statistics, United States department of labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the Washington State Register at least one month before the new dollar threshold is to take effect. For purposes of determining whether or not a permit is required, the total cost or fair market value shall be based on the value of development that is occurring on shorelines of the state as defined in RCW 90.58.030(2)(c). See WAC 173-27-040 for a list of developments that are not considered substantial.

Substantially degrade - To cause significant ecological impact.

Surface water - Water that flows across the land surface, in channels, or is contained in depressions in the land surface, including but not limited to ponds, lakes, rivers, and streams.

Talus slope - A slope formed by the accumulation of rock debris at the bottom of steep slopes or cliffs.

Transmittal - Transmit means to send from one person or place to another by mail or hand delivery. The date of transmittal for mailed items is the date that the document is certified for mailing or, for hand-delivered items, is the date of receipt at the destination.

Unavoidable and necessary impacts - Impacts for a use that, if not allowed, would deny all reasonable economic use of the land. The applicant shall demonstrate losses to all reasonable economic use. Such unavoidable impacts shall be mitigated.

Upland - Generally described as the dry land area above and landward of the OHWM.

Utilities - Services and facilities that produce, convey, store, or process power, water, wastewater, stormwater, gas, communications, oil, and the like. On-site utility features serving a primary use, such as water, sewer, or gas line to a residence, are "accessory utilities" and shall be considered a part of the primary use.

Utility line - Pipe, conduit, cable or other similar facility by which services are conveyed to the public or individual recipients. Such services shall include, but are not limited to, water supply, electric power, natural gas, communications, and sanitary sewer.

Vessel - Includes 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 (WAC 173-27).

View corridor - Portion of a viewshed, often between structures or along thoroughfares. View corridors may or may not be specifically identified and reserved through development regulations for the purpose of retaining the ability of the public to see a particular object (such as a mountain or body of water) or a landscape within a context that fosters appreciation of its aesthetic value.

Water-dependent use - 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. Examples of water-dependent uses may include, but are not limited to, the following: ship cargo terminal loading areas, ferry and passenger terminals, barge loading facilities, ship building and dry docking, marinas, boating facilities, private moorage facilities, aquaculture, float plane facilities, sewer outfalls, hydroelectric generating plants and water diversion facilities, such as agricultural pumphouses.

Water-enjoyment use - 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 enjoyment or recreational use 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 visual and physical qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

Water-oriented use - A use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.

Water quality - The physical characteristics of water within shoreline jurisdiction, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics. Where used in this Chapter, the term "water quantity" refers only to development and uses regulated under this Chapter and affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this Chapter, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340.

Water-related use - A use or portion of a use which is not intrinsically dependent on a waterfront location, but its economic viability is dependent upon a waterfront location because:

1. 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

2. 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.

Weir - A structure in a stream or river for measuring or regulating stream flow.

Wetlands or **wetland areas** - Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. For identifying and delineating a wetland, the methodology shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements as provided in RCW 90.58.380 and WAC 173-22-035.

3. Applicability, Exemptions, and Nonconforming Uses

3.1 Applicability

All new or expanded uses and development within shoreline jurisdiction shall be carried out in a manner consistent with this Program and the policy of the Act as required by RCW 90.58.140(1), regardless of whether a SLE, SSDP, Shoreline Variance, or SCUP is required. Unless described otherwise, this Program does not apply to the continuance of legally established and permitted uses and developments.

A. This Program shall apply to all of the shorelands and waters within the City of Woodland that fall under the jurisdiction of RCW 90.58. Such shorelands shall include those lands extending two hundred (200) feet in all directions as measured on a horizontal plane from the ordinary high water mark (OHWM), floodways and contiguous floodplain areas landward two hundred feet from such floodways, associated wetlands, river deltas associated with the streams, and lakes and tidal waters that are subject to the provisions of this Program, as may be amended; the same to be designated as to location by Ecology, as defined by RCW 90.58.

   Within the City of Woodland, the following waters are considered “shorelines” and are subject to the provisions of this Program: Lewis River and Horseshoe Lake. A copy of the Woodland Shoreline Environment Designations Map is shown in Appendix A.

   All shoreline uses and development activities outside of the city limits are subject to the provisions of either the Cowlitz County or Clark County Shoreline Master Program. The City’s Program will apply concurrent with annexation, and no additional procedures are required by Ecology at the time of annexation (WAC 173-26-150) unless a re-designation is requested.

B. The Shoreline Environment Designation (SED) Map, found in Appendix A, shall be the official map identifying the shoreline environment designations (SEDs) in the City of Woodland. The SED Map is to be used in conjunction with the most current, accurate, and complete scientific and technical information available; field investigations; and on-site surveys to accurately establish the location and extent of shoreline jurisdiction when a project is proposed. All areas meeting the definition of a shoreline or a Shoreline of Statewide Significance, whether mapped or not, are subject to the provisions of this Program.

C. This Program shall apply to every person, individual, firm, partnership, association, organization, corporation, local or state governmental agency, public or municipal corporation, or other non-federal entity that develops, owns, leases, or administers lands, wetlands, or waters that fall under the jurisdiction of the Act and within the external boundaries of federally owned lands.

D. Non-federal agency actions undertaken on federal lands must comply with this Program and the Act.

E. Native American Tribes' actions on tribal lands and federal agencies' actions on federal lands are not required, but are encouraged, to comply with the provisions of this Program and the Act. Nothing in this Chapter shall affect any rights established by treaty to which the United States is a party.

F. Hazardous substance remedial actions pursuant to a consent decree, order, or agreed order issued under RCW 70.105(D) are exempt from all procedural requirements of this Program.

G. Applicants that are responding to an emergency that requires a water withdrawal or facility shall be provided an expedited permit decision from the City, no longer than fifteen (15) calendar days after the date of application in accordance with RCW 90.58.370.

H. Certain forest practices that are not regulated by the Act and are regulated under RCW 76.09 are not subject to additional requirements of this Program.

I. The administrative regulations of this Program are superseded in authority by the terms and provisions of an environmental excellence program or agreement, entered into under RCW 43.21(K), Environmental Excellence Program. The environmental excellence agreement must meet the substantive requirements of this Program. An environmental excellence program agreement must achieve more effective or efficient environmental results than the results that would be otherwise achieved.

J. Unless specifically exempted by statute, all proposed uses and development occurring within shoreline jurisdiction must conform to Chapter 90.58 RCW, the Shoreline Management Act and this Program whether or not a permit is required.

3.2 Exemptions from a Shoreline Substantial Development Permit

A. Substantial development, as defined in RCW 90.58.030, and found in Chapter 2, Definitions) requires approval from the City through a Shoreline Substantial Development Permit (SSDP) (See Chapter 8 for permit review and approval procedures), except that:

1. An SSDP is not required for projects that meet the precise terms of one or more of the listed exemptions established in WAC 173-27-040(2), Developments Exempt from Substantial Development Permit Requirement (See Appendix E).

2. An SSDP is not required for those actions described in WAC 173-27-045, Developments Not Subject to the Shoreline Management Act (See Appendix E).

B. Any person claiming exemption from the permit requirements of this Program as a result of the exemptions specified in this Section shall make application for a Shoreline Letter of Exemption (SLE) as described in Chapter 8.

C. If any part of a proposed development is not eligible for exemption, then a shoreline permit is required for the entire proposed development project.

D. Unless specifically exempted by statute, all proposed uses and development occurring within shoreline jurisdiction must conform to Chapter 90.58 RCW, the Shoreline Management Act, and this Master Program whether or not a permit is required.

3.3 Nonconforming Use and Development

A. Existing uses, structures, and lots legally established prior to the effective date of this Program are allowed to continue. Where lawful uses, structures, and lots exist that could not be established under the terms of this Program, such uses, structures, and lots are deemed nonconforming and are subject to the provisions of this Section, unless specific exceptions are provided for in this Section.

B. Uses and developments that were legally established and are nonconforming with regard to the use regulations of this Program may continue as legal nonconforming uses.

C. A use which is listed as a conditional use, but which existed prior to adoption or applicability of this Program or any relevant amendment and for which an SCUP has not been obtained, shall be considered a legal nonconforming use.

D. A structure for which a variance has been issued shall be considered a legal nonconforming structure and the requirements of this Section shall apply as they apply to preexisting nonconformities.

E. A structure which is being or has been used for a nonconforming use within the past twelve (12) months may be used for a different nonconforming use only upon the approval of an SCUP. An SCUP may be approved only upon a finding that:

1. No reasonable alternative conforming use is practical; and

2. The proposed use will be at least as consistent with the policies and provisions of the Act and this Program and as compatible with the uses in the area as the preexisting use.

In addition, such conditions may be attached to the permit as are deemed necessary to assure compliance with the above findings, the requirements of this Program and the Act, and to assure that the use will not become a nuisance or a hazard.

F. A nonconforming structure which is moved any distance must be brought into conformance with this Program and the Act.

G. If a nonconforming development is damaged to an extent not exceeding seventy-five percent of the replacement cost of the original development, it may be reconstructed to those configurations existing immediately prior to the time the development was damaged, provided that application is made for the permits necessary to restore the development within one (1) year of the date the damage occurred, all permits are obtained, and the restoration is completed within two (2) years of permit issuance or the conclusion of any appeal on the permit.

H. If a nonconforming use is discontinued for twelve (12) consecutive months, the nonconforming rights shall expire and any subsequent use shall be conforming. A use authorized pursuant to Subsection E of this Section shall be considered a conforming use for purposes of this Section.

I. An undeveloped lot, tract, parcel, site, or division of land located landward of the OHWM which was established in accordance with City and state subdivision requirements prior to the effective date of the Act or this Program, but which does not conform to the present lot size standards, may be developed if permitted by other land use regulations of the City and so long as such development conforms to all other requirements of this Program and the Act.

J. Vegetation conservation standards of this Program shall not apply retroactively in a way which requires lawfully existing uses and developments, including residential landscaping and gardens, to be removed except as required as mitigation for new and expanded development.

K. Notwithstanding Sections 3.3.A through 3.3.J, the following shall apply only to pre-existing legal residential structures constructed prior to the effective date of this Program:

1. Residential structures and appurtenant structures that were legally established and are used for a conforming use, but that do not meet standards for the following, shall be considered a conforming structure: Setback, buffers, or yards; area; bulk; height; or density.

2. The City shall allow maintenance and repair, redevelopment, expansion, or change with the class of occupancy, of the residential structure if it is consistent with this Program, including requirements for no net loss of shoreline ecological functions. For example, vertical or anterior expansions that do not intrude farther into a required buffer and which are consistent with the maximum height allowed by this Program and underlying zoning may be allowed. Lateral expansions may also be allowed provided they only extend into lawfully disturbed or altered areas.

3. Pre-existing legal residential structures that are damaged or destroyed may be replaced to their prior size and location provided:

    a. All other requirements of the Woodland Municipal Code and the Cowlitz County Health Department are satisfied; and

    b. A complete application for a building permit shall be submitted within one (1) year of the act causing damage or destruction to the dwelling unit.

4. Nothing in this Section shall:

    a. Restrict the ability of this Program to limit development, expansion, or replacement of over-water structures located in hazardous areas, such as floodplains and geologically hazardous areas; or

    b. Affect the application of other federal, state, or City requirements to residential structures.

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4. Shoreline Master Program Goals and Policies

4.1 General Shoreline Goals

4.1.1 Goal

Ensure appropriate conservation and development of City of Woodland's shorelines by allowing those uses which are water-dependent, as well as other development which provides an opportunity for a substantial number of people to enjoy the shorelines. This should be done in a manner which will achieve an orderly balance of shoreline uses that improve the quality of the environment.

4.1.2 Policies

A. Ensure that all uses and developments are compatible with the site, the surrounding area and the environment, and do not result in a net loss of shoreline ecological functions.

B. Water-dependent and associated water-related uses are the highest priority for shorelines unless protection of the existing natural resource values of such areas precludes such uses.

C. Water-related and water-enjoyment uses that are compatible with ecological protection and restoration objectives are the second highest priority.

D. Limit non-water-oriented uses to those locations where access to the water is not provided or where the non-water-oriented use contributes to the objectives of the Act in providing ecological restoration and public access.

E. Reserve the shoreline areas for uses which allow optimal uses for future generations by recognition of potential long term benefits to the public, and discouragement of short term gain or convenience.

F. Allow multiple uses of shoreline areas where integration of compatible uses or activities is feasible.

G. Work with the public to increase awareness of the Shoreline Management Act, and the importance of protecting shorelines.

H. Respect and protect private property rights.

4.2 Historic, Cultural, Archaeological and Educational Resources

4.2.1 Goal

Protect, preserve and encourage restoration of those sites and areas on the shoreline which have significant historical, cultural, educational or scientific value.

4.2.2 Policies

A. Identify historic, cultural and archaeological resources within the shoreline in cooperation with federal, state, local and tribal agencies.

B. Preserve permanently for their inherent cultural value and for scientific study, as well as public enjoyment and observation, all areas known to contain significant archaeological data.

C. Preserve for the public benefit, with opportunity for appropriate public utilization, significant historic, scientific, and educational areas of the shoreline.

D. Ensure that the review of development permits includes appropriate assessment of historic, cultural and archaeological resources.

4.3 Conservation and Restoration

4.3.1 Goal

Ensure protection, preservation, and restoration of Woodland's shoreline resources, while encouraging the use of best management practices to ensure no net loss of shoreline ecological functions.

4.3.2 Policies

A. Existing natural resources should be conserved through implementation of this Program, the City's Comprehensive Plan, and other local development regulations; incorporation of critical areas regulations; and cooperation as feasible with adjacent jurisdictions to implement regional watershed plans.

B. Facilitate publicly and privately initiated restoration projects through adoption of a Shoreline Restoration Plan (Appendix C). The plan identifies degraded areas, sets overall goals and priorities for restoring these areas, identifies existing and proposed restoration projects and programs, and provides implementation strategies.

C. Provide for beneficial utilization of shoreline- and floodplain-related resources without harming other natural systems or the overall quality of the natural environment.

D. Conserve natural features and resources as well as scenic vistas, parkways and habitats of rare or endangered species.

E. Preserve the natural, scenic and aesthetic qualities of shorelines and vistas.

4.4 Economic Development

4.4.1 Goal

Give priority to those industrial, commercial and recreational developments that are particularly dependent on their location on City of Woodland's shorelines. Encourage development that will provide the public an opportunity to enjoy the shorelines. Ensure no net loss of ecological function in the implementation of this goal.

4.4.2 Policies

A. Minimize the adverse effects of new commercial, industrial and recreational development upon the physical environment and natural processes through careful siting and design.

B. Ensure that commercial, industrial, and recreational uses and developments are of an intensity appropriate to the ecological setting and are provided with existing public services appropriate to the use.

C. Ensure that commercial, industrial, and recreational uses and developments do not increase flood hazards, are adequately protected from damage by flooding, and do not require shoreline stabilization.

4.5 Flood Prevention and Flood Damage Minimization

4.5.1 Goal

Minimize flood hazards to human life and to property while enhancing the ecological processes of the shoreline in the City of Woodland.

4.5.2 Policies

A. Manage flood protection based on National Flood Insurance Program development regulations, applicable watershed management plans, comprehensive flood hazard management plans, and other comprehensive planning efforts for the Lewis River.

B. Integrate bioengineering and/or soft engineering approaches where feasible into local and regional flood control measures, infrastructure, and related capital improvement projects.

C. Support measures to increase the natural functions of the Lewis River floodplain.

D. Recognize that flood control works are an existing and important feature to protect life and property in the City of Woodland and the region. Maintenance and expansion of existing flood control works should be allowed provided that no net loss of ecological functions results.

E. Protect existing development from flood damage:

1. Provide for maintenance dredging of the Lewis River affected by continuing deposition of Mt. St. Helens volcanic deposits to maintain flow capacity and control risk of flooding.

2. New structural flood hazard reduction measures shall be avoided whenever possible in order to avoid reducing floodplain functions crucial to fish and wildlife species, bank stability, and water quality. When necessary, they shall be consistent with an adopted comprehensive flood hazard management plan and accomplished in a manner that assures no net loss of ecological functions and ecosystem-wide processes.

3. Long-term programs for flood hazard reduction should include measures to prevent or remove development in flood-prone areas, to manage storm water within the floodplain, and to maintain or restore river and stream systems' natural hydrological and geomorphological processes in addition to structural flood control measures such as levees.

4. Removal of gravel, as opposed to volcanic deposits, for flood management purposes should be avoided unless identified as a necessary part of an adopted flood hazard reduction plan and allowed only after a biological and hydraulic study shows that extraction has a long-term benefit to flood hazard reduction, and does not result in a net loss of ecological functions.

F. Reduce potential hazard to new development by reducing exposure to flood hazards to the extent feasible.

1. New development should be located outside of floodways and should avoid location in floodplains to the maximum extent feasible.

2. New development should be designed and located to preclude the need for flood control structures. New or expanded development or uses in the shoreline, including subdivision of land, that would likely require flood control structures within a stream, channel migration zone, or floodway should be prohibited.

3. Development should be discouraged in the channel migration zone if it would result in interference with the process of channel migration which may cause significant adverse impacts to property or public improvements and/or result in a net loss of ecological functions associated with the rivers and streams.

G. Support measures to restore floodplain and channel migration zone functions, including flood storage, off-channel habitat, associated wetlands, and buffers of native vegetation, through levee setbacks and similar programs.

4.6 Public Access

4.6.1 Goal

Increase the general public's ability to safely enjoy the publicly owned shorelines in the City of Woodland and ensure that public access will not encroach upon the rights of private property owners and will not adversely affect fragile natural areas.

4.6.2 Policies

A. Public access should be provided consistent with the existing character of the shoreline and with consideration of opportunities and constraints for physical and visual access, as well as consideration of ecological functions and public safety.

B. Public access to and along the water's edge should be available throughout publicly owned shoreline areas, although direct physical access to the water's edge may be restricted to protect shoreline ecological values.

C. Future developments and redevelopments shall not adversely affect existing public access, and should provide new opportunities for the public to reach, touch and enjoy the water's edge.

D. Locate, design and maintain public access development in a manner that enhances the natural environment.

E. As opportunities and funds arise, purchase, or otherwise make available to the public, shoreline properties if their value for public use merits such action.

F. Existing highway and road corridors along shorelines should better accommodate public access to the shoreline and provide safe overcrossings to shoreline public access facilities.

G. Coordinate with local, state, and federal agencies to ensure shoreline public access is consistent with regional parks recreation, open space and trails plans.

H. Respect and protect private property rights when considering public access in development.

4.7 Recreation

4.7.1 Goal

Provide additional opportunities for diverse forms of recreation for the public and improvement of present facilities with an emphasis on water-dependent recreation in both the City of Woodland's shorelines and the region.

Policies

A. Water-oriented recreational development is a priority and facilities should be located, designed, and operated in a manner consistent with the purpose of the environmental designation in which they are located and such that no net loss of shoreline ecological functions or ecosystem-wide processes result.

B. Identify, obtain, preserve and protect areas with high values for recreation.

C. Allow location, design and operation of recreational uses as part of private development where compatible with other uses and activities.

    1. Water-oriented recreational uses are preferred, and the SMP should allow shoreline recreational development in order to provide access, use, and enjoyment of shorelines that does not displace water-dependent uses.

D. Encourage a balanced choice of recreational opportunities, including those requirements of the elderly and the physically challenged.

E. Cultivate innovative and cooperative techniques among public agencies and private persons or groups which increase and diversify recreation opportunities.

F. Provide compatible recreational uses including bicycle and foot paths in transportation and utility corridors where feasible.

G. Prepare management plans for recreation facilities that provide a balance between provision of a range of water-dependent and other water-oriented recreational opportunities and ecological preservation and enhancement to result in no net loss of shoreline ecological functions or ecosystem-wide processes.

H. Coordinate with local, state, and federal agencies so that shoreline recreational developments are consistent with the City and regional parks recreation, open space and trails plans.

    1. In providing space for public recreation along the shorelines, give primary emphasis to providing for the local recreation needs for boating, kayaking, canoeing, swimming, bicycling, fishing, picnicking, and other activities benefiting from shoreline access as well as retaining and expanding regional trail systems.

Continue to work with neighboring jurisdictions and other governments to support local and regional opportunities for public recreation, shoreline access and use.

2. Develop recreational activity areas in a manner which complements commercial and residential uses and/or natural habitats.

I. Prioritize recreational development in coordination with the City of Woodland Comprehensive Plan goals and policies for recreation.

4.8 Transportation, Utilities, and Essential Public Facilities

4.8.1 Goal

Develop safe, convenient, and multi-modal shoreline circulation and utility systems to ensure efficient movement of goods and people within the City of Woodland and throughout the region with minimum disruptions to the shoreline environment and minimum conflict between the different users.

4.8.2 Policies

A. Locate and design major circulation systems and new non-water oriented utilities outside shoreline jurisdiction, except for necessary crossings, unless alternative locations are infeasible, a shoreline location is required, or the improvement is necessary to support an approved shoreline use.

B. New or expanded facilities should be designed to result in no net loss of ecological functions and processes in shoreline jurisdiction.

C. Encourage existing corridors for transportation facilities along shorelines to better accommodate public access to the shoreline and provide safe overcrossings to shoreline public access facilities.

D. Allow parking facilities within shoreline jurisdiction only to support an authorized use when locations outside of shoreline jurisdiction are not suitable or feasible.

E. Encourage multi-modal uses of any necessary roads.

F. Encourage alternate forms of transportation such as walking and bicycling.

G. Linear utilities that must be located within shoreline jurisdiction should be located within existing rights of way or corridors whenever feasible.

H. Ensure new utilities utilize existing transportation and utility rights-of-way easements, or existing cleared areas to the greatest extent feasible.

4.9 Shoreline Uses

4.9.1 Goal

Establish specific shoreline use standards in accordance with the provisions of the Washington State Shoreline Management Act, WAC 173-26, WAC 173-27, the Woodland Comprehensive Plan, the Woodland Municipal Code, and this Master Program.

4.9.2 Policies

A. Agriculture

There are currently no existing agricultural uses within the City of Woodland and agricultural uses are not consistent with the Comprehensive Plan. New agricultural uses within shoreline jurisdiction should be restricted.

B. Aquaculture

1. New aquaculture uses within the Shoreline should be restricted to projects that support ecological restoration.

C. Boating Facilities

1. New or expanded boating facilities should be located at sites with suitable environmental conditions, shoreline configuration, access, and neighboring upland and aquatic uses.

2. Boating facilities should be located and designed to ensure no net loss of ecological functions or other significant adverse impacts, and should, where feasible, enhance degraded and/or scarce shoreline features.

3. Boating facilities that minimize the amount of shoreline modification, in-water structures, and overwater cover are preferred.

4. Joint use of boating facilities is encouraged.

5. Moorage buoys are preferred over docks where appropriate to minimize shallow water impacts.

6. Residential boating structures, including docks, buoys, and marine railways, should be designed and constructed to avoid or, if that is not possible, to minimize and mitigate the impacts to ecological functions, critical areas and aquatic habitats, and ecosystem-wide processes.

D. Commercial

1. Priority should be given to water-dependent commercial uses within shoreline jurisdiction.

2. New commercial development that is not water-oriented should be discouraged in shoreline jurisdiction unless such development provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as public access and ecological restoration, or if the site is physically separated from the shoreline by another property, or public right-of-way.

3. The design of commercial uses should not cause a net loss of shoreline ecological functions.

E. Forest Practices

1. Ensure compliance with the State's Forest Practices Act for commercial forest management.

2. Ensure forest practice conversions and other Class IV-General forest practices are conducted in a manner that assures no net loss of shoreline ecological functions or significant adverse impacts to other shoreline uses, resources and values such as navigation, recreation and public access.

F. Industrial

1. Priority should be given to water-dependent industrial uses within shoreline jurisdiction.

2. New industrial development that is not water-oriented should be discouraged in shoreline jurisdiction unless navigation is severely limited and such development provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as public access and ecological restoration, or if the site is physically separated from the shoreline by another property, or public right-of-way.

3. The location, design, construction and operation of industrial uses should not cause a net loss of shoreline ecological functions.

G. Institutional

1. Priority should be given to water-oriented institutional uses within shoreline jurisdiction.

2. New or expanded institutional development that is not water-oriented should be discouraged in shoreline jurisdiction unless navigation is severely limited on the shoreline and such development provides a significant public benefit with

respect to the Shoreline Management Act's objectives, such as public access and ecological restoration, or if the site is physically separated from the shoreline by another property or public right-of-way.

3. Institutional uses that foster appreciation of shoreline historic, cultural, scientific, and educational resources are encouraged.

4. The location, design, construction and operation of institutional uses should not cause a net loss of shoreline ecological functions.

H. In-stream Structures

1. Ensure the location, design, construction and maintenance of in-stream structures give due consideration to the full range of public interests, ecological functions and processes, and environmental concerns.

2. Encourage non-structural and non-regulatory approaches as an alternative to in-stream structures.

I. Mining

1. Mining activities should be prohibited in Residential and Urban Conservancy SEDs.

2. Mining activities should be sited, designed, operated and completed to result in no net loss of shoreline ecological functions and processes after final reclamation of the site.

3. Give preference to mining proposals that result in the creation, restoration or enhancement of habitat for priority species.

J. Residential

1. Recognize single-family uses as a preferred use when developed in a manner that does not result in a net loss of ecological functions.

2. The design of residential uses should minimize the need for shoreline stabilization.

3. New multi-family and single-family residential development in shoreline jurisdiction comprising more than four (4) dwelling units should provide for public access to the shoreline consistent with this Program.

4.10 Shoreline Modifications

4.10.1 Goal

Establish specific standards to limit and guide modifications to shoreline areas in accordance with the provisions of the Shoreline Management Act, the Woodland Comprehensive Plan, the Woodland Development Regulations, and the provisions of the Master Program.

4.10.2 Policies

A. General Policies

1. Allow shoreline modifications only where it can be demonstrated that the proposed activities are necessary to support or protect an allowed use or development.

2. Allow shoreline modifications only when adverse impacts are avoided, minimized, and mitigated resulting in no net loss of shoreline ecological functions.

3. The individual and cumulative effects of shoreline modification should not result in a net loss of ecological functions. Ecological impacts should be avoided and mitigated in accordance with the mitigation sequence of this Program.

4. Shoreline modifications should only be approved if they are appropriate to the specific type of shoreline and environmental conditions for which they are proposed.

5. As much as possible, the number and extent of shoreline modifications should be limited.

B. Shoreline Stabilizations

1. New structural shoreline stabilization should be allowed only where demonstrated to be necessary to support or protect an allowed primary structure or legally existing shoreline use that is in danger of loss or substantial damage or where structural modifications are necessary for mitigation or enhancement purposes.

2. Types of shoreline stabilization that have a lesser impact on ecological functions are preferred.

3. Where adverse impacts are unavoidable from stabilization measures, mitigation should be required to assure no net loss of ecological function.

4. Where feasible, plan for enhancement of impaired ecological functions while accommodating permitted uses.

C. Breakwaters, Jetties, Rock Weirs, and Groins

1. Breakwaters, jetties, groins and weirs should only be allowed when demonstrated to be necessary to protect a water-dependent use, public access project, shoreline restoration project, or shoreline stabilization structure.

D. Fill and Excavation

1. Fills and excavation should be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes including channel migration.

E. Dredging and Dredge Material Disposal

1. Dredging and dredge material disposal are allowed provided they are done in a manner which avoids or minimizes significant ecological impacts, and impacts which cannot be avoided should be mitigated in a manner that assures no net loss of shoreline ecological functions.

2. Dredging operations should conform to the operating standards specified on any federal and state permits required for such operations.

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

4. Any necessary dredging of the Lewis River for flood control purposes, including actions by the U.S. Army Corps of Engineers, should be supported.

F. Shoreline Habitat and Ecological Enhancement Projects

1. Facilitate the projects described within the Shoreline Restoration Plan (Appendix C).

2. Shoreline restoration and enhancement activities designed to restore shoreline ecological functions and processes and/or shoreline features should be targeted toward meeting the needs of sensitive and/or regionally important plant, fish, and wildlife species.

3. Shoreline restoration and enhancement activities should be designed to create or improve dynamic and sustainable ecosystems.

4. All shoreline restoration and enhancement projects should protect the integrity of adjacent natural resources, including aquatic habitats and water quality.

5. Where possible, restoration and enhancement activities should be integrated and coordinated with other parallel natural resource management efforts.

5. Shoreline Environment Designations

5.1 Introduction

The intent of assigning shoreline environment designations (SEDs) to specific geographies is to encourage development that will enhance the present or desired character of the shoreline. To accomplish this, segments of shoreline are given a SED based on existing development patterns, natural capabilities and limitations, and the vision of the City of Woodland. The SEDs are intended to work in conjunction with the comprehensive plan and zoning.

Management policies are an integral part of the shoreline environment designations and are used for determining uses and activities that can be permitted in each shoreline environment designation.

Chapter 6, General Shoreline Regulations, and 7, Shoreline Use and Modification Regulations, contain development regulations to specify how and where permitted development can take place within each SED.

5.2 Authority

Local governments are required under the Act to develop and assign a land use categorization system known as “shoreline environment designations” for shoreline areas as a basis for effective shoreline master programs.

The City of Woodland accounted for different shoreline conditions is by assigning a SED to each distinct shoreline section in the City. The SEDs provide the framework for implementing shoreline policies and regulatory measures for environmental protection, use and modification provisions, and other regulatory measures specific to each SED.

5.3 Shoreline Environment Designations

The City classification system consists of SEDs that are consistent with and implement the Act, the Program, and the City of Woodland Comprehensive Plan.

These designations have been assigned consistent with the corresponding criteria provided for each SED. In delineating SEDs, the City aims to ensure that existing shoreline ecological functions are protected with the proposed pattern and intensity of development. Such designations should be consistent with the policies for restoration of degraded shorelines. The five SEDs are:

- High-Intensity
- Residential
- Urban Conservancy
- Aquatic
- Recreation

A. The landward extent for shoreline jurisdiction is approximate. The OHWM and resultant upland, lateral extent of shoreline jurisdiction will need to be determined on a site-specific basis at the time of application. Any areas within shoreline jurisdiction that are not mapped and/or designated due to minor mapping inaccuracies in the upland extent of shoreline jurisdiction are automatically assigned the category of the contiguous upland shoreline environment designation.

B. All other areas that were neither mapped in the shoreline jurisdiction nor meet the applicability criteria in Section 3.1, Applicability, shall be assigned an Urban Conservancy environment designation until the shoreline can be designated through a Program amendment.

C. Property shown in shoreline jurisdiction that does not meet the definitions of shoreline or shoreland found in RCW 90.58.030 or the applicability criteria in Section 3.1, Applicability, shall not be subject to the requirements of this Program.

D. Identified (Appendix A) and unmapped potentially associated wetlands must be delineated at the time of application. Those portions of unmapped delineated associated wetlands would receive the adjoining environment designation. In the case that there is more than one adjoining environment designation, the designation should be assigned based on application of the Designation Criteria.

E. Boundaries indicated as approximately following lot, tract, or section lines shall be so construed. Boundaries indicated as approximately following roads or railways shall be respectively construed to follow the nearest right-of-way edge.

5.3.1 High-Intensity

Purpose

The purpose of the High-Intensity SED 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.

Management Policies

A. Priority should be given to water-dependent, water-related, and water-enjoyment uses in that order of preference. Non-water-oriented uses within shoreline jurisdiction are appropriate on sites where there is no direct access to the shoreline because of an intervening property or public right-of-way precluding a water-dependent use from occurring there.

B. Non-water-oriented uses on sites adjacent to the water should provide public benefit in the form of ecological enhancement or public access in compliance with the provisions of this Program.

C. No net loss of shoreline ecological functions should result due to development of a site. Where unavoidable impacts to ecological functions occur, appropriate mitigation should be provided in accordance with this Program. Where applicable, development should include environmental cleanup and restoration of the shoreline in accordance with relevant state and federal law.

D. Where feasible as described by this Program, visual and/or physical public access should be provided.

E. Aesthetic objectives of this Program should be in character with high intensity development and include height limits, screening, and other standards consistent with the primary purpose of accommodating high-intensity uses.

F. Full utilization of existing urban and extensively altered areas should be achieved before further expansion of intensive development is allowed.

Designation Criteria

The High-Intensity SED is given to shoreline areas within Woodland and the city's urban growth areas if they currently support or are planned for high-intensity water-oriented uses related to commerce or transportation.

5.3.2 Residential

Purpose

The purpose of the Residential SED is to accommodate residential development and appurtenant structures that are consistent with this Program.

Management Policies

A. Development in the Residential designation should assure no net loss of shoreline ecological functions. New residential development should take into account the environmental limitations and sensitivity of the shoreline area, the level of infrastructure and services available.

B. Multi-family and multi-lot residential (greater than four [4] lots) developments, and recreational developments should provide public access and joint use for community facilities in compliance with this Program.

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

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

Designation Criteria

The Residential SED is assigned to shoreline areas if they are predominantly single-family or multi-family residential development or are planned and platted for residential development.

5.3.3 Urban Conservancy

Purpose

The purpose of the Urban Conservancy SED 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. Activities permitted in these areas are intended to have minimal adverse impacts upon the shoreline.

Management Policies

A. Primary allowed uses within this designation should preserve the natural character of the area or promote preservation of open space, floodplain or other sensitive lands where they exist in urban and developed settings, either directly or over the long term.

B. Standards should ensure no net loss of ecological functions and significant ecological impacts can be mitigated.

C. Public access and public recreation objectives should be implemented whenever feasible, but only when any resulting significant ecological impacts can be mitigated.

D. 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.

Designation Criteria

The Urban Conservancy SED is assigned to shoreline areas appropriate and planned for development that is compatible with maintaining or restoring ecological functions. These are shoreline areas that are not generally suitable for water-dependent uses that display any of the following characteristics:

A. Suitability for water-related or water-enjoyment uses;

B. Open space, floodplain or other sensitive areas that should not be more intensively developed;

C. Potential for ecological restoration;

D. Retention of ecological functions, even though partially developed; or

E. Potential for development that is compatible with ecological restoration.

5.3.4 Aquatic

Purpose

The purpose of the Aquatic SED is to protect, restore, and manage the unique characteristics and resources of the areas waterward of the OHWM.

Management Policies

Allow new overwater and in-water structures only for water-dependent uses, public access, or ecological restoration. In order to reduce the impacts, multiple use of overwater facilities should be encouraged, and the size of new overwater structures should be limited to the minimum necessary to support the structure's intended use.

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.

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 preferred mitigation sequence of this Program, Section 6.1, No Net Loss of Ecological Function, to assure no net loss of ecological functions.

New dredging may be approved as a conditional use provided it meets all of the conditions of this Program.

Maintenance dredging should be allowed for navigation and flood hazard reductions provided it meets all of the conditions of this Program.

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

Designation Criteria

A. The Aquatic SED is applied to lands waterward of the OHWM.

5.3.5 Recreation

Purpose

The Recreation SED is intended to provide areas for new and continued recreational and public access opportunities along shorelines, including public and private parks and recreational facilities while maintaining ecological functions and open space.

Management Policies

A. New recreation development should result in no net loss of ecological function.

B. Water-dependent and water-enjoyment recreation facilities that do not deplete the resource over time, such as boating facilities, angling platforms, , and swimming beaches, are preferred uses provided significant adverse impacts to the shoreline can be mitigated.

C. To the extent possible, recreational opportunities should be accessible by all populations.

D. New recreation development should be designed to encourage ecological stewardship by locating non-water-dependent activity areas away from the water's edge and planting and maintaining native vegetation buffers along the water.

Designation Criteria

The Recreation SED is applied to shoreline areas where public and private lands are devoted to or designated for recreation use including parks and open space and water-dependent uses such as marinas which provide recreational moorage, as well as where lands are not yet developed but are planned for water-oriented recreation.

5.4 Shorelines of Statewide Significance

The Act designated certain shoreline areas as Shorelines of State-wide Significance (SSWS). Because these shorelines are major resources from which all people in the state derive benefit, the City shall give preference to uses which favor long-range goals and support the overall public interest.

Within the City of Woodland the Lewis River is designated as a shoreline of SSWS. SSWS are of value to the entire state. In accordance with RCW 90.58.020, SSWS will be managed as follows:

A. Every project located on a SSWS shall demonstrate consistency with the following priorities, in order of preference, in all permit review, in addition to compliance with other criteria provided by this Program:

    1. Recognize and protect the statewide interest over local interest.

        a. Solicit comments and opinions from groups and individuals representing statewide interests by circulating amendments to the Program, and any proposed amendments affecting SSWS, to state agencies, affected tribes, adjacent jurisdictions, citizen's advisory committees and local officials, and statewide interest groups.

b. Recognize and take into account state agencies' policies, programs, and recommendations in developing and administering use regulations and in approving shoreline permits.

c. Solicit comments, opinions, and advice from individuals with expertise in ecology and other scientific fields pertinent to shoreline management.

2. Preserve the natural character of the shoreline.

a. Designate and administer shoreline environments and use regulations to minimize damage to the ecology and environment of the shoreline as a result of man-made intrusions on shorelines.

b. Restore, enhance, and/or redevelop those areas where intensive development or uses already exist in order to reduce adverse impact on the environment and to accommodate future growth rather than allowing high-intensity uses to extend into low-intensity use or underdeveloped areas.

c. Protect and preserve existing diversity of native vegetation and habitat values, wetlands, and riparian corridors associated with shoreline areas.

3. Support actions that result in long-term over short-term benefit.

a. Evaluate the short-term economic gain or convenience of developments relative to the long-term and potentially costly impairments to the natural shoreline.

b. Protect resources and values of SSWS for future generations by modifying or prohibiting development that would irretrievably damage shoreline resources.

c. Actively promote aesthetic considerations when contemplating new development, redevelopment of existing facilities, or general enhancement of shoreline areas.

4. Protect the resources and ecological function of the shoreline:

a. Minimize development activity that will interfere with the natural functioning of the shoreline ecosystem, including, but not limited to, stability, drainage, aesthetic values and water quality.

b. All shoreline development should be located, designed, constructed, and managed to avoid disturbance of and minimize adverse impacts to wildlife resources, including spawning, nesting, rearing, and habitat areas and migratory routes.

c. Restrict or prohibit public access onto areas which cannot be maintained in a natural condition under human use.

d. Shoreline materials including, but not limited to, bank substrate, soils, beach sands and gravel bars should be left undisturbed by shoreline development. Gravel mining should be severely limited in shoreline areas.

e. Preserve environmentally sensitive wetlands for use as open space or buffers and encourage restoration of currently degraded wetland areas.

5. Increase public access to publicly owned areas of the shoreline.

   a. Retain and enhance public access to the shoreline including passive enjoyment, recreation, fishing, and other enjoyment of the shoreline and public waters consistent with the enjoyment of property rights of adjacent lands.

   b. Give priority to developing a system of linear access consisting of paths and trails along the shoreline areas, providing connections across current barriers.

   c. Provide multi-purpose non-motorized trail facilities also serving the mobility impaired wherever feasible.

6. Increase recreational opportunities for the public on the shoreline.

   a. Plan for and encourage development of facilities for water-oriented recreational use of the shoreline.

6. General Shoreline Regulations

This Chapter describes general regulations which apply to all shorelines of the state that are located in the City of Woodland. The general regulations Section is used in conjunction with specific use and modification regulations found in Chapter 7.

6.1 No Net Loss of Ecological Function

A. All shoreline use and development, including preferred uses and uses that are exempt from permit requirements, shall be located, designed, constructed, conducted, and maintained in a manner that maintains shoreline ecological functions, in accordance with the mitigation sequencing provisions of this Program.

B. Shoreline ecological functions that shall be protected include, but are not limited to, fish and wildlife habitat, food web support, and water quality maintenance.

C. Shoreline processes that shall be protected include, but are not limited to, water flow; erosion and accretion; infiltration; groundwater recharge and discharge; sediment delivery, transport, and storage; large woody debris recruitment; organic matter input; nutrient and pathogen removal; and stream channel formation/maintenance.

D. In-water work shall be scheduled to protect biological productivity (including but not limited to fish runs, spawning, and benthic productivity). In-water work shall not occur in areas used for commercial fishing during a fishing season unless specifically addressed and mitigated for in the permit.

E. An application for any permit or approval shall demonstrate all reasonable efforts have been taken to provide sufficient mitigation such that the activity does not result in net loss of ecological functions. Mitigation shall occur in the following prioritized order:

    1. Avoid the adverse impact altogether by not taking a certain action or parts of an action or by moving the action.

    2. Minimize 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. Rectify the adverse impact by repairing, rehabilitating, or restoring the affected environment.

    4. Reduce or eliminate the adverse impact over time by preservation and maintenance operations during the life of the action.

5. Compensate for the adverse impact by replacing, enhancing, or providing similar substitute resources or environments. Preference shall be given to measures that replace the impacted functions on site or in the immediate vicinity of the impact. However, alternative compensatory mitigation within the watershed that addresses limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans may be authorized.

6. Monitor the adverse impact and take appropriate corrective measures.

F. Applicants for permits have the burden of proving that the proposed development is consistent with the criteria set forth in this Program and the Act, including demonstrating all reasonable efforts have been taken to provide sufficient mitigation such that the activity does not result in net loss of ecological functions.

6.2 Archaeological, Cultural, and Historic Resources

A. If historic, cultural, or archaeological sites or artifacts are discovered in the process of development, work shall be stopped immediately in accordance with provisions of federal, state, and local laws; the site secured; and the find reported as soon as possible to the City. The property owner also shall notify the Washington Department of Archaeology and Historic Preservation and affected tribes. Tribal contacts will be provided by the City. The City may require a site investigation by a qualified professional and may require avoidance or conservation of the resources in coordination with appropriate agencies. All shoreline permits shall contain a special provision notifying permittees of this requirement. Failure to comply with this requirement shall be considered a violation of the shoreline permit and shall subject the permittee to legal action as specified in Section 8.12, Enforcement, of this Program.

B. Prior to approval of development in an area of known or probable cultural resources, the City shall require a site assessment by a qualified professional archaeologist in coordination with affected tribes. Conditions of approval may require preservation or conservation of cultural resources as provided by applicable federal, state, and local statutes. All permits issued for development in areas known to be archaeologically significant shall provide for monitoring of any development activity for previously unidentified cultural resources.

6.3 Critical Areas Protection

Critical Areas Regulations that apply in shoreline jurisdiction are found in Appendix B of this program.

6.3.1 Applicable Critical Areas

For purposes of this Program, the following critical areas, as defined in Chapter 2 and Appendix B, will be protected under this Program: Wetlands, Critical Aquifer Recharge Areas, Frequently Flooded Areas, Geologically Hazardous Areas, and Fish and Wildlife Habitat Conservation Areas.

6.3.2 General Provisions

A. Shoreline uses, activities, developments, and their associated structures and equipment shall be located, designed, and operated to protect the ecological processes and functions of critical areas.

B. New and expanded development proposals shall integrate protection of wetlands, fish and wildlife habitat, and flood hazard reduction with other stream management provisions, such as retention of channel migration zones, to ensure no net loss of ecological functions.

C. Critical areas within the shoreline jurisdiction shall be regulated for any use, development, or activity as provided in accordance with this Program and Appendix B whether or not a permit or Shoreline Letter of Exemption is required.

D. If provisions of Appendix B and other parts of this Program conflict, the provisions most protective of ecological resources shall apply, as determined by the City.

E. Unless otherwise stated, critical area buffers shall be protected and regulated in accordance with this Program and Appendix B.

F. These provisions do not extend the shoreline jurisdiction beyond the limits specified in this Program as defined in Section 3.1, Applicability. Critical area buffers that are located outside of shoreline jurisdiction shall be regulated by the Critical Area Regulations found in 15.08 WMC.

6.4 Flood Prevention and Flood Damage Minimization

This Program addresses flooding in two different ways. This Section includes flood hazard reduction measures, including flood control works, intended to avoid increasing hazards and minimize damage. Appendix B incorporates flood hazard protections by adopting Chapter 14.40, Flood Damage Prevention within the Critical Areas Regulations.

A. Development or uses in floodplains shall avoid significantly or cumulatively increasing flood hazards and shall be consistent with WMC 14.40, Flood Damage Prevention (1996).

B. New residential, commercial, or industrial development and uses, including subdivision of land, within shoreline jurisdiction are prohibited if it would be

reasonably foreseeable that the development or use would require structural flood hazard reduction measures in the channel migration zone or floodway over the life of the development.

C. The following uses and activities may be authorized in floodways or channel migration zones when otherwise permitted by this Program:

1. Actions and development with a primary purpose of protecting or restoring ecological functions and ecosystem-wide processes.

2. Forest practices in compliance with the Washington State Forest Practices Act and its implementing rules.

3. Mining when conducted in a manner consistent with the SED and with Subsection 7.2.9 of this Program.

4. Bridges, utility lines, water-dependent public utilities, and other public utility and transportation structures where no other feasible alternative exists, or where 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.

5. Repair and maintenance of an existing legally established use, provided flood hazards to other uses are not increased and that the activity does not cause significant ecological impacts that cannot be mitigated.

6. Development where structures exist that prevent active channel movement and flooding.

7. Modifications or additions to an existing nonagricultural legal use, provided that channel migration is not further limited and that the new development includes appropriate protection of ecological functions.

8. 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 measures do not interfere with fluvial hydrological and geomorphological processes normally acting in natural conditions, and that the measures include appropriate mitigation of impacts to ecological functions associated with the river or stream.

D. Removal of materials for flood management purposes shall be consistent with an adopted flood hazard reduction plan and is allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution, except when the removal is part of a U.S. Army Corps of Engineers dredging activity.

E. Channel Migration Zones:

1. Channel migration zones must be evaluated on a site by site basis when required by the City.

2. The Channel Migration Zone Map is included as Appendix D. Applicants may submit a site-specific channel migration zone study if they believe these conditions do not exist on the subject property and the map is in error. The study must be prepared consistent with WAC 173-26-221(3)(b), and may include, but is not limited to, historic aerial photographs, topographic mapping, flooding records, and field verification. The study must be prepared by a licensed geologist or engineer with at least five years of applied experience in assessing fluvial geomorphic processes and channel response.

F. Flood Control Works:

1. New or expanded structural flood hazard reduction measures, such as dikes, levees, berms, and similar flood control structures, shall be consistent with flood hazard regulations or management plans adopted pursuant to RCW 86.12, provided the plan has been adopted after 1994 and approved by Ecology.

2. New or expanded structural flood hazard reduction measures shall be permitted only when it can be demonstrated by a scientific and engineering analysis that:

   a. They are necessary to protect existing development.

   b. Non-structural flood hazard reduction measures are infeasible.

   c. Impacts to ecological processes and functions, and priority fish and wildlife species and habitats can be successfully mitigated to ensure no net loss of functions as set forth in Section 6.1, No Net Loss of Ecological Function.

   d. Appropriate vegetation conservation actions are undertaken consistent with Section 6.6, Vegetation Conservation.

   e. They are placed landward of associated wetlands and buffer areas except where no alternative exists as documented in a geotechnical analysis.

3. New structural public flood hazard reduction measures, such as dikes and levees, shall dedicate and improve public access pathways, if feasible, unless public access improvements would cause:

   a. Unavoidable health or safety hazards to the public,

   b. Inherent and unavoidable security problems,

   c. Unacceptable and unmitigable significant ecological impacts,

d. Unavoidable conflict with the proposed use, or

e. A cost that is disproportionate and unreasonable to the total long-term cost of the development.

4. To the maximum extent feasible, new or expanded dikes and levees shall be designed to be:

   a. No greater than the minimum height required to protect adjacent lands from the predicted flood stage as identified in the applicable comprehensive flood control management plan or as required by the U.S. Army Corps of Engineers for dike certification.

   b. Placed landward of associated wetlands and designated buffers, except for actions that increase ecological functions, unless there is no other feasible alternative to reduce flood hazard to existing development in which case all impacts shall be fully mitigated.

   c. Located and designed so as to protect and restore the natural character of the stream, avoid the disruption of channel integrity, and provide the maximum opportunity for natural floodway functions to take place, including levee setbacks to allow for more natural functions of floodplains, channel migration zones, off-channel habitat, and associated wetlands directly interrelated and interdependent with the stream.

   d. Planted with appropriate vegetation meeting any permit or certification requirements of 44 CFR 65.10 while providing the greatest amount of ecological function possible.

5. A geotechnical or geofluvial report prepared by a qualified professional shall demonstrate that new or altered flood protection structures will not increase downstream flooding and will not adversely affect the integrity of downstream ecological functions including disruption of natural drainage flows and stormwater runoff.

G. Information Required. In addition to any information required as part of a critical areas assessment per Appendix B, the City shall require the applicant to provide the following information as part of an application for development within a flood hazard area. The City may also request additional information listed in WMC Chapter 14.40, Flood Damage Prevention (1996).

1. Flood hazard area characteristics up- and downstream or up- and downcurrent from the project area;

2. Existing shoreline stabilization and flood protection works within the area;

3. Physical, geological, and soil characteristics of the area;

4. Biological resources and predicted impact to fish, vegetation, and animal habitat associated with shoreline ecological systems;

5. Predicted impact upon adjacent area shore and hydraulic processes, adjacent properties, and shoreline and water uses; and

6. Analysis of alternative flood protection measures, both structural and nonstructural.

6.5 Public Access

Public access provisions apply to all shorelines of the state, and are intended to protect the ability of the general public to reach, touch, and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations.

A. Applicability (also see Figure 6-1):

1. Public access shall be required in the following circumstances:

a. The use or development is a public project or is on public lands; or

b. The project is a water-enjoyment, water-related, or non-water-oriented use or development; or

c. The project is a residential development of more than four (4) dwelling units; or

d. The project is a subdivision of land into more than four (4) parcels; or

e. The project is a private water-dependent or water-related use or development and one of the following conditions exists:

i. The project increases or creates demand for public access; or

ii. The project impacts or interferes with existing access by blocking access or discouraging use of existing access; or

iii. The project impacts or interferes with public use of waters subject to the Public Trust Doctrine.

2. Public access to the shoreline shall not be required for the following:

a. Activities qualifying for a SLE and no other shoreline permit is required; or

b. New single-family residential development of four (4) or fewer units.

3. Physical public access shall not be required where the new or expanded use or development is physically separated from the shoreline by another property or public right-of-way.

4. The City may approve alternatives to on-site, physical access to the shoreline if the applicant can demonstrate with substantial evidence that at least one of the following conditions exist:

    a. Unavoidable health or safety hazards to the public exist which cannot be prevented by any reasonable means;

    b. Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions;

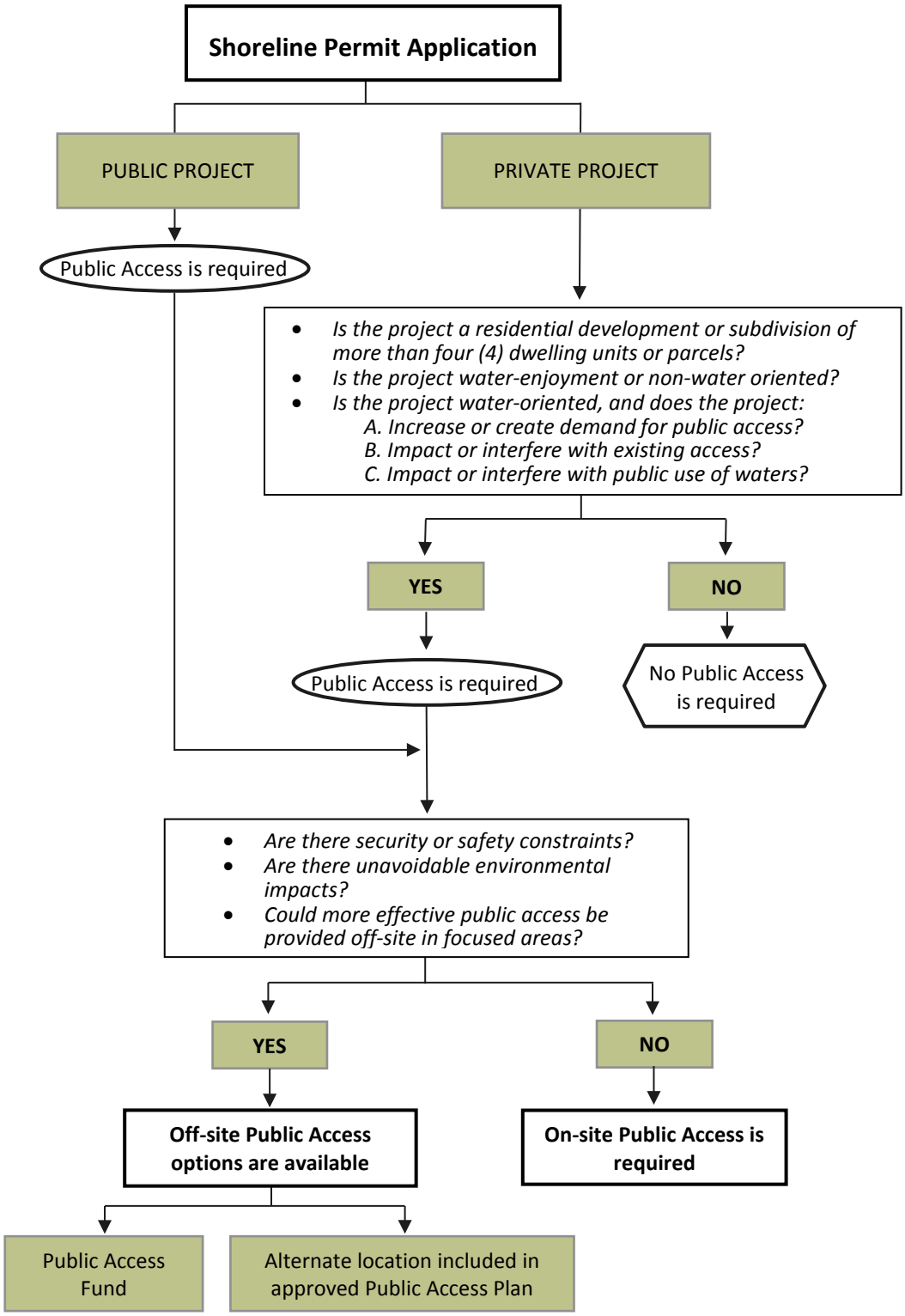
    c. The cost of providing the access, easement, or an alternative amenity, is unreasonably disproportionate to the total long term cost of the proposed development;

    d. Environmental impacts that cannot be mitigated, such as damage to spawning areas or nesting areas, would result from public access on-site;

    e. Significant undue and unavoidable conflict between access provisions and the proposed use and/or adjacent uses would occur and cannot be mitigated; and/or

    f. More effective public access can be provided off-site by focusing public access improvements at sites identified in the City's public access planning process conducted per WAC 173-26-221(4)(c).

Figure 6-1. Public Access Applicability



5. To be approved for alternative public access as described, the applicant shall demonstrate that all feasible alternatives have been considered, including, but not limited to, regulating access through allowed hours of use, maintaining access gate, and/or separating uses and activities with fences, terracing, hedges, etc.

B. Public Access Standards:

1. When public access is required and provided on-site, it shall be:

   a. Located and designed to be compatible with the natural shoreline character, to avoid adverse impacts to shoreline ecological functions, and to ensure public safety.

   b. Allowed to encroach into the shoreline buffer when necessary to provide physical and or visual access to the water's edge when otherwise consistent with this Program and Appendix B, Critical Areas Regulations.

   c. Connected to the nearest public street and shall include improvements that conform to the requirements of the ADA when feasible or required by law.

   d. Fully developed and available for public use prior to final occupancy when required for public land, commercial, port or industrial use/development.

   e. Clearly identified by signage installed and maintained in easily visible locations indicating the public's right of access, hours of access, and other information as needed to control or limit access according to conditions of approval.

   f. Recorded by easement and permit conditions on the deed of title and/or the face of a short or long plat. Recordation shall occur at the time of final plat approval or prior to final occupancy.

   g. Consistent with all relevant constitutional and other legal limitations on regulation of private property.

2. Off-site or Alternative Public Access:

   a. When public access is provided off-site, its location, design, and access type shall be consistent with the standards of Subsection B.1 of this Section and Woodland's Parks and Recreation Plan (2007) or the City's adopted Shoreline Public Access Plan.

   b. When public access is allowed off-site, an applicant may elect to make a payment into the jurisdiction's Shoreline Public Access Fund in lieu of developing the access directly.

3. Public access requirements for a single-family residential development of greater than four (4) parcels but less than ten (10) parcels can be met by providing community access to the shoreline or to a common waterfront lot/tract for non-commercial recreation use by the property owners.

6.6 Vegetation Conservation

A. Unless otherwise specified, all shoreline uses and development shall comply with the setback and buffer provisions of this Program included in Table 7-1 and Appendix B Table B-4, Critical Areas Regulations, to protect and maintain shoreline vegetation.

B. Vegetation clearing in shoreline jurisdiction shall be limited to the minimum necessary to accommodate approved shoreline development.

C. In cases where approved development results in unavoidable adverse impacts to existing shoreline vegetation, mitigation shall be required to ensure that there will be no net loss of ecological functions as set forth in Section 6.1. Mitigation plans shall be approved and implemented before initiation of other permitted activities unless a phased schedule that ensures completion prior to occupancy has been approved.

D. Aquatic weed control shall only occur to protect native plant communities and associated habitats or where an existing water-dependent use is restricted by the presence of weeds. Aquatic weed control shall occur in compliance with applicable laws and standards.

6.7 Water Quality and Quantity

A. All shoreline development shall comply with the applicable requirements of the City's Comprehensive Stormwater Plan, Comprehensive Plan, and best management practices to prevent impacts to water quality and stormwater quantity that would result in a net loss of shoreline ecological functions and/or a significant impact to aesthetic qualities or recreational opportunities.

B. Stormwater management structures including ponds, basins, and vaults shall be located outside of shoreline jurisdiction and fish and wildlife habitat buffers identified in Appendix B, Table B-4 where possible. Low impact development facilities (which do not substantially change the character of the shoreline) such as vegetation filter strips, grass-lined swales, and vegetated bioretention and infiltration facilities, are encouraged in association with development allowed in shoreline jurisdiction.

C. Aerial application of pesticides, herbicides and fertilizers within shoreline jurisdiction is prohibited unless as part of a public agency program for control of noxious species or specific pests, for quarantine or public health purposes, or for a crisis exemption.

D. Sewage management. To avoid water quality degradation, sewer service is subject to the requirements outlined below.

1. Any existing septic system or other on-site system that fails or malfunctions will be required to connect to an existing municipal sewer service system if feasible, or make system corrections approved by the Cowlitz County Environmental Health Unit.

2. Any new development, business, single-family or multi-family unit will be required to connect to an existing municipal sewer service system if feasible, or install an on-site septic system approved by Cowlitz County Environmental Health Unit.

7. Shoreline Use and Modification Regulations

The regulations in this Chapter apply to specific uses and modifications within shoreline jurisdiction. In many circumstances, more than one Section of use or modification regulations will apply to a specific proposal. Guiding policies for uses and modifications are located in Chapter 4, Shoreline Master Program Goals and Policies.

7.1 Shoreline Use, Modification, and Standards Tables

A. Table 7-1 Shoreline Use, Modification, Setbacks, and Heights, shall be used to determine which uses may be permitted, approved with a conditional use permit, or prohibited in each SED.

B. All new uses and development activities proposed for jurisdictional shoreline areas must comply with all provisions of the Woodland Municipal Code, as determined by the City.

C. Any new uses or modifications not defined in Table 7-1 shall be reviewed through a Shoreline Conditional Use Permit (SCUP).

D. Setbacks shall be measured on a horizontal plane landward from the required feature described in Table 7-1 below.

Table 7-1. Shoreline Use, Modification, Setbacks, and Heights

Table Key: P = May be permitted through SSDP or SLE SCUP = May be permitted through SCUP X = Prohibited N/A = Not Applicable	**Shoreline Environment Designations**				
	High-Intensity	**Residential**	**Urban Conservancy**	**Recreation**	**Aquatic**
Uses (See Section 7.2, Shoreline Use Regulations for specific use regulations)					
Agriculture	X	X	X	X	X
Aquaculture[2]	P	P	P	P	P
Boating Facilities					
Boat launches	P	X	P	P	P
Other Moorage	P	X	P	P	P
Commercial					
Water-dependent	P	P	X[9]	X[9]	SCUP
Water-related	P	P	X[9]	X[9]	X
Water-enjoyment	P	P	P	P	SCUP[9]
Non-water-oriented	P	X	X	X	X
Forest Practices	X	X	X	X	X

Table Key: P = May be permitted through SSDP or SLE SCUP = May be permitted through SCUP X = Prohibited N/A = Not Applicable	**Shoreline Environment Designations**				
	High-Intensity	**Residential**	**Urban Conservancy**	**Recreation**	**Aquatic**
Industrial					
Water-dependent	P	X	X	X	P
Other water-oriented	P	X	X	X	X
Non-water-oriented	P	X	X	X	X
Institutional	P	X	X	X	X
Mining	X	X	X	X	SCUP
Recreation					
Water-dependent	P	P	P	P	P
Other water-oriented	P	P	P	P	SCUP
Non-water-oriented	P	SCUP	X	SCUP	X
Residential					
Single-family	P[1]	P	P	P[1]	X
Multi-family	P	P	X	X	X
New floating residence	X	X	X	X	X
In-stream Structures	P	P	P	P	P
Transportation					
Roads and railroads	P	P	P	P	SCUP
Bridges	P[3]	P[3]	P[3]	P[3]	P[3]
Non-motorized facilities	P	P	P	P	SCUP
Parking as an accessory to a permitted use	P[4]	P[4]	P[4]	P[4]	X
Utilities	P	P[5]	P[5]	P[5]	SCUP
Uses not Specified	SCUP	SCUP	SCUP	SCUP	SCUP
Modifications (See Section 7.3, Shoreline Modification Regulations for specific modification regulations)					
Flood Control Works (see Section 6.4)					
Modification of Existing Flood Control Works (including relocation further landward)	P	P	P	P	SCUP
New Flood Control Works	P	P	SCUP	SCUP	X
Shoreline Stabilization					
New soft structural stabilization	P	P	P	P	P
Replacement soft structural stabilization	P	P	P	P	P
New hard structural stabilization	SCUP	SCUP	SCUP	SCUP	SCUP
Replacement hard structural	P	P	P	P	P
Breakwaters, Jetties,	SCUP	SCUP	SCUP	SCUP	SCUP

Table Key: P = May be permitted through SSDP or SLE SCUP = May be permitted through SCUP X = Prohibited N/A = Not Applicable	Shoreline Environment Designations				
	High-Intensity	**Residential**	**Urban Conservancy**	**Recreation**	**Aquatic**
Rock Weirs, and Groins[10]					
Fill / Excavation	P[6]	P[6]	P[6]	P[6]	SCUP
Dredge and Dredge Material Disposal					
Dredging	N/A	N/A	N/A	N/A	P
Dredge disposal	P	SCUP	SCUP	SCUP[8]	SCUP
Shoreline Habitat and Ecological Enhancement	P	P	P	P	P
Dimensional Standards					
Buffer[11]	See Table B-4 in Subsection 9.4.D of Appendix B				
Building setback from Buffer in Table B-4[11]	10’	10’	10’	10’	N/A
Maximum Height	35’[7]	35’	35’	35’	35’
Minimum River Frontage	N/A	60’	N/A	N/A	N/A

Table Notes:

1. Caretaker residence only.
2. Only free standing informational, educational, and navigation signs are permitted in the Aquatic environment designation.
3. Expansion of a bridge by 50% or more may be reviewed through an SCUP, rather than an SSDP Permit, at the discretion of the City.
4. Parking must support an allowed primary use. Parking as a primary use is prohibited.
5. Gas or oil transmission lines greater than 6 inches in diameter, electrical transmission lines greater than 50kv, and structural utility buildings, such as pump stations, electrical substations, dams or other facilities, require a SCUP.
6. All fill below the OHWM, except that required for ecological restoration, requires a SCUP.
7. Additional height may be approved in accordance with Section 7.2.6.H.
8. Dredge disposal allowed through an SSDP on lands already covered by legally deposited dredge spoils.
9. Commercial uses that are accessory to a public access or recreation use (such as kayak rental or concession stand) are allowed through an SSDP.
10. Structures that support fish habitat enhancement are allowed in all environments through an SSDP.
11. Water-dependent uses and developments may locate within the buffers shown in Table B-4, Appendix B and within the setbacks shown in Table 7-1. These uses must meet mitigation sequencing requirements to avoid, minimize, and mitigate for adverse impacts, in accordance with Section 6.1 of this SMP.

7.2 Shoreline Use Regulations

7.2.1 Agriculture

A. In accordance with RCW 90.58.065, this Program shall not restrict existing or ongoing agricultural activities occurring on agricultural lands. The applicable regulations in this Program apply to:

1. Conversion of agricultural lands to other uses, and

2. Other development on agricultural land that does not meet the definition of agricultural activities.

B. All new or expanded agricultural uses are prohibited.

C. Preparatory work associated with the conversion of land to non-agriculture uses and/or developments shall be consistent with the policies and regulations for the proposed non-agriculture use and the general provisions of this Program, including vegetation conservation.

7.2.2 Aquaculture

A. New aquaculture uses may be permitted only in association with the non-commercial restoration of native fish species in the Lewis River.

B. Non-commercial aquaculture undertaken for conservation or habitat restoration purposes is a preferred use within the City of Woodland's shorelines.

7.2.3 Boating Facilities

A. General Requirements:

New and modified boating facilities shall be sited and designed to ensure no net loss of shoreline ecological functions and shall meet Washington Department of Natural Resources requirements and other state guidance if located in or over state-owned aquatic lands.

Boating facilities shall locate in areas where:

a. There is adequate water mixing and flushing;

b. The structure shall not block or obstruct lawfully existing or planned public shoreline access;

c. Such facilities shall not adversely affect flood channel capacity or otherwise create a flood hazard;

d. Water depths are adequate to minimize new or maintenance dredging and other channel maintenance activities;

e. The structure shall minimize the obstruction of currents, alteration of sediment transport, and the accumulation of drift logs and debris;

f. New shoreline stabilization shall not be needed. Where the need for stabilization is unavoidable, only the minimum necessary shoreline

stabilization to adequately protect facilities, users, and watercraft may be allowed; and

g. Water depths are adequate to prevent floating structures from grounding out at the lowest low water or else stoppers are installed to prevent grounding out.

Boating facilities shall not be located:

Along braided or meandering river channels where the channel is subject to change in alignment;

On point bars or other accretion beaches; or

Where existing in-water navigation uses would be impaired or obstructed.

Boating facilities shall be constructed of materials that will not adversely affect water quality or aquatic plants and animals over the long term. Materials used for submerged portions, decking, and other components that may come into contact with water shall be approved by applicable state agencies for use in water.

Boating uses and facilities shall be located far enough from public swimming beaches, and fishing and aquaculture areas within the City or County to avoid adverse impacts, safety concerns, and potential use conflicts.

When feasible, boating facilities shall be designed to be aesthetically compatible with the surrounding shoreline environment, and where aesthetic impacts are unavoidable, mitigation shall be provided.

Accessory uses at boating facilities shall be:

Limited to water-oriented uses, including uses that provide physical or visual shoreline access for the general public.

Located outside of the buffer and floodway and as far landward as possible while still serving their intended purposes.

Parking and storage areas shall be located outside of shoreline jurisdiction whenever feasible and shall be setback from the shoreline as far feasible. Parking and storage facilities shall be landscaped or screened to provide visual and noise buffering between adjacent dissimilar uses or scenic areas.

Lighting associated with overwater structures shall be beamed, hooded, or directed to avoid causing glare on adjacent properties or waterbodies. Illumination levels shall be the minimum necessary for safety.

Boating facilities shall locate where access roads are adequate to handle the traffic generated by the facility and shall be designed so that lawfully existing or planned public shoreline access is not obstructed.

New uses, developments and activities accessory to boating facilities should be located outside any applicable shoreline buffer unless proximity to the water-dependent project elements is critical to the successful implementation of the facility's purpose, and the elements are supportive of the water-dependent use and have no other utility (e.g., a road to a boat launch facility).

In these circumstances, uses and modifications accessory to water-dependent boating facilities must be designed and located to minimize intrusion into the buffer, and any adverse impacts to ecological functions shall be mitigated.

B. Boat Launches

1. Launch ramps shall be designed and constructed using methods/technology that have been recognized and approved by state and federal resource agencies as the best currently available with consideration for site-specific conditions and the particular needs of that use.

2. There is no maximum length or width for boat launches; however, the proponent must demonstrate that the size proposed is the minimum necessary to allow the use proposed.

3. Non-motorized boat launches shall use gravel or other permeable material.

4. Additional standards for public boat launches are as follows:

   a. Public boat launches shall include adequate restroom and sewage and solid waste disposal facilities in compliance with applicable health regulations.

   b. When overwater development is proposed in association with a public boat launch facility, it may be permitted only where such use requires direct water access and/or where such facilities will substantially increase public opportunities for water access.

   c. Public boat launches shall be located and designed to prevent traffic hazards and to minimize traffic impacts on nearby access streets.

   d. Public boat launch sites shall include parking spaces for boat trailers commensurate with projected demand.

C. Covered moorage is only permitted a necessary component of a water-dependent industrial or commercial use. Covered moorage shall be designed and located to be the minimum size necessary and minimize adverse impacts caused by shading the water and blocking views.

D. Docks

1. New piers and docks shall be allowed only for water-dependent uses or public access.

2. New dock construction, excluding docks accessory to single-family residences (regulated under Subsection E if this Section), shall be permitted only when the applicant has demonstrated that a specific need exists to support the intended primary water-dependent use. The applicant shall demonstrate need by providing a needs analysis or comprehensive master plan projecting future needs for dock or moorage space for approval. If approved by staff, the document may serve as the necessary justification for design, size, and construction to the extent that the plans are consistent with this Program.

3. Extended moorage on waters of the state requires a lease or permission from the Washington State Department of Natural Resources.

E. This Section applies to docks and buoys that are accessory to four (4) or fewer single-family residences. A dock associated with a single-family residence is considered a water-dependent use if it is designed and intended for access to watercraft and complies with the requirements of this Program.

1. A new moorage structure (dock or buoy) to serve a single-family residence may be allowed only when the lot does not have access to a shared structure and there is no homeowners association or other corporate entity capable of developing shared structure.

2. Prior to approving a new residential dock, an applicant shall demonstrate that a mooring buoy is not feasible to provide moorage.

3. When feasible, new residential development of two or more dwellings with new accessory docks shall provide joint use or community dock facilities to reduce ecological impacts of new overwater facilities.

4. Docks shall meet the following standards:

a. Docks shall be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. The length of docks accessory to residential use/development shall be no greater than that required for safety and practicality for the residential use. The maximum length for residential docks shall be limited to either sixty (60) feet as measured horizontally from the OHWM or the length necessary to provide a minimum of six (6) feet of water depth. The maximum width for residential docks shall be limited to six (6) feet. The dimensional standards may be adjusted as required by state and federal agencies if the decision maker finds that such adjustment will better preserve ecological functions.

b. New or expanded covered moorage is prohibited.

c. Boating facilities shall be constructed of materials that will not adversely affect water quality or aquatic plants and animals over the long term. Materials used for submerged portions, decking, and other components that may come into contact with water shall be approved by applicable state agencies for use in water.

d. Floats shall be constructed and attached so that they do not ground out on the substrate. Float stops, tubs, or similar structures may be used. A minimum of one (1) foot of elevation above the substrate is required.

e. Pile spacing shall be the maximum feasible to minimize shading and avoid a "wall" effect that would block or baffle wave patterns, currents, littoral drift, or movement of aquatic life forms, or result in structure damage from driftwood impact or entrapment.

f. Piling diameter shall be sized to use the minimum possible while meeting the structural requirements of expected loads.

g. Grating, or clear translucent material, shall cover the entire surface area of the pier and ramp and all portions of float(s) not underlain by float tubs or other material that provides buoyancy. The open area of grating shall have a minimum of sixty (60) percent open space, or as otherwise required by state or federal agencies during permit review, unless determined to be infeasible due to specific site or project considerations. Clear translucent material shall have greater than ninety (90) percent light transmittance as rated by the manufacturer.

h. Docks shall be set back a minimum of ten (10) feet from side property lines, except that joint-use facilities may be located closer to, or upon, a side property line when agreed to by contract or covenant with the owners of the affected properties. This agreement shall be recorded with the county auditor and a copy filed with the shoreline permit application.

5. Unavoidable impacts from new or expanded private boat moorage or launch construction pursuant to this Section shall be minimized and mitigated consistent with the requirements of this Program.

6. Private boat ramps are prohibited.

7. Moorage or launch structures shall not be allowed in critical freshwater aquatic habitats, unless it can be demonstrated that the structure, including auxiliary impacts and established mitigation measures, will not be detrimental to the natural habitat or species of concern, and will not result in loss of ecological function.

7.2.4 Commercial

A. Water-dependent commercial uses are preferred over non-water-dependent commercial uses. Water-related and Water enjoyment use are preferred over non-water-oriented uses.

B. Non-water-dependent commercial uses shall not be allowed if they displace existing viable water-dependent uses or if they are proposed to occupy space designated for water-dependent uses identified in a previously approved SSDP or other approval.

C. Non-water-oriented commercial uses may be permitted only:

    1. As part of a mixed-use development that has a formally approved master plan that complies with this Program; and

    2. Includes water-dependent uses; and

    3. Provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as public access and ecological restoration; or

    4. When the site is physically separated from the shoreline by another property or public right-of-way.

D. Water-dependent and water-related commercial uses shall consider public access and/or ecological restoration as potential mitigation for impacts to shoreline resources and values unless such improvements are demonstrated to be infeasible or inappropriate, and shall avoid impacts to existing navigation, recreation and public access uses.

E. An applicant for a new commercial use or development shall comply with the mitigation sequencing provisions of this Program.

F. Accessory development or use that does not require a shoreline location, such as parking, service buildings or areas, access roads, utilities, signs, and storage of materials, shall be located outside of the shoreline jurisdiction unless demonstrated to be infeasible.

G. Overwater structures, or other structures waterward of the OHWM, are allowed only for those portions of water-dependent commercial uses that require overwater facilities as an essential feature of their function or for public access facilities. Design of overwater structures or structures beyond the OHWM shall demonstrate that they will not interfere with normal stream geomorphic processes, require additional future shoreline stabilization, and interfere with navigation or normal public use of the water.

H. Where commercial developments are proposed in locations that would interrupt existing shoreline views, primary structures shall provide for reasonable view corridors. The City may adjust the project dimensions and/or prescribe development operation and screening standards as deemed appropriate. Need and special considerations for landscaping and buffer areas shall also be subject to review.

I. Only water-dependent elements for commercial use of a proposal may encroach on required vegetated buffers of this Program (see Section 9.4.D of Appendix B, Critical Areas Regulations).

7.2.5 Forest Practices

A. Commercial harvest of timber undertaken on shorelines shall comply with the applicable policies and provisions of the Forests and Fish Report (U.S. Fish and Wildlife Service, et al., 1999) and the Forest Practices Act, RCW 76.09 as amended, and any regulations adopted pursuant thereto (WAC 222) as administered by the Department of Natural Resources.

B. When timberland is to be converted to another use, such conversion shall be clearly indicated on the forest practices application. Vegetated buffers found in Appendix B shall be maintained along shorelines. Failure to indicate the intent to convert the timberland to another use on the application will result in subsequent conversion proposals being reviewed pursuant to conversion Option Harvest Plan. Failure to declare intent to convert on the application shall provide adequate grounds for denial of subsequent a conversion proposals for a period of six (6) years from the date of the forest practices application approval per RCW 76.09.060(3)(d), (e), and (f); RCW 76.09.460; and RCW 76.09.470 subject to the provisions of Sections 40.260.080(A)(4)(a)(2) and (C).

C. With respect to timber situated within two hundred (200) feet landward of the OHWM within SSWS, Ecology or the City shall allow only selective commercial timber cutting so that no more than thirty (30) percent of the merchantable trees may be harvested in any ten (10) year period of time; provided that other timber harvesting methods may be permitted in those limited instances where the topography, soil conditions, or silviculture practices necessary for regeneration render selective logging ecologically detrimental; and provided further, that clear cutting of timber which is solely incidental to the preparation of land for other uses authorized by this Program may be permitted. Exceptions to this standard shall be by SCUP only.

D. Forestry practices for preparatory work associated with the conversion of land to non-forestry uses and/or developments shall be consistent with the policies and regulations for the proposed non-forestry use and the general provisions of this Program, including vegetation conservation.

7.2.6 Industrial

A. Water-dependent industrial uses are preferred over non-water-dependent industrial uses.

B. Water-related and non-water oriented industrial uses shall not be allowed if they displace existing viable water-dependent uses or if they are proposed to occupy space designated for water-dependent uses identified in a previously approved SSDP or SLE.

C. New or expanded non-water-oriented industrial development may be allowed only when:

   1. It is part of a mixed-use project including water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as public access and ecological restoration; or

   2. Navigability is severely limited at the site and the development provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as public access and ecological restoration; or

   3. The site is physically separated from the shoreline by another property or public right-of-way.

D. Industrial development and redevelopment is encouraged to locate where environmental cleanup and restoration of the shoreline area can be incorporated.

E. Proposed developments shall maximize the use of existing industrial facilities and avoid duplication of dock or pier facilities before expanding into undeveloped areas or building new facilities. Proposals for new industrial and port developments shall demonstrate the need for expansion into an undeveloped area.

F. Only water-dependent elements of a proposal for industrial use may encroach on required vegetated buffers of this Program (see Section 9.4.D of Appendix B, Critical Areas Regulations).

G. Siting of accessory development or use within shoreline jurisdiction shall be limited to facilities required to serve approved water-oriented uses.

H. Water-oriented structures may be allowed to exceed a height of thirty-five (35) feet. Such structures may include, but are not limited to facilities which must be of a greater height in order to function, such as cranes or other facilities designed to move or place products, fixed loading facilities that must provide clearance over vessels, storage facilities such as grain elevators, as well as accessory features such as lighting required for operations. The applicant must demonstrate compliance with the following criteria:

   1. The public interest will be served by accommodating the increased height.

   2. The view of a substantial number of residences in areas adjoining such shorelines will not be obstructed.

   3. Increased height will not substantially interfere with views from a designated public place, vista, or feature specifically identified in an adopted local, state, or federal plan or policy.

I. Where industrial developments are proposed in locations that would interrupt existing shoreline views, primary structures shall provide for reasonable view corridors. The City may adjust the project dimensions and/or prescribe development operation and screening standards as deemed appropriate. Need and special considerations for landscaping and buffer areas shall also be subject to review.

7.2.7 Institutional

A. Water-oriented institutional uses and developments are preferred.

B. Non-water-oriented institutional uses must provide public benefit with respect to the Shoreline Management Act's objectives, such as public access and ecological restoration.

C. Loading, service areas, and other accessory uses shall be located landward of a primary structure or underground whenever possible, but shall in no case be waterward of the structure.

D. Where non-water oriented institutional uses are allowed, the following must be demonstrated:

   1. A water-dependent use is not reasonably expected to be located on the proposed site due to topography, surrounding land uses, physical features of the site, or the site is physically separated from the shoreline by another property or public right-of-way; and

   2. The proposed use does not displace a current water-oriented use and will not interfere with adjacent water-oriented uses; and

3. The proposed use will be of substantial public benefit by increasing the public use, enjoyment, and/or access to the shoreline consistent with protection of shoreline ecological function.

7.2.8 In-Stream Structures

A. In-stream structural uses include, but are not limited to, hydroelectric power generation, irrigation, water transmission, flood control, transportation, utilities, and fish habitat enhancement projects.

B. Operation, maintenance, and repair of legally existing in-stream structures may be permitted when:

1. The proposed activity will not increase the permanent footprint of the structure; and,

2. Areas impacted by temporary construction or stockpiling of materials is limited to the minimum area feasible, and all disturbed areas will be returned to their pre-project or improved ecological condition.

C. Applications for new or expanded in-stream structural uses shall include the following information prior to final approval, unless the City determines that the issues are adequately addressed via another regulatory review process:

1. A hydraulic analysis prepared by a licensed professional engineer that describes anticipated effects of the project on stream hydraulics, including potential increases in base flood elevation, changes in stream velocity, and the potential for redirection of the normal flow of the affected stream.

2. A habitat management plan prepared by a qualified professional biologist that describes the anticipated effects of the project on fish and wildlife resources, provisions for protecting in-stream resources during construction and operation, and measures to compensate for impacts to resources that cannot be avoided.

3. A description of sites proposed for the depositing of debris, overburden, and other waste materials generated during construction.

4. The proposed location and design of powerhouses, penstocks, accessory structures, and access and service roads for hydropower facilities.

5. Proposed provisions for accommodating public access to and along the affected shoreline, as well as any proposed on-site recreational features.

7.2.9 Mining

Mining in Washington is controlled by the Surface Mining Act of 1970 (RCW 78.44) and is administered by the Washington Department of Natural Resources. The provisions of this legislation shall be followed in all cases.

A. An applicant for mining and associated activities within the shoreline jurisdiction shall demonstrate that the proposed activities are dependent on a shoreline location consistent with this Program and WAC 173-26-201(2)(a).

B. Mining and associated activities shall be designed and operated to result in no net loss of shoreline ecological functions and processes, set forth in Section 6.1. To be approved, the applicant must demonstrate that there will be no:

    1. Adverse impact on the structural integrity of the shoreline that would change existing aquatic habitat or aquatic flow characteristics; and

    2. Changes in hydraulic processes to or from adjacent waterbodies that would damage aquatic habitat, shoreline habitat, or groundwater.

C. Mining waterward of the OHWM may be permitted only when the applicant demonstrates that:

    1. Removal of specified quantities of sand and gravel or other materials at specific locations will not adversely affect natural gravel transport or other stream processes for the system as a whole.

    2. The proposed mining and associated activities will not have significant adverse impacts on habitat for priority species and will not cause a net loss of shoreline ecological functions.

    3. Determinations required by 1 and 2 above must be made consistent with RCW 90.58.100(1) and WAC 173-26-201(2)(a).

    4. In considering renewal, extension, or reauthorization of other mining operations waterward of the OHWM in locations where they have previously been conducted, compliance with this Subsection to the extent that no such review has previously been conducted must be demonstrated. Where there has been prior review, the City must review previous determinations comparable to the requirements of this Section to assure compliance with this Subsection under current site conditions.

D. Disposal of overburden or other mining spoils or nonorganic solid wastes shall comply with fill policies and regulations of this Program.

E. To ensure future use and visibility of the shoreline areas after completion of mining activities, the following provisions for land reclamation shall be met and shall be demonstrated in a reclamation plan approved by the Washington Department of Natural Resources that complies with the format and standards of RCW 78.44 and WAC 332-18:

1. All reclamation shall be completed within two (2) years after discontinuance of mining operations.

2. All equipment, machinery, buildings, and structures shall be removed from the site upon discontinuance or abandonment of mining operations.

3. Backfill material used in site reclamation shall be composed of natural materials. Combustible, flammable, noxious, toxic, or solid waste materials are not permitted as backfill or for on-site disposal.

4. Reclamation shall prevent future erosion and sedimentation. Topography of the site shall be restored to contours compatible with the surrounding land and shoreline area.

5. Final topography of the site shall not cause standing water to collect and remain on the site except as part of a sedimentation collection and removal system.

6. All exposed areas shall be revegetated utilizing native, self-sustaining plants suitable to the immediate shoreline environment.

F. The provisions of this Section do not apply to dredging of authorized navigation channels or management, placement, or beneficial reuse of dredged materials when conducted in accordance with Section 7.3.4 of this Program.

7.2.10 Recreational

A. Shoreline recreational development that provides access to and enjoyment of the water and shorelines of the state are a preferred use. Recreation areas or facilities on the shoreline shall provide physical or visual access to the shoreline.

B. Recreational uses and developments may be permitted when they do not displace water-dependent uses, are consistent with existing water-related and water-enjoyment uses, and meet all other requirements of this Program.

C. Only water-dependent or water-enjoyment elements of a recreational proposal may encroach on required vegetated buffers of this Program (see Table B-4 in Appendix B) when they are demonstrated to be necessary. All encroachments into the buffer must be fully mitigated in accordance with this program.

D. Provisions shall be made for adequate vehicular parking and safe pedestrian crossings. Design of parking areas shall ensure that surface runoff does not discharge to adjacent waters. Parking areas shall be located upland, away from the immediate shoreline.

E. All permanent, substantial recreational structures and facilities shall be located outside officially mapped floodways. Minor accessory uses may be allowed in the floodway when it can be demonstrated by the applicant that there will be no net loss of ecological functions as set forth in Section 6.1, and all flood hazard criteria of this Program and the City's flood protection code in WMC 14.40, Flood Damage Prevention (1996), are met.

F. New overwater structures for a recreational use shall be allowed only when:

    1. They accommodate a water-dependent recreation use or facilities; or

    2. They provide access for the public to enjoy the shorelines of the state.

G. Recreational facilities shall provide adequate facilities for potable water supply, sewage disposal, and/or garbage collection where practicable.

7.2.11 Residential

A. Single-family residential uses shall be permitted on all shorelines except the Aquatic environment, and shall be located, designed, and used in accordance with applicable policies and regulations of this Program and the SMA.

B. New residential development shall comply with the shoreline buffer provisions established in Section 9.4 of Appendix B.

C. Redevelopment or expansion of existing residential structures shall also conform to the provisions in Section 3.3 of this SMP.

D. All new residential uses and development, including subdivisions, short-plats, accessory uses and structures:

    1. Shall be designed such that no shoreline stabilization measures are necessary.

    2. Shall be located and designed to minimize view obstructions to and from the shoreline from other properties.

    3. Shall be prohibited in, over, or floating on the water.

    4. Shall be prohibited in floodways and channel migration zones.

E. New residential lots shall be configured such that structural flood hazard reduction and shoreline stabilization measures are not now and will not be required during the life of the development or use.

F. New residential lots shall be configured such that siting and construction are feasible while achieving no net loss of ecological functions.

G. Where housing developments are proposed in locations that would interrupt existing shoreline views, primary structures shall provide for reasonable view corridors. The City may adjust the project dimensions and/or prescribe development operation and screening standards as deemed appropriate. Need and special considerations for landscaping and buffer areas shall also be subject to review.

7.2.12 Transportation and Parking

A. Roads, Railroads and Bridges

1. New or expanded surface transportation facilities not related to and necessary for the support of shoreline activities shall be located outside of the shoreline jurisdiction wherever possible unless location outside of shoreline jurisdiction is demonstrated to be infeasible.

2. When transportation facilities are demonstrated to be necessary in shoreline jurisdiction or if no other feasible location exists the applicant shall demonstrate that new or expanded facilities are designed to:

   a. Minimize impacts to critical areas and associated buffers and to minimize alterations to the natural or existing topography to the extent feasible; and

   b. Avoid or minimize the need for shoreline stabilization.

3. New transportation crossings over streams shall be avoided, but where necessary shall utilize bridges rather than culverts to the extent feasible.

4. Requirements for bridge and culvert installation crossing all streams shall be consistent with the Washington Department of Fish and Wildlife’s site-specific Hydraulic Project Approval standards.

5. All excavation materials and soils exposed to erosion by all phases of road, bridge and culvert work shall be stabilized and protected by seeding, mulching or other effective means, both during and after construction.

6. Private access roads or driveways providing ingress and egress for individual single-family residences or lots shall be limited to the minimum width allowed by the fire code.

7. Bridges shall provide the maximum length of clear spans feasible with pier supports to produce the minimum amount of deflection feasible.

B. Non-Motorized Facilities

1. Non-motorized facilities, such as trails, shall comply with provisions for public access that are part of this Program.

2. New or expanded non-motorized transportation facilities shall be located outside of critical areas and their associated buffers. With demonstration that the trail cannot be located outside of the buffer, the trail can be located in the outer 25 percent of the critical area buffer. The following trail types are exceptions and may locate closer to the OHWM:

   a. Soft-surface trails (mulch, or dirt), not wider than three (3) feet constructed for public access to shoreline areas.

      i. This exception does not apply to Critical Area buffers for Category I, II, or III Wetlands.

      ii. Trail construction and maintenance shall minimize removal of vegetation (trees, shrubs, etc.) avoid important wildlife habitat, and shall not result in a net loss of ecological functions.

      iii. This exception does not apply to trail parking, shelters, bathrooms, and any similar related structures.

      iv. All provisions of Appendix B, Critical Area Regulations must be met.

3. Elevated walkways shall be utilized where feasible to cross wetlands and streams if a trail is not feasible outside of the critical area and associated buffer.

C. Parking facilities are not a preferred use and shall be allowed only where necessary to support an authorized use. Parking facilities accessory to a permitted use shall be:

1. Set back as far as possible from the OHWM and outside shoreline jurisdiction where feasible;

2. Located outside of critical areas and associated buffers where feasible; and

3. Located on the landward side of the proposed development or use.

D. Facility lighting must be designed and operated to avoid illuminating nearby properties or public areas; prevent glare on adjacent properties, public areas, or roadways to avoid infringing on the use and enjoyment of such areas; and to prevent hazards. Methods of controlling spillover light include, but are not limited to, limits on height of structure, limits on light levels of fixtures, light shields,

setbacks, buffer areas, and screening. Lighting must be directed away from critical areas unless necessary for public health and safety.

7.2.13 Utilities

These provisions apply to services and facilities that produce, convey, store, or process power, gas, wastewater, communications, oil, waste, and similar services and functions. On-site utility features serving a primary use, such as a water, sewer, or gas line to a residence or other approved use, are accessory utilities and shall be considered a part of the primary use.

New or expanded non-water-dependent utilities or parts thereof may be located within shoreline jurisdiction only when the applicant demonstrates based on analysis of alternative locations and technologies that:

1. No alternative location outside of shoreline jurisdiction is feasible;
2. If a new corridor is proposed, utilization of existing corridors is not feasible, including expansion or replacement of existing facilities; and
3. The proposal minimizes changes to the visual character of the shoreline environment as viewed from the water and surrounding views to the water.
4. The above requirements do not apply to water-dependent utilities, or parts thereof, which require a shoreline location, such as stormwater or wastewater treatment plant outfalls.

B. The presence of existing utilities shall not justify more intense development. Rather, the development shall be consistent with the County Comprehensive Plan, zoning code, and this Program, and shall be supported by adequate utilities.

C. Where overhead electrical transmission lines must parallel the shoreline, they shall be outside of shoreline jurisdiction unless infeasible due to site constraints, including but not limited to topography or safety.

D. Transmission, distribution, and conveyance facilities shall be located in existing rights of way and corridors whenever feasible.

E. Utility crossings of waterbodies shall be attached to bridges where feasible. Where attachment to a bridge is not feasible, underground construction methods that avoid surface disturbance are preferred. Crossings shall be designed to cross shoreline jurisdictional areas by the shortest, most direct route feasible, unless such route would cause significant environmental damage.

F. All underwater pipelines transporting liquids intrinsically harmful to aquatic life or potentially harmful to water quality shall be equipped with automatic shut-off valves on both sides of the waterbody crossing.

G. When allowed in shoreline jurisdiction subject to 7.2.13.A above, structural utility buildings, such as pump stations, electrical substations, or other facilities, shall be visually compatible in scale with surrounding development and landscape to provide compatibility with natural features and adjacent uses.

H. Stormwater outfalls may be placed below the OHWM to reduce scouring. New outfalls and modifications to existing outfalls shall be designed and constructed to avoid impacts to existing native aquatic vegetation attached to or rooted in substrate.

7.3 Shoreline Modification Regulations

To be authorized, all shoreline modification activities in shoreline jurisdiction shall be planned and implemented in a manner consistent with this Program. In considering the approval of shoreline modifications, the City shall make findings that the following policies and regulations are met based on information provided by the applicant, including studies by qualified professionals when necessary.

All shoreline modifications must comply with the following general provisions:

A. Structural modifications may be permitted only where they are demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for reconfiguration of the shoreline for mitigation or enhancement purposes;

B. Preference shall be given to shoreline modifications that have a lesser impact on ecological functions; and

C. Modifications shall be designed to incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.

7.3.1 Shoreline Stabilization

A. Proposals for new or modified shoreline stabilization shall demonstrate that proposed structures are the minimum size necessary.

B. Compliance with the following criteria shall be documented through geotechnical analysis by a qualified professional. Geotechnical reports pursuant to this Section shall address the necessity for shoreline stabilization by estimating timeframes and rates of erosion and shall report on the urgency associated with the specific situation.

1. New lots created by subdivision shall demonstrate that new shoreline stabilization will not be necessary, for the life of the development, in order for reasonable development to occur.

2. Development on steep slopes shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure (see Chapter 8 of Appendix B, Critical Areas Regulations).

3. Development that would require new shoreline stabilization that would cause significant impacts to adjacent or down-current properties and shoreline areas, shall not be allowed.

4. Hard armoring solutions shall be authorized only:

    a. When a report finds that a primary structure will be damaged within three (3) years from shoreline erosion without hard armoring measures;

    b. If waiting to provide erosion protection would foreclose the opportunity to use measures that avoid impacts on ecological functions; or

    c. When hard armoring is not justified based on the above criteria, a geotechnical report may be used to justify protection against erosion using soft shoreline stabilization measures.

C. Shoreline stabilization shall be designed and constructed to avoid or minimize stream channel direction modification, realignment, and straightening or to result in increased channelization of normal stream flows or impacts to sediment transport.

D. New or expanded shoreline stabilization, with the exception of modifications to flood control structures approved by the U.S. Army Corps of Engineers, shall follow this hierarchy of preference:

1. No action (allow the shoreline to retreat naturally).

2. Non-structural methods such as increased building setbacks, relocating structures, and/or other methods to avoid the need of stabilization.

3. Stabilization constructed of soft structural protection and bioengineering, including, but not limited to, beach nourishment, protective berms, or vegetative stabilization.

4. Soft structural stabilization, as described above, in combination with hard structure stabilization, as described below, constructed as a protective measure.

5. Hard structure stabilization constructed of artificial materials such as, but not limited to, riprap or concrete.

Applicants should consult applicable shoreline stabilization guidance documents, such as the Integrated Streambank Protection Guidelines, promulgated by state or federal agencies.

E. New structural shoreline stabilization measures to protect an existing primary structure, including residences, are only allowed when there is conclusive evidence, documented by a geotechnical analysis, that the structure is in danger from shoreline erosion caused by currents or waves rather than from upland conditions. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems by relocating drainage away from the shoreline edge before considering structural shoreline stabilization. Considerations shall include the feasibility of reconstruction and/or relocation of the structure if it is cost effective in relation to any new or expanded erosion control structures. All new erosion control structures shall not result in a net loss of shoreline ecological functions.

F. New shoreline structural stabilization may be permitted in support of a water-dependent development when all of the conditions below are met as demonstrated in a geotechnical report by a qualified professional:

1. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.

2. There is a need to protect primary structures from damage due to erosion.

3. Non-structural measures, such as placing the development farther from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.

4. The stabilization structure will not result in a net loss of shoreline ecological functions.

G. New shoreline structural stabilization may be permitted in support of a new non-water-dependent development (including single-family residences) when all of the conditions below are met as demonstrated in a geotechnical report by a qualified professional:

1. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.

2. There is a need to protect primary structures from damage due to erosion caused by natural processes, such as currents or waves.

3. Non-structural measures, such as placing the development farther from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.

4. The stabilization structure will not result in a net loss of shoreline ecological functions.

H. New shoreline structural stabilization may be permitted to protect ecological restoration or hazardous substance remediation projects when the conditions below are met as demonstrated in a geotechnical report by a qualified professional:

1. Non-structural measures, such as placing the development farther from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.

2. The stabilization structure will not result in a net loss of shoreline ecological functions.

I. The construction of a shoreline stabilization structure, either “soft” or “hard” for the purpose of creating dry land is prohibited.

J. Replacement of an existing shoreline stabilization structure with a similar structure is permitted if there is a demonstrated need to protect existing primary uses or structures from erosion caused by current or wave action.

K. Replacement walls or bulkheads shall not encroach waterward of the OHWM or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall about the existing shoreline stabilization structure.

L. Replacement must result in no net loss of ecological functions. For purposes of this Subsection regarding standards on shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure that can no longer adequately serve its purpose. Additions to or increases in the size of existing shoreline stabilization measures shall be considered new structures.

M. A publicly financed or subsidized shoreline stabilization project shall provide public access subject to the provisions in Section 6.5 of this SMP. Where feasible, such structural stabilization shall incorporate ecological restoration. See Section 6.5, Public Access, for additional information.

N. Bioengineered projects shall be designed by a qualified professional in accordance with the most current, accurate, and complete scientific and technical information available, and shall incorporate a variety of native plants, unless native species are demonstrated infeasible for the particular site.

7.3.2 Breakwaters, Jetties, Weirs, and Groins

A. Breakwaters, jetties, groins and weirs located waterward of the OHWM shall be allowed only where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose.

B. Breakwaters, jetties, groins, weirs, and similar structures require an SCUP, except for those structures installed to protect or restore ecological functions, such as woody debris installed in streams.

C. Open pile or floating breakwater designs shall be used unless it can be demonstrated that riprap or other solid construction would not result in any greater net impacts to shoreline ecological functions, processes, fish passage, or shore features.

7.3.3 Fill and Excavation

A. Fill may be placed in flood hazard areas only when otherwise allowed by the frequently flooded areas regulations in this Program (Chapter 7 in Appendix B) and where it is demonstrated in a hydrogeological report prepared by a qualified professional that adverse impacts to hydrogeologic processes will be avoided.

B. Fill below or waterward of the OHWM for any use except ecological restoration requires an SCUP. Fill may be placed below the OHWM only when it is demonstrated that the fill is necessary to:

1. Accomplish an aquatic habitat restoration plan.

2. Support a mitigation action, environmental restoration, beach nourishment or other enhancement project.

3. Correct the adverse results of past shoreline modification that have disrupted natural stream geomorphic conditions and adversely affected aquatic or terrestrial habitat.

4. Support a water-dependent use.

5. Serve as part of a public access proposal.

6. Support cleanup of contaminated sediments as part of an interagency environmental clean-up plan, or permitted under MTCA or CERCLA.

7. Expand or alter transportation facilities of statewide significance currently located on the shoreline only when demonstrated that alternatives to fill are not feasible.

C. Fill is restricted in wetlands or fish and wildlife habitat conservation areas in accordance with the critical areas standards in this Program and Appendix B, Chapters 5 and 6.

D. Excavation of previously deposited dredge spoils above the OHWM may be permitted if the spoils site is part of a dredge materials management plan and the spoils were not originally placed as part of a beach nourishment or other shoreline restoration project.

E. Excavation below the OHWM is considered dredging and is subject to provisions in Subsection 7.3.4, Dredging and Dredge Material Disposal.

7.3.4 Dredging and Dredge Material Disposal

A. Dredging and in-water dredge disposal must be approved by state and federal agencies with jurisdiction, with documentation provided to the City as a condition of any shoreline permit.

B. New dredging shall be permitted only:

1. When establishing, expanding, or reconfiguring navigation channels, anchorage areas, and basins in support of existing navigational uses where significant ecological impacts are minimized and mitigation is provided;

2. When implementing an approved regional dredge management plan for flood control purposes;

3. As part of an approved habitat improvement project;

4. As part of a Model Toxics Control Act or Comprehensive Environmental Response, Compensation, and Liability Act project;

5. In conjunction with a new port, bridge, navigational structure, wastewater treatment facility, essential public facility, hydroelectric facility, fish hatchery, or other water-dependent use for which there is a documented public need and where other sites or methods are not feasible; or

6. When otherwise approved by state and federal agencies.

C. New development shall be sited and designed to avoid or, if that is not possible, to minimize the need for new and maintenance dredging.

D. Maintenance dredging shall be restricted to previously authorized locations, depths, and widths.

E. Dredging waterward of the OHWM for the primary purpose of obtaining fill material is allowed only when the material is necessary for the restoration of ecological functions. When allowed, the site where the fill is to be placed must be located waterward of the OHWM. The project must be either associated with a Model Toxics Control Act or Comprehensive Environmental Response, Compensation, and Liability Act habitat restoration project or, if approved through an SCUP, any other significant habitat enhancement project.

F. Dredge materials exceeding Ecology criteria for toxic sediments shall be disposed of according to state and federal law. Proof of proper disposal at an upland permitted facility may be required.

G. Disposal of dredge material on shorelands or wetlands within a river's channel migration zone shall be discouraged. In the limited instances where it is allowed, such disposal shall require an SCUP. Disposal of dredge material within wetlands or within a river's channel migration zone shall be allowed only when proposed as part of an ecological restoration project demonstrated by a qualified professional to:

    1. Improve wildlife habitat;

    2. Correct the adverse results of past shoreline modification that have disrupted natural stream geomorphic conditions and adversely affected aquatic or terrestrial habitat; or

    3. Create, expand, rehabilitate, or enhance a beach when permitted under this Program and any required state or federal permit.

    This provision is not intended to address discharge of dredge material into the flowing current of the river or in deep water within the channel where it does not substantially affect the geohydrologic character of the channel migration zone.

H. When allowed, dredge material disposal must meet the following standards:

    1. Dredge disposal in shoreline jurisdiction shall be permitted only where it is demonstrated by a qualified professional that the disposal will not result in significant or ongoing adverse impacts to water quality, fish and wildlife habitat conservation areas and other critical areas, flood holding capacity, natural drainage and water circulation patterns, significant plant communities, prime agricultural land, and public access to shorelines. When such impacts are unavoidable, they shall be minimized and mitigated such that they result in no net loss of functions.

    2. Dredge disposal both above and below the OHWM may be approved if it is demonstrated that it complies with the provisions of Subsection 7.3.4.H.1 above and one or more of the following:

a. It benefits shoreline resources; or

b. If applicable, it utilizes the guidance from the 2007, or as amended, U.S. Army Corps of Engineers and Environmental Protection Agency publication EPA842-B-07-001, *Identifying, Planning, and Financing Beneficial Use Projects Using Dredged Material – Beneficial Use Planning Manual*; or

c. For dredging projects under U.S. Army Corps of Engineers jurisdiction, the disposal has been identified and evaluated through an approved Corps Dredge Management Material Program.

I. Upland disposal requires an SCUP unless the disposal is in an existing approved site.

J. Dredging and dredge disposal shall be scheduled to minimize impacts to biological productivity (including, but not limited to, fish runs, spawning, and benthic productivity) and to minimize interference with fishing activities and other water-dependent uses.

7.3.5 Shoreline Habitat and Ecological Enhancement Projects

Shoreline habitat and ecological enhancement projects are those in which public and/or private parties engage to establish, restore, or enhance habitat.

A. Long-term maintenance and monitoring shall be included in restoration or enhancement projects.

B. Shoreline restoration and enhancement projects shall be designed using scientific and technical information and implemented using best management practices. Applicants should consult applicable guidance documents, such as the most current version of the Washington Department of Fish and Wildlife's Stream Habitat Restoration Guidelines, promulgated by state or federal agencies.

C. Habitat creation, expansion, restoration, and enhancement projects may be permitted in all shoreline environment designations subject to required state or federal permits when the applicant has demonstrated that there will be a specific ecological improvement and the following:

1. Spawning, nesting, or breeding fish and wildlife habitat conservation areas will not be adversely affected;

2. Water quality will not be degraded;

3. Flood storage capacity will not be degraded;

4. Streamflow will not be reduced;

5. Impacts to critical areas and buffers will be avoided and where unavoidable, minimized and mitigated; and

6. The project will not interfere with the normal public use of the navigable waters of the state.

8. Shoreline Administration and Enforcement

8.1 Purpose

The purpose of this Chapter is to provide provisions for the administration and enforcement of a permit system that shall implement the State Shoreline Management Act of 1971, Chapter 90.58 RCW; Ecology regulations and guidelines adopted as Chapters 173-26 and 173-27 WAC; and the Woodland Shoreline Master Program, together with amendments and/or additions thereto.

Issuance of any shoreline permit or exemption by the City does not remove requirements for compliance with other federal, state and county permits, procedures and regulations.

8.2 Procedure

All shoreline permits shall be processed in accordance with WMC Title 19 Development Code Administration.

8.3 Shoreline Overlay

Shoreline regulations shall apply as an overlay and in addition to development regulations, including but not limited to zoning, environmental regulations, development standards, subdivision regulations, and other regulations established by the City.

A. Allowed uses shall be governed by both the zoning regulations in Title 17 WMC and this Program. The most restrictive provisions of the applicable zoning district and SED shall apply.

B. Allowed uses shall be limited by the general polices and specific regulations regarding use preferences for water-dependent and water-oriented uses. Allowed uses may be specified and limited in specific shoreline permits. In the case of non-conforming development, the use provisions of this code shall be applied to any change of use, including occupancy permits (see Section 3.3, Nonconforming Use and Development).

C. In the event of any conflict between shoreline policies and regulations and any other regulations of the City, shoreline policies and regulations shall prevail unless other regulations provide greater protection of the shoreline environment and aquatic habitat.

D. All regulations applied within the shoreline shall be liberally construed to give full effect to the objectives and purposes for which they have been enacted. Shoreline Master Program policies, found in Chapter 4, establish intent for the shoreline regulations in addition to RCW 90.58 and Chapters 173-26 and 173-27 WAC.

8.4 Coordination with Other Agencies

The City will coordinate on issues relating to ecological conditions, functions and processes and on wetland and OHWM delineations with Ecology, the Washington Department of Natural Resources and the Washington Department of Fish and Wildlife as well as other agencies with permit authority over a project to the extent that agencies are timely in their response and coordination does not unduly extend review times.

8.5 Development Compliance

A. All uses and developments within the jurisdiction of Act shall be planned and carried out in a manner that is consistent with this Program and the policies of the RCW 90.58 and this SMP, regardless of whether an SSDP, SLE, Shoreline Variance, or SCUP is required. Any authorization, including an SLE, issued under the Shoreline Management Act may be conditioned by the city to ensure compliance with the 90.58 RCW and this SMP.

B. Regulation of private property to implement any Program goals such as public access and protection of ecological functions, must be consistent with all relevant constitutional and other legal limitations. These include, but are not limited to, property rights guaranteed by the United States Constitution and the Washington State Constitution, applicable federal and state case law, and state statutes, such as RCW 34.05.328 and 43.21C.060.

C. Compliance with the provisions of this Chapter does not constitute compliance with other federal, state, and local regulations and permit requirements that may be required (for example, Washington Department of Fish and Wildlife Hydraulic Project Approvals (HPAs), U.S. Army Corps of Engineers Section 404 permits, Washington Department of Ecology Water Quality Certification (Section 401) and National Pollution Discharge Elimination System (NPDES) permits). The applicant is responsible for complying with all applicable requirements, apart from the process established in this Chapter.

D. The City will provide a mechanism for tracking, and periodically evaluating the cumulative effects of all project review actions in shoreline areas.

8.6 Shoreline Permit Application Procedures

8.6.1 Application Requirements.

A. A complete application for an SSDP, SCUP, or Shoreline Variance shall contain, at a minimum, the information required for a complete application specified in WAC 173-27-180, as determined by the City.

B. Critical Area Submittal Requirements.

1. When an applicant submits a shoreline application for any development proposal, the application shall submit a complete critical area identification checklist (see Appendix F).

2. The City shall review the critical area identification checklist and conduct a preliminary environmental review, based on existing in-house resources and data, to determine whether critical areas are known or suspected to exist on the applicant's parcel. However, the ultimate burden of proof is on the applicant to provide sufficient data to the City should the City suspect that critical areas are present. If it is determined that the information presented is not sufficient to adequately evaluate a proposal, the City shall notify the applicant that additional studies as specified herein shall be provided.

3. Site Inspection. Upon receipt of a completed critical area identification checklist, the Director shall conduct a site visit of the proposed project site to determine if any critical area conditions exist on site. The Director shall notify the applicant prior to the inspection. Reasonable access shall be provided for the purposes of site inspections.

4. Review of Available Information. The Director may determine if a critical area report (see Section 4.1 in Appendix B) is needed by using the following indicators:

    a. Information obtained from the critical area identification checklist;

    b. Maps depicting critical areas, soil types and other appropriate features;

    c. Information and scientific opinions from appropriate agencies;

    d. Washington Department of Fish and Wildlife Priority Habitats and Species (PHS) and Salmonscape maps;

    e. Documentation from other scientific sources; and

    f. Findings by qualified professionals or a reasonable belief by the Director that a critical area may exist on or adjacent to the proposed activity.

5. Determination of whether a Critical Area Report is Needed.

    a. Critical Area Present but No Impact. If the Director determines there are critical areas within the proposed project, but that the project is not likely to degrade the functions or values of a critical area, then the Director may waive the requirements of a critical area report. The Director shall consult with resource agencies or individuals with special expertise, as necessary, to

assist in the determination of critical areas and potential impacts associated with project proposals. A waiver may be granted if all of the following are met:

i. No alteration of the critical area or buffer will occur;

ii. No impact to the critical area will occur that cannot be mitigated under the no-net-loss requirements of this Program; and

iii. The proposal is consistent with other applicable regulations and standards.

b. Critical Areas May Be Affected. If the Director determines that a critical area may be affected by a proposal, then the applicant shall be required to submit a critical area report prior to any further project activity. The Director shall inform the applicant within ten (10) business days following the site visit of his findings and indicate what critical area types should be addressed in the report.

A Determination by the Director is not an expert classification regarding the presence of critical areas. If the applicant wants greater assurance of the accuracy of the critical area review determination, the applicant may choose to hire a qualified professional to provide such assurances. If a qualified professional determines no critical areas exist or will not be affected by the proposal, the Director may reconsider their determination.

6. The City shall have the option of soliciting comments or technical assistance on the shoreline permit application from resource agencies. These agencies shall have fourteen (14) days from the date the application is circulated by the City for comments. If a response is not received from the resource agency within the 14-day review period, the City will assume there are no comments on the project or activity forthcoming from the resource agency.

7. Any person preparing to submit an application for development or use of land located within a critical area or associated buffer shall first apply for a pre-application conference, unless waived by the City in concurrence with the applicant. At this meeting, the City shall discuss the requirements of these regulations and provide applicable critical areas maps, scientific information, and other source materials. The City shall summarize the application review process and work with the proponent to identify potential issues that may arise during the review process in addition to discussing other permit procedures and requirements.

C. In addition to the public notice requirements of WMC 19.06.02, the following notice shall be provided for each application for a SSDP, SCUP, or Shoreline Variance.

1. Within fourteen (14) days after the City has made a determination of completeness on the project permit application, the City shall issue public notice including:

    a. The date of application, the date of the notice of completion for the application, and the date of the notice of application;

    b. A description of the proposed project action and a list of the project permits included in the application and, if applicable, a list of any studies requested under RCW 36.70B.070, RCW 36.70B.090 and WAC 173-27-180;

    c. The identification of other permits not included in the application to the extent known by the City;

    d. The identification of existing environmental documents that evaluate the proposed project, and, if not otherwise stated on the document providing the notice of application, such as a City land use bulletin, the location where the application and any studies can be reviewed;

    e. A statement of the public comment period, which shall be not less than fourteen (14) days following the date of notice of application;

    f. A statement of the right of any person to comment on the application, receive notice of and participate in any hearings, request a copy of the decision once made, and any appeal rights. Public comments shall be accepted at any time prior to the closing of the record of an open record hearing, if any, or, if no open record hearing is provided, prior to the decision on the project permit;

    g. The date, time, place, and type of hearing, if applicable and scheduled at the date of notice of the application;

    h. A statement of the preliminary determination, if one has been made at the time of notice, of those development regulations that will be used for project mitigation and of consistency; and

    i. Any other information determined appropriate by the City.

2. Public notice shall include:

    a. Mailing of the notice to the latest recorded real property owners as shown by the records of the county assessor within at least three hundred (300) feet of the boundary of the property upon which the development is proposed.

    b. Posting of Project Site. Posting of the project site shall be provided in accordance with WMC 19.06.030A and 19.06.070A.

c. Publication shall be in accordance with WMC 19.06.030A and 19.06.070A. If an open record public hearing is required, an additional notice shall be published at least ten (10) days prior to the hearing. The shoreline notice shall be published twice, the second at least thirty days prior to the date of the public hearing on the underlying project permit. This notice shall include the project location in other than a legal description, a brief description of the project, type of permit(s) required, comment period dates, hearing dates if applicable, and a location where the complete application may be reviewed.

8.6.2 Critical Areas Determination

A. Determination and Review.

1. The Director shall make a determination as to whether the proposed activity and mitigation is consistent with the provisions of this Program. Any alteration to a critical area, unless otherwise provided for in this Program, shall be reviewed and approved, approved with conditions, or denied based on the proposal's ability to comply with all of the following criteria:

   a. Impacts to critical areas are avoided or minimized in accordance with Section 4.4, Mitigation Sequencing, of Appendix B;

   b. There is no unreasonable threat to public health, safety, or welfare;

   c. The proposal is consistent with this Program and the public interest;

   d. Permitted alterations are mitigated in accordance with Section 4.5, Mitigation Plan Requirements, of Appendix B;

   e. The critical area functions and values are protected in accordance with the most current, accurate, and complete scientific and technical information available; and

   f. The proposal is consistent with other applicable regulations and standards.

2. The City may condition a proposed activity as necessary to mitigate for impacts to critical areas and to conform to standards of this Program.

3. Any project that cannot adequately mitigate for impacts to critical areas shall be denied.

4. When the determination of critical areas has been completed, a written report will be issued to the applicant, placed in an address file, and a copy sent to the property owner if different from the applicant. A property owner may request a re-evaluation by the City once in any twelve (12)-month period when a change in

physical conditions or government institutional actions warrants such re-evaluation.

5. Determination, Favorable. Upon determination that a proposed activity meets the requirements of Subsection 8.6.1, and complies with the requirements of this Program, the Director shall prepare a written notice of determination and identify any conditions of approval. Any changes to the conditions of approval shall void the previous determination pending a review of the alternative proposal and conditions by the Director.

6. Determination, Unfavorable. Upon determination that a proposed activity does not meet the above criteria and/or does not adequately mitigate for impacts to critical areas, the Director shall prepare a written notice of determination and identify the findings. A revised critical area report may be submitted by the applicant for consideration, following notice of the determination. The Director may make a new determination based on the revised critical area report.

B. Critical Area Review, Complete. The City's determination shall be complete upon determination to approve, approve with conditions, or deny the proposal or activity. No activity or shoreline permit shall be approved or issued for an activity that does not adequately mitigate for impacts to critical areas and/or does not fully comply with the provisions of this Program.

8.6.3 Approval Criteria

In order to approve any development within shoreline jurisdiction, the City must find that a proposal is consistent with the following criteria in addition to the requirements of WMC Title 17 Zoning:

A. All use regulations of this Program appropriate to the shoreline environment designation and the type of use or development proposed shall be met, particularly the preference for water-oriented uses. If a non-water-oriented use is approved, the decision maker shall enter specific findings documenting why water-oriented uses are not feasible.

B. All bulk and dimensional regulations of this Program appropriate to the SED and the type of use or development proposed shall be met, except those bulk and dimensional standards that have been modified by approval of a Shoreline Variance.

C. All policies of this Program appropriate to the SED and the type of use or development activity proposed shall be considered and compliance demonstrated, subject to liberal construction to give full effect to the objectives and purposes for which they have been enacted.

8.6.4 Written Findings Required

All permits or Shoreline Letters of Exemption issued for development or use within shoreline jurisdiction shall include written findings prepared by the Director addressing compliance with policies and regulations of this Program. The Director may attach conditions to the approval of exempt developments and/or uses as necessary to assure consistency of the project with the Act and the Program.

8.6.5 Time Requirements for Shoreline Permits

A. The time requirements of this Section shall apply to all SSDPs and SCUPs and to any development authorized pursuant to a variance authorized under this Program.

B. No construction pursuant to such permit shall begin or be authorized and no building, grading or other construction permits or use permits shall be issued by the City until 21 days from the date an SSDP was filed with Ecology and the Attorney General, or until all review proceedings are completed as were initiated within the twenty one (21) days of the date of filing. Filing shall occur in accordance with RCW 90.58.140(6) and WAC 173-27-130.

C. No permits and construction pursuant to an SCUP or Shoreline Variance shall begin or be authorized until 21 days from the date of notification of approval by Ecology, or until all review proceedings are completed as were initiated within the twenty one (21) days of the date of filing. Filing shall occur in accordance with RCW 90.58.140(6) and WAC 173-27-130.

D. Unless a different time period is specified in the shoreline permit as authorized by RCW 90.58.143, construction activities, or a use or activity for which a permit has been granted pursuant to this Program, must be commenced within two (2) years of the effective date of a shoreline permit, or the shoreline permit shall terminate and a new permit shall be necessary. However, the City may authorize a single extension for a period not to exceed one year based on reasonable factors if a request for extension has been filed with the City before the expiration date and notice of the proposed extension is given to parties of record and Ecology. Construction activities or commencement of construction means that construction applications must be submitted, permits must be issued, and foundation inspections must be approved and completed.

E. A permit authorizing construction shall extend for a term of no more than five (5) years after the effective date of a shoreline permit, unless a longer period has been specified pursuant to RCW 90.58.143 and Subsection F of this Section. If an applicant files a request for an extension prior to expiration of the shoreline permit, the City shall review the permit and upon a showing of good cause may authorize a single extension of the shoreline permit for a period of up to one year. Otherwise said permit shall terminate. Notice of the proposed permit extension shall be given to

parties of record and Ecology. To maintain the validity of a shoreline permit, it is the applicant's responsibility to maintain valid construction permits in accordance with adopted Building Codes.

F. If it is determined that standard time requirements of Subsections D and E should not be applied, the Hearing Examiner, upon a finding of good cause, may establish shorter time limits, provided that as a part of action on an SCUP or Shoreline Variance the approval of Ecology shall be required. "Good cause" means that the time limits established are reasonably related to the time actually necessary to perform the development on the ground and complete the project that is being permitted.

G. For purposes of determining the life of a shoreline permit, the effective date of a SSDP, SCUP, or Shoreline Variance shall be the date of filing as provided in RCW 90.58.140(6). The permit time periods do not include the time during which a use or activity was not actually pursued due to the pendency of appeals or legal actions, or due to the need to obtain any other government permits and approvals for the development that authorize the development to proceed.

H. It is the responsibility of the applicant to inform the City of the pendency of other permit applications filed with agencies other than the City, and of any related administrative or legal actions on any permit or approval. If no notice of the pendency of other permits or approvals is given to the City prior to the expiration date established by the shoreline permit or the provisions of this Section, the expiration of a permit shall be based on the effective date of the shoreline permit.

I. If the granting of a shoreline permit by the City is appealed to the Shoreline Hearings Board, and the Shoreline Hearings Board has approved the granting of the permit, and an appeal for judicial review of the Shoreline Hearings Board decision is filed, construction authorization may occur subject to the conditions, time periods, and other provisions of RCW 90.58.140(5)(b).

8.6.6 Surety Devices

The City may require the applicant to post a surety device in favor of the City to assure full compliance with any terms and conditions imposed on any shoreline permit. Said surety device shall be in an amount to reasonably assure the City that any deferred improvement will be carried out within the time stipulated and in accordance with approved plans.

8.6.7 Construction Permit Compliance

For all development within shoreline jurisdiction, the Building Official shall not issue a construction permit for such development until compliance with this Program has been documented. If a shoreline permit is required, no building permit shall be issued until all comment and appeal periods have expired. Any permit issued by the Building Official for

such development shall be subject to the same terms and conditions that apply to the shoreline permit.

8.6.8 Rulings to State

Any ruling on an application for an SSDP or SCUP under authority of this Program, whether it is an approval or denial, shall, with the transmittal of the ruling to the applicant, be filed concurrently with Ecology and the Attorney General by the City. Filing shall occur in accordance with RCW 90.58.140(6) and WAC 173-27-130.

8.6.9 Appeals

Any person aggrieved by the granting, denying, or rescinding of a permit on shorelines of the state pursuant to RCW 90.58.140 may seek review from the shorelines hearings board by filing a petition for review within twenty-one days of the date of receipt of the decision as provided for in RCW 90.58.140(6).

8.7 Shoreline Letter of Exemption (SLE)

A. An SSDP shall be required for all proposed use and development of shorelines unless the proposal is specifically exempt pursuant to WAC 173-27-040, see Appendix E. Any development which occurs within the regulated shorelines of the state, whether it requires a permit or not, must be consistent with the intent of the Act and this Program.

B. Any person claiming exemption from the permit requirements of this Program as a result of the exemptions specified in this Section shall make application for a Shoreline Letter of Exemption (SLE). Requests or applications for an SLE shall be submitted in a format prescribed by the City and include such documentation as may be required by the City.

C. If any part of a proposed development is not eligible for exemption, then a shoreline permit is required for the entire proposed development project.

D. The City may issue a SLE for proposed development activities or programs in jurisdictional shoreline areas that do not require an SSDP per Section 3.2, Exemptions from a Shoreline Substantial Development Permit.

E. An SLE may be approved by the Director and may be appealed to the Hearings Officer per Title 19 WMC (1996).

F. An SLE may be issued for project-specific development activities or for programmatic, routine activities that may be repeated on a regular basis in accordance with approved standards such as the repair and maintenance of roads, right-of-ways, trails, parks, and/or storm water facilities.

G. Activities authorized through the issuance of an SLE must comply with all applicable provisions of the Woodland Municipal Code and comply with conditions and/or mitigating measures of approval to achieve consistency and compliance with the provisions of this Program and the Act.

H. If the exemption is approved, the City Director shall prepare and provide an SLE to the applicant and Ecology indicating the specific applicable exemption provisions from WAC 173-27-040 and providing a summary of the project's consistency with this Program and the Act, as amended.

I. A denial of an exemption shall be in writing and shall identify the reason(s) for the denial.

8.8 Shoreline Substantial Development Permit (SSDP)

A. An SSDP shall be required for projects occurring within the City's shoreline jurisdiction pursuant to the requirements and procedures contained in WAC 173-27 (Shoreline Management Permit and Enforcement Procedures); except for those projects described in Section 3.2, Exemptions from a Shoreline Substantial Development Permit:

B. Upon the review of materials submitted by an applicant the City may, at its discretion, require peer review be completed by a consultant chosen by the City, at the sole expense of the applicant.

C. Time requirements for SSDPs are as follows (See WAC 173-27-090 for complete language.):

1. Construction activities shall commence, or where no construction activities are involved, the use or activity shall commence within two (2) years of the effective date of an SSDP.

2. The period for commencement of construction or use may be extended once for a one (1)-year period if a request based on reasonable factors is filed before the expiration date and notice of the proposed extension is given to parties of record.

3. The authorization to conduct certain development activities (see WAC 173-27-090) shall terminate five (5) years after the effective date of an SSDP.

4. The authorization period to conduct development activities may be extended once for a one (1)-year period if a request based on reasonable factors is filed before the expiration date and notice of the proposed extension is given to parties of record and the department.

5. The time periods in Subsections C.1 and C.3, above, do not include the time during which a use or activity was not actually pursued due to the pendency of administrative appeals or legal actions or due to the need to obtain any other government permits and approvals for the development that authorize the development to proceed, including all reasonably related administrative or legal actions on any such permits or approvals.

D. Appeals to the Shorelines Hearings Board shall be consistent with RCW 90.58.140. Construction pursuant to a shoreline permit may not begin or be authorized until twenty-one (21) days from the date the permit decision was filed with Ecology.

8.9 Shoreline Conditional Use Permit (SCUP)

The objective of a conditional use provision is to provide more control and flexibility for implementing the regulations of this Program.

A. An SCUP is required for uses and development that are not classified in the Program and for those uses and modifications as indicated in Table 7-1 of this Program. In authorizing a conditional use, the City or Ecology may attach special conditions to the permit to prevent undesirable effects of the proposed use and/or to assure consistency of the project with the Act and this Program.

B. In addition to the approval criteria in Section 8.6.3, Approval Criteria, the criteria for approving conditional uses shall be consistent with WAC 173-27-160 *Review Criteria for Conditional Use Permits* and shall include the following:

1. That the proposed use is consistent with the policies, regulations and standards of RCW 90.58.020 and this Program;

2. That the proposed use will not interfere with the normal public use of public shorelines;

3. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and this Program;

4. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and

5. That the public interest suffers no substantial detrimental effect.

C. In the granting of all SCUPs, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if SCUPs were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the policies of RCW 90.58.020 and shall not produce substantial adverse effects to the shoreline environment.

D. Other uses which are not classified or set forth in this Program may be authorized as conditional uses provided the applicant can demonstrate consistency with the requirements of this Section and the requirements for conditional uses contained in this Program.

E. Uses which are specifically prohibited by this Program may not be authorized pursuant to either Subsection A or C of this Section.

F. Conditional uses must be submitted to Ecology for their approval, approval with conditions, or denial pursuant to WAC 173-27-200.

8.10 Shoreline Variances

A. A development may be granted which is at variance with the criteria established in this Program where, owing to special conditions pertaining to the specific piece of property, the literal interpretation and strict application of the criteria established in this Program would cause undue and unnecessary hardship or practical difficulties. A variance may be required for a use that does not require an SSDP but which may not be approved because it does not comply with the provisions of this Program.

B. The fact that the applicant might make a greater profit by using his property in a manner contrary to the intent of this Program is not, by itself, sufficient reason for a variance.

C. Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances the applicant must demonstrate extraordinary circumstances and that the public interest shall suffer no substantial detrimental effect.

D. For a variance to be approved, the City must find each of the following:

1. Variance permits for development and/or uses that will be located landward of the OHWM, as defined in RCW 90.58.030(2)(b), and/or landward of any wetland as defined in RCW 90.58.030(2)(h), may be authorized provided the applicant can demonstrate all of the following:

    a. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property;

    b. That the hardship described in 1.a of this Subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;

c. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and this program and will not cause adverse impacts to the shoreline environment;

d. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;

e. That the variance requested is the minimum necessary to afford relief; and

f. That the public interest will suffer no substantial detrimental effect.

2. Variance permits for development and/or uses that will be located waterward of the OHWM, as defined in RCW 90.58.030 (2)(b), or within any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:

   a. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes all reasonable use of the property;

   b. That the proposal is consistent with the criteria established under Subsection 1.b through 1.f of this Section; and

   c. That the public rights of navigation and use of the shorelines will not be adversely affected.

3. In the granting of all Shoreline Variances, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW 90.58.020 and shall not cause substantial adverse effects to the shoreline environment.

8.11 Revisions to Permits

A. When an applicant seeks to revise a proposal authorized with an SLE, SSDP, SCUP, or shoreline variance, whether such permit was granted under this Program or under the Program in effect prior to adoption of this Program, the City shall request from the applicant detailed plans and text describing the proposed changes to the project. If the staff determines that the proposed changes are within the general scope and intent of the original SLE, SSDP, SCUP, or shoreline variance, as the case may be, the revision may be approved by the City without the need for the applicant to file a new permit application provided the development is consistent with the Act, this program and WAC 173-27-100.

B. All shoreline permit revisions shall be transmitted to Ecology upon the City's final decision. If the revision is to an SLE or SSDP, it becomes effective immediately upon final decision by the City. If the permit revision is concerning a shoreline conditional use or shoreline variance permit, the proposed revision is subject to Ecology review. Ecology shall respond with its final decision on the permit revision request within fifteen (15) days of the date of receipt by Ecology per WAC 173-27-100(6). The City shall notify parties of record of the final decision.

C. Shoreline permit revisions may be appealed to the Shoreline Hearings Board within twenty-one (21) days of the final decision to the permit revision in accordance with the provisions of WAC 173-27-100(8).

8.12 Enforcement

All provisions of this Program shall be enforced by the City. For such purposes, the City or authorized representative shall have the power of a police officer.

8.12.1 Rescission of Permits

A. Any shoreline permit issued under the terms of this Program may be rescinded or suspended upon a finding that a permittee has not complied with conditions of the permit.

B. Such rescission and/or modification of an issued permit shall be initiated by serving written notice of noncompliance on the permittee, which shall be sent by registered or certified mail, return receipt requested, to the address listed on the application or to such other address as the applicant or permittee may have advised the City; or such notice may be served on the applicant or permittee in person or his agent in the same manner as service of summons as provided by law.

C. Before any such permit can be rescinded, a public hearing shall be held by the Hearing Examiner. Notice of the public hearing shall be made in accordance with WMC 19.06.070. The decision of the Hearing Examiner shall be the final decision of the City on all rescinded applications. A written decision shall be transmitted to Ecology, the Attorney General's office, the applicant, and such other departments or boards of the City as are affected thereby and the legislative body of the City.

D. Ecology may petition the Shoreline Hearings Board for a rescission of the permit if Ecology is of the opinion that the noncompliance continues to exist thirty days after the date of the notice, and the local government has taken no action to rescind the permit, as provided by RCW 90.58.140(8).

8.12.2 Violation and Penalties

A. General

1. Every person violating any of the provisions of this Program or the Shoreline Management Act of 1971 shall be punishable under conviction by a fine not exceeding one thousand dollars ($1,000.00), or by imprisonment not exceeding 90 days, or by both such fine and imprisonment, and each day's violation shall constitute a separate punishable offense.

2. The City Attorney may bring such injunctive, declaratory, or other actions as are necessary to insure that no uses are made of the Shorelines of the State within the City's jurisdiction which are in conflict with the provisions and programs of this Program or the Shoreline Management Act of 1971, and to otherwise enforce provisions of this Section and the Shoreline Management Act of 1971.

3. Any person subject to the regulatory program of this Program who violates any provision of this Master Program or the provisions of a permit issued pursuant thereto shall be liable for all damages to public or private property arising from such violation, including the cost of restoring the affected area to its condition prior to such violation. The City Attorney shall bring suit for damages under this Subsection on behalf of the City. Private persons shall have the right to bring suit for damages under this Subsection on their own behalf and on behalf of all persons similarly situated. If liability has been established for the cost of restoring an area affected by violation, the Court shall make provision to assure that restoration will be accomplished within a reasonable time at the expense of the violator. In addition to such relief, including monetary damages, the Court in its discretion may award attorney's fees and costs of the suit to the prevailing party.

B. Unauthorized Critical Area Alterations and Enforcement.

1. When a critical area or buffer has been altered in violation of this Program, the City shall have the authority to issue a stop-work order to cease all ongoing development work and order restoration, rehabilitation or replacement at the owner's or responsible parties' expense.

2. Restoration Plan Required. No work on the site shall be allowed until a restoration plan has been prepared and approved by the City in accordance with this Program and Appendix B.

3. Minimum Performance Standards.

   a. For unauthorized alterations to critical aquifer recharge areas, frequently flooded areas, wetlands habitat conservation areas, or associated buffers, the following shall be required at a minimum in accordance with an approved restoration plan:

      i. Historic functional and structural values, water quality, habitat, and soils shall be restored;

ii. Critical areas and buffers shall be replanted with native vegetation, types, sizes and densities, historically found on the site; and

iii. Historic functions and values shall be replicated.

b. For flood and geological hazards, the following standards shall be met:

i. Risk of public or personal hazard resulting from the alteration shall be eliminated or significantly reduced to a level equal to the pre-altered state;

ii. Hazard areas and buffers shall be replanted with native vegetation to minimize the hazard.

4. Site Visits/Inspections. Reasonable access shall be provided. The Director is authorized to make site visits/inspections as necessary to enforce this Program.

8.12.3 Shoreline Moratorium

A. The City Council may adopt moratoria or other interim official controls as necessary and appropriate to implement the provisions of the Shoreline Management Act.

B. Prior to adopting such moratorium or other interim official controls, the City Council shall:

1. Hold a public hearing on the moratorium or control within 60 days of adoption;

2. Adopt detailed findings of fact that include, but are not limited to, justifications for the proposed or adopted actions and explanations of the desired and likely outcomes; and

3. Notify Ecology of the moratorium or control immediately after its adoption. The notification must specify the time, place, and date of any public hearing held.

C. Said moratorium or other official control shall provide that all lawfully existing uses, structures, or other development shall continue to be deemed lawful conforming uses and may continue to be maintained, repaired, and redeveloped, so long as the use is not expanded, under the terms of the land use and shoreline rules and regulations in place at the time of the moratorium.

D. Said moratorium or control adopted under this Section may be effective for up to six months if a detailed work plan for remedying the issues and circumstances necessitating the moratorium or control is developed and made available for public review. A moratorium or control may be renewed for two six-month periods if the City Council complies with Subsection B before each renewal.

E. If a moratorium or control is in effect on the date a proposed Shoreline Master Program or amendment is submitted to Ecology, the moratorium or control must remain in effect until Ecology's final action under RCW 90.58.090; however, the moratorium expires six months after the date of submittal if Ecology has not taken final action.

8.13 Restoration Project Relocation of OHWM

The City may grant relief from development standards and use regulations in this Program when the following apply:

A. A shoreline restoration project causes, or would cause, a landward shift in the OHWM, resulting in the following:

   1. Land that had not been regulated under this Chapter prior to construction of the restoration project is brought under shoreline jurisdiction; or

   2. Additional regulatory requirements apply due to a landward shift in required shoreline buffers or other regulations of this Program; and

   3. Application of Program regulations would preclude or interfere with use of the property permitted by local development regulations, thus presenting a hardship to the project proponent.

B. The proposed relief meets all of the following criteria:

   1. The proposed relief is the minimum necessary to relieve the hardship.

   2. After granting the proposed relief, there is net environmental benefit from the restoration project.

   3. Granting the proposed relief is consistent with the objectives of the shoreline restoration project and consistent with this Program.

   4. Where a shoreline restoration project is created as mitigation to obtain a development permit, the project proponent required to perform the mitigation is not eligible for relief under this Section.

C. The application for relief must be submitted to Ecology for written approval or disapproval. This review must occur during the Ecology's normal review of and SSDP, SCUP, or Shoreline Variance. If no such permit is required, then Ecology shall conduct its review when the City provides a copy of a complete application and all supporting information necessary to conduct the review.

1. Except as otherwise provided in Subsection D of this Section, Ecology shall provide at least twenty (20) days of notice to parties that have indicated interest to Ecology in reviewing applications for relief under this Section, and post the notice on to their website.

2. Ecology shall act within thirty (30) calendar days of close of the public notice period, or within thirty (30) days of receipt of the proposal from the local government if additional public notice is not required.

D. The public notice requirements of Subsection C of this Section do not apply if the relevant shoreline restoration project was included in the Shoreline Restoration Plan (see Appendix C) as defined in WAC 173-26-201, as follows:

1. The restoration plan has been approved by the Ecology under applicable Shoreline Master Program guidelines; and

2. The shoreline restoration project is specifically identified in the Shoreline Restoration Plan or is located along a shoreline reach identified in this Program or Shoreline Restoration Plan as appropriate for granting relief from shoreline regulations; and

3. This Program or Shoreline Restoration Plan includes policies addressing the nature of the relief and why, when, and how it would be applied.

8.14 Land Division

Prior to approval of any land division, such as short subdivisions, preliminary long plats, and boundary line adjustments within shoreline jurisdiction, the City shall document compliance with bulk and dimensional standards as well as policies and regulations of this Program and attach appropriate conditions and/or mitigating measures to such approvals to ensure the design, development activities, and future use associated with such lands are consistent with this Program.

8.15 Amendments Authorized

The provisions of the Use Regulations or the Shoreline Environment Designation Map in this Program may be amended as provided for in RCW 90.58.120 and RCW 90.58.200 and Chapter 173-26 WAC.

8.15.1 Burden of Proof

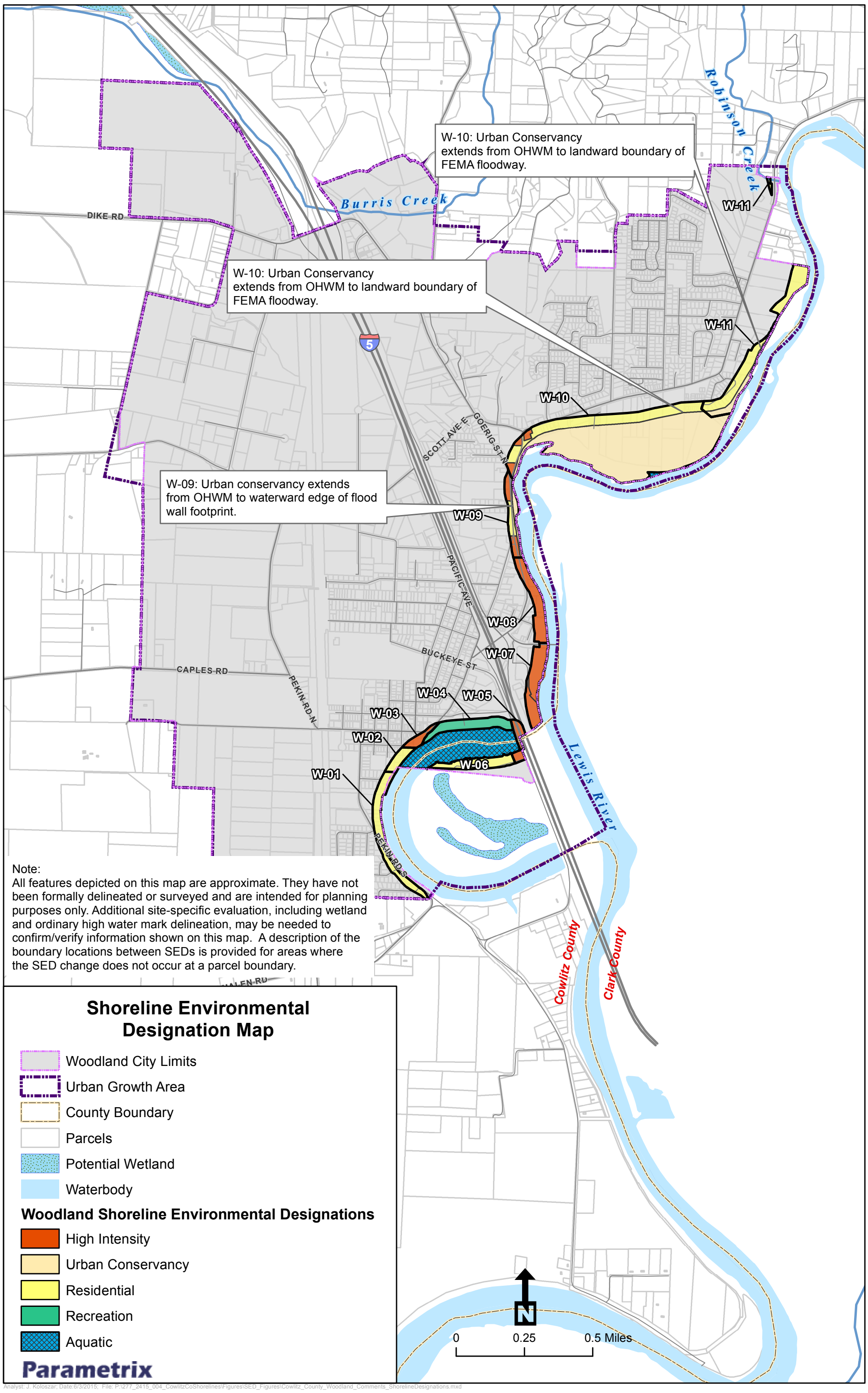
Proponents for Shoreline Environment Designation Map redesignations (i.e., amendments to the Shoreline Environment Designation Map) shall bear the burden of proof for demonstrating consistency with the criteria of this Program, Chapter 173-26 WAC, and the goals and policies of the City of Woodland Comprehensive Plan.

8.15.2 Transmittal to the Department of Ecology

Subsequent to final action by the council adopting or amending the Shoreline Master Program or official control, said Shoreline Master Program, official control, or amendment thereto shall be submitted to Ecology for approval. No such Shoreline Master Program, official control, or amendment thereto shall become effective until approval by Ecology is obtained pursuant to RCW 90.58.90.

APPENDIX A

Shoreline Environment Designations Map



Analyst: J. Koloszar; Date:6/3/2015; File: P:\277_2415_004_CowlitzCoShorelines\Figures\SED_Figures\Cowlitz_County_Woodland_Comments_ShorelineDesignations.mxd

APPENDIX B
CRITICAL AREAS REGULATIONS

CRITICAL AREAS REGULATION

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1. Introduction.

1.1 Purpose.

All new uses and development activities proposed for shoreline areas in the City of Woodland must comply with the provisions of the Washington State Shoreline Management Act (RCW 90.58), the Washington Administrative Code (WAC 173-26 and 173-27), the updated Woodland Shoreline Master Program, and the Woodland Municipal Code. In addition, it is important to note that in many instances, shoreline areas under the jurisdiction of the Shoreline Management Act (SMA) also involve critical areas, which are subject to protection under the provisions of the Washington State Growth Management Act (GMA). In those instances where the requirements of both the SMA and the GMA apply, the courts have ruled that the provisions of the SMA must prevail. As a result, any new use or development activity proposed for an area under the jurisdiction of the Shoreline Management Act that also involves one or more of the protected critical areas must also comply with the following regulations in this Appendix B. For new uses and development activities outside of shoreline jurisdiction that involve critical areas, please refer to Chapter 15.08 of the Woodland Municipal Code (WMC).

The City finds that critical areas provide a variety of valuable biological and physical functions that benefit the City and its residents. Critical areas may also pose a threat to human safety and public and/or private property. The purpose of these regulations includes, but is not limited to, the following:

A. Protect the public health, safety, and welfare by preventing adverse impacts of development;

B. Preserve and protect critical areas by regulating development within and adjacent to critical areas;

C. Mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas;

D. Prevent adverse cumulative impacts to wetlands, streams, shoreline environments, and fish and wildlife habitat;

E. Protect the public and public resources and facilities from injury, loss of life, property damage, or financial loss due to flooding, erosion, landslides, soils subsidence, or steep slope failure;

F. Protect groundwater recharge capacity to the greatest extent practicable;

G. To strive for no net loss of the functions and values of wetlands within shoreline jurisdiction by requiring compensatory mitigation for unavoidable wetland impacts;

H. To designate and classify ecologically sensitive and hazardous areas and to protect these areas and their functions and values using the most current, accurate, and complete scientific and technical information available, while also allowing for reasonable use of private property.

1.2 Permits

No separate critical areas permit is required for a development proposal that requires a shoreline permit or Shoreline Letter of Exemption (SLE). All applicable critical areas requirements in Appendix B shall be incorporated into a Shoreline Substantial Development Permit (SSDP), Shoreline Conditional Use Permit (SCUP), Shoreline Variance, or SLE as applicable, and the applicable shoreline permit shall be obtained prior to undertaking any development activity regulated by the SMP.

1.3 Protection.

Any action taken pursuant to these regulations shall result in an equivalent or greater function of the critical area. No activity or use shall be allowed that results in a net loss of the functions or values of critical areas.

1.4 Use of Best Available Information.

Critical area reports or decisions to alter critical areas shall rely on the most current, accurate, and complete scientific and technical information available to protect the functions and values of critical areas.

2. Definitions.

Definitions for Appendix B are located in Chapter 2 of this Shoreline Master Program.

3. Applicability and Exemptions.

3.1 Applicability.

A. All development proposals within the City of Woodland's shoreline jurisdiction, whether public or private, shall comply with these regulations, whether or not a permit or authorization is required. For the purposes of these regulations, development proposals shall include, but are not limited to the following:

1. Any project or development that requires a federally issued permit;

2. Any project or development that requires compliance with the Washington State Shoreline Management Act (RCW 90.58) or Growth Management Act (RCW 36.70A);

3. Alteration of a wetland or riparian habitat area as defined herein, including:

   a. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;

   b. The dumping, discharging, or filling with any material, including discharges of storm water and domestic, commercial, or industrial wastewater;

   c. The draining, flooding, or disturbing of the water level, duration of inundation, or water table;

   d. The driving of pilings;

   e. The placing of obstructions;

   f. The construction, reconstruction, demolition, or expansion of any structure;

   g. Significant vegetation removal, provided that these activities are not part of a forest practice governed under Chapter 76.09 RCW and its rules;

   h. Other uses or development that results in an ecological impact to the physical, chemical, or biological characteristics of wetlands; or

   i. Activities reducing the functions of buffers;

4. Any project or development that requires a permit under the adopted building code;

5. Any development or use that requires approvals under existing or subsequently adopted Woodland codes and/or ordinances (e.g., subdivision, zoning, conditional use, etc.).

3.2 Exemptions.

A. Critical Areas Exemptions. The following development, activities, and associated uses shall be exempt from the requirements of the critical areas regulations; however, the critical areas exemptions do not include exemptions from the provisions of the Shoreline Master Program and are not exemptions from substantial development permits provided under WAC 173-27-040.

1. Installation, construction, or replacement of utility lines in improved right-of-way, not including electric substations.

2. The removal or control of noxious weeds not involving chemical application, excavation, mechanical weed control with the use of hand-held tools.

3. Regular landscape maintenance of ornamental ground cover or other vegetation in a critical area or buffer area, through replanting, trimming, or continued mowing, that was disturbed prior to the effective date of this Shoreline Master Program; provided, that no further disturbance is created.

4. Maintenance of intentionally created artificial wetlands or surface water systems including irrigation and drainage ditches, grass-lined swales and canals, detention facilities, farm ponds, and landscape or ornamental amenities. Wetlands, natural streams, natural streams that are channelized, lakes or ponds created as mitigation for approved land use activities or that provide critical habitat are not exempt and shall be regulated according to the mitigation plan.

5. Minimal site investigative work required by the City, state or a federal agency, or any other applicant such as surveys, soil logs, percolation tests, and other related activities, provided that impacts on environmentally critical areas are minimized and disturbed areas are restored to the pre-existing level of function and value within one year after tests are concluded.

6. Passive recreational uses, sport fishing or hunting, scientific or educational study, or similar minimum impact activities.

4. Administration.

4.1 Critical Area Reports—Requirements.

A. Prepared by Qualified Professional. The applicant shall submit a critical area report prepared by a qualified professional.

B. Best Available Information. The critical area report shall use the most current, accurate, and complete scientific and technical information available in the analysis of critical area data and field reconnaissance. All scientific sources shall be referenced. The critical area report shall evaluate the proposal and all probable impacts to critical areas in accordance with this Program.

C. Minimum Report Contents. A critical area report shall contain, at a minimum:

1. A copy of the site plan, including identified critical areas, buffers, development proposal(s), limits of any proposed clearing, and a stormwater management plan;

2. The date the report was prepared;

3. The name(s) and qualifications of the person(s) preparing the report;

4. The dates and documentation of any fieldwork performed on the site;

5. Identification and characterization of all critical areas and buffers;

6. A statement specifying the accuracy of the report and all assumptions;

7. An analysis of development alternatives;

8. An assessment of the probable cumulative impacts to critical areas resulting from the proposed development;

9. A description of reasonable efforts made to apply mitigation sequencing to avoid, minimize, and mitigate impacts to critical areas;

10. Plans for mitigation to offset any impacts including, but not limited to:

    a. Impacts of any proposed development within or adjacent to a critical area or buffer;

    b. Impacts of any proposed alteration of a critical area or buffer by the proposed project;

11. A discussion of the performance standards and/or criteria in these Critical Areas Regulations applicable to the critical area and proposed activity;

12. Financial guarantees to ensure compliance; and

13. Any additional information required for the specific critical area as required by the corresponding regulations.

4.2 Critical Area Report—Modifications.

A. Study Area—Limitations. The Director of Public Works (Director) may modify the geographic area required to be addressed in the critical area report if:

   1. Permission to access adjacent properties cannot be obtained. If critical areas are potentially present in such areas, observations from off-site or using digital resources may be used to assess the conditions; or

   2. Only a limited portion of the site will be affected by the activity.

B. Required Contents—Modifications. The Director may modify the required contents of the critical area report if, in the judgment of a qualified professional, more or less information is required to adequately address the potential critical area impacts and mitigation.

C. Additional Information. The Director may require additional information to be included with the critical area report when deemed necessary to the review of the proposed project.

4.3 Mitigation Requirements.

A. The applicant shall avoid all impacts that degrade the functions and values of a critical area(s). Compensatory mitigation will be required for unavoidable alteration to a critical area or buffer resulting from a development proposal, in accordance with this Program.

B. Mitigation shall be in-kind and on-site, when possible, and shall be sufficient to maintain the functions and values of the critical area, and to prevent risk from a hazard.

C. No mitigation shall be implemented until after the City has approved the applicable shoreline permit or SLE that includes a mitigation plan. All mitigation shall be in accordance with the provisions of this Program and approved critical area report.

4.4 Mitigation Sequencing.

A. Applicants shall demonstrate that all reasonable efforts have been made to avoid or minimize impacts to critical areas. When alteration to a critical area is proposed, such alteration shall be mitigated in the following order of preference:

1. Avoid the impacts altogether by not taking an action or parts of an action.

2. Minimize impacts by limiting the degree or magnitude of the action or its implementation, by using appropriate technology, or by taking steps such as project redesign, relocation, or timing to avoid or reduce impacts.

3. Repair, rehabilitate, or restore the affected environment (wetlands, critical aquifer recharge areas, frequently flooded areas, habitat conservation areas) to historical conditions or conditions existing prior to project initiation.

4. Minimize or eliminate the hazard by restoring or stabilizing the hazard area through engineered or other approved methods.

5. Reduce or eliminate the impact or hazard over time by preservation and maintenance operations during the life of the action.

6. Compensate for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, or habitat conservation areas by replacing, enhancing, or providing like resources or environments.

7. Monitor the mitigation and provide remedial action when necessary.

4.5 Mitigation Plan Requirements.

When compensatory mitigation is required, the applicant shall submit a mitigation plan as part of a critical area report. The plan shall include:

A. Environmental Goals and Objectives. The mitigation plan shall include a written report that identifies the environmental goals and objectives of the proposed compensation, including:

1. A description of the anticipated impacts to the critical area(s) and the proposed mitigation actions. Compensation measures shall include site-selection criteria, compensation goals, identification of resource functions, and projected dates for beginning and completion of site construction and compensation activities. The goals and objectives shall be related to the functions and values of the impacted critical area;

2. A review of the most current, accurate, and complete scientific and technical information available supporting the proposed mitigation;

3. A narrative of the author's experience to date in restoring or creating the type of critical area proposed; and

4. An analysis of the likelihood of success of the compensation project.

B. Performance Standards. The mitigation plan shall include specific criteria that are measurable for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and that the requirements of this Program have been met.

C. Detailed Construction Plans. The mitigation plan shall include written specifications and descriptions of the proposed mitigation, including, but not limited to:

1. Grading and excavation details;

2. Erosion- and sediment-control measures;

3. Planting plans showing plant species, locations, quantities, sizes, spacing, and density;

4. Proposed construction timing, sequence, and duration;

5. Measures to protect and maintain plants until established; and

6. Detailed site diagrams, topographic maps showing slopes in two-foot intervals, final grade elevations, and any other appropriate drawings.

D. Monitoring Program. A mitigation-monitoring program shall be included with any mitigation plan. The report shall document site performance in relation to performance standards and contingency actions implemented to compensate for mitigation shortfalls. The site shall be monitored for a period to establish that performance standards have been met, and not for a period of less than five years.

E. Contingency Plan. The mitigation plan shall include a contingency plan that identifies potential courses of action, and any corrective measures to be taken if monitoring indicates that project performance standards are not being met.

F. Financial Guarantees. The mitigation plan shall include financial guarantees, if necessary, to ensure that the mitigation plan is fully implemented.

4.6 Markers and Signs.

A. Critical area boundaries shall be permanently delineated using iron or concrete markers in accordance with survey standards.

B. The outer boundary of a critical area buffer on the development site shall be identified with brightly colored construction fencing and temporary signs prior to any site development or alteration. Permanent signs may be required by the Director upon completion of the project.

4.7 Notice on Title.

A. Notice of the existence of a critical area and/or buffer on a site shall be recorded on the property title. The restriction shall state that limitations to development may exist due to the presence of a critical area and/or buffer.

B. The applicant shall submit a copy of the recorded deed restriction prior to final project approval.

4.8 Setbacks.

A. Unless otherwise allowed in this Program, buildings and other structures shall be set back a distance of fifteen (15) feet from the edges of all critical area buffers or critical area if no buffer is required.

B. The following may be allowed in these 15-foot setback areas dependent upon shoreline environmental designation:

1. Landscaping;

2. Building overhangs not greater than eighteen inches; and/or

3. Driveways and patios provided runoff does not affect the critical area.

5. Wetlands.

A. Designating Wetlands. Wetlands are those areas, designated in accordance with the currently approved Federal Wetland Delineation Manual and applicable regional supplement, that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to: swamps, marshes, bogs, ponds, and similar areas. All areas within the City's shoreline jurisdiction meeting the wetland designation criteria in the Federal Wetland Delineation Manual and applicable regional supplement, regardless of presence or absence of formal documented identification, are hereby designated critical areas and are subject to the provisions of this Program.

B. Wetland Delineation: For identifying and delineating a wetland, the methodology shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements as provided in RCW 90.58.380 and WAC 173-22-035.

C. Wetland Ratings. Wetlands shall be rated according to the Washington State Department of Ecology wetland rating system found in the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication #14-06-007), or as revised. This document contains the definitions and methods for determining whether the criteria below are met.

Category I. Category I wetlands are: (1) relatively undisturbed estuarine wetlands larger than 1 acre; (2) wetlands of high conservation value that are identified by scientists of the Washington Natural Heritage Program/DNR; (3) bogs; (4) mature and old-growth forested wetlands larger than 1 acre; (5) wetlands in coastal lagoons; (6) interdunal wetlands that score 8 or 9 habitat points and are larger than 1 acre; and (7) wetlands that perform many functions well (scoring 23 points or more). These wetlands: (1) represent unique or rare wetland types; (2) are more sensitive to disturbance than most wetlands; (3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or (4) provide a high level of functions.

Category II. Category II wetlands are: (1) estuarine wetlands smaller than 1 acre, or disturbed estuarine wetlands larger than 1 acre; (2) interdunal wetlands larger than 1 acre or those found in a mosaic of wetlands; or (3) wetlands with a moderately high level of functions (scoring between 20 and 22 points).

Category III. Category III wetlands are: (1) wetlands with a moderate level of functions (scoring between 16 and 19 points). Wetlands scoring between 16 and 19 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.

Category IV. Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that we should be able to replace, or in some cases to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

D. Date of Rating. Wetland rating categories shall be applied as the wetland exists on the date of the adoption of the rating system, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Illegal modifications to wetlands shall not result in changes to wetland rating categories.

5.2 Initial Project Review.

A. Wetlands shall be identified and designated through a site assessment utilizing the definitions, methods, and standards as set forth in the Federal Wetland Delineation Manual and applicable regional supplement.

B. A site visit shall be conducted by the Director or qualified designee to confirm the presence or absence of wetland indicators listed in the critical areas identification checklist (see Appendix F in this Program) or identified in the State Environmental Policy Act (SEPA) checklist. The site visit shall be used to determine whether a wetland or wetland buffer area are within two hundred feet of a proposed project or activity. A confirmation that a wetland is present or that the proposed project may impact a wetland or its buffer will then require a professional site assessment. The Director shall use the following map references to assist in making a determination: (1) National Wetland Inventory Map; and (2) any records of previously mapped wetlands.

5.3 Critical Area Report—Requirements for Wetlands.

In addition to the general critical area report requirements of Section 4.1 of this Appendix B, wetland critical area reports must meet the requirements of this Section. Critical area reports that include two or more types of critical areas must meet the report requirements for each type of critical area. If a wetland critical area report is required, it must be prepared by a qualified professional meeting the requirements defined in Chapter 2 of this Program, and the report shall meet the following requirements:

A. Area Addressed in Wetland Critical Area Report. The following areas shall be addressed in a wetland critical area report:

1. The project area of the proposed activity;

2. All wetlands and recommended buffers within three hundred (300) feet of the project area; and

3. All shoreline areas, water features, floodplains, and other critical areas and related buffers within two hundred feet of the project area.

B. Narrative. The report narrative must include each of the following:

1. Location information (legal description, parcel number and address);

2. List of all property owners;

3. Site characteristics, including topography, total acreage, delineated wetland acreage, other water bodies, vegetation, soil types, etc., and distances to and sizes of other off-site wetlands and water bodies within one-quarter mile of the subject wetland;

4. Identification of the wetland's rating as defined in these regulations;

5. Analysis of functions and values of existing wetlands, including flood control, water quality, aquifer recharge, fish and wildlife habitat, and hydrologic characteristics;

6. A complete description of the proposed project and its potential impacts to wetlands and buffers and, if applicable, adjacent off-site wetlands and buffers, including construction impacts;

7. Discussion of project alternatives, including total avoidance of impacts to wetland areas;

8. If mitigation for wetland impacts is proposed, a description and analysis of that mitigation;

9. A wetland buffer recommendation and rationale for the buffer size determination;

10. Documentation of any fieldwork performed on the site, including field data sheets for delineations, rating system forms, baseline hydrologic data, etc.; and

11. A list of management practices that will be used to protect and maintain the quality of the wetland and/or covenants and restrictions that will be used in managing the wetland.

C. Vicinity map drawn to scale and including a north arrow, public roads, and other known landmarks in the vicinity.

D. National Wetlands Inventory Map (U.S. Fish and Wildlife Service) and/or a Cowlitz County wetland inventory map identifying wetlands on or adjacent to the site.

E. Site Map. This map must be drawn to a usable scale, one inch equals one hundred feet or better, and must include a north arrow and all of the following requirements:

1. Site boundary/property lines and dimensions;
2. Wetland boundaries based upon a wetland specialist's delineation, and depicting sample points and differing wetland types if any;
3. Recommended wetland buffer boundary;
4. Buffers for off-site critical areas that extend onto the project site;
5. Internal property lines such as rights-of-way, easements, etc.;
6. Existing physical features of the site, including buildings and other structures, fences, roads, utilities, parking lots, water bodies, etc.;
7. The development proposal, including grading and clearing limits; and
8. Topographic contours at five-foot intervals.

F. An on-site wetland delineation performed by a qualified expert. The wetland boundaries shall be staked and flagged. The report shall include photos documenting the wetland boundaries have been staked and flagged.

G. Additional Information. When appropriate, the Director may also require the critical area report to include an evaluation by the State Department of Ecology or an independent qualified expert regarding the applicant's analysis and the effectiveness of any proposed mitigating measures or programs, and to include any recommendations as appropriate.

5.4 Activities in Wetlands—General Requirements.

A. Activities within wetland or wetland buffer areas may be permitted only if the applicant can show that the proposed activity will not degrade the functions and values of the wetland and/or other critical areas.

B. Activities and uses shall be prohibited within wetlands and wetland buffer areas except as permitted in this Program.

C. Category I Wetlands. Alteration of Category I wetlands and their buffers is prohibited unless the alteration would improve habitat to threatened or endangered species that use the wetland and/or its buffer. This habitat improvement must be demonstrated in the wetland critical areas report and the mitigation plan, if any.

D. Category II and III Wetlands. The following standards shall apply to activities within Category II and III wetlands and wetland buffers:

1. Water-dependent activities may be allowed when no practical alternatives having less adverse impact on the wetland are available and appropriate mitigation measures are proposed; and

2. Nonwater-dependent activities are prohibited unless:

   a. All alternative designs of the proposed project to avoid adverse impacts to the wetland or wetland buffer are not feasible and appropriate mitigation measures are proposed.

   b. Category IV Wetlands. Activities and uses may be permitted in Category IV wetlands that result in unavoidable impacts in accordance with an approved critical area report and mitigation plan, and only if the proposed activity is the only reasonable alternative available.

5.5 Wetland Buffers.

A. Measurement of Wetland Buffers. All buffers shall be measured from the wetland boundary as surveyed in the field. Buffer widths shall be determined according to wetland category, habitat score and/or water quality score, and intensity of the proposed land use. The buffer of a created, restored, or enhanced wetland shall be in conformance with the expected category of the wetland upon maturity.

B. Standard Buffer Widths. The standard buffer width is intended to protect the wetland functions and values in relation to the project intensity at the time of the proposed activity. Wetland buffer widths assume a naturally vegetated state; wider buffers or a revegetation plan may be needed if buffer is unvegetated or sparsely vegetated. Required buffer widths are as follows:

Table B-1. Wetland Buffers

Wetland Category	Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use
Category I	Bogs and Wetlands of High Conservation Value	Low - 125 feet Moderate - 190 feet High - 250 feet
	High level of function for habitat (score for habitat 8-9 points)	Low - 150 feet Moderate - 225 feet High - 300 feet
	Moderate level of function for habitat (score for habitat 5-7 points)	Low - 75 feet Moderate - 110 feet High - 150 feet
	High level of function for water quality improvement (8-9 points) and low for habitat (<5 points)	Low - 50 feet Moderate - 75 feet High - 100 feet
	Not meeting any of the above characteristics	Low - 50 feet Moderate - 75 feet High - 100 feet
Category II	High level of function for habitat (score for habitat 8-9 points)	Low - 150 feet Moderate - 225 feet High - 300 feet

Wetland Category	Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use
	Moderate level of function for habitat (score for habitat 5-7 points)	Low - 75 feet Moderate - 110 feet High - 150 feet
	High level of function for water quality improvement and low for habitat (score for water quality 8-9 points; habitat <5 points)	Low - 50 feet Moderate - 75 feet High - 100 feet
	Not meeting above characteristics	Low - 50 feet Moderate - 75 feet High - 100 feet
Category III	High level of function for habitat (score for habitat 8-9 points)	Low - 150 feet Moderate - 225 feet High - 300 feet
	Moderate level of function for habitat (score for habitat 5-7 points)	Low - 75 feet Moderate - 110 feet High - 150 feet
	Not meeting above characteristic	Low - 40 feet Moderate - 60 feet High - 80 feet
Category IV	Score for all 3 basic functions is less than 16 points	Low - 25 feet Moderate - 40 feet High - 50 feet

C. Increased Wetland Buffer Widths. The Director shall require increased buffer widths when recommendations by a qualified professional biologist and the most current, accurate, and complete scientific and technical information available indicate that increased buffer widths are necessary to protect the wetland. An increase in buffer width will be required if any of the following criteria is met:

1. An increased buffer area is necessary to protect other critical areas within the same project area;

2. The buffer area or adjacent uplands have a slope greater than fifteen percent or the buffer is susceptible to erosion where standard erosion controls will not prevent adverse impacts to the wetland; or

3. The buffer is insufficiently vegetated. Where an increased buffer is recommended due to insufficient vegetation cover, a vegetation planting plan may be implemented as an alternative to the increased buffer width. A vegetation planting plan shall not result in a decrease in the buffer area. The vegetation planting plan shall include measures for monitoring and maintenance of the vegetated area.

D. Reduced Width Based on Modification of Land Use Intensity. The buffer widths recommended for proposed land uses with high-intensity impacts to wetlands can be reduced to those recommended for moderate-intensity impacts under the following conditions, and only after submittal of a critical areas report prepared by a qualified professional that provides clear justification for the reduced buffer:

1. For wetlands that score moderate or high for habitat (5 points or more for the habitat functions), the width of the buffer can be reduced if both of the following criteria are met:

   a. A relatively undisturbed, vegetated corridor at least one hundred feet wide is protected between the wetland and any other priority habitats as defined by the Washington Department of Fish and Wildlife ("relatively undisturbed" and "vegetated corridor" are defined in questions H 2.1 and H 2.2.1 of the Washington State Wetland Rating System for Western Washington—Revised). The corridor must be continuous with both the wetland and the priority habitat and be protected for the entire distance between the wetland and the priority habitat by some type of legal protection such as a conservation easement.

   b. All applicable measures to minimize the impacts of adjacent land uses on wetlands, such as the examples summarized in Table B-2, are applied.

Table B-2. Examples of Measures to Minimize Intensity of Impacts to Wetlands from Adjacent Land Use

(This is not a complete list of measures.)

Examples of Disturbance	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
Lights	Parking lots Warehouses Manufacturing Residential	Direct lights away from wetland
Noise	Manufacturing Residential	Locate activity that generates noise away from wetland
Toxic runoff*	Parking lots Roads Manufacturing	Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered
	Residential areas	Establish covenants limiting use of pesticides within 150 feet of wetland
	Application of agricultural pesticides Landscaping	Apply integrated pest management
Stormwater runoff	Parking lots	Retrofit stormwater detention and treatment for roads and existing adjacent development

Examples of Disturbance	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
	Roads Manufacturing Residential areas Commercial Landscaping	Prevent channelized flow from lawns that directly enters the buffer
Change in water regime	Impermeable surfaces Lawns Tilling	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	Residential areas	Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract
Dust	Tilled fields	Use best management practices to control dust

* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.

2. For wetlands that score fewer than 5 points for habitat, the buffer width can be reduced to that required for moderate land-use impacts by applying all applicable measures to minimize the impacts of the proposed land uses (see examples in Table B-2).

3. The minimum buffer width at its narrowest point shall not be less than the low-intensity land use buffer widths listed in Table B-1.

E. Averaging of Buffer Widths. The Director may allow for the standard buffer width to be averaged in accordance with an approved critical area report on a case-by-case basis. Averaging of buffer widths shall be allowed only when a qualified wetlands professional demonstrates that:

1. Averaging will not reduce wetland functions or values;

2. The wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places due to varying wetland quality;

3. A maximum of twenty-five percent (25%) of the total required buffer area on the site (after all reductions are applied) may be averaged;

4. The total area of the averaged buffer is not less than would be contained if there were no buffer averaging;

5. The buffer width at its narrowest point is never less than ¾ of the required width according to Table B-1 or 25 feet, whichever is wider; and

6. Wetland buffer width averaging and buffer width reduction provisions cannot be combined. The two separate provisions may be used to adjust buffers on the same wetland in different areas, but cannot be used in the same location on a wetland.

F. Buffer Conditions Shall Be Maintained. Wetland buffers in their natural state shall not be altered and shall be maintained in an undisturbed condition except as allowed in this Program. Planting of native plants and control of non-native invasive plants using hand tools is allowed.

G. Buffers for Mitigation Wetlands. Any wetland that is created, restored, or enhanced as compensation for approved regulated wetland alterations shall have the standard buffer required for the category of the created, restored, or enhanced wetland.

H. Altered Wetland and/or Buffer Areas. Wetlands or buffer areas that have been altered and have lost ecological functions and values are encouraged to be restored in order to replace these lost functions. Prior to the issuance of a development permit that is proposed adjacent to degraded wetlands or buffers, the property owner may agree to undertake restoration activities or authorize such activities to occur (including access to the property), through an approved legal device such as a conservation program or restoration effort, or by legal agreement with restoration agencies or groups.

I. Functionally Isolated Buffer Areas. Areas that are functionally separated from a wetland and do not protect the wetland from adverse impacts due to pre-existing roads, structures, or vertical separation shall be excluded from buffers otherwise required by this Program on a case-by-case basis subject to a critical area report and review as determined by the Director.

J. Use of Buffer Areas. The following uses may be permitted within a required wetland buffer unless otherwise prohibited:

1. Conservation and Restoration Activities. Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.

2. Passive Recreation. Passive recreation in accordance with an approved critical area report. Such activities include but are not limited to:

a. Walking paths or trails (no motorized use) located in the outer twenty-five (25) percent of the buffer area. Trails shall, be placed on existing road grades, utility corridors, or any other previously disturbed area outside of the buffer, unless demonstrated that no other feasible location exist, and may need to be enhanced with screening. When demonstrated that there is no feasible location outside of the buffer, trails or paths may be placed within the outer 25% of a wetland buffer area shall be planned to minimize removal of

vegetation (trees, shrubs, etc.) and important wildlife habitat. Trail widths shall not be wider than three (3) feet for private trail and ten (10) feet for public use or publicly owned trails. Trail surfaces shall be composed of natural materials (e.g., gravel, rock, bark), and permanent surfacing materials (asphalt or concrete) shall require a variance. No construction or surfacing materials shall significantly alter the existing drainage or negatively affect the wetland or buffer area; and

b. Wildlife viewing structures, platforms, interpretive areas, picnic areas, benches, and associated activities shall be designed and located to minimize disturbance to wildlife habitat and/or wetland and/or buffer values or functions;

c. Access to fishing areas.

3. Hazard Tree Removal. When a tree within a wetland buffer poses a threat to human life or property, the Director may allow the falling of such a danger or hazard tree subject to the following criteria:

a. Tree removal shall be the minimum necessary to balance the protection of the wetland or buffer area with the protection of life or property; and

b. For every hazard tree removed, a minimum of two trees shall be planted as mitigation.

4. Stormwater Management Facilities. Stormwater management facilities such as bioswales or retention ponds may be allowed within the outer twenty-five (25) percent of the required buffer area for Category III and IV wetlands only, provided that:

a. No other location is feasible;

b. Locating such facilities within the buffer area will not degrade the wetland values or functions or alter the hydroperiod of the wetland or adversely affect water quality; and

c. Compensatory mitigation shall be included for all losses of wetland function as a result of the stormwater management facility.

5.6 Signing and Fencing Wetlands.

A. Temporary Markers. The perimeter of a wetland or buffer area and the limit of the wetland or buffer area to be disturbed pursuant to an approved permit shall be marked in the field in such a way as to discourage unauthorized disturbance of the wetland or buffer area. Temporary marking shall be maintained throughout the permitted activity and shall not be removed until final inspections are completed

and approved permanent signs, if required, are in place. The location of temporary markers shall be shown on all site plans and final plats associated with the proposal. Temporary markers shall be composed of one-half inch galvanized pipe or equivalent monument, at least eighteen inches long, and shall show above the surface or surrounding vegetation at least five inches. Temporary markers shall be spaced no more than fifty feet apart or as determined by the Director.

B. Permanent Signs. The Director may require the applicant to install permanent signs along the boundary of wetlands or buffer areas as a condition of any permit.

C. Temporary Fencing. High-visibility construction fencing shall be installed at the outer edge of wetland buffers prior to and remain in place during the proposed activity to prevent access and to protect the wetland and buffer. The Director may waive this requirement if an alternative to fencing that achieves the same objective is proposed and approved.

D. Permanent Fencing. The Director may require the wetland and/or buffer area to be fenced for any proposed project. If required, permanent fencing shall be installed at the applicant's expense.

5.7 Stormwater Management.

The following stormwater management standards are required for development in or near wetlands:

A. New developments shall utilize best management practices to minimize stormwater quantity and quality impacts to wetlands, both during and following construction.

B. Stormwater runoff from new development shall not significantly change the rate of flow or the hydroperiod, which is the seasonal period and duration of water saturation or inundation, nor decrease the water quality of wetlands.

C. Authorized modifications of wetlands or buffer areas for construction of discharge from drainage facilities shall not adversely affect wetland hydrologic functions.

D. Developments that handle, store, dispose of, transport, or generate substances or wastes defined as "dangerous" or "extremely dangerous" wastes under WAC 173-303 (regardless of quantity) shall not allow direct precipitation or stormwater runoff to contact such substances where stored on-site.

E. The Washington State Department of Ecology's Stormwater Manual shall be the standard reference when implementing a stormwater management plan unless the Director authorizes an alternative approach.

5.8 Wetland Mitigation.

A. Mitigation Sequencing. As a condition of any shoreline permit allowing for the alteration of wetlands, the applicant will engage in the restoration, creation, or enhancement of wetlands in order to offset the impacts resulting from the alteration. An appropriate mitigation plan shall be developed by a qualified professional, and shall be approved by the Director. Applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to critical areas prior to rectifying the impact. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized or compensated for in the following order of priority:

1. Avoid the impact completely by not taking certain action or parts of the action;

2. Minimize impacts by reducing the magnitude of the action or by avoiding or reducing impacts;

3. Rectify the impact by repairing, rehabilitating, or restoring the affected environment;

4. Reduce or eliminate the impact over time by preservation, restoration and maintenance;

5. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments;

6. Monitor the impacted area and the compensation project and take appropriate corrective measures.

B. Mitigation Ratios. Any wetland that is degraded as a result of a permitted or non-permitted activity shall restoration, creation, and/or enhancement at an area equal to or greater than the wetland area that was altered in order to compensate for losses to wetland acreage or functions according to the following ratios:

Category and Type of Wetland	Creation or Re-establishment	Rehabilitation	Enhancement
Category I: Bog, Natural Heritage site	Not considered possible	Case by case	Case by case
Category I: Mature Forested	6:1	12:1	24:1
Category I: Based on functions	4:1	8:1	16:1
Category II	3:1	6:1	12:1
Category III	2:1	4:1	8:1
Category IV	1.5:1	3:1	6:1

C. Wetland Enhancement. Applicants proposing to enhance wetlands using the ratios provided in Subsection B, shall also present an enhancement program designed by a qualified professional with experience in wetland enhancement. If any of the following conditions exists, acreage ratios may be increased by up to one hundred percent (i.e. a ratio of 8:1 may become 16:1) at the recommendation of a qualified professional and approval of the Director:

1. High degree of uncertainty as to the probable success of the proposed enhancement;

2. Significant (greater than twelve months) period of time between impact and enhancement of wetland functions; and/or

3. Projected losses in functional value and other uses, such as recreation, scientific research and education, are relatively high.

D. Decreased Replacement Ratio. The replacement ratio for any type of wetland mitigation may be decreased only under the following circumstances:

1. Scientifically supported evidence that demonstrates that no net loss of wetland function or value would result under the decreased ratio; and

2. In all cases a minimum ratio of 1:1 shall be required.

E. In-Kind/Out-of-Kind Mitigation. In-kind mitigation shall be provided except where the applicant can demonstrate that either:

1. The wetland system was already degraded prior to any activity, and out-of-kind replacement will result in a wetland with greater functions and values; or

2. Technical problems such as exotic vegetation and changes in watershed hydrology make implementation of in-kind mitigation infeasible.

F. On-Site/Off-Site Mitigation. On-site mitigation shall be provided except where the applicant can demonstrate that:

1. The hydrology and ecosystem of the original wetland will not be damaged by the loss of the on-site wetland; and

2. On-site mitigation is not scientifically feasible due to problems with hydrology, soils, or factors such as other potentially adverse impacts from surrounding land uses or on-site mitigation would require elimination of or result in adverse impacts to high-quality upland habitat; and

3. Existing functional values at the site of the proposed off-site mitigation are significantly greater than the lost on-site wetland functional and values; and

4. One of the following applies:

    a. Established watershed goals for water quality, flood storage or conveyance, habitat, or other wetland functions have been established and strongly justify location of mitigation at another site; or

    b. Credits from a state-certified wetland mitigation bank are used as mitigation, and the use of credits is consistent with the terms of the bank's certification under Chapter 173-700 WAC.

G. Timing of Mitigation. Mitigation shall be completed prior to activities that will impact wetlands where feasible. Bonding or other financial guarantee is required if mitigation projects cannot be completed prior to project completion. Mitigation projects shall be timed to reduce impacts to existing wildlife or vegetation. If wetland mitigation is not completed within one year of wetland impacts, mitigation ratios will be increased to offset temporal losses.

H. Mitigation Plans. In addition to compliance with Section 4.5 of these regulations, All wetland restoration, creation and/or enhancement projects required pursuant to this Program either as a permit condition or as the result of an enforcement action shall follow a mitigation plan approved by the City and shall be consistent with *Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans--Version 1*, (Ecology Publication #06-06-011b, Olympia, WA, March 2006 or as revised) and *Selecting Wetland Mitigation Sites Using a Watershed Approach* (Western Washington) (Publication #09-06-32, Olympia, WA, December 2009). The applicant or violator must receive written approval by the Director for the mitigation plan prior to the commencement of any wetland restoration, creation, or enhancement activity.

6. Critical Aquifer Recharge Areas.

Critical aquifer recharge areas are those areas with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2). Aquifer recharge areas have geologic conditions associated with infiltration rates that create a high potential for contamination of groundwater resources or contribute significantly to the replenishment of groundwater.

These regulations establish areas determined to be critical in maintaining both groundwater quantity and quality. The purpose of these regulations is to protect aquifer recharge areas from degradation or depletion resulting from new land use activities. Due to the exceptional susceptibility and/or vulnerability of groundwater underlying aquifer recharge areas to contamination and the importance of such groundwater as a source for public water supply, it is the intent of these regulations to safeguard groundwater resources by mitigating or precluding future discharges of contaminants from new land use activities.

A. Permitted Activities. The following activities are permitted within an aquifer recharge area where no critical area report is required:

    1. Construction of, or improvements to, single-family residences or other structures not greater than two thousand five hundred square feet or five percent impervious surface of the site, whichever is greater, that do not use or increase the use of hazardous materials;

    2. Parks, recreation facilities, where no more than five percent of the site is impervious surface and, that do not use or increase the use of hazardous materials; and

    3. On-site septic systems and drain fields for residential uses.

6.2 Critical Area Report—Additional Requirements for Aquifer Recharge Areas.

In addition to the general critical report requirements of Section 4.1 of this Appendix B, proposed developments within critical aquifer recharge areas must also meet the following:

A. Prepared by Qualified Professional. A critical area report for an aquifer recharge area shall be prepared by a qualified professional who is licensed by the state as a hydrologist, geologist, or engineer and who has experience in preparing hydrologic assessments.

B. Assessment Required—Hydrologic. All proposed activities, except those permitted activities above, shall have a level one hydrological assessment prepared. A level two hydrologic assessment shall be required for the following activities:

1. Activities that result in five percent or more impervious surface area;

2. Any activity that diverts, alters, or reduces the flow of surface or groundwater or reduces aquifer recharge;

3. The use of hazardous substances other than household chemicals used in accordance with the package directions for domestic applications;

4. Injection wells, except domestic septic systems; and

5. Any activity determined by the Director that may likely have an adverse effect on aquifer recharge or groundwater quality.

C. Level One Hydrologic Assessment. A level one hydrologic assessment shall include all of the following:

1. Geologic and hydrologic characteristics for the site and immediately surrounding areas, if applicable, and any surface aquifer recharge areas;

2. Groundwater depth and flow direction and quantity;

3. Data on springs or wells within one thousand feet of the site;

4. Location of other critical areas within one thousand feet of the site;

5. Water quality data; and

6. Proposed best management practices for the project.

D. Level Two Hydrologic Assessment. In addition to the requirements of a level one hydrologic assessment, a level two hydrologic assessment shall also include all of the following:

1. Historic water quality data for the affected area for the past five years;

2. Provisions for a groundwater monitoring plan;

3. Effects the proposed project may have on groundwater quantity and quality, including:

   a. Evaluation of groundwater withdrawal effects on nearby wells or surface water;

   b. Evaluation of groundwater contamination from potential releases; and

4. A spill plan identifying structures or equipment that may fail and result in an impact. A spill plan shall include provisions for regular inspections, repair, and replacement of structures or equipment.

6.3 Performance Standards—General.

A. Activities shall only be allowed in an aquifer recharge area if the applicant can demonstrate that the proposed activity will not cause contaminants to enter the groundwater or adversely affect aquifer recharge.

B. Proposed activities must comply with requirements of the EPA, Washington Department of Health, Department of Ecology, and Cowlitz County Health and Human Services.

6.4 Performance Standards for Specific Uses.

A. Storage Tanks. All storage tanks proposed to be located in an aquifer recharge area shall comply with the adopted building code requirements, applicable zoning, fire life safety requirements, and the following:

1. Underground Tanks. All new underground storage tanks that will contain hazardous substances shall be designed and constructed to:

    a. Prevent releases due to corrosion or structural fail for the life of the tank; and

    b. Protect against corrosion or constructed of corrosion-resistant materials, or designed to prevent the release of any stored substance.

2. Aboveground Tanks. All new aboveground storage tanks that will contain hazardous substances shall be designed and constructed to:

    a. Not allow the release of hazardous substances to the ground or ground or surface waters;

    b. Contain spills using a primary containment area enclosing or underlying the tank; and

    c. Contain spills using a secondary containment system either built into the tank structure or by a dike system constructed outside the tank.

B. Vehicle Repair and Servicing.

1. Vehicle service and repair shall be conducted over an impervious surface and within a covered structure capable of withstanding normal weather conditions. Chemicals used in vehicle repair and servicing shall be stored in a manner that is protected from the weather and provides containment from leaks or spills.

2. No dry wells shall be allowed in critical aquifer recharge areas on sites used for vehicle repair and servicing. Dry wells existing on a site proposed for vehicle repair shall be abandoned using methods approved by the Department of Ecology.

C. Reclaimed Water—Spreading or Injection. Reclaimed water projects must be in accordance with Department of Ecology requirements and approval.

6.5 Prohibited Uses.

A. The following activities are prohibited in an aquifer recharge area:

1. Landfills;

2. Underground injection wells;

3. Mining;

4. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces;

5. Storage or processing of radioactive materials; and

6. Any activity that significantly reduces aquifer recharge, aquifer flow, or aquifer quantity or quality.

7. Frequently Flooded Areas.

A. Frequently Flooded Area Classifications and Designations. All lands identified in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), as amended, and approved by the City, as within the one-hundred-year floodplain are designated as frequently flooded areas. These maps are based on the following:

1. Flood Insurance Study—Cowlitz County Unincorporated Areas;

2. Flood Insurance Study—City of Woodland.

B. Development Limitations. All development within designated frequently flooded areas shall be in compliance with the City of Woodland floodplain management ordinance, Chapter 14.40 of Woodland Municipal Code, (1996), with the exception that development subject to Section 14.40.050(C) must also be demonstrated to:

1. Not cause further limitation of channel migration; and

2. Include appropriate protection of ecological functions.

8. Geologically Hazardous Areas.

A. Designation of Geologically Hazardous Areas. Geologically hazardous areas pose a threat to the health and safety of the general public when incompatible development is sited in areas of significant hazard. Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake or other geological events. Development within a geologically hazardous area may not only pose a threat to that particular development, but to areas surrounding the development.

8.2 Erosion and Landslide Hazard Areas.

A. General.

1. Erosion hazard areas are those areas that, because of their natural characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns, or human-induced changes to such characteristics, are vulnerable to erosion.

2. Landslide hazard areas are areas potentially subject to the risk of mass movement due to geologic, topographic, and/or hydrologic factors.

B. Classification.

1. Criteria.

a. Erosion hazard areas are identified by the presence of vegetative cover, soil texture, slope, and rainfall patterns, or human-induced changes to such characteristics, which create site conditions, which are vulnerable to erosion. Erosion hazard areas are those areas that are classified as having moderate to severe, or very severe erosion potential by the Natural Resources Conservation Service, United States Department of Agriculture (USDA).

b. Landslide hazard areas are those areas meeting any of the following characteristics:

i. Areas of historic failures, such as:

(A) Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having "severe" limitation for building site development;
(B) Those areas mapped by the Department of Ecology or the Washington Department of Natural Resources as unstable, unstable old slides, or unstable recent slides;

(C) Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington Department of Natural Resources.

ii. Areas with all three of the following characteristics:

(A) Slopes steeper than fifteen percent;
(B) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
(C) Springs or groundwater seepage.

iii. Slopes that are parallel or sub-parallel to planes of weakness, such as bedding planes, joint systems, and fault planes, in subsurface materials;

iv. Slopes having gradients steeper than eighty percent subject to rock fall during seismic shaking;

v. Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action; or

vi. Any area with a slope of thirty percent or steeper and with a vertical relief of ten or more feet. A slope is delineated by estimating the toe and top and measured by averaging the inclination over at least ten feet of vertical relief.

8.3 Mapping of Hazards.

The following sources may be used to identify landslide and erosion hazard areas:

A. Soil Survey of Cowlitz Area, Washington, United States Department of Agriculture, February 1974;

B. Areas designated as slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington Department of Natural Resources;

C. Washington Department of Natural Resources seismic hazard maps for Western Washington;

D. Federal Emergency Management Administration flood insurance maps;

E. Other maps or records of local geological hazard events.

8.4 Allowed Activities.

The Director may allow the following activities within geologically hazardous areas if the activity will not increase the risk of the hazard and it is demonstrated that structural stabilization to the shoreline will not be needed now or in the foreseeable future:

A. Construction of new buildings with less than two thousand five hundred (2,500) square feet of floor area or roof area, whichever is greater;

B. Additions to existing residences that are two hundred fifty (250) square feet or less; and

C. Installation of fences.

8.5 Regulation.

For all regulated activities proposed within landslide and erosion hazard areas, a geotechnical report prepared by a professional engineer licensed by the state of Washington with expertise in geotechnical engineering shall be submitted. Where the applicant can clearly demonstrate to the department through submittal of a geotechnical assessment that the regulated activity or any related site alterations will not occur within the landslide or erosion hazard area or any associated buffers, the requirements for a geotechnical report may be waived. A geotechnical assessment may be prepared by a professional engineer licensed by the state of Washington with expertise in geotechnical engineering. A geotechnical assessment may also be prepared by a professional geologist/hydrologist or soils scientist who has earned a bachelor's degree in geology, hydrology, soils science, or closely related field from an accredited college or university or equivalent educational training, and having five years' experience assessing erosion and landslide hazards.

A. Geotechnical Assessments.

1. If an applicant questions the presence of landslide or erosion hazard areas on a site, the applicant may submit a geotechnical assessment.

2. A geotechnical assessment shall include all of the following:

a. A description of the topography, surface and subsurface hydrology, soils, geology, and vegetation of the site;

b. An evaluation of the analysis area's inherent landslide and erosion hazards and any other critical areas and buffers, and any critical areas that may be likely to impact the site;

c. A site plan of the area delineating all areas of the site subject to landslide and erosion hazards, based on sources and criteria above; and

d. The submittal must include a contour map of the proposed site, at a scale of one inch equals twenty feet or as deemed appropriate by the department. Slopes shall be clearly delineated for the ranges between fifteen percent and twenty-nine percent, and thirty percent or greater, including figures for area coverage of each slope category on the site. When site-specific conditions indicate the necessity, the department may require the topographic data to be field surveyed. When possible, the footprint of the proposed project shall be shown.

B. Geotechnical Reports. A geotechnical report shall be prepared by a professional engineer licensed by the state of Washington with experience in geotechnical engineering and shall address the existing geology, topographic and hydrologic conditions of the site, including an evaluation of the ability of the site to accommodate the proposed activity. The geotechnical report shall include at a minimum the following:

1. Site geology information required:

a. Topographic Data. The submittal must include a contour map of the proposed site, at a scale of one inch equals twenty feet or as deemed appropriate by the department. Slopes shall be clearly delineated for the ranges between fifteen percent and twenty- nine percent, and thirty percent or greater, including figures for area coverage of each slope category on the site. When site-specific conditions indicate the necessity, the department may require the topographic data to be field surveyed. When possible, the footprint of the proposed project shall be shown;

b. Subsurface Data. The submittal must include boring logs and exploration methods; soil and rock stratigraphy, groundwater levels, and seasonal changes of groundwater levels;

c. Site History. The submittal must include a description of any prior grading, soil instability, or slope failure; and

d. Seismic Hazard. The submittal shall include data concerning the vulnerability of the site to seismic events.

2. Geotechnical engineering information required:

a. Slope stability studies and opinion(s) of slope stability;

b. Proposed angles of cut and fill slopes and site grading requirements;

c. Structural foundation requirements and estimated foundation settlements;

d. Soil compaction criteria;

e. Proposed surface and subsurface drainage;

f. Lateral earth pressures;

g. Vulnerability of the site to erosion;

h. Suitability of on-site soil for use as fill;

i. Laboratory data and soil index properties for soil samples; and

j. Building limitations.

3. Where a valid geotechnical report has been prepared within the last five years for a specific site, and where the proposed land use activity and surrounding site conditions are unchanged, said report may be utilized and a new report may not be required. If any changed environmental conditions are associated with the site or surrounding the site, or the proposed activity has changed, the applicant shall submit an amendment to the geotechnical report.

4. The development proposal may be approved, approved with conditions, or denied based on the department's evaluation of the ability of the proposed mitigation measures to reduce risks associated with the erosion and landslide hazard area.

5. Other critical areas or buffers on or adjacent to the site that may impact the proposal.

C. Standards. The department shall evaluate all geotechnical reports for landslide and erosion hazard areas to insure that the following standards are met:

1. Location and extent of development:

a. The development shall be located to minimize disturbance and removal of vegetation;

b. Structures shall be clustered where possible to reduce disturbance and maintain natural topographic character; and

c. Structures shall conform to the natural contours of the slope, and foundations should be tiered where possible to conform to the existing topography of the site.

2. Design of development:

a. All development proposals shall be designed to minimize the building footprint and other disturbed areas;

b. All development shall be designed to minimize impervious surfaces;

c. Roads, walkways, and parking areas shall be designed to parallel the natural contours; and

d. Access shall be in the least sensitive area of the site.

3. The Department may approve, approve with conditions, or deny development proposals based on these performance standards.

D. Buffer Requirements.

1. A buffer consisting of undisturbed natural vegetation and measured in a perpendicular direction from all landslide and erosion hazard areas shall be required. The buffer shall be from the top of the slope and toe of the slope of all landslide or erosion hazard areas that measure ten feet or more in vertical elevation change from top to toe of slope, as identified in the geotechnical report, maps, and field checking. The minimum buffer distance requirements from the top of slope and toe of slope of the landslide or erosion hazard areas shall be the same as for setbacks from slopes as identified in the Uniform Building Code.

2. To increase the functional attributes of the buffer, the Director may require that the buffer be enhanced through the planting of indigenous species.

3. The edge of the buffer area shall be clearly staked, flagged, and fenced prior to any clearing, grading or construction. The buffer markers shall be clearly visible, durable, and permanently affixed to the ground. Site clearing shall not commence until the engineer has submitted written notice to the Director that the buffer requirements of this Program have been met. The buffer shall be permanently protected through a protective easement or other appropriate permanent protective measure.

E. Modification to Buffer Width. When a geotechnical report demonstrates that a lesser buffer distance may be achieved through design and engineering solutions, such reduced buffer and design and engineering solutions may be permitted. If a geotechnical report demonstrates that a greater buffer distance is needed, the greater buffer shall be required.

F. Building Setback and Construction Near Buffer. The setback for any proposed building or impervious surface from a buffer area shall be the same setback as required for that zoning district or ten feet, whichever is greater. No building or impervious surface shall be constructed closer than ten feet to any buffer area. Clearing, grading, and filling within the required setback shall only be allowed if the applicant can demonstrate that vegetation within the buffer will not be damaged.

G. Erosion Control Plan. Erosion control plans shall be required for all regulated activities in erosion hazard areas.

9. Designation of Fish and Wildlife Habitat Conservation Areas.

A. Fish and wildlife habitat conservation areas include:

1. Areas with species designated by the state or federal government as endangered, threatened or sensitive:

   a. Federally designated endangered and threatened species are identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are threatened to become endangered or are in danger of extinction. U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted for current listings.

   b. State-designated endangered, threatened, and sensitive species are those species native to the state of Washington that are in danger of extinction, threatened to become endangered, vulnerable, or are declining and are likely to become endangered or threatened without cooperative management. The Washington Department of Fish and Wildlife maintains the most current listing and should be consulted for current listing status.

2. State priority habitats and areas associated with state priority species. Priority species require protection due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority habitat may consist of a specific structural element, successional state, unique vegetation, or dominant plant species. Priority habitats are identified by the Washington Department of Fish and Wildlife.

3. Habitats and Species of Local Importance. Habitats and species of local importance shall include Washington Department of Fish and Wildlife priority habitats and species, candidate species, and any species identified by the City of Woodland or Clark or Cowlitz County.

4. Naturally Occurring Ponds Under Twenty Acres. Naturally occurring ponds do not include ponds intentionally created from dry sites such as retention ponds, dikes, or wastewater treatment facilities, or landscape amenities, unless such ponds were intentionally created as mitigation or as restoration.

5. Waters of the State. All watercourses under the jurisdiction of the state of Washington.

6. Lakes, ponds, streams and rivers stocked or planted with game fish by a governmental or tribal entity.

7. State natural areas and natural resource conservation areas as defined, established, and managed by the Washington Department of Natural Resources.

8. Essential land for preserving open spaces and connections between habitat blocks.

B. All areas within the City of Woodland meeting one or more of these criteria listed above, are hereby considered critical areas and are subject to this Program.

C. Mapping. The following critical area maps are hereby adopted:

1. Washington Department of Fish and Wildlife, priority habitat and species maps;

2. Washington Department of Natural Resources, official water type reference maps; and

3. Washington Department of Natural Resources, state natural area preserves and natural resource conservation area maps.

These maps are to be considered as references only and do not provide final critical area designation.

9.2 Critical Area Report—Additional Requirements for Habitat Conservation Areas.

In addition to the general critical area report requirements of Section 4.1 of this Appendix B, critical area reports for habitat conservation areas shall meet the requirements of this Section. Critical area reports for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. Prepared by Qualified Professional. A critical report for a habitat conservation area shall be prepared by a qualified professional biologist with experience preparing reports for the appropriate type of habitat.

B. Area Addressed in Critical Area Report. The following areas shall be addressed in a critical area report for habitat conservation areas:

1. The total area of the proposed activity;

2. All habitat conservation areas and recommended buffers within two hundred feet of the project area; and

3. All shoreline areas, floodplains and other critical areas with related buffers within two hundred feet of the project area.

C. Habitat Assessment. A habitat assessment or investigation of the proposed project area that evaluates the presence of a potential fish or wildlife species or habitat shall be prepared. A habitat conservation area report shall contain an assessment of the following site and proposal related information:

1. Detailed description of vegetation and other habitat features on and adjacent to the proposed project area;

2. Identification of any species of local importance, priority species, or endangered, threatened, sensitive, or candidate species that have a primary association habitat on or adjacent to the proposed project area;

3. An assessment of potential impacts to the species by the proposed project;

4. A discussion of any federal, state, or local special management recommendation that have been developed for species or habitats on or adjacent to the proposed project;

5. A detailed discussion of the potential impacts to the habitat by the proposed project, including impacts to water quality or quantity;

6. A discussion of measures, including avoidance, minimization and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded in accordance with Section 4.4 (Mitigation sequencing) of this Appendix B; and

7. A discussion of continuing management practices that will protect habitat after the project site has been developed, including monitoring and maintenance programs.

D. Additional Information Required. The Director may require additional information when the type of habitat or species dictates the need. The habitat management additional requirement shall include:

1. An evaluation by an independent qualified professional regarding the analysis and effectiveness of proposed mitigation or programs, including any recommendations as appropriate;

2. A request for consultation with the Washington Department of Fish and Wildlife; and

3. A detailed surface and subsurface hydrologic features both on and adjacent to the proposed project site.

9.3 Performance Standards—General Requirements.

A. Alterations Shall Not Degrade the Functions and Values of Habitat. A habitat conservation area may only be altered if the proposed alteration of the habitat does not degrade the quality or quantity of functions or values of the habitat. All new structures are prohibited from habitat conservation areas except in accordance with this Program.

B. Nonindigenous Species Shall Not Be Introduced. Unless authorized by a state or federal permit of approval, no species not indigenous to the region shall be introduced into a habitat conservation area, or its buffer.

C. Mitigation, Contiguous Corridors. Mitigation sites shall be located so as to achieve continuous habitat corridors in accordance with an approved mitigation plan.

D. Approvals May Be Conditioned. The Director may condition approvals of allowed activities within or adjacent to habitat conservation areas or buffers. Conditions may include, but are not limited to, the following:

1. Establishment of buffer zones;
2. Preservation of critically important vegetation;
3. Limiting access, including fencing;
4. Seasonal restriction of construction activities; and
5. Mitigation to compensate for lost habitat

E. Mitigation Shall Achieve Equivalent or Greater Functions. Mitigation activities shall achieve equivalent or greater biologic functions and shall include mitigation for adverse impacts upstream or downstream of the development site. Mitigation shall address each function.

F. Approval shall be supported by the most current, accurate, and complete scientific and technical information available.

G. Buffers.

1. The Director shall require buffer areas to be established for all activities in or adjacent to habitat conservation areas when needed for habitat protection. Buffers shall be undisturbed areas of native vegetation, or shall be areas identified for restoration, to protect the integrity, functions, and values of the affected habitat. Buffers shall reflect the sensitivity of the habitat and intensity of the proposed project, and shall be consistent with recommendations by the Washington Department of Fish and Wildlife. Buffers shall be preserved in perpetuity.

2. Seasonal Restrictions. If a species is more prone to disturbance during specific times of the year, seasonal restrictions may apply. Larger buffers may be required, and activities may be restricted during that specific season.

3. Habitat Buffer Averaging. The Director may allow the recommended buffer width to be reduced in accordance with an approved critical area report; the most current, accurate, and complete scientific and technical information available; and management recommendations by the Washington Department of Fish and Wildlife. Averaging may only occur if:

   a. Averaging will not reduce habitat or stream functions;

   b. It will not adversely affect salmonid habitat;

   c. Additional natural resource protection such as buffer enhancement will be provided;

   d. The total of the averaged buffer area is not less than what would be contained in the standard buffer; and

   e. The buffer area width is not reduced by more than twenty-five percent.

H. Signs and Fencing.

1. Temporary Markers. The outer perimeter of the habitat conservation area or buffer and the limits of the area to be disturbed shall be marked in such a way as to prevent unauthorized intrusion. The marking shall be verified by the Director prior to any activities taking place. Temporary marking shall be maintained throughout the project timeline until permanent signs, if required, are in place.

2. Permanent Signs. The Director may require permanent signs along the boundary of a habitat conservation area or buffer. The signs, if required, must be made of a durable material, mounted on a metal post. Signs shall be posted approximately fifty feet apart. The property owner shall maintain the signs.

3. Fencing.

   a. The Director may require permanent fencing of a habitat conservation area or buffer when fencing will prevent future impacts to the area.

   b. Permanent fencing shall be required if domestic grazing animals are present or may be introduced in the future.

   c. If permanent fencing is required, it shall be the sole responsibility of the applicant to install and maintain.

   d. Fencing shall not interfere with species migration and shall be installed in a manner that minimizes habitat impacts.

I. Subdivisions/Short Subdivisions.

1. Land that is located entirely within a habitat conservation area or its buffer shall not be subdivided. Buffer areas shall be identified on the face of subdivision maps and shall be protected in perpetuity with conservation covenants, deed restrictions, or other legally binding mechanisms.

2. Land that is located partially within a habitat conservation area or buffer may be divided provided an accessible portion of each new lot is located outside the conservation area or buffer and each established new lot can be reasonably developed within intrusion into the standard habitat buffer. A lot may be subdivided into lots outside the conservation area or buffer and a lot entirely within the buffer area, so long as the lot within the conservation area or buffer area is designated as not developable on the final plat.

3. Roads and utilities serving the proposed subdivision may only be permitted in the conservation area or buffer if the City determines that no other feasible alternative exists and adverse impacts to critical areas and buffers are fully mitigated in accordance with all mitigation and critical area report requirements of this Program.

9.4 Performance Standards—Specific Habitats.

A. Endangered, Threatened and Sensitive Species.

1. No development shall be allowed within a habitat conservation area or buffer where state or federally endangered, threatened, or sensitive species have a primary association.

2. Proposed activities adjacent to a conservation area where state or federally endangered, threatened, or sensitive species have a primary association shall be protected in accordance with an approved critical area report. No activity shall be permitted prior to consultation with the Washington Department of Fish and Wildlife and/or appropriate federal agency.

3. Bald eagle habitat shall be protected pursuant to Washington State Bald Eagle Protection Rules (WAC 232-12-292). For activities proposed adjacent to a verified nest or communal roost a habitat management plan shall be developed by a qualified professional. Activities are adjacent to a bald eagle site when they are within eight hundred feet or within two thousand six hundred forty feet and in a shoreline foraging area. The City shall verify the location of eagle management areas for each proposed activity. Approval of the activity shall not occur prior to approval of the habitat management plan by the Washington Department of Fish and Wildlife.

B. Anadromous Fish.

1. All activities, uses, and alterations proposed to be located within waterbodies used by anadromous fish or in areas that affect such waterbodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to the following:

    a. Activities shall be timed in accordance with the allowable work window as specified by the Washington Department of Fish and Wildlife for the applicable species;

    b. The activity is designed so it will not degrade the functions or values of the fish habitat or other critical areas;

    c. Any impacts to the functions or values are mitigated in accordance with an approved critical area report; and

    d. Hydraulic project approval may be required from the Washington Department of Fish and Wildlife.

C. Wetland Habitats. All proposed activities within or adjacent to habitat conservation areas containing wetlands shall conform to the wetland portion of this Appendix B. If wetland and non-wetland critical areas are present at the same location, the provisions that afford the greatest protection shall apply.

D. Riparian Habitat Areas. Unless otherwise allowed in this Program, all structures and activities shall be located outside of the RHA.

1. Establishment of Riparian Habitat Areas. Riparian areas shall be established for habitats that include aquatic and terrestrial ecosystems that mutually benefit each other, and are located adjacent to rivers, perennial or intermittent streams, and springs.

2. Riparian Habitat Area Widths. A riparian habitat shall have the width specified unless a greater width is required, or a lesser width is allowed. Widths shall be measured on a horizontal plane from the OHWM or from the top of the bank if the ordinary high water mark cannot be identified. Riparian habitat area widths shall be as shown in the following tables:

Table B-3. Riparian Habitat Areas (RHA) for Non-Shoreline Waters

Stream Type	RHA Width
Type S - shorelines of the state	See Table B-4
Type F - other perennial or fish bearing streams • 5-20 feet wide • <5 feet wide	 200 feet 150 feet
Type Np - perennial nonfish habitat streams	100 feet
Type Ns - seasonal, nonfish habitat streams	75 feet

Table B-4. Reach-Based Riparian Habitat Areas (RHA) for Shoreline Waters

Reach Number	Waterbody	Shoreline Environment Designation	RHA Width
W-01	Horseshoe Lake	Residential	Where shoreline is adjacent to the road, the RHA extends from the OHWM to the boundary of the existing roadside operational area. Existing single-family lots – 25 feet Undeveloped parcels – 65 feet
W-02	Horseshoe Lake	Residential	50 feet
W-03	Horseshoe Lake	High Intensity	25 feet
W-04	Horseshoe Lake	Recreation	0 feet (see table note)
W-05	Horseshoe Lake	High Intensity	RHA extends from the OHWM to the boundary of the existing roadside operational area.
W-06	Horseshoe Lake	Residential	25 feet
W-07	Lewis River	High Intensity	150 feet; Maintain riparian vegetation consistent with guidelines for airport safety zones.
W-08	Lewis River	High Intensity	75 feet except where existing parcels are less than 200 feet deep. For parcels less than 200 feet deep, buffer is 30 percent of the parcel depth.
W-09	Lewis River	*Parallel:* Urban Conservancy between Flood Wall footprint and OHWM / High Intensity / Residential	RHA extends from the OHWM to the waterward footprint of the Flood Wall or the waterward existing roadside operational area, where no Flood Wall is present.
W-10	Lewis River	*Parallel:* Urban Conservancy between Floodway Boundary and OHWM / High Intensity / Residential	RHA extends from the OHWM to 10 feet landward of the FEMA Floodway, or 75 feet, whichever is greater.
W-11	Lewis River	Residential	100 feet, except where existing or approved platted lots are less than 200 feet deep. For parcels less than 200 feet deep, buffer is 30 percent of the parcel depth.

Table Note: See Table 7-1 in the SMP for building setbacks that apply in addition to the RHA buffer widths in this table.

3. Increased Riparian Widths. Riparian habitat widths shall be increased when:

   a. The Director determines that the recommended width is insufficient to prevent habitat degradation and to protect the functions of the habitat area;

   b. A channel migration zone exceeds the recommended riparian width. The width shall be extended to the outer edge of the channel migration zone;

   c. The riparian area is in an area of high blowdown potential. The RHA shall be expanded an additional fifty feet (50) on the windward side; or

d. The riparian area is within an erosion or landslide area. The buffer width will be that of the critical area affording the greatest protection.

4. Reduction of Habitat Buffer Widths. The Director may allow the standard or reach-based habitat buffer width to be reduced in accordance with an approved critical area report and the most current, accurate, and complete scientific and technical information available on a case-by-case basis when it is determined that a smaller area is adequate to protect the habitat functions and values based on site-specific characteristics and when all of the following criteria are met:

   a. The critical area report provides a sound rationale for a reduced buffer based on the most current, accurate, and complete scientific and technical information available;

   b. The existing buffer area is well-vegetated or will be significantly enhanced with native species and has less than a ten percent slope;

   c. No direct or indirect, short-term or long-term, adverse impacts to habitats will result from the proposed activity;

   d. As required by the Director, a five-year monitoring program of the buffer and habitat shall be included. Subsequent corrective actions may be required if adverse impacts to the habitats are discovered during the monitoring period; and

   e. In no case shall the standard buffer width be reduced by more than twenty-five (25) percent using this provision.

5. Riparian Habitat Area Width Averaging. The Director may allow the standard or reach-based riparian habitat area width to be averaged in accordance with a critical area report only if:

   a. The reduction will not degrade the habitat;

   b. The reduction will not reduce the stream or habitat functions;

   c. The reduction will not reduce non-fish habitat functions;

   d. Additional habitat protection will be provided;

   e. The total area of the riparian area is not reduced by more than twenty-five (25) percent in any one location;

   f. The total area of the riparian area is not decreased;

   g. The reduction in width will not be within another critical area or buffer; and

h. The reduction in habitat area is supported by the most current, accurate, and complete scientific and technical information available.

6. Allowed Uses. The following uses are allowed in RHAs and building setbacks in all environment designations consistent with Table 7-1 of the SMP, provided that mitigation sequencing is demonstrated and any adverse impacts to ecological functions are mitigated.

   a. Water-dependent uses. Water-dependent uses, modifications and activities may be located in shoreline buffers at the water's edge without obtaining a Shoreline Variance Permit, provided the project submittal includes a critical area report, mitigates for impacts according to Section 6.1 of the SMP, and the project otherwise complies with this Program.

   b. Accessories to water-dependent uses. Uses, developments and activities accessory to water-dependent uses should be located outside any applicable standard, reach-based or reduced shoreline buffer unless at least one of the following is met:

      i. Proximity to the water-dependent project elements is critical to the successful implementation of the facility's purpose and the elements are supportive of the water-dependent use and have no other utility (e.g., a road to a boat launch facility); or

      ii. The applicant's lot/site has topographical constraints where no other location of the development is feasible (e.g., the water-dependent use or activity is located on a parcel entirely or substantially encumbered by the required buffer).

      In these circumstances, uses and modifications accessory to water-dependent uses must be designed and located to minimize intrusion into the buffer. All other accessory uses, developments and activities proposed to be located in a shoreline buffer must obtain a Shoreline Variance unless otherwise allowed by other regulations in this Section or in this Program.

   c. Linear transportation and utility crossings. New linear transportation and utility crossings may be located in shoreline buffers without obtaining a Shoreline Variance, provided the project complies with all other provisions of this Program.

   d. Shoreline residential access. A private access pathway constructed of pervious materials may be installed, a maximum of four (4) feet wide, through the shoreline buffer to the OHWM. Impervious materials may be used only as needed to comply with ADA requirements to construct a safe, tiered pathway down a slope. A railing may be installed on one edge of the pathway, a maximum of 36 inches tall and of open construction. Pathways to

the shoreline should take the most direct route feasible consistent with any applicable ADA standards.

7. Riparian Habitat Mitigation. Mitigation of adverse impacts shall result in equivalent functions and values on a per function basis. The mitigation shall be located as near the alteration as possible, and be located in the same sub-drainage basin as the impacted habitat.

8. Alternative Mitigation for Riparian Areas. If the applicant demonstrates that greater habitat functions can be obtained as a result of alternate mitigation measures, the Director may modify the requirements of the performance standards of this Section, including the RHA buffers.

9. Functionally Isolated Riparian Habitat Area. Areas which are functionally separated from a riparian habitat area due to preexisting roads, structures, or similar circumstances, shall be excluded from buffers otherwise required by this Program on a case-by-case basis subject to a critical area report and review as determined by the Director.

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APPENDIX C

Shoreline Restoration Plan

COWLITZ COUNTY
Grant No. G1200052

SHORELINE RESTORATION PLAN

for Shorelines in Cowlitz County and the Cities of Castle Rock, Kalama, Kelso, and Woodland

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

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SHORELINE RESTORATION PLAN

COWLITZ COUNTY AND THE CITIES OF CASTLE ROCK, KALAMA, KELSO, AND WOODLAND

1. INTRODUCTION

The Shoreline Restoration Plan builds on the goals and policies proposed in the Shoreline Master Program (SMP). The Shoreline Restoration Plan provides an important non-regulatory component of the SMP to ensure that shoreline functions are maintained or improved despite potential incremental losses that may occur in spite of SMP regulations and mitigation actions.

The Shoreline Restoration Plan draws on multiple past planning efforts to identify possible restoration projects and reach-based priorities, key partners in implementing shoreline restoration, and existing funding opportunities. The Shoreline Restoration Plan represents a long-term vision for voluntary restoration that will be implemented over time, resulting in ongoing improvement to the functions and processes in the County and cities' shorelines.

Many of the restoration opportunities noted in this plan affect private property. It is not the intent of this plan to require restoration on private property or to commit privately owned land for restoration purposes without the willing and voluntary cooperation and participation of the affected landowner.

1.1. Purpose

The primary purpose of the Shoreline Restoration Plan is to plan for "overall improvements in shoreline ecological function over time, when compared to the status upon adoption of the master program" (WAC 173-26-201(2)(f)). Secondarily, the Shoreline Restoration Plan may enable the County and cities to ensure that the minimum requirement of no net loss in shoreline ecological function is achieved on a county-wide basis, notwithstanding any shortcomings of individual projects or activities.

Activities that will have adverse effects on the ecological functions and values of the shoreline must be mitigated (WAC 173-26-201(2)(e)). Proponents of such activities are individually required to mitigate for impacts to the shoreline areas, or agreed-to off-site

mitigation, which as conditioned, is equal in ecological function to the baseline levels at the time each activity takes place. However, some uses and developments cannot be fully mitigated. This could occur when project impacts may not be mitigated in-kind on an individual project basis, such as a new bulkhead to protect a single-family home that can be offset, but not truly mitigated in-kind unless an equivalent area of bulkhead is removed somewhere else. Another possible loss in function could occur when impacts are sufficiently minor on an individual level, such that mitigation is not required, but are cumulatively significant. Additionally, unregulated activities (such as operation and maintenance of existing legal developments) may also degrade baseline conditions. Finally, the SMP applies only to activities in shoreline jurisdiction, yet activities upland of shoreline jurisdiction or upstream or downstream in the watershed may have offsite impacts on shoreline functions.

Together, these different project impacts may result in cumulative, incremental, and unavoidable degradation of the overall baseline condition unless additional restoration of ecological function is undertaken. Accordingly, the Shoreline Restoration Plan is intended to be a source of ecological improvements implemented voluntarily by the County, cities, and other government agencies, developers, non-profit groups, and property owners within shoreline jurisdiction to ensure no net loss of ecological function, and to result in an improvement of ecological function (Figure 1).

1.2. Restoration Plan Requirements

This Restoration Plan has been prepared to meet the purposes outlined above, as well as specific requirements of the SMP Guidelines (Guidelines). Specifically, WAC Section 173-26-201(2)(f) of the Guidelines says:

(i) Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration;

(ii) Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions;

(iii) 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;

(iv) Identify additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs;

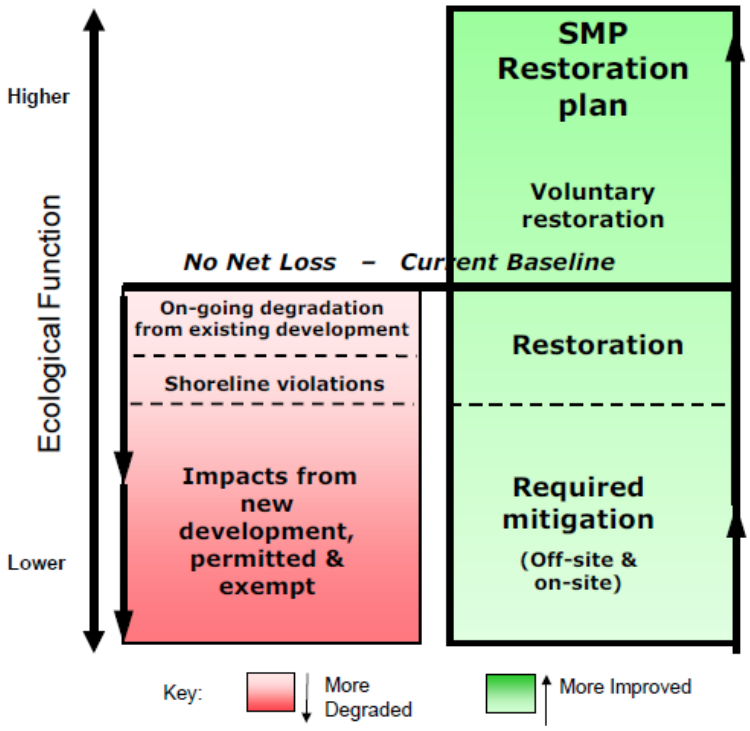

Figure 1. Diagram of the role of restoration relative to achieving the SMP standard of "no net loss" of ecological functions (Ecology 2010)

(v) Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals;

(vi) Provide for mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals.

In addition to meeting the requirements of the Guidelines, this Restoration Plan is intended to identify and prioritize areas for future restoration and mitigation, support applications for grant funding, and to identify the various entities and their roles working within the County and cities to enhance the shoreline environment.

1.3. Types of Restoration Activities

Consistent with Ecology's definition, the use of the word "restore" in this document encompasses a suite of strategies that can be approximately delineated into five categories:

- Creation: Establishment of new shoreline resource functions where none previously existed.

- Re-establishment: Restoration of a previously existing converted resource that no longer exhibits past functions.
- Rehabilitation: Restoration of functions that are significantly degraded.
- Enhancement: Improvement of functions that are somewhat degraded.
- Preservation: Protection of an existing high-functioning resource from potential degradation. Preservation is often achieved through conservation easements or the purchase of land.

Restoration can sometimes be confused with mitigation. Mitigation is defined by WAC 197-11-768 as the sequential process of avoiding, minimizing, rectifying and reducing impacts, as well as compensating for unavoidable impacts and monitoring the impact.

1.4. Restoration Plan Approach

As directed by the SMP Guidelines, the following discussions include: restoration goals and objectives; a summary of baseline shoreline conditions; existing County and local plans and programs that facilitate restoration actions; identification of the County's partners in restoration; and ongoing and potential projects that positively impact the shoreline environment. The Restoration Plan also identifies anticipated funding and implementation of restoration elements.

This Shoreline Restoration Plan is focused on restoration projects that are reasonably likely to occur in the foreseeable future, and restoration opportunities are not limited to those identified in this plan. Potential restoration opportunities were identified based on existing restoration planning document recommendations, including the Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan (LCFRB 2010a), the Salmon and Steelhead Limiting Factors Reports, the Habitat Work Schedule (hws.ekosystem.us), and other salmon recovery Lead Entity planning documents, as well as input from Cowlitz County, participating cities, and restoration partners. Many of these restoration planning documents include protection of intact functions and processes as an integral component to restoration planning. Therefore, although protection is distinct from restoration at the site level, restoration opportunities presented in this document also include opportunities to protect high functioning areas.

In many cases, recommendations apply broadly to watershed areas (for example, "Protect existing rearing habitat to ensure no further degradation"). In this case, the Integrated Watershed Assessment in the Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan, as well as functional analysis in the *Shoreline Analysis Report*

can be used to identify high functioning areas that could benefit from protection (through regulatory or voluntary measures), as well as low to moderately functioning areas that may benefit from restoration actions.

The restoration opportunities identified in this plan are focused primarily on publicly owned open spaces and natural areas. Any restoration on private property would occur only through voluntary means or through re-development proposals.

2. RESTORATION GOALS

This plan establishes a basic framework for restoring the County's shoreline resources over time. The following goals have been identified in the County's existing comprehensive plan and shoreline master program. These may be updated once new document goals are available.

Comprehensive Plan Goals

- Conserve unique wildlife habitats, natural features, and recreation areas of Cowlitz County.
- Retain wherever possible, wetland and shoreland areas in their natural state, for the maintenance and production of wildlife and recreation uses.

Shoreline Master Program Goals

- Maintain a high quality environment along the shorelines of Cowlitz County.
- Preserve and protect those fragile and natural resources, and culturally significant features along the shorelines of Cowlitz County.
- Restore damaged features or ecosystems to a higher quality than may currently exist.
- Preserve unique and non-renewable resources.

3. EXISTING CONDITIONS

The *Shoreline Analysis Report* (TWC and Parametrix 2013) describes existing physical and biological conditions in the shoreline area within County and City limits, including identification of lower and higher functioning areas and recommendations for restoration of ecological functions where they are degraded. Degraded areas in shoreline jurisdiction are summarized below, organized by Shoreline Assessment Unit (as identified in the *Shoreline Analysis Report*).

3.1. Unincorporated Cowlitz County

3.1.1. Columbia River Assessment Unit

Key degraded functions include floodplain disconnection and in-stream habitat diversity. Lower scoring reaches in the Columbia River represent areas of intensive transportation (Port and railroad) infrastructure, with limited shoreline vegetation, levees, overwater structures, and extensive impervious surfaces. Because of the intensive industrial development in these reaches, there may be opportunities for enhancement; however, large scale rehabilitation of functions in these reaches is unlikely. As such, an effective restoration strategy for the Columbia River Assessment Unit should balance enhancement of highly impaired areas with rehabilitation or protection of less impacted areas.

In general, the islands and confluences of major river mouths with the Columbia River provide some of the least altered shoreline habitats in the assessment unit. Both Fisher and Cottonwood Islands are designated as Corps dredge disposal sites. Other high functioning reaches include undeveloped wetland areas south of the Cowlitz River mouth and near the mouths of the Kalama and Lewis Rivers. Protection of these high functioning areas should be a priority.

3.1.2. Lewis River Assessment Unit

The Salmon and Steelhead Limiting Factors report for WRIA 27 (Wade 2000b) identifies the Lewis River dam network as the primary limiting factor for salmonid habitat in this area. The three mainstem dams alter the natural hydroperiod of the lakes and downstream areas, limit longitudinal connectivity in the watershed, create fish passage barriers, and restrict downstream transport of sediment and large woody debris. Planned and ongoing actions by PacifiCorp to mitigate for impacts to fish passage and habitat alterations will be instrumental in maintaining and improving shoreline functions in the Lewis River (see Section 3.1.2).

In addition to dam impacts, floodplain connectivity, instream habitat complexity, and riparian vegetation are also key factors limiting functions in the Lewis River Assessment Unit. Ecological functions in the reaches in the lower Lewis River downstream from the City of Woodland (Shoreline Analysis Reaches 1-5) are significantly degraded. The shorelines in these lower reaches are lined with levees, devoid of native vegetation, and lack habitat complexity. Despite significant degradation of natural shoreline functions of the lower Lewis River, the agricultural fields in the area do likely provide winter foraging habitat for migratory waterfowl. These reaches also experience tidal influence from the Columbia River estuary, and therefore have the potential to provide low

energy rearing habitats for juvenile salmon, although the lack of shoreline complexity significantly limits the realization of such potential.

There are several key reaches that provide significant habitat functions in the Lewis River Assessment Unit. These areas include off-channel habitat surrounding Eagle Island; the Lewis River mainstem reach between Cedar Creek and Merwin Dam; Cedar Creek watershed and the lower reaches of Johnson, Ross, Robinson, and Colvin creeks; wetland complexes in the lower 2 miles of the South Fork Chelatchie Creek; and backwater slough areas above the Lewis River Salmon Hatchery (Wade 2000b). These areas should be prioritized for habitat protection and enhancement, as appropriate.

3.1.3. Kalama River Assessment Unit

Functional scores identified in the *Shoreline Analysis Report* were consistently higher functioning throughout the Kalama River basin compared to other assessment units in the County on account of the forested nature of much of the Kalama watershed.

The lower Kalama River has the most impaired functions in the assessment unit. A study of the lower 10 miles of the Kalama River conducted in Phase II of the LCFRB Watershed Assessment Project (R2 and MBI 2004) found that natural geomorphic processes are severely limited in the lower Kalama River. These processes are impaired by armoring and levees that cover the majority of the shoreline length; much of the armoring is designed to protect Kalama River Road, which parallels the lower Kalama River. As a result of development and channelization of the river the density of large woody debris is poor in the lower River.

Approximately 96 percent of the Kalama River Watershed is managed for forest production; therefore, forestry practices have a significant effect on shoreline functions in the watershed. In smaller tributaries in particular, areas of forest harvest occur on both sides of the stream, and vegetated buffers are smaller compared to the mainstem Kalama. Fish passage barriers also present a significant impairment to shoreline functions in the Kalama River Assessment Unit.

Areas with significant habitat value for salmonids include the following: mainstem Kalama between Lower Kalama Falls (RM 10) to around Modrow Bridge (RM 2.4); upper mainstem Kalama River (RM 10 to RM 35), tributaries below Lower Kalama Falls and any remaining off-channel habitat; Gobar Creek, Wildhorse Creek, North Fork Kalama, Langdon Creek, and Lakeview Peak Creek (Wade 2000b).

3.1.4. Cowlitz River Assessment Unit

As noted in the Lower Cowlitz River and Floodplain Habitat Restoration Siting and Design Report (Tetra Tech 2007), primary limitations on restoration in the Lower Cowlitz are the high sediment load in the upper Toutle River, the regulation of flows, and existing and proposed development within the floodplain and along the riparian zone.

The North Fork Toutle River and upper South Fork Toutle River still maintain an extremely high sediment load resulting from the 1980 eruption of Mount St. Helens, particularly on the North Fork Toutle River upstream of the Corps' Sediment Retention Structure. The high sediment load has resulted in a broadly braided and frequently migrating channel. Because these braided channels each convey a relatively small portion of the total flow and because each channel is wide relative to its depth, the sediment plain can act as a fish barrier, preventing upstream migrations during low flow conditions (AMEC 2010).

The Shoreline Analysis Report identified reaches just north of the City of Kelso (Shoreline Analysis Cowlitz reaches 9-13), as impaired compared to other reaches in the Assessment Unit. The Cowlitz River is artificially constrained by levees in these reaches and shoreline vegetation is limited. Other degraded reaches include highly developed reaches along Silver Lake (Shoreline Analysis Cowlitz Reaches 105, 111, and 112), which have a high density of overwater structures and other shoreline modifications. Several sites along the Cowlitz River were used as dredge disposal locations following the eruption of Mount Saint Helens in 1980. These sites occur in several locations on both sides of the river between the City of Kelso and Castle Rock. Today, these disposal sites remain unvegetated, and former floodplain areas are disconnected as a result of the disposal activities. The 1980 event also impacted tributaries, leaving them disconnected as a result of mud flows. Many of these tributaries are still in the process of recovering, as dredge spoil stockpiles were located directly on their banks. Ongoing erosion of these stockpiles adds to the fine sediment accumulation and poor water quality in the Cowlitz River.

In contrast to the artificially confined reaches in the lower Cowlitz River, shoreline areas near the northern County border occur on a broad floodplain with significant riparian wetland areas. Wetland areas in the vicinity of the Horseshoe Bend area, south of Castle Rock also provide high functioning, riverine wetland habitats (Shoreline Analysis Cowlitz Reaches 15 and 16). Similarly, undeveloped reaches of Silver Lake (Shoreline Analysis Cowlitz Reaches 104, 106-110, 113-116) have high hydrologic, vegetated, and

habitat functions resulting from the large areas of relatively undisturbed forested and shrub wetlands.

3.1.5. Mill, Abernathy, Germany Creek Assessment Unit

Ecological functions in Mill, Abernathy, and Germany Creeks are primarily influenced by forest harvest activities, agriculture, and rural residential development. The Shoreline Analysis Report did not identify any particularly low functioning reaches in this Assessment Unit. However, fish passage barriers in Germany and Coal Creeks block nearly one third of potential instream habitat, and correction of those barriers is a significant restoration opportunity.

3.1.6. South Fork Chehalis River Assessment Unit

Dominant land use in the upper South Fork is commercial forestry, and agricultural uses predominate in the lower river. Both agricultural and forestry uses have resulted in significant alterations to the shorelines of the South Fork Chehalis River. Degraded riparian vegetation, high sediment loads originating from the upper watershed, and a high density of fish passage barriers are the primary impairments in the upper watershed (Chehalis Basin Partnership Habitat Work Group 2008).

3.2. City of Castle Rock

As a result of sediment deposition from the 1980 Mount Saint Helens eruption, the Cowlitz River within the City of Castle Rock includes alluvial gravel bars on the inner bends of the River. Additionally, the tributaries of the Salmon, Whittle, Arkansas, and Janish Creeks were backed up with mud flow from the 1980 eruption, minimizing their effectiveness for fish habitat, wetland, and riparian functions. The continued loading of dredge spoils on stream banks as stockpile areas prolongs their ability to recover. The downtown core of the City of Castle Rock is surrounded by a ring levee, which limits hydrologic functions.

Vegetation is limited to a relatively narrow forested riparian corridor along much of the City's shoreline. "The Rock" community park includes substantial forested vegetation extending up to 500 feet from the river. A dredge disposal site, in Shoreline Reach 19 is sparsely vegetated. Salmon Creek and Arkansas Creek within the City's shoreline jurisdiction have narrow bands of forested riparian vegetation. Although not confined by armoring or a levee, Salmon Creek borders the railway, and is artificially confined to its present course.

3.3. City of Kalama

The shoreline along the Columbia River in the City of Kalama and its UGA is lined with levees or other shoreline armoring and shoreline vegetation is substantially limited. Over- and in-water structures are present throughout the Columbia River reaches, associated with Port properties. Wetlands north of the Kalama River in the City's UGA have important habitat and water quality functions.

Shoreline functions are significantly better on the Kalama River in the City. A narrow wetland situated between Interstate 5 and the railway provides important water quality functions. The majority of the shoreline area on Kress Lake (Reach 29) is well vegetated, with little human disturbance of functions.

3.4. City of Kelso

The entire Cowlitz River shoreline in the City and its UGA are impaired by shoreline armoring and levees. The series of levees has channelized the lower Cowlitz has channelized the lower Cowlitz River, and ongoing levee maintenance results in limited shoreline vegetation. A railway parallels the Cowlitz River, and further limits any shoreline vegetation functions along most of the Cities reaches.

Similarly, a levee isolates the Coweeman River from its northern shoreline for its entire length within the City. Hydrologic connectivity is better on the southern (left) bank of the River and within the eastern UGA where shoreline vegetation and habitat are more diverse. In the eastern UGA, Hart Lake (Shoreline Analysis Cowlitz Reach 44) includes a large wetland area, but much of the vegetation is mowed, which limits vegetative functions. This area represents significant restoration potential.

The shoreline area at the confluence of the Cowlitz and Columbia River includes substantial area of intact wetland habitat, and this area is ecologically significant and relatively high functioning, although functions are impaired by a levee at the northern portion of the reach.

3.5. City of Woodland

Riparian vegetation is limited in the City's core downtown area. The levee that separates Shoreline Analysis Reach 12 from the River acts to channelize the River through the City's core area.

The City's shoreline on Horseshoe Lake is developed with roads, parks, and residential and commercial development. At least eighteen overwater structures are present on Horseshoe Lake, associated with existing residential development.

Shoreline areas north of the City's core (Shoreline Analysis Lewis Reaches 13 and 15) provide the most densely vegetated forested shoreline in the City. These reaches also provide some of the highest hydrologic functions in the City because they provide hydrologically connected floodway areas.

4. EXISTING COUNTY AND CITY PROGRAMS

4.1. Cowlitz County

4.1.1. Comprehensive Plan

The County Comprehensive Plan, adopted by the Board of County Commissioners on November 1, 1976, is a statement of policies and goals that guides growth and development throughout the County. All other development ordinances, including land use, subdivision, and environmental regulations must be consistent with the Comprehensive Plan. The County is currently in the final phases of the process of drafting its Comprehensive Plan Update.

The Final Vision Report (MPC and EA Blumen 2010) of the proposed Comprehensive Plan states, "We value our strengths: our historic rural and small town character and our irreplaceable natural environment – mountains, forests, agricultural and mineral lands; streams, lakes and shorelines; and plentiful clean air and water. Conservation of these features contributes to our economic well-being, sense of place and relationship to nature."

4.1.2. Public Works

National Pollution Discharge Elimination System (NPDES)
On February 16, 2007, Cowlitz County was issued a NPDES phase II Municipal Stormwater Permit. This permit requires the County to develop and implement a program to reduce stormwater runoff and pollution in unincorporated urban areas adjacent to the cities of Longview and Kelso. The Stormwater Management Plan (SWMP) was updated in 2012. Activities associated with the stormwater permit include outreach and education, public involvement, and illicit discharge detection and elimination.

4.2. City of Castle Rock

The City updated its Comprehensive Plan in 2006. Citing the significance of lands both within the City limits and in the surrounding area of influence, the Plan extends beyond the City limits to address the area within a designated Urban Growth Boundary. The

Environment Element of the Comprehensive Plan states, "Natural amenities including the Cowlitz River, forested hillsides, riverfront property, abundant fish and wildlife and many other factors all contribute significantly to the City's atmosphere and success. This chapter attempts to balance protection of critical areas and other natural amenities with the goals and policies found throughout the comprehensive plan." The City of Castle Rock and Castle Rock School District Park and Recreation Plan, which outlines a standard for quality of life and environment enhancements was adopted by reference into the Comprehensive Plan. The city approved the Castle Rock Riverfront Park Master Plan as an appendix to the Park and Recreation plan. This Master plan included many opportunities to turn the negative impacts of the dredge spoils from the eruption of Mount Saint Helens into as asset for both public enjoyment and enhancement of fish and wildlife habitat. Many of the projects in this Master plan have been achieved, including three habitat improvement projects on the Whittle Creek, many bank improvements on the Cowlitz River with managed access (including an environmentally preferred boat launch).

4.3. City of Kalama

The Kalama City Council adopted a revised Kalama Comprehensive Plan on December 7, 2005. The City of Kalama is beginning to develop a growth management area similar to an official Urban Growth Boundary to help guide its growth and development. The Comprehensive Plan includes goals to balance economic growth with environmental protection. These goals include the following:

- Protect areas that are generally not suitable for intensive development such as those prone to landslides, flooding and/or containing wetlands and/or other critical areas.
- Seek to restore natural systems and environmental functions that have been lost or degraded, when feasible.
- Conserve and protect groundwater and maintain good quality surface water.
- Provide for the preservation and restoration of significant natural sites and locations.

4.4. City of Kelso

4.4.1. Comprehensive Plan

The Comprehensive Plan for the City of Kelso was adopted in 1980, with chapter updates in 1987 and 1992. Goals in the Comprehensive Plan are directed toward ensuring economic growth and security, public access, and environmental protection.

4.4.2. Public Works

The City of Kelso implements a Stormwater Management Plan to comply with its Phase II NPDES permit. Activities include education and outreach, illicit discharge detection and elimination, and stormwater management and monitoring programs. The City has also investigated the potential for application of Low Impact Development (LID) techniques within the City.

4.5. City of Woodland

A study completed in 2000 evaluated the City's flood hazard and drainage issues and identified recommended solutions (RW Beck 2000). Study goals included the following:

- Prevent property damage from flooding;
- Maintain good water quality;
- Preserve sensitive resources and maintain varied use; and
- Develop a continuous and comprehensive program for managing surface water.

Recommendations in the plan included both non-structural and structural recommendations. Non-structural recommendations included strengthening regulations, developing public education and outreach measures, and conducting studies and monitoring. Capital improvement projects were generally focused on improving structural stormwater drainage systems.

5. RESTORATION PARTNERS

In addition to the County and cities, state, regional, and local agencies and organizations are actively involved in shoreline restoration, conservation, and protection in and around Cowlitz County. These partners and their local roles in shoreline protection and/or restoration are identified below and generally organized in order by the scope of the organization, from the larger state and watershed scale to the local scale.

5.1. U.S. Army Corps of Engineers

The Corps of Engineers owns and operates the federal dams on the Columbia River and it constructed and maintains the Toutle River Sediment Retention Structure (SRS). As a result of the Federal Columbia River Power System (FCRPS) Biological Opinion, the Corps is obligated to mitigate for its impacts to listed fish species. The Corps is proposing to raise the SRS to limit downstream sedimentation and to conduct maintenance dredging as needed to limit flood risks for cities along the Cowlitz River. The Corps will need to mitigate for impacts to upstream habitats along the Toutle River

and for dredging effects. Specific mitigation measures have not yet been identified. The Corps has also conducted mitigation through habitat restoration projects along the Columbia River to compensate for the effects of dredging to deepen the navigation channel there.

In addition to planning for and funding restoration in the lower Columbia River and its tributaries, the Corps funds ongoing research, monitoring and evaluation studies in the Lower Columbia River as part of its mitigation responsibilities.

The Corps is also engaged in a General Investigation study to recommend approaches to restore ecosystem functions in the lower Columbia River and estuary, including "wetland/riparian habitat restoration, stream and fisheries improvement, water quality, and water-related infrastructure improvements" (Corps 2012). Congress authorized the General Investigation in 2000, and work was first initiated in 2003, and later reinitiated in 2012. Projects being evaluated include floodplain reconnections, channel habitat restoration, and riparian restoration (Corps 2013). Initial projects identified include six areas in the Columbia River Estuary, five areas in tributaries in Washington State, and three areas in tributaries in Oregon (Corps 2013). Projects on the Columbia River include an area bordering Cowlitz and Wahkiakum Counties, and an area between the Cities of Kalama and Woodland. Project areas identified in Columbia River tributaries in Cowlitz County include the entire Cowlitz River up to Mayfield Lake, as well as the lower Toutle River and lower Coweeman River, and a portion of the Lewis River just upstream from the City of Woodland (Corps 2013). An alternatives analysis will be completed to evaluate and select the preferred alternative.

5.2. Northwest Power and Conservation Council Fish & Wildlife Program

The Northwest Power and Conservation Council (NPCC) is a multi-state planning agency responsible for balancing the ecological impacts of energy production in the northwest. Current hydropower programs and operations are engaged in activities to minimize the ongoing impacts of flow regulation on the ecological processes of the Columbia River and its tributaries. These actions are generally the result of obligations under the Endangered Species Act (Section 7 consultations, Section 10 Habitat Conservation Plans (HCPs)) or Federal Energy Regulatory Commission (FERC) relicensing, and therefore, these actions are technically mitigation for ongoing impacts rather than voluntary restoration.

The Council guides Bonneville Power Administration's (BPA's) funding of projects to implement the fish and wildlife program. Projects that are conducted using these funds,

no matter how indirectly related to hydropower impacts, are also a part of mitigation for ongoing dam impacts. Nevertheless, it is expected that despite the funding source, such projects will improve ecosystem functions above the existing functional baseline, and as such, these projects would be considered as restoration within the framework of the County's SMP.

In 2009, the NPCC updated its Columbia River Basin Fish and Wildlife Program. The program identifies impacts to fish and wildlife resulting from hydropower operations in the Columbia Basin, and it identifies strategies to study, monitor, and mitigate those impacts. The project funding agenda identified for the program includes the following:

1. Anadromous Fish, Resident Fish, and Wildlife

    - Bonneville will fulfill its commitment to "meet all of its fish and wildlife obligations." Funding levels should take into account the level of impact caused by the federally operated hydropower system and focus efforts in areas most affected by operations.

2. Land and Water Acquisition Funds

    - Water transaction program: Bonneville established a water transactions program in response to the 2000 Columbia River Basin Fish and Wildlife Program and the 2000 FCRPS Biological Opinion. Bonneville shall fund the continuation of the water transaction program to pursue water right acquisitions in subbasins where water quantity has been identified in a subbasin plan as a primary limiting factor. The water transaction program will continue to use both temporary and permanent transactions for instream flow restoration.

    - Land acquisition fund: Bonneville shall fund a basinwide land acquisition program, which will include, but not be limited to, riparian easements and fee-simple acquisitions of land that protects watershed functions.

5.3. Lower Columbia Fish Recovery Board

The Lower Columbia Fish Recovery Board (LCFRB) is the Lead Entity for salmon restoration in watersheds throughout most of Cowlitz County and watersheds to the east, extending to the Little White Salmon River, and to the west to the mouth of the Columbia River.

In 2010, the LCFRB, in coordination with regional partners, produced the Washington Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan. The Plan provides an integrated approach to addressing salmon recovery, watershed planning,

and Northwest Power and Planning Fish and Wildlife Subbasin Plans. The Plan used a two-pronged approach to evaluate existing conditions and restoration potential. First, an Integrated Watershed Assessment (IWA) approach was applied at the sub-basin scale to assess the need for restoration or protection and the relative priority of the action in the watershed. In addition, the Plan identified habitat factors affecting salmonid production, and developed stream priority rankings based on prioritized salmon populations and habitat factors using an Ecosystem Diagnosis and Treatment (EDT) approach. The EDT approach assesses habitat factors to rank priority areas for achieving population targets for salmon recovery. Population targets were based on scientific, biological, social, cultural, political and economic factors. Based on the results of the EDT analysis, stream reaches were identified by their treatment priority, where Tier 1 represents the highest priority, and Tier 4 represents the lowest priority for salmon recovery. Recovery plan reach priorities are mapped in Appendix A. Reach locations differ between the Shoreline reaches and the Salmon Recovery reaches because the Shoreline Analysis Report identified reaches based on land use considerations as well as stream characteristics, whereas Salmon Recovery stream reach break locations were located at every tributary confluence. Detailed information on the results of the IWA and EDT analyses can be found in Appendix E of the Lower Columbia Recovery Plan (LCFRB 2010).

5.4. PacifiCorp

As a part of its Federal Energy Regulatory Commission relicensing process, PacifiCorp engages in fish passage projects, fish population supplementation programs, habitat enhancement, monitoring, and funding of restoration projects in the Lewis River Basin.

In 2012, PacifiCorp completed installation of new facilities to transfer anadromous fish upstream from the base of Merwin Dam to above Swift #2, opening 117 miles of spawning habitat. The new facilities will also transfer juvenile salmonids downstream past the dams.

In 2008, PacifiCorp developed a Shoreline Management Plan in 2008 for the three major reservoirs in the upper Lewis River. The PacifiCorp Shoreline Management Plan applies to lands extending from the Ordinary High Water Mark (OHWM) to the elevation 10 feet above the OHWM. PacifiCorp owns many of the lands within the Shoreline Management Plan boundary area, and it holds flowage easements on the other lands. The PacifiCorp Shoreline Management Plan was not developed to meet the regulatory requirements of the Shoreline Management Act, but it has many parallels that are consistent with the Shoreline Management Act standards.

5.5. Cowlitz Public Utility District

The Cowlitz Public Utility District (PUD) owns the Swift #2 dam on the Lewis River. As part of its 2008 relicensing agreement, Cowlitz PUD agreed to conduct the following activities, either individually or in coordination with PacifiCorp, which manages the dam operations:

- reintroduce anadromous salmon above Swift Reservoir (complete-see description above)
- fund three salmon hatcheries (ongoing)
- fund aquatic habitat improvement projects (ongoing)
- ensure minimum flows to the North Fork Lewis River between Swift No. 1 and Swift No. 2 dams (ongoing)
- monitor water quality (ongoing)
- manage 525 acres of wildlife habitat (ongoing)

5.6. Lower Columbia Fish Enhancement Group

The Lower Columbia Fish Enhancement Group (LCFHG) is active throughout Cowlitz County as part of its mission to create and implement restoration and salmon recovery strategies through community partnerships. The organization promotes private stewardship and volunteerism through education and outreach, and concentrates funds on salmon recovery, assessment, and habitat restoration, often in partnership with other entities.

General elements of LCFEG's strategic plan are development of relationships with key shareholders; building financial and volunteer support through education and outreach programs; assisting the Lower Columbia Salmon Recovery Board, WDFW, and NOAA Fisheries in identifying, prioritizing, and implementing salmon restoration projects; increase program funding and hire and train staff; and expand the board to include a range of active members from a wide variety of backgrounds.

LCFEG sponsored efforts to identify limiting factors for salmon populations and restoration opportunities in the Lower Cowlitz River (Power and Tyler 2009) and the Kalama River basin (Tetra Tech 2007). The resulting documents provided lists of prioritized restoration opportunities (see Tables 5-4 and 5-5).

LCFEG is the primary sponsor of nutrient enhancement efforts that include the Kalama, Cowlitz, and Lewis watershed. This ongoing collaborative effort utilizes several funding sources (Pacific Salmon Commission, BPA, and/or PacifiCorp) and a wide range of volunteers groups to implement the collection and disperse of salmon carcasses. The

LCFEG recently completed an off-channel habitat enhancement projects on the Lower Kalama River and the North Fork Lewis River. Additional habitat enhancement projects are planned for the near future (see Tables 5-4 and 5-5).

5.7. Lower Columbia Estuary Partnership

The Lower Columbia Estuary Partnership (LCEP) administers a Habitat Restoration Program to protect and restore habitat functions and support salmon recovery in the lower Columbia River estuary, between Bonneville Dam and the mouth of the river. The organization's overall strategy is to take a widespread teaming approach to implement scientifically sounds projects, as well as fund partners' projects. LCEP takes a regional approach to habitat restoration, participates in the efforts of other restoration entities, including watershed councils, land trusts, and non-profits.

LCEP produced the Management Plan for the Lower Columbia River; actions recommended in the plan are listed in Section 6.1.1 Key habitat work led by the organization includes creating fish habitat with large woody debris, restoring riparian vegetation, and removing fish barriers. LCEP also conducts ecosystem condition monitoring, tracking toxins and habitat, as well as monitoring the success of restoration projects. They've produced several map sets using monitoring data, and make the spatial information available to the public, along with reports and publications. Volunteers are utilized for restoration and monitoring work. Finally, LCEP conducts education programs in school classrooms and through field trips.

Current LCEP projects in shoreline area are reference site monitoring at the mouth of the Lewis River, Dredge Spoil Island habitat monitoring, and Martin Island habitat monitoring.

5.8. Intensively Monitored Watershed Program Partners

The Intensively Monitored Watershed (IMW) project is a joint effort of the Washington Departments of Fish and Wildlife, Ecology, NOAA Fisheries, the Environmental Protection Agency, Lower Elwha Klallam Tribe and Weyerhaeuser Company. Funding for the IMW program is provided by the Washington Salmon Recovery Funding Board. The Mill, Abernathy, Germany watershed is one of three IMWs in the state. The IMW cooperators collected water quantity, water quality, habitat, summer juvenile fish abundance, and smolt production data and are identifying specific restoration actions for each IMW treatment watershed. An updated plan for monitoring fish and habitat responses to restoration was proposed for Lower Columbia watersheds in 2012 (Zimmerman et al. 2012).

5.9. Columbia Land Trust

The Land Trust, a non-profit in place since 1990, works throughout the Columbia River Region. The organization works collaboratively with private landowners, local governments, and other non-profits to develop stewardship plans that restore degraded habitat and protect natural resources. Private landowners who work with the Trust are generally conservationists, ranchers, farmers, foresters, and orchardists. Land acquisition and forest planning are major parts of the Trust's effort; more local efforts include a backyard habitat certification program, outreach events, and volunteer work crew events.

Land Trust work within Cowlitz County shoreline jurisdiction includes a recent two-phase acquisition and restoration on Germany Creek. More than 185 acres floodplain, riparian, and upland habitat have been removed from the threat of development and placed in permanent protection. Additional onsite improvements, including log placement, off-channel habitat enhancement, and invasive weed removal, will help restore rearing, spawning, and migrating habitat for salmonids.

5.10. Cowlitz Indian Tribe

The Tribe focuses protection and restoration actions on culturally relevant species and landscapes. Key in their mission is to work to educate and inspire the community to promote their mission of conservation. The Tribe specifically recognizes elk, deer, mountain goat, salmon, eulachon, sturgeon and lamprey as important species to the Cowlitz people. Landscapes of significance that may occur within shoreline jurisdiction include estuaries; freshwater lakes and wetlands; the Cowlitz, Lewis, and Kalama Rivers and their tributaries; deciduous and coniferous forest; sub-alpine meadows; and mountains.

The Tribe is presently engaged in several restoration projects in Cowlitz County, including two active projects on Abernathy Creek and two active side channel restoration projects at Eagle Island on the North Fork Lewis River. An additional project is presently proposed on Abernathy Creek. Projects on Abernathy Creek consist of abandoned roadbed removal to restore floodplain and channel migration zone connectivity and restoration of two acres of riparian wetlands and a side channel to created wintering habitat and high-flow refugia for steelhead and coho. The proposed project on Abernathy Creek would install large wood for instream habitat enhancement. Projects are described further in Section 6.

5.11. Cowlitz Conservation District

The Conservation District works through two primary avenues. First, the District works with communities to implement projects on a watershed scale. Projects focus on salmon recovery, water quality, and invasive weed removal. A basin-wide effort to implement all three types of projects is presently in place in the Mill-Abernathy-Germany area. Secondly, the District provides technical and financial assistance to individual landowners throughout the County to promote sound management of natural resources, advising on restoration, salmon needs, and forestry issues. The District works directly with landowners and provides information through watershed plans, timber plans, and farm plans.

The District has been a partner in the Cowlitz/Wahkiakum watershed planning effort, which defined strategies to best collect and compile data in order to identify limiting factors. This ongoing approach has identified fish barrier improvements, riparian restoration projects, in-stream habitat enhancement, livestock exclusion, and other potential restoration projects to address limiting factors, particularly in the Kalama and Lewis Rivers and Mill Creek. Currently funded projects by the District include the installation of woody debris in several reaches of Abernathy Creek to restore habitat and reduce flow and erosion.

5.12. Other Volunteer Organizations

Many recreational groups and private organizations are active in Cowlitz County. While some of these groups may not have historically worked in the shoreline jurisdiction of Cowlitz County, this does not preclude involvement in voluntary restoration activities in the future. Probably the most important volunteer is the landowner that acts as a steward of the land following the completion of the project. Potentially active groups include:

- Columbia River Keeper
- Lower Columbia Basin Audubon Society
- Trout Unlimited
- Ducks Unlimited

6. POTENTIAL PROJECTS

The Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan (LCFRB 2010a) identified several actions applicable to shoreline areas throughout Cowlitz County.

Some of these actions apply to programs or regulations, while others relate to projects that could be implemented at many sites throughout the watershed (Table 6-1).

Table 6-1 Restoration opportunities applicable to all Assessment Units.

	Action	Status	Entity
Land Use Planning/Regulations	Expand standards in local government comprehensive plans to afford adequate protections of ecologically important areas (i.e. stream channels, riparian zones, floodplains, CMZs, wetlands, unstable geology)	Expansion of existing program	County, Cities
	Manage future growth and development patterns to ensure the protection of watershed processes. This includes limiting the conversion of agriculture and timber lands to developed uses through zoning regulations and tax incentives (consistent with urban growth boundaries)	Expansion of existing program	County, Cities
	Prevent floodplain impacts from new development through land use controls and Best Management Practices	New program	County, Cities, Ecology
	Fully implement and enforce the Forest Practices Rules (FPRs) on private timber lands in order to afford protections to riparian areas, sediment processes, runoff processes, water quality, and access to habitats	Activity is currently in place	WDNR
	Conduct forest practices on state lands in accordance with the Habitat Conservation Plan in order to afford protections to riparian areas, sediment processes, runoff processes, water quality, and access to habitats	Activity is currently in place	WDNR
	Review and adjust operations to ensure compliance with the Endangered Species Act; examples include roads, parks, and weed management	Expansion of existing program	County, Cities
Funding/ Technical Assistance	Increase funding available to purchase easements or property in sensitive areas in order to protect watershed function where existing programs are inadequate	Expansion of existing program	LCFRB, NGOs, WDFW, USFWS, BPA (NPCC)
	Increase technical assistance to landowners and increase landowner participation in conservation programs that protect and restore habitat and habitat-forming processes. Includes increasing the incentives (financial or otherwise) and increasing program marketing and outreach	Expansion of existing program	NRCS, C/WCD, WDNR, WDFW, LCFEG, County, Cities
	Increase technical support and funding to small forest landowners faced with implementation of Forest and Fish requirements for fixing roads and barriers to ensure full and timely compliance with regulations	Expansion of existing program	WDNR
Protection/Restoration Projects	Create and/or restore lost side-channel/off-channel habitat for chum spawning and coho overwintering	New program	LCFRB, BPA (NPCC), NGOs, WDFW, NRCS, C/WCD
	Implement the prescriptions of the WRIA Watershed Planning Units regarding instream flows	Activity is currently in place	Ecology, WDFW, WRIAs, County, Cities
	Increase the level of implementation of voluntary habitat enhancement projects in high priority reaches and subwatersheds. This includes building partnerships, providing incentives to landowners, and increasing funding	Expansion of existing program	LCFRB, BPA (NPCC), NGOs, WDFW, NRCS, C/WCD, LCFEG

	Action	Status	Entity
	Protect and restore native plant communities from the effects of invasive species	Expansion of existing program	Weed Control Boards (local and state); NRCS, C/WCD, LCFEG
	Assess the impact of fish passage barriers throughout the basin and restore access to potentially productive habitats	Expansion of existing program	WDFW, WDNR, County, Cities, WSDOT, LCFEG

Potential and existing restoration projects and actions within each assessment unit are presented in the following sections and summarized in tables. Each project/action has an identification (ID) code; codes comprise a unique number (not intended to imply priority) and a locator tag that identifies the assessment unit within which the project or action is located. Project/action "type" codes are listed for each item. When an entry includes more than one type of project or action, all are listed within the type code.

Project/action types and codes are as follows:

- Habitat-related restoration action (Code H): The project or action is intended to improve habitat in jurisdictional shorelines.
    - Subcode f = floodplain/off-channel work such as side/off-channel creation or enhancement, meandering, adding spawning gravels, and oxbow reconnection
    - Subcode w = wetland creation, restoration, or enhancement
    - Subcode i = instream work such as LWD placement, dredging, and bank armor removal
    - Subcode r = riparian work, including planting, removing invasive vegetation, and gravel bar creation
- Water quality related actions (Code W): Improving water quality is a primary goal of these actions. They may include a habitat component (for example, when riparian restoration is intended to impact water temperatures) or may be aimed solely at water quality, such as completion of a TMDL or restriction of contaminant use.
- Management actions (Code M): This category describes actions that usually require a greater degree of decision-making and research to implement than most habitat actions. It includes management or manipulation of fish or

predator populations, nutrient enhancement, and fish population monitoring. This code also includes most habitat, hydrologic, and water quality monitoring, except where monitoring is implemented as part of a particular habitat restoration project.

- Hydrologic actions (Code Y): This category addresses hydrologic processes and functions that affect the shoreline, and specifically fish habitat. It includes actions that impact flow levels where they affect or impede fish passage or where they affect habitat.

- Fish passage (Code P): Projects related to fish passage include culvert replacement, tributary access, and improvements to dams and other water control devices,

- Habitat acquisition and/or protection (Code A): This code applies where the acquisition of land for the primary purpose of habitat protection, or the use of easements or protective covenants for the same purpose. It includes non-regulatory land use policy changes that apply to specific areas, such as cattle exclusion.

- Research and investigation (Code R): Both formal research projects and less formal gathering of information and literature review are considered in this category.

- Regulatory actions (Code G): Actions in this category include regulatory enforcement and proposed or recommended changes to existing regulations.

- Outreach (Code O): Conducting educational outreach to the public and other entities, identifying potential partners in conservation efforts, pursuing collaborative relationships with other entities, and disseminating information are considered outreach.

6.1. Unincorporated Cowlitz County

6.1.1. Columbia River Assessment Unit

Habitat restoration priorities identified in the Habitat Strategy (LCFRB 2010b) for the lower Columbia River and Estuary that are applicable to potential actions within Cowlitz County shorelines include:

1. Restoring subbasin valley floodplain function and stream habitat diversity

2. Managing forests to protect and restore watershed processes
3. Addressing immediate risks with short-term habitat fixes

The Lower Columbia Estuary Partnership (LCEP) has recently updated its Management Plan for the Lower Columbia River, which includes several programmatic and project recommendations (LCEP 2011).

Key actions identified by LCEP to address restoration, land use, and water quality improvement include the following:

- Identify and prioritize habitat types and attributes that should be protected or conserved.
- Protect, conserve, and enhance priority habitats, particularly wetlands, on the mainstem of the lower Columbia River and in the estuary.
- Monitor status and trends of ecosystem conditions.
- Establish and maintain Columbia River flows to meet ecological needs of the lower Columbia River and estuary.
- Avoid the introduction of non-native invasive species.
- Manage human-caused changes in the river morphology and sediment distribution within the Columbia River channel to protect native and desired species.
- Develop floodplain management and shoreland protection programs.
- Reduce and improve the water quality of stormwater runoff and other non-point source pollution.
- Ensure that development is ecologically sensitive and reduces carbon emissions.
- Expand and sustain regional monitoring of toxic and conventional pollutants.
- Reduce conventional pollutants.
- Clean up, reduce or eliminate toxic contaminants, particularly contaminants of regional concern.
- Provide information about the lower Columbia River and estuary that focuses on water quality, endangered species, habitat loss and restoration, biological diversity, and climate change to a range of users.
- Create and implement education and volunteer opportunities for citizens of all ages to engage in activities that promote stewardship of the lower Columbia River and estuary.

Action objectives from the LCFRB (2010a) are identified in Table 6-2 below.

Table 6-2. Restoration opportunities in the Lower Columbia River and Estuary (Assessment Unit LC).

ID	Type*	Restoration Opportunity	Limiting Factor Addressed	Source Plan
01 LC	Hwi	Protect existing rearing habitat to ensure no further degradation.	Availability of preferred habitat	LCFRB 2010a
02 LC	Hf	Increase shallow water peripheral and side channel habitats toward historic levels.	Availability of preferred habitat; Loss of habitat connectivity	LCFRB 2010a
03 LC	Hfi	Restore connectivity between river and floodplain, tidally influenced reaches of tributaries, as well as in-river habitats.	Loss of habitat connectivity; Microdetritus-based food web; Availability of preferred habitat	LCFRB 2010a
04 LC	M	Reduce predation mortality on emigrating juveniles.	Predation mortality	LCFRB 2010a
05 LC	W	Reduce contaminant exposure of emigrating juveniles.	Contaminant exposure	LCFRB 2010a
06 LC	RM	Document the interaction between emigrating juvenile salmonids and introduced species; minimize negative interactions.	Interaction with introduced species	LCFRB 2010a
07 LC	R	Develop an understanding of emigrating juvenile salmonid life history diversity and habitat use in the lower mainstem, estuary, and plume.	Availability of preferred habitat; Loss of habitat connectivity; Density dependence	LCFRB 2010a
08 LC	YW	Maintain favorable water flow and temperature throughout migration period.	Fitness and timing of juvenile salmonids entering the subbasin	LCFRB 2010a
09 LC	M	Reduce predation mortality on migrating adults.	Predation losses (Adults)	LCFRB 2010a
10 LC	AG	Protect existing spawning habitat to ensure no further net degradation.	Availability of spawning habitat	LCFRB 2010a
11 LC	YW	Maintain favorable water flow and temperature throughout mainstem spawning and incubation period.	Decreased flows during spawning and incubation; Dewatering of redds	LCFRB 2010a

*TYPE = project type: H=habitat (f=floodplain, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P=fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

In addition to shoreline restoration opportunities focused primarily on aquatic ecosystem restoration, restoration of shoreline habitats for terrestrial species should also be pursued. The U.S. Fish and Wildlife Service is proposing to list the streaked horned lark (*Eremophila alpestris strigata*) as threatened, and to designate 12,159 acres of critical habitat in Washington and Oregon. Proposed critical habitat units include several mid-channel islands in the Columbia River, including three islands in Wahkiakum County, as well as one island immediately across from the City of Kalama on the Oregon side of the Columbia River. There are no breeding records of the species in Cowlitz County.

Monitoring in Washington State indicates steep declines in abundance of the species in recent years.

Streaked horned larks inhabit flat, sparsely vegetated areas, including prairie, grasslands, wetlands, mudflats, and open spaces of anthropomorphic origin such as airports, dredge spoils islands, and agricultural fields. Vegetation is typically low and primarily herbaceous. Breeding and wintering habitat are similar. On the Columbia River, the species inhabits sandy islands.

Effective conservation measures for recovery have been identified through research and monitoring and include creating bare or sparsely vegetated areas within or adjacent to suitable, if not occupied, habitat; creation of suitable habitat and protected nest sites in areas protected from human disturbance, predators, and flood events; creation of seasonal mudflats; and the planned timing and placement of dredge materials to create nesting habitat. Elements of proposed or potential restoration projects described in this restoration plan may benefit streaked horned lark; conversely, some salmon-focused restoration actions could negatively impact the species if not planned appropriately to avoid impact.

6.1.2. Lewis River Assessment Unit

As noted in Section 2.1.2, management of dam impacts are among the most significant potential restoration opportunities in the Lewis River Assessment Unit. In addition to addressing dam management, other key strategies for restoring the Lewis River subbasin include restoring floodplain connections and instream habitat complexity and improving riparian habitat. In the upper basin, protection of higher functioning areas is a priority, and restoration should address agricultural and forestry impacts to stream corridors (LCFRB 2010a).

A summary of priority restoration opportunities is provided in Table 6-3.

Table 6-3. Restoration opportunities in the North Fork Lewis River (Assessment Unit NL).

ID	Type*	Action	Status	Entity	Source Plan/ ID
12 NL	YG	Manage regulated stream flows to provide for critical components of the natural flow regime	Expansion of existing program or activity	PacifiCorp, Cowlitz County PUD, FERC, WDFW, NMFS, USFWS	LCFRB 2010a/ L-Lew 1
13 NL	HfO	Conduct floodplain restoration where feasible along the mainstem and in major tributaries that have experienced channel confinement.	New	NRCS, C/WCD, CCD, NGOs, WDFW, LCFRB,	LCFRB 2010a/ L-Lew 4

ID	Type*	Action	Status	Entity	Source Plan/ ID
		Build partnerships with landowners and agencies and provide financial incentives		USACE, LCFEG	
14 NL	QG	Address water quality issues through the development and implementation of water quality clean-up plans (TMDLs)	Expansion of existing program or activity	Ecology, Cowlitz County	LCFRB 2010a/ L-Lew 17
15 NL	AG	Limit intensive recreational use of the mainstem Lewis during critical periods	Expansion of existing program or activity	Cowlitz County, WDFW	LCFRB 2010a/ L-Lew 18
16 NL	Hirf	Instream large woody debris, riparian, and side-channel enhancement in the Eagle Island area.	Designs Complete	LCFEG, Cowlitz Tribe	Interfluve et al. 2009
17 NL	Hf	Off Channel habitat enhancement at RM 13	Design Complete	LCFRB	Unknown
18 NL	P	Anadromous fish passage at Merwin and Swift dams.	Facilities complete, Beginning Operations	PacifiCorp	PacifiCorp and PUD #1 2004
19 NL	Hi	Continue to install large woody debris below Merwin Dam.	Ongoing	PacifiCorp	PacifiCorp and PUD #1 2004
20 NL	MHi	Monitor and maintain gravel conditions below Merwin Dam for spawning habitat.	Ongoing	PacifiCorp	PacifiCorp and PUD #1 2004
21 NL	M	Monitor predator relationships in Lake Merwin and manage as necessary.	Ongoing	PacifiCorp	PacifiCorp and PUD #1 2004
22 NL	MG	Continue to manage wildlife habitat and forest resources per the integrated Wildlife Habitat Management Plans	Ongoing	PacifiCorp, Cowlitz PUD	PacifiCorp and PUD #1 2004
23 NL	M	WRIA 27/28 Nutrient Enhancement. Disperse surplus hatchery salmon carcasses in high-priority mainstem and tributary habitat.	Ongoing	LCFEG	PRISM

*TYPE = project type: H=habitat (f=floodplain, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.1.3. Kalama River Assessment Unit

The following actions were proposed to restore and enhance shoreline functions in the Kalama River (Table 6-4). This table includes specific actions prioritized for salmon recovery identified in a 2009 study to restore habitat conditions in the most developed

lower 2.5 miles of the Kalama River (Powers and Tyler 2009). In the upper watershed, recommended actions are primarily related to forest management to protect high functioning habitats.

Table 6-4. Restoration opportunities in the Kalama River (Assessment Unit KR).

ID	Type*	Action	Status	Entity	Source Plan/ ID
24 KR	G	Fully implement and enforce the Forest Practices Rules (FPRs) on private timber lands in order to afford protections to riparian areas, sediment processes, runoff processes, water quality, and access to habitats	Currently in place	WDNR	LCFRB 2010a/ KAL 1
25 KR	GHfO	Conduct floodplain restoration where feasible along the lower mainstem that has experienced channel confinement. Build partnerships with the Port of Kalama and other landowners and provide financial incentives	New	NRCS, C/W CD, NGOs, WDFW, LCFRB, USACE, Port of Kalama	LCFRB 2010a/ Kal 5
26 KR	W	Assess, upgrade, and replace on-site sewage systems that may be contributing to water quality impairment	Expansion of existing program	Cowlitz County, C/W CD	LCFRB 2010a/ Kal 15
27/ 32 KR	YWP	Address potential low-flow and thermal passage problems on the bar at the mouth of the Kalama	New	Port of Kalama, LCFEG	Wade 2000b, Powers and Tyler 2009
28 KR	RP	Assess and look for solutions to gravel and debris buildup near the mouths of tributaries in the upper river	New	Cowlitz County	Wade 2000b
29 KR	Hfw	Look for opportunities to increase and enhance off-channel and rearing habitat within the lower Kalama River	New	Cowlitz County/City of Kalama	Wade 2000b
30 KR	Hf	Ledgett Groundwater Channel, Left bank at RM 2.5. Create 10,400 square meters of year round rearing habitat with a potential for some spawning habitat.	New	TBD	Powers and Tyler 2009
31 KR	Hir	Pipeline Removal and LWD, Left bank at RM 2.2	New	TBD	Powers and Tyler 2009
33 KR	Hi	Lower Kalama Reach 1A Tidal Design: Install large wood structures to increase salmonid rearing and holding cover at the mouth of the Kalama River.	Design	LCFEG	PRISM
34 KR	Hf	Port Tidal and Backwater Channels, Left bank at RM 0.1	New	Port of Kalama	Powers and Tyler 2009
35 KR	Hfri	Lower Kalama Habitat Enhancement. Install approximately 12 wood structures to improve and expand pool and riffle habitat; restore 5 acres of riparian	Proposed	LCFEG	PRISM

ID	Type*	Action	Status	Entity	Source Plan/ ID
		habitat; enhance 500 feet of existing side channel with woody debris.			
36 KR	Hfi	Spencer Creek Riparian and LWD at RM 0.5. Restore riparian, spawning, and rearing habitat. The mouth of Spencer Creek is at Kalama RM 1.8	New	TBD	Powers and Tyler 2009
37 KR	P	Fish Passage Culvert, Spencer Creek at RM 1.8	New	TBD	Powers and Tyler 2009
38 KR	RHi	Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris)	New	TBD	T. Rymer, NMFS, personal comm.
The following projects are identified in the unincorporated UGA of the City of Kalama					
39 KR	Hf	Port of Kalama Groundwater Channel, Right bank at RM 2.2. Create off-channel rearing habitat.	New	Port of Kalama	Powers and Tyler 2009
40 KR	Hfi	GW Channel System (private), Excavate existing side channel to groundwater source and connect to mainstem, Right bank at RM 2.1	New	TBD	Powers and Tyler 2009
41 KR	Hif	Riprap Removal/Floodplain Reconnection, Right bank at RM 2.4	New	TBD	Powers and Tyler 2009
42 KR	Hf	Evaluate potential to enhance existing active side channel, Right bank at RM 1.8	New	TBD	Powers and Tyler 2009
43 KR	HfwY	Improve hydrologic and habitat connectivity from the Columbia River to wetlands just east of Interstate-5.	New	TBD	T. Rymer, NMFS, personal comm.
44 KR	M	WRIA 27/28 Nutrient Enhancement. Dispersal of surplus hatchery salmon carcasses in high-priority mainstem and tributary habitat.	Ongoing	LCFEG	PRISM

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.1.4. Cowlitz River Assessment Unit

Prioritized restoration measures for the Lower Cowlitz basin are identified below as excerpted from the Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan (LCFRB 2010a):

1. Protect stream corridor structure and function in high priority reaches at risk of degradation;

2. Protect hillslope processes in functional subbasins contributing to Tier 1 reaches;
3. Restore degraded hillslope processes in the Lower Cowlitz subbasin;
4. Create/Restore off-channel and side channel habitat in the mainstem Cowlitz and lower reaches of major tributaries;
5. Restore floodplain function and channel migration processes;
6. Restore access to habitat blocked by artificial barriers (priority locations at Mill Creek, Leckler Creek, Salmon Creek, Foster Creek, Skook Creek, and Blue Creek);
7. Provide for adequate instream flows during critical periods in tributaries;
8. Restore degraded hillslope processes on forest, agricultural and developed lands;
9. Restore riparian conditions throughout the basin (Priority locations in Tier 1 reaches);
10. Restore degraded water quality with an emphasis on temperature; and
11. Restore channel structure and stability.

The same set of general priorities apply to the Coweeman and Toutle Rivers, except that in the Coweeman River, restoring channel structure and stability is a higher priority than in the lower Coweeman. In the Toutle River, an additional high priority action is to address fish passage and sediment issues at the Sediment Retention Structure on the NF Toutle (LCFRB 2010a).

A summary of restoration opportunities throughout the assessment unit is presented in Table 6-5 below.

Table 6-5. Restoration opportunities in the Cowlitz River Assessment Unit (Assessment Unit CR).

ID	Type*	Action	Status	Entity	Source Plan/ ID
45 CR	YG	Manage regulated stream flows to provide for critical components of the natural flow regime	Expansion of existing program or activity	Tacoma Power, Lewis County PUD, FERC, WDFW	LCFRB 2010a/ L Cow 1, Wade 2000a
46 CR	R	Monitor and notify FERC of significant license violations, enforce terms and conditions of section 7 consultations on FERC relicensing agreements, and encourage implementation of section 7 conservation recommendations	Expansion of existing program or activity	NMFS, USFWS	LCFRB 2010a/ L Cow 4

ID	Type*	Action	Status	Entity	Source Plan/ ID
47 CR	HfRO	Conduct floodplain restoration where feasible along the mainstem and in major tributaries that have experienced channel confinement, and especially in areas affected by dredging and floodplain filling following the 1980 Mt. St. Helens eruption. Survey landowners, build partnerships, and provide financial incentives	New	NRCS, Cowlitz CD, NGOs, WDFW, LCFRB, USACE, LCFEG	LCFRB 2010a/ L Cow 6; Toutle 2; Coweeman 6, Wade 2000a
48 CR	G	Expand local government Comprehensive Planning to ensure consistent protections are in place to initiate review of development and real estate transactions that may affect natural resources	Expansion of existing program or activity	Cowlitz County, Kelso, Longview, Castle Rock	LCFRB 2010a/ L Cow 15
49 CR	W	Assess, upgrade, and replace on-site sewage systems that may be contributing to water quality impairment.	Expansion of existing program or activity	Cowlitz County, Cowlitz CD	LCFRB 2010a/ L Cow 19; Toutle 18
50 CR	PW	Address fish passage and sediment issues at the Sediment Retention Structure on the NF Toutle.	Expansion of existing program or activity	WDFW, USACE, LCFEG	LCFRB 2010a/ Toutle 1, Wade 2000a
51 CR	YP	Assess and, if possible, alter the Silver Lake Dam to increase flows in Outlet Creek to assure fish passage into the Silver Lake watershed.	New	TBD	Wade 2000a
52 CR	G	Continue to manage federal forest lands according to the Northwest Forest Plan.	Activity is in place	USFS	LCFRB 2010a/ Toutle 4
53 CR	W	Address temperature impairments through development of water quality clean-up plans (TMDLs)	Expansion of existing program or activity	Ecology	LCFRB 2010a/ Coweeman 15
54 CR	W	Assess, repair, and where possible, decommission roads that are contributing chronic sediment to stream systems or that may fail and lead to landslides, especially within areas with road densities above 3.0 miles/square mile.	Expansion of existing program or activity	USFS, Cowlitz County	Wade 2000a

ID	Type*	Action	Status	Entity	Source Plan/ ID
55 CR	RHi	Look for opportunities, both short- and long-term, to increase Large Woody Debris (LWD) supplies within stream systems.	Projects underway on Toutle and Coweeman	Cowlitz County, LCFEG	Wade 2000a
56 CR	Hr	Replant degraded riparian areas with native conifers. To begin with, focus riparian restoration efforts along the more productive tributaries including Baird, Mulholland, and Goble creeks.	Expansion of existing program or activity	Cowlitz County and partners	Wade 2000a
57 CR	PR	Address fish passage barriers in the Toutle River and tributaries to the lower Cowlitz River and prioritize for repair and replacement.	Expansion of existing program or activity	USFS, Cowlitz County, and partners	Wade 2000a
58 CR	Hrwi	Cowlitz RM 0.5 right bank remove some dredged materials and create riparian and wetland bench	Conceptual plan	TBD	Tetra Tech 2007
59 CR	Hrwif	Cowlitz RM 7.3 right bank remove some dredged materials and create riparian/floodplain bench; construct setback levee if necessary.	Conceptual plan	TBD	Tetra Tech 2007
60 CR	Hrif	Cowlitz RM 8.5 right bank set back levee and plant riparian/floodplain vegetation on bench	Conceptual plan	TBD	Tetra Tech 2007
61 CR	Hrif	Cowlitz RM 9.0 left bank dredged materials removal to create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
62 CR	Hr	Place LWD and vegetate with willows (mouth of Ostrander Creek)	Conceptual plan	TBD	Tetra Tech 2007
63 CR	Hr	Remove noxious weeds and restore riparian zone along length of Ostrander Creek.	Conceptual plan	TBD	Tetra Tech 2007
64 CR	Hf	Cowlitz RM 9.7 right bank bar and island enhancement.	Conceptual plan	TBD	Tetra Tech 2007
65 CR	P	Culvert replacement on Leckler Creek at Hazel Dell Road.	Conceptual plan	TBD	Tetra Tech 2007

ID	Type*	Action	Status	Entity	Source Plan/ ID
66 CR	Hrfi	Cowlitz RM 9.8 left bank riparian restoration: Remove revetment and some dredged material and create riparian and floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
67 CR	Hrfi	Cowlitz RM 10.5 left bank riparian restoration: Remove some dredged materials and create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
68 CR	Hrfi	Cowlitz RM 11.2 left bank bar and island enhancement: Place wood to promote side channel scour and provide cover.	Conceptual plan	TBD	Tetra Tech 2007
69 CR	Hrfi	Cowlitz RM 12.5 left bank side channel restoration and enhancement: Enhance low bar with remnant side channel by placing wood and minor excavation.	Conceptual plan	TBD	Tetra Tech 2007
70 CR	Hrfi	Cowlitz RM 12.5 right bank riparian restoration: Remove riprap and bioengineer as feasible, remove dredged materials to create riparian/floodplain bench	Conceptual plan	TBD	Tetra Tech 2007
71 CR	Hrfi	Cowlitz RM 13.5 left bank riparian restoration: Remove some dredged materials and bioengineer recent riprap placement to create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
72 CR	Hfi	Cowlitz RM 14.0 left bank side channel restoration and enhancement: Excavate remnant side channel, place LWD.	Conceptual plan	TBD	Tetra Tech 2007
73 CR	Hrfi	Cowlitz RM 14.5 right bank side channel restoration and enhancement: Excavate remnant side channel, place LWD, plant riparian vegetation.	Conceptual plan	TBD	Tetra Tech 2007
113 CR	Hi	Cowlitz RM 15.0 left bank bar enhancement: Enhance low bar and Sandy Creek and backwater by placing wood and minor excavation.	New	TBD	Tetra Tech 2007

ID	Type*	Action	Status	Entity	Source Plan/ ID
74 CR	Hrfi	Cowlitz RM 16.0 right bank side channel restoration and enhancement: Create defined boat launch area and restore historic side channel and improve floodplain with plantings and wood.	Conceptual plan	TBD	Tetra Tech 2007
75 CR	P	Delameter Creek Culvert replacement at Delameter Road.	Conceptual plan	TBD	Tetra Tech 2007
76 CR	HrA	Fence off Delameter Creek from livestock and restore riparian at RM 4.	Conceptual plan	TBD	Tetra Tech 2007
77 CR	P	Monahan Creek Culvert replacement at Delameter Road.	Conceptual plan	TBD	Tetra Tech 2007
78 CR	Hr	Monahan Creek Riparian restoration: Remove Japanese knotweed along lower 4 miles and revegetate.	Conceptual plan	TBD	Tetra Tech 2007
79 CR	Hrfi	Cowlitz RM 18.5 left bank dredged materials removal to create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
80 CR	Hrfi	Cowlitz RM 18.8 right bank bar and island enhancement: segregate boat launching from riparian zone and bars; cut chute overflow channels and restore floodplain/riparian habitat.	Conceptual plan	TBD	Tetra Tech 2007
81 CR	Hrfi	Cowlitz RM 19.8 left bank dredged materials removal to create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
82 CR	Hrfi	Toutle River RM 0.2 right bank dredged materials removal to create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
83 CR	Hrfi	Toutle River RM 3.2 right bank Off-channel restoration and enhancement: Reconnect off-channel ponds behind dredged material, enhance with LWD and riparian restoration.	Conceptual plan	TBD	Tetra Tech 2007
84 CR	Hrfi	Cowlitz RM 20.2 left bank dredged materials removal to	Conceptual plan	TBD	Tetra Tech 2007

ID	Type*	Action	Status	Entity	Source Plan/ ID
		create riparian/floodplain bench.			
85 CR	Hrfi	Cowlitz RM 22.2 left bank dredged materials removal to create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
86 CR	Hf	Cowlitz RM 23.0 left bank off-channel and floodplain restoration.	Conceptual plan	TBD	Tetra Tech 2007
87 CR	Hr	Cowlitz RM 23.2 right bank bar and island enhancement: Place LWD alongside channel and revegetate where appropriate on Hog Island.	Conceptual plan	TBD	Tetra Tech 2007
88 CR	P	Rock Creek Culvert replacement at West Side Highway.	Conceptual plan	TBD	Tetra Tech 2007
89 CR	PHr	Remove water control structure and reconnect Hill Creek; riparian revegetation along lower 1000-2000 feet of creek.	Conceptual plan	TBD	Tetra Tech 2007
90 CR	Hrf	Cowlitz RM 24.5 left bank riparian restoration: Slope back banks and create riparian/floodplain bench.	Conceptual plan	TBD	Tetra Tech 2007
91 CR	Hrfi	Lower Olequa Creek enhancement: Restore side channel and riparian zone, remove invasive species, place LWD.	Conceptual plan	TBD	Tetra Tech 2007
92 CR	A	Cowlitz RM 25.0 Acquire easements in active channel migration area.	Conceptual plan	TBD	Tetra Tech 2007
93 CR	Hrfi	Cowlitz RM 25.0 side channel restoration and enhancement: Remove car bodies, place LWD and riparian restoration.	Conceptual plan	TBD	Tetra Tech 2007
94 CR	Hri	Cowlitz RM 26.0 left bank riparian restoration: Slope back banks to create riparian bench; remove riprap; may need to move road in one area.	Conceptual plan	TBD	Tetra Tech 2007
95 CR	Hr	Cowlitz River habitat enhancements upstream of Cowlitz County (RM 27-43)	Conceptual plan	TBD	Tetra Tech 2007

ID	Type*	Action	Status	Entity	Source Plan/ ID
96 CR	Hf	Connect gravel ponds and other off-channel areas near RM 7 on the Coweeman River to provide rearing and overwintering habitat for juvenile salmonids.	New	TBD	Wade 2000a
97 CR	Hi	Coweeman Bedrock Channel Restoration. Install large diameter logs in various configurations on the Coweeman River in order to restore 2,700 feet of low gradient stream channel scoured to bedrock by historical log drives and other anthropological disturbances.	Underway	LCFEG	PRISM
98 CR	Hr	Coweeman riparian vegetation enhancement and knotweed control.	Underway	C/WCD	PRISM
99 CR	Hri	Explore opportunities to enhance shoreline habitat where bank armoring exists. This could be accomplished through bioengineering or by incorporation large wood into bank protection.	New	TBD	TWC

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.1.5. Mill, Abernathy, Germany Creek Assessment Unit

Prioritized restoration measures for the Lower Cowlitz basin are identified below as excerpted from the Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan (LCFRB 2010a):

1. Protect stream corridor structure and function;
2. Protect hillslope processes;
3. Restore degraded hillslope processes on forest, agricultural, and developed lands;
4. Restore floodplain function and channel migration processes along the lower mainstems and major tributaries;
5. Restore riparian conditions throughout the basin;
6. Restore degraded water quality with an emphasis on temperature;
7. Create/restore off-channel and side-channel habitat;
8. Restore channel structure and stability;
9. Provide for adequate instream flows during critical periods;

10. Restore access to habitat blocked by artificial barriers (priority locations in Tributaries to Mill Creek and Coal Creek).

A summary of restoration opportunities throughout the assessment unit is presented in Table 6-6 below.

Table 6-6. Restoration opportunities in Mill, Abernathy, and Germany Creeks (Assessment Units MC, AC and GC, respectively).

ID	Type*	Action	Status	Entity	Source Plan/ ID
100 All units	O	Seize opportunities to conduct voluntary floodplain restoration on lands being phased out of agricultural production. Survey landowners, build partnerships, and provide financial incentives.	New	NRCS/WCD, NGOs, WDFW, LCFRB, USACE, LCFEG	LCFRB 2010a/ M-A-G 4
101 All units	W	Assess, upgrade, and replace on-site sewage systems that may be contributing to water quality impairment	Expansion of existing program or activity	Cowlitz County, Cowlitz CD	LCFRB 2010a/ M-A-G 15
102 GC	P	Address fish passage barriers, particularly in Germany and Coal Creeks where 30-34% of the habitat is blocked	Expansion of existing program or activity	LCFRB, Cowlitz County	Wade 2002
103 AC	Hf	Enhance off channel habitat in Abernathy Creek near Sarah Creek, Two Bridges and Abernathy hatchery sites.	Underway	Cowlitz Tribe	HDR and Cramer Fish Sciences 2009; Inter-Fluve 2011
104 GC	Hf	Enhance off channel habitat in Germany Creek.	New	LCFRB, Cowlitz County	HDR and Cramer Fish Sciences 2009
105 AC GC	Hri	Construct engineered log jams and enhance riparian areas to produce future large woody debris in Abernathy and Germany Creeks.	Project underway on Abernathy Creek	LCFRB, Cowlitz County, Cowlitz Tribe	HDR and Cramer Fish Sciences 2009
106 All units	RHfi	Identify areas where channel modifications (LWD or large rocks) could help slow flows, capture scarce spawning gravels, reconnect floodplain habitat, and enhance instream channel diversity.	New	LCFRB, Cowlitz County	Wade 2002
107 All units	Hr	Target riparian restoration efforts along the most productive and/or degraded streams including the agricultural areas (generally lower and middle reaches) of Germany and Abernathy Creeks,	Project underway on Abernathy Creek	LCFRB, Cowlitz County, Cowlitz CD, Cowlitz Tribe	Wade 2002, HDR and Cramer Fish Sciences 2009

ID	Type*	Action	Status	Entity	Source Plan/ ID
		and the residential areas of Mill Creek.			
108 GC	M	Germany Creek Nutrient Enhancement. Placement of salmon carcass analogs and monitoring of salmon population response.	Underway	LCFEG	PRISM

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.1.6. South Fork Chehalis River Assessment Unit

The Chehalis Basin Salmon Habitat Restoration and Preservation Work Plan for WRIA 22 and 23 (Chehalis Basin Partnership Habitat Work Group 2008) identified several restoration recommendations for the Chehalis watershed, including several recommendations applicable to the upper South Fork Chehalis River. These recommendations include:

- Riparian restoration
  - Conifer underplanting
  - Control of invasive species
- Control excess sedimentation
  - Implement alternative methods of bank stabilization (bioengineering) in locations with excessive erosion (sediment input)
  - Abandon roads on steep geologically sensitive areas
  - Upgrade existing roads to comply with Forest Practices Act rules and regulations
  - Revegetate streaming and riverbanks for added protection from erosion
- Correct fish passage barriers
- Remove hard armoring or implement bioengineering techniques
- Enhance or restore potential off-channel, floodplain, and wetland habitat

6.2. City of Castle Rock

The most significant opportunities for restoration in the City of Castle Rock and its UGA include riparian and floodplain restoration. A summary of restoration opportunities identified within and supported by the City is presented in Table 6-7a.

Table 6-7a. Restoration opportunities in and supported by the City of Castle Rock (Assessment Unit CR).

ID	Type*	Action	Status	Entity	Source Plan/ ID
110 CR	Hri	Cowlitz RM 16.8 right bank tributary enhancement: Create riparian bench, place LWD and riparian restoration along lower end of Arkansas Creek	New	TBD	Tetra Tech 2007; TJ Kieran, City of Castle Rock, personal communication
114 CR	Hrf	Channel and riparian restoration at lower Whittle Creek: Remove invasive species, revegetate, re-meander channel.	On-going	City of Castle Rock; Cowlitz Conservation District ; Castle Rock School District; WDFW	Tetra Tech 2007; TJ Kieran, City of Castle Rock, personal communication
115 CR	Hfi	Reconnect backwater channel and place LWD at Janisch Creek, just north of the City limits. Consider re-meandering the creek away from railroad tracks.	On-going	City of Castle Rock; Cowlitz Conservation District; Castle Rock School District; WDFW	Tetra Tech 2007; TJ Kieran, City of Castle Rock, personal communication
116 CR	Hr	Restore and enhance riparian vegetation along the Cowlitz River, including School District site.	On-going	North County Recreation Assoc; Castle Rock School District; City of Castle Rock	TJ Kieran, City of Castle Rock, personal communication

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

In addition to the projects identified above in Table 6-7a, the projects identified in Table 6-7b are within the City of Castle Rock and its UGA, however, they are not necessarily supported by the City of Castle Rock.

Table 6-7b. Restoration opportunities in the City of Castle Rock (Assessment Unit CR).

ID	Type*	Action	Status	Entity	Source Plan/ ID
109 CR	Hrfi	Cowlitz RM 16.7 left bank bar and island enhancement: Enhance bar with LWD and riparian plantings and promote side channel maintenance	New	TBD	Tetra Tech 2007;
111 CR	Hr	Cowlitz RM 17.0 left bank riparian restoration: Setback or slope back levees and create riparian bench along Castle Rock	New	TBD	Tetra Tech 2007
112 CR	Hr	Cowlitz RM 17.0 right bank riparian restoration: Setback or slope back	New	TBD	Tetra Tech 2007

ID	Type*	Action	Status	Entity	Source Plan/ ID
		levees and create riparian bench along Castle Rock			

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.3. City of Kalama

Several potential restoration opportunities are present with the City of Kalama and its Urban Growth Area.

Two areas within the City are proposed as mitigation, meaning that they would be restored to compensate for an action (or actions) that negatively affect(s) ecological functions. As such, mitigation projects are not truly restoration projects, and they may or may not result in a net gain in ecological functions. These potential mitigation sites include a portion of the land around Kress Lake, which is primarily forested, and the land along the north and south banks of the Kalama River, west of I-5.

In addition to these areas, a summary of additional restoration opportunities is presented in Table 6-8 below.

Table 6-8. Restoration opportunities in the City of Kalama (Assessment Unit KA).

ID	Type*	Action	Status	Entity	Source Plan/ ID
117 KA	HfO	Conduct floodplain restoration where feasible along the lower mainstem that has experienced channel confinement. Build partnerships with the Port of Kalama and other landowners and provide financial incentives	New	NRCS, C/W CD, NGOs, WDFW, LCFRB, USACE, Port of Kalama	LCFRB 2010a/ Kal 5
118 KA	YHw	Improve hydrologic and habitat connectivity from the Columbia River to wetlands just east of Interstate-5.	New	TBD	T. Rymer, NMFS, personal communication
119 KA	RHf	Look for opportunities to increase and enhance off-channel and rearing habitat within the lower Kalama River	New	Cowlitz County/ City of Kalama	Wade 2000b
120 KA	Hf	Groundwater Channel, Left bank at RM 1.4	New	TBD	Powers and Tyler, 2009
121 KA	RHi	Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris)	New	TBD	TWC

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.4. City of Kelso

Several sites on the Cowlitz River in the City of Kelso have been used to deposit dredge spoils associated with the dredging following the eruption of Mount Saint Helens. These sites are predominantly under private ownership. Restoration of hydrologic connectivity and riparian vegetation at these sites could potentially significantly improve floodplain functions in the lower Cowlitz River.

A wetland, known as Hart's Lake, in the City of Kelso UGA is noted as an area for potential restoration. The City Parks Department owns a portion of the wetland and the abutting Coweeman shoreline. This area is identified in the City's Parks Plan as undeveloped open space. The area is within the floodplain of the Coweeman River, and has the potential to function as a backwater habitat during floods. As noted in Section 3.4, the portion of the parcel along the Coweeman shoreline is presently mowed. The shoreline would benefit from planting riparian shrubs and trees to provide shade to the Coweeman River and to improve fish and wildlife habitat. There may also be opportunities to improve hydrologic connectivity to the wetland from the west. Discussions are underway for potential wetland mitigation at Hart's Lake for impacts that may occur within shoreline jurisdiction at the Southwest Washington Regional Airport. As noted above, if used as mitigation, the project may or may not result in a net improvement of functions on a City-wide basis.

A summary of restoration opportunities is presented in Table 6-9 below.

Table 6-9. Restoration opportunities in the City of Kelso (Assessment Unit KE).

ID	Type*	Action	Status	Entity	Source Plan/ ID
122 KE	Hrfi	Cowlitz RM 1.0 Left Bank Side channel restoration and enhancement: Remove some dredged materials and reconnect side channel, create riparian bench.	Conceptual Design	TBD	Tetra Tech 2007
123 KE	Hrf	Coweeman RM 3.5 Right Bank Tributary enhancement: Reconnect remnant oxbow and restore riparian zone.	Conceptual Design	TBD	Tetra Tech 2007
124 KE	Hi	Coweeman RM 4.0 Tributary enhancement: Place LWD for sediment trapping, cover, and in-stream enhancement upstream of levees.	Conceptual Design	TBD	Tetra Tech 2007

ID	Type*	Action	Status	Entity	Source Plan/ ID
125 KE	Hri	Cowlitz RM 3.0 Left Bank Riparian restoration: Slope back banks to create riparian bench; remove riprap; revegetate with riparian species.	Conceptual Design	TBD	Tetra Tech 2007
126 KE	Hrf	Conduct floodplain restoration where feasible along the Cowlitz River. In particular, consider restoration of floodplain and riparian functions at former dredge disposal sites.	New	TBD	T. Rymer, NMFS, personal communication
127 KE	HrAR	Discontinue mowing and plant riparian vegetation along the shoreline in the Hart Lake Recreation Area. Evaluate potential to increase hydrologic connections to the wetland from the west.	New	City of Kalama Parks Department	TWC
128 KE	HrO	Plant native trees and shrubs along the shoreline at Tam O'Shanter Park. Consider opportunities for interpretive signage.	New	City of Kalama Parks Department	TWC
129 KE	RHfw	Explore opportunities to improve hydrologic and habitat connectivity from the Columbia River to Owl Creek and associated wetlands just east of Interstate-5.	New	TBD	T. Rymer, NMFS, personal communication
130 KE	RHi	Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris)	New	TBD	T. Rymer, NMFS, personal comm.

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

6.5. City of Woodland

There are several restoration sites available within the City of Woodland. The areas zoned for floodway are the most obvious areas for restoration and are generally found in the Lewis 13, 14 and 15 reaches. There are also restoration opportunities to found south of the CC Street Bridge within the floodway. This location has significant invasive species coverage and impacts from informal camping.

A summary of restoration opportunities is presented in Table 6-10 below.

Table 6-10. Restoration opportunities in the City of Woodland (Assessment Unit WO).

ID	Type*	Action	Status	Entity	Source Plan/ ID
131 WO	Hrf	Maintain and restore riparian vegetation within the designated floodway.	New	TBD	TWC
132 WO	Hr	Plant shoreline vegetation at Horseshoe Lake Park.	New	City of Woodland Parks Department	TWC
133 WO	Hr	Remove invasive vegetation and replant with native vegetation south of the CC Street Bridge.	New	TBD	City of Woodland

*TYPE = project type: H=habitat (f=floodplain/off-channel, w=wetland, i-instream, r=riparian), M=management, W=water quality, Y=hydrology, P= fish passage, A=acquisition/protection, R=research/investigation, G=regulatory, O=outreach

7. IMPLEMENTATION STRATEGY

7.1. Local/Regional Planning and Coordination

Cowlitz County and the cities of Castle Rock, Kalama, Kelso, and Woodland participate in the Cowlitz Wahkiakum Council of Governments (CWCOG). The Council of Governments provides a regional forum to address issues of mutual interest and concern, develop recommendations and provide technical services. Because the CWCOG focuses on regional and local planning, transportation planning, community and economic development planning, and technical assistance, it provides an opportunity for coordinated restoration planning and implementation. One potential mechanism to encourage implementation of shoreline restoration actions would be to incorporate shoreline restoration goals and projects into Capital Improvement Programs (CIP), Parks Master Plans, and Six-Year Transportation Improvement Plans.

The County and Cities will continue their association and involvement with their restoration partners. The County and Cities may also look for other time sensitive opportunities for involvement in regional restoration planning and implementation.

7.2. Funding Opportunities for Restoration

Some restoration projects and programs within the County could be funded by County general funds, utilities funds, or parks funding; however, many of the proposed habitat restoration projects will require outside funding through federal or state grants, as well as local, private, or non-profit matching funds. Projects may be funded in multiple phases, with different funding sources appropriate for each phase. It should be noted

that potential funding sources are not limited to those identified below. Potential grant sources and a description of their applications are provided in Table 7-1.

Table 7-1. Potential funding sources for shoreline restoration in Cowlitz County.

Funding Program	Description	Source/ Grant Administrator
Salmon Recovery Funding Board	Funding to improve important habitat conditions or watershed processes to benefit salmon and bull trout. Projects must go through selection by local lead entities and must address goals and actions defined in regional recovery plans or lead entity strategies.	Washington Recreation and Conservation Office
Aquatic Lands Enhancement Account	Funds the acquisition, improvement, or protection of aquatic lands for public purposes.	
Washington Wildlife Recreation Program	Funds a range of land protection and outdoor recreation, including park acquisition and development, habitat conservation, farmland preservation, and construction of outdoor recreation facilities. Provides funds to restore riparian vegetation.	
Family Forest Fish Passage Program	Provides funding to small forest landowners to repair or remove fish passage barriers. The state typically provides 75% – 100% of removal and replacement costs.	
Whole Watershed Restoration Initiative	Funds habitat restoration in Priority Basins. The lower Columbia River is one of the Priority Basins, including WRIA 25, 26, and 27. Funding for individual projects ranges from $20,000 to $100,000.	Ecotrust
Bonneville Power Administration	Funding for habitat projects to mitigate impacts of dam operations on the Columbia River.	Bonneville Power Administration
PacifiCorp	PacifiCorp provides annual funding to implement restoration that will benefit fish recovery and enhance fish habitat in the North Fork Lewis Basin.	PacifiCorp
Watershed Planning Act	Funding for local development of watershed plans for managing water resources and for protecting existing water rights.	Washington Department of Ecology
Centennial Clean Water Fund	Funds water quality infrastructure and projects to control non-point source pollution.	
Section 319	Funds non-point source pollution control projects.	

Funding Program	Description	Source/ Grant Administrator
Clean Water State Revolving Fund	Provides low interest and forgivable principal loan funding for wastewater treatment construction projects, eligible nonpoint source pollution control projects, and eligible Green projects.	
Conservation Reserves Enhancement Program	This program provides funds to farmers who maintain riparian buffers on on-site waterbodies. The funds cover technical assistance, plant costs, and land "rental" fees.	Cowlitz Conservation District
Conservation Partners	Provides technical assistance to farmers, ranchers, foresters and other private landowners to optimize wildlife habitat conservation on private lands.	National Fish and Wildlife Foundation
Five Star and Urban Waters Restoration Fund	Funds community stewardship and restoration of coastal, wetland and riparian ecosystems.	
NOAA Open Rivers Initiative	Funds the removal of obsolete dams and other stream barriers to improve fisheries, enhance public safety and boost local economies through benefits resulting from removal. Awards range from $100,000 to $3,000,000.	NOAA's Restoration Center
American Sportfishing Association's FishAmerica Foundation Grants	Fund marine and anadromous fish habitat restoration projects that benefit recreationally fished species. Typical awards range from $10,000 to $75,000.	
Stream Barrier Removal Grants	Funds stream barrier removal projects that benefit anadromous fish. Grant program is administered through American Rivers, in partnership with NOAA's Restoration Center.	
Partners for Fish and Wildlife	Provides technical and financial assistance to landowners to improve their property for targeted fish and wildlife species without a long-term easement contract.	U.S. Fish and Wildlife Service
National Fish Passage Program	Funds priority projects to improve fish passage.	
North American Wetlands Conservation Act Grants Program	Provides matching funds for acquisition, enhancement, and restoration of wetlands that benefit waterfowl habitat.	

7.3. Development Incentives

The County and cities may provide development incentives for restoration, including development code incentives (e.g., height, density, impervious area or lot coverage). This may serve to encourage developers to try to be more imaginative or innovative in

their development designs to include conservation efforts. Examples include the installation of rain gardens or LID features above and beyond DOE requirements, shared parking, exceeding landscape or open space requirements, or other innovative measures that benefit the environment and the citizenry.

7.4. Landowner Outreach and Engagement

The County and cities could emphasize and accomplish restoration projects by engaging community volunteers and coordinating with non-profit organizations. Volunteer engagement can have the added benefit of encouraging or guiding local residents to become more effective stewards of the land. Programs that provide ongoing assistance and resources to landowners through plantings, equipment use or technical support can also have a far reaching impact on shoreline functions.

7.5. Maximizing Mitigation Outcomes

Although projects identified in this plan are identified as restoration opportunities, this document may serve as a source to identify large-scale opportunities that could be used to optimize mitigation outcomes where on-site mitigation opportunities are limited due to building site constraints, limited potential ecological gains, or other site-specific factors.

These large-scale mitigation projects could be implemented through concurrent, permittee responsible mitigation, or through mitigation banking or an in-lieu fee program. It should be noted that the application of mitigation banking and in-lieu fee programs is not limited to wetlands and could be applied to mitigation for impacts to shorelines and endangered species. Whereas mitigation banking requires capital investment and ecological enhancement prior to the exchange of debits and credits, an in-lieu-fee program establishes a program in which funds are collected from permittees for unavoidable impacts, and these funds are pooled and used to implement mitigation projects within three growing seasons of the impact.

7.6. Monitoring

Monitoring of the effectiveness of restoration actions enables opportunities to adaptively manage future restoration efforts to maximize project outcomes. The Lower Columbia Fish Recovery Board developed a research, monitoring, and evaluation (RM&E) program plan in 2010 (LCFRB 2010c). LCFRB's RM&E Program includes recommendations for habitat status and trends monitoring, fish status and trends monitoring, project implementation and effectiveness monitoring. The program also identified key research needs. LCFRB is coordinating with regional, state, and federal

partners to develop an integrated status and trends monitoring (ISTM) design for the Lower Columbia. The LCFRB is presently working to bridge efforts of the ISTM program with municipal stormwater monitoring and reporting requirements. This sort of coordinated effort is expected to maximize monitoring resources to track changes in ambient watershed conditions over time and provide necessary information and understanding to guide future watershed management decisions.

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9. LIST OF ACRONYMS AND ABBREVIATIONS

BPA .....Bonneville Power Administration
CIP.....Capital Improvement Projects
Corps.....U.S. Army Corps of Engineers
CMZ .....Channel migration zone
C/WCD .....Cowlitz/Wahkiakum Conservation District
CWCOG.....Cowlitz Wahkiakum Council of Governments
Ecology .....Washington Department of Ecology
FCRPS .....Federal Columbia River Power System
FPR .....Forest Practices Rules
Ft.....Feet
IMW .....Intensively Monitored Watershed
ISTM.....Integrated Status and Trends Monitoring
LCEP .....Lower Columbia Estuary Partnership
LCFEG .....Lower Columbia Fish Enhancement Group
LCFRB.....Lower Columbia Fish Recovery Board
LID.....Low Impact Development
LWD.....Large Woody Debris
OHWM .....Ordinary High Water Mark
MOA .....Memorandum of Agreement
NF .....North Fork
NGOs .....Non-governmental organizations
NOAA.....National Oceanographic and Atmospheric Administration
NPDES.....National Pollutant Discharge Elimination System
NRCS.....Natural Resource Conservation Service
PUD.....Public Utility District
RM.....River Mile
RM&E .....Research, Monitoring, and Evaluation
SMP .....Shoreline Master Program
SRS.....Sediment Retention Structure
TWC .....The Watershed Company
UGA .....Urban Growth Area
USFS.....United States Forest Service
USFWS.....U.S. Fish and Wildlife Service
WAC.....Washington Administrative Code

WDFW .....Washington Department of Fish and Wildlife
WDNR .....Washington Department of Natural Resources
WRIA .....Water Resource Inventory Area

APPENDIX A

Map of Potential Restoration Project Sites

RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Columbia River Assessment Unit

1. Protect existing rearing habitat to ensure no further degradation. H
2. Increase shallow water peripheral and side channel habitats toward historic levels. H
3. Restore connectivity between river and floodplain, tidally influenced reaches of tributaries, as well as in-river habitats. H
4. Reduce predation mortality on emigrating juveniles. M
5. Reduce contaminant exposure of emigrating juveniles. W
6. Document the interaction between emigrating juvenile salmonids and introduced species; minimize negative interactions. R M
7. Develop an understanding of emigrating juvenile salmonid life history diversity and habitat use in the lower mainstem, estuary, and plume. R
8. Maintain favorable water flow and temperature throughout migration period. Y W
9. Reduce predation mortality on migrating adults. M
10. Protect existing spawning habitat to ensure no further net degradation. A G
11. Maintain favorable water flow and temperature throughout mainstem spawning and incubation period. Y W

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
- M Management
- Y Hydrologic
- P Fish passage
- A Habitat acquisition and/or protection
- R Research and investigation
- G Regulatory
- O Outreach

Notes: Project locations are estimated only. Please refer to the Cowlitz County Restoration Plan document for more details.

Data sources: Cowlitz County, City of Castle Rock, City of Woodland, Lower Columbia Fish Recovery Board, Habitat Work Schedule, Department of Ecology, Tetra Tech, PRISM, USGS, Interfluve, PacifiCorp, The Watershed Company.

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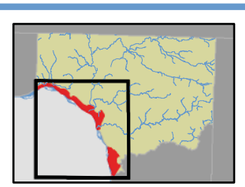
The Watershed Company

Parametrix



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RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Lewis River Assessment Unit

12 Manage regulated stream flows to provide for critical components of the natural flow regime [Y] [G]

13. Conduct floodplain restoration where feasible along the mainstem and in major tributaries that have experienced channel confinement. Build partnerships with landowners and agencies and provide financial incentives [H] [O]

14. Address water quality issues through the development and implementation of water quality clean-up plans (TMDLs) [W] [G]

15. Limit intensive recreational use of the mainstem Lewis during critical periods [A] [G]

16 Instream large woody debris, riparian, and side-channel enhancement in the Eagle Island area. [H]

17 Off Channel habitat enhancement at RM 13 [H]

18 Anadromous fish passage at Merwin and Swift dams. [P]

19 Continue to install large woody debris below Merwin Dam. [H]

20 Monitor and maintain gravel conditions below Merwin Dam for spawning habitat. [M] [H]

21 Monitor predator relationships in Lake Merwin and manage as necessary. [M]

22. Continue to manage wildlife habitat and forest resources per the integrated Wildlife Habitat Management Plans [M] [G]

23. WRIA 27/28 Nutrient Enhancement. Disperse surplus hatchery salmon carcasses in high-priority mainstem and tributary habitat. [M]

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- [H] Habitat-related
- [W] Water quality
- [M] Management
- [Y] Hydrologic
- [P] Fish passage
- [A] Habitat acquisition and/or protection
- [R] Research and investigation
- [G] Regulatory
- [O] Outreach

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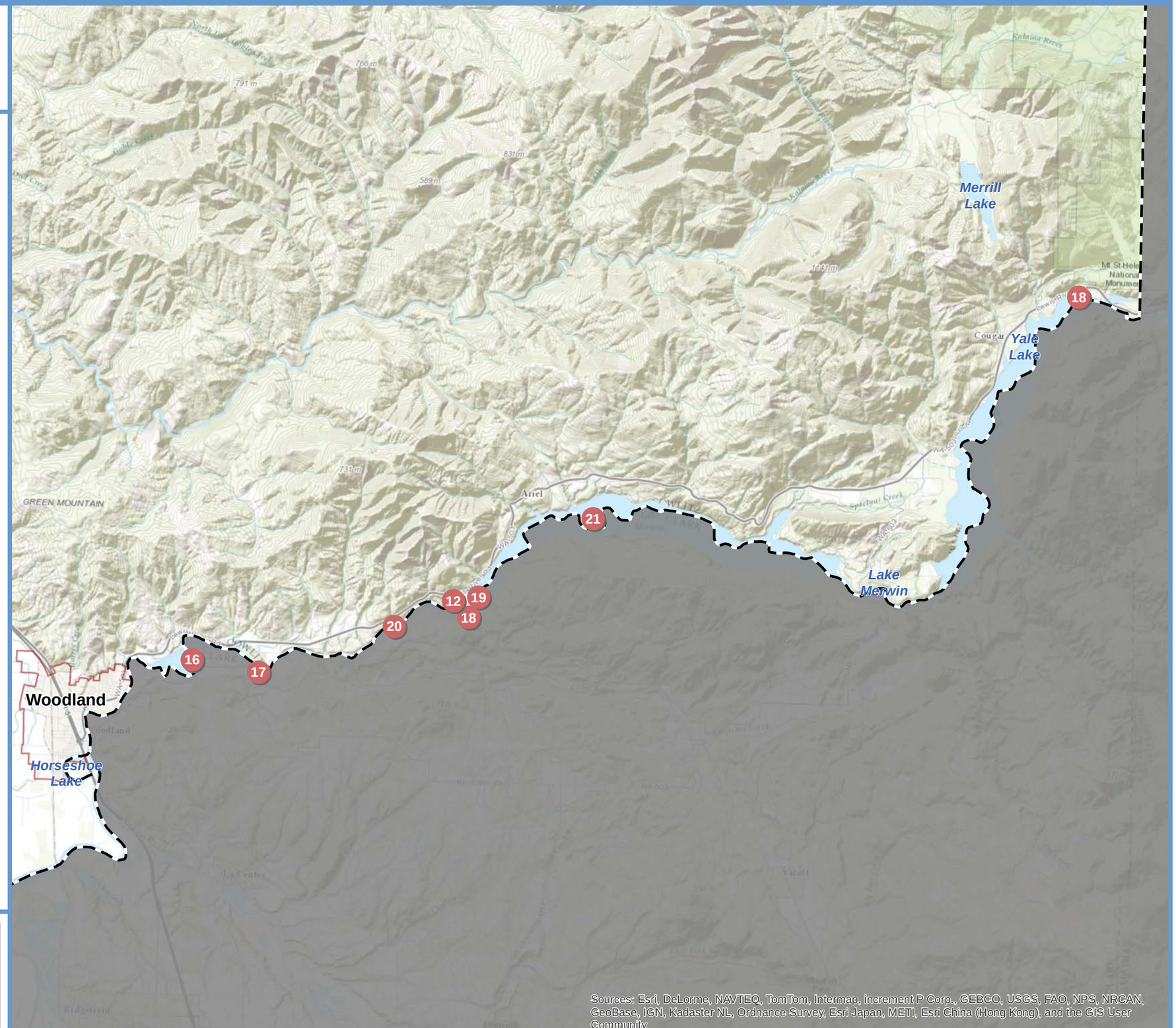

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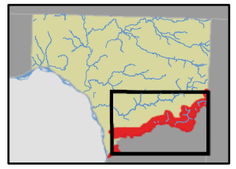
THE WATERSHED COMPANY

Parametrix



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RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Kalama River Assessment Unit

24. Fully implement and enforce the Forest Practices Rules (FPRs) on private timber lands in order to afford protections to riparian areas, sediment processes, runoff processes, water quality, and access to habitats G
25. Conduct floodplain restoration where feasible along the lower mainstem that has experienced channel confinement. Build partnerships with the Port of Kalama and other landowners and provide financial incentives G H O
26. Assess, upgrade, and replace on-site sewage systems that may be contributing to water quality impairment W
27. Address potential low-flow and thermal passage problems on the bar at the mouth of the Kalama Y W P

27 Assess and look for solutions to gravel and debris buildup near the mouths of tributaries in the upper river R P

29. Look for opportunities to increase and enhance off-channel and rearing habitat within the lower Kalama River H

30 Ledgett Groundwater Channel, Left bank at RM 2.5. Create 10,400 sq. meters of year round rearing habitat with a potential for some spawning habitat. H

31 Pipeline Removal and LWD, Left bank at RM 2.2 H

32 Low Water Fish Passage, Left bank at RM 0. P Y

33 Lower Kalama Reach 1A Tidal Design: Install large wood structures to increase salmonid rearing and holding cover at the mouth of the Kalama River. H

34 Port Tidal and Backwater Channels, Left bank at RM 0.1 H

35 Lower Kalama Habitat Enhancement. Install approximately 12 wood structures to improve and expand pool and riffle habitat; restore 5 acres of riparian habitat; enhance 500 feet of existing side channel with woody debris. H

36 Spencer Creek Riparian and LWD at RM 0.5. Restore riparian, spawning, and rearing habitat. The mouth of Spencer Creek is at Kalama RM 1.8 H

37 Fish Passage Culvert, Spencer Creek at RM 1.8 P

38. Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris) R H

39 Port of Kalama Groundwater Channel, Right bank at RM 2.2. Create off-channel rearing habitat. H

40 GW Channel System (private), Right bank at RM 2.1 H

41 Riprap Removal/Floodplain Reconnection, Right bank at RM 2.4 H

42 Active Side Channel, Right bank at RM 1.8 H

43 Improve hydrologic and habitat connectivity from the Columbia River to wetlands just east of Interstate-5. H Y

44. WRIA 27/28 Nutrient Enhancement. Dispersal of surplus hatchery salmon carcasses in high-priority mainstem and tributary habitat. M

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
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0 0.3 0.6 1.2 Miles

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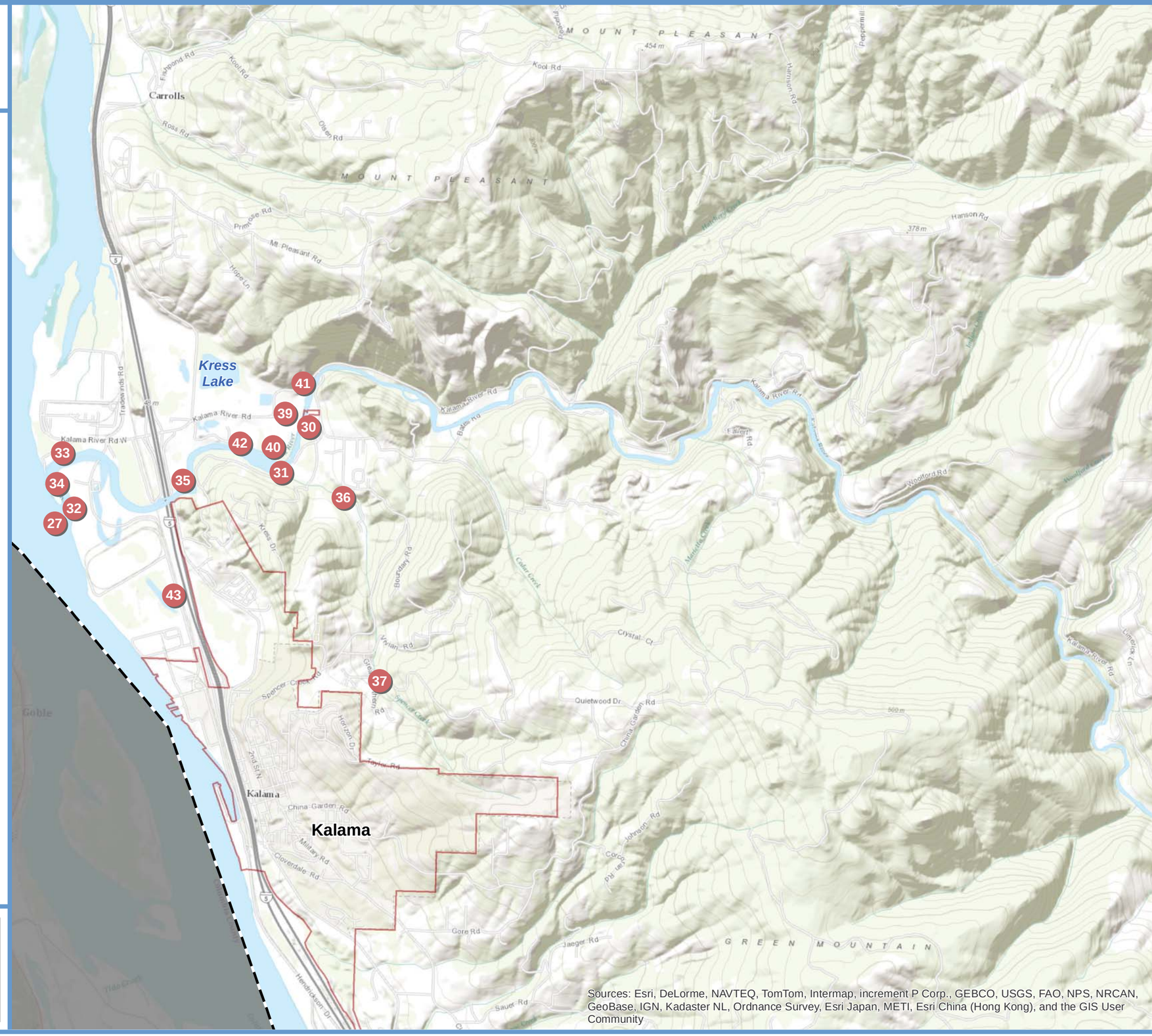

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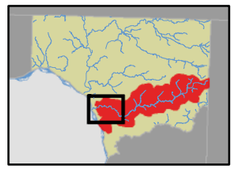
The Watershed Company

Parametrix



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RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Cowlitz River Assessment Unit

45. Manage regulated stream flows Y G
46. Monitor and notify FERC of significant license violations, enforce and encourage implementation of section 7 R
47. Conduct floodplain restoration along the mainstem and in major tributaries H R O
48. Expand local government Comprehensive Planning G
49. Assess, upgrade, and replace on-site sewage systems W
50. Address fish passage and sediment issues at the Sediment Retention Structure on the NF Toutle. P W
51. Assess and, if possible, alter the Silver Lake Dam to increase flows in Outlet Creek Y P
52. Manage federal forest lands according to the Northwest Forest Plan. G
53. Address temperature impairments through TMDLs W
54. Assess, repair, and where possible, decommission roads W
55. Look for opportunities to increase LWD supplies in stream systems. R H
56. Replant degraded riparian areas with native conifers. H
57. Address fish passage barriers in the Toutle River and tributaries P R
58. Cowlitz RM 0.5 RB remove dredged materials, create riparian/wetland bench H
59. Cowlitz RM 7.3 RB remove dredged materials, create riparian/floodplain bench, construct setback levee if necessary. H
60. Cowlitz RM 8.5 RB set back levee, revegetate riparian/floodplain bench H
61. Cowlitz RM 9.0 LB rdredged materials removal, create riparian/floodplain bench H
62. Place LWD and vegetate with willows (mouth of Ostrander Creek) H
63. Remove noxious weeds and restore riparian zone H
64. Cowlitz RM 9.7 RB bar and island enhancement H
65. Culvert replacement on Leckler Creek at Hazel Dell Road P
66. Cowlitz RM 9.8 LB riparian restoration H
67. Cowlitz RM 10.5 LB riparian restoration H
68. Cowlitz RM 11.2 LB bar and island enhancement H
69. Cowlitz RM 12.5 LB side channel restoration and enhancement H
70. Cowlitz RM 12.5 RB riparian restoration H

(continued on next map)

00 Site specific project (mapped)
00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
- M Management
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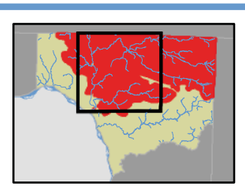
The Watershed Company
Parametrix



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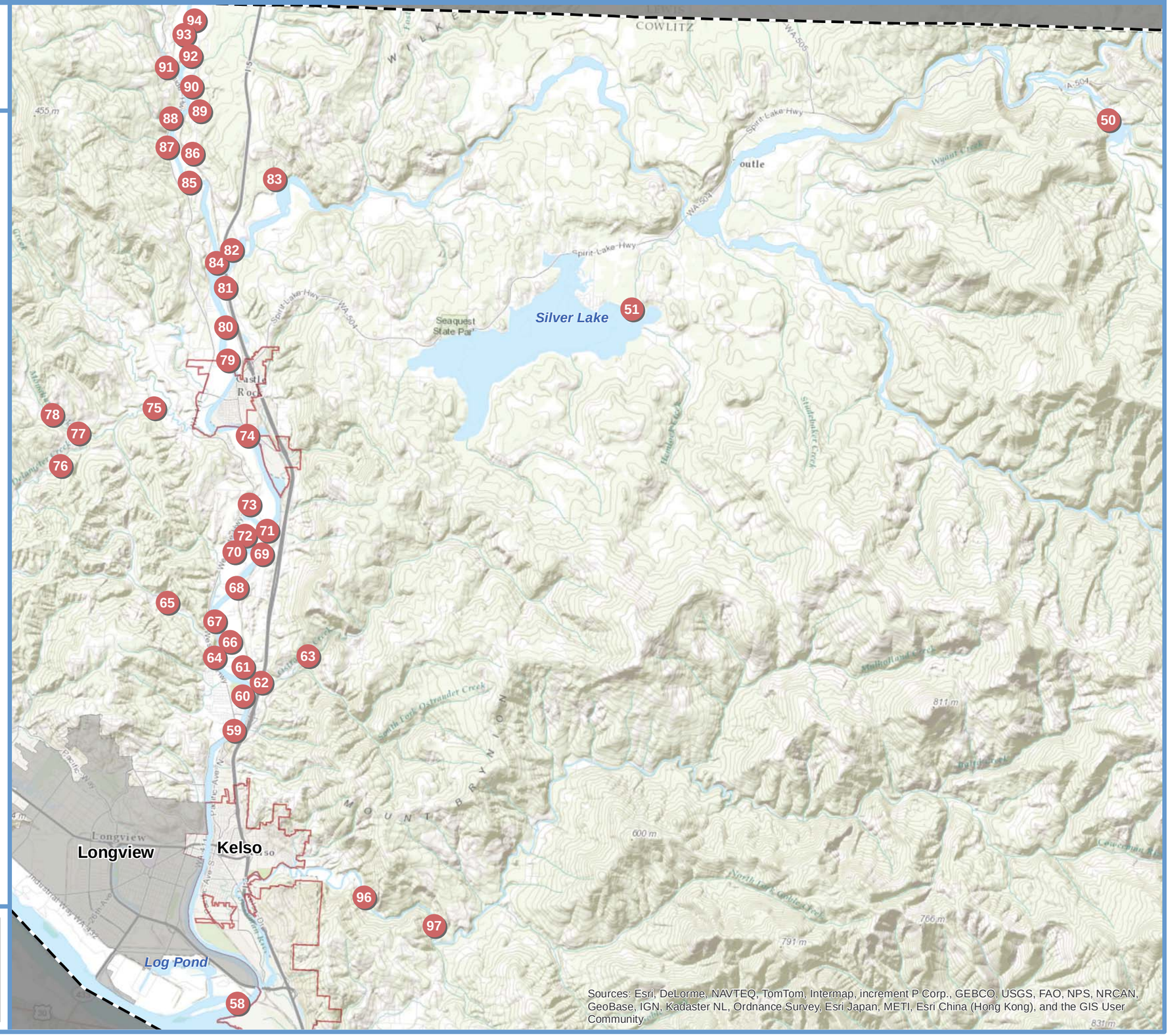


RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Cowlitz River Assessment Unit

(continued from previous map)

71 Cowlitz RM 13.5 LB riparian restoration H
72 Cowlitz RM 14.0 LB side channel restoration and enhancement H
73 Cowlitz RM 14.5 RB side channel restoration and enhancement H
74 Cowlitz RM 16.0 RB side channel restoration and enhancement H
75 Delameter Creek Culvert replacement at Delameter Road P
76 Fence off Delameter Creek from livestock and restore riparian at RM 4 H
77 Monahan Creek Culvert replacement at Delameter Road P
78 Monahan Creek Riparian restoration H
79 Cowlitz RM 18.5 LB remove dredged materials, create riparian/floodplain bench H
80 Cowlitz RM 18.8 RB bar and island enhancement H
81 Cowlitz RM 19.8 LB remove dredged materials, create riparian/floodplain bench H
82 Toutle RM 0.2 RB remove dredged materials, create riparian/floodplain bench H
83 Toutle RM 3.2 RB Off-channel restoration and enhancement H
84 Cowlitz RM 20.2 LB remove dredged materials, create riparian/floodplain bench H
85 Cowlitz RM 22.2 LB remove dredged materials, create riparian/floodplain bench H
86 Cowlitz RM 23.0 LB off-channel and floodplain restoration H
87 Cowlitz RM 23.2 RB bar and island enhancement H
88 Rock Creek Culvert replacement at West Side Highway. P
89 Remove water control structure, reconnect Hill Creek, revegetation H
90 Cowlitz RM 24.5 LB riparian restoration H
91 Lower Olequa Creek enhancement H
92 Acquire easements in active channel migration area. A
93 Cowlitz RM 25.0 side channel restoration and enhancement H
94 Cowlitz RM 26.0 LB riparian restoration H
95. Cowlitz River habitat enhancements upstream of Cowlitz County H
96 Connect gravel ponds and other off-channel areas H
97 Coweeman Bedrock Channel Restoration H
98. Coweeman riparian vegetation enhancement and knotweed control H
99. Explore opportunities to enhance shoreline habitat where bank armoring exists H

00 Site specific project (mapped)
00. Non-site specific project (unmapped)

Restoration Action Types

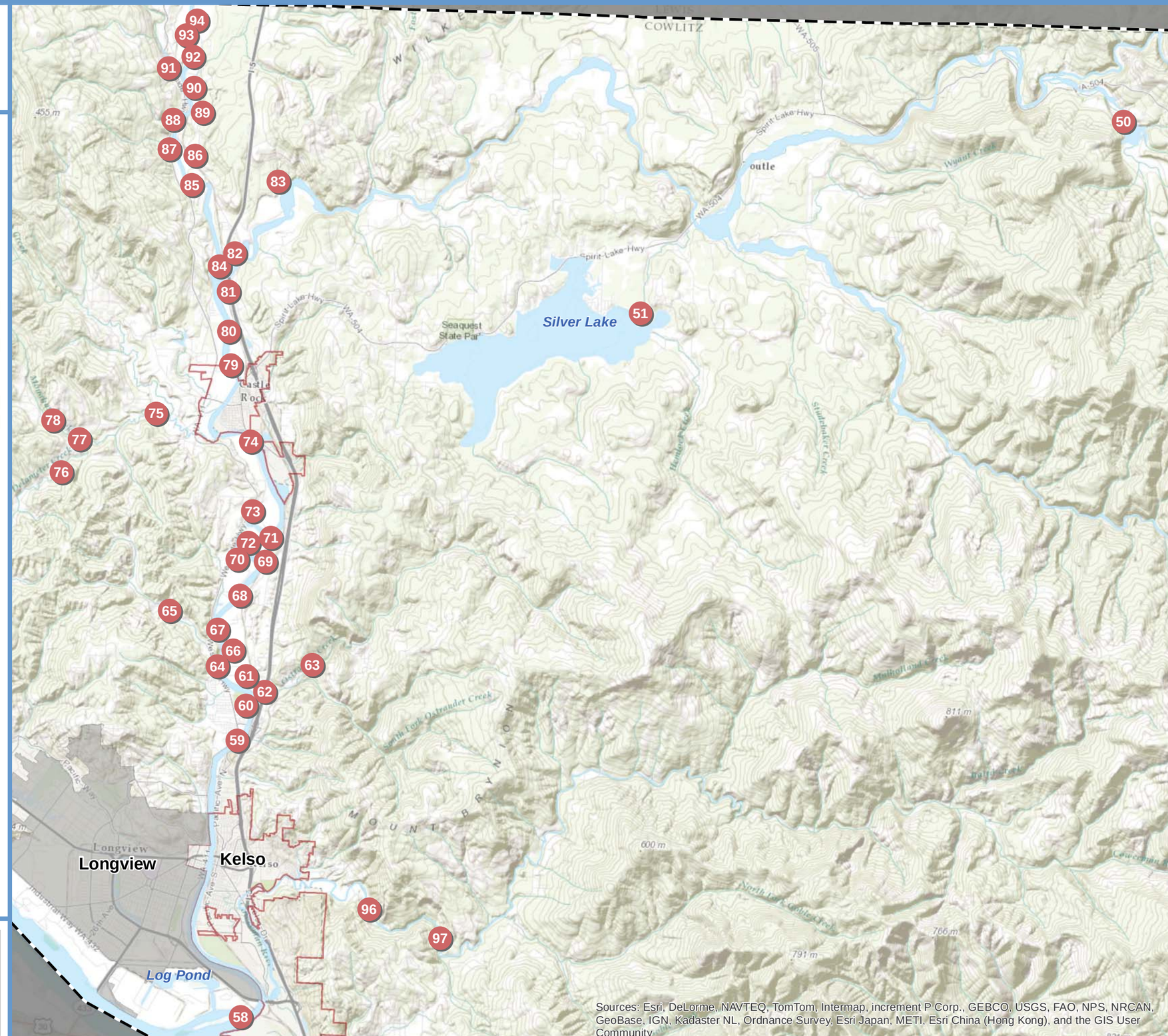
- H Habitat-related
- W Water quality
- M Management
- Y Hydrologic
- P Fish passage
- A Habitat acquisition and/or protection
- R Research and investigation
- G Regulatory
- O Outreach

Notes: Project locations are estimated only. Please refer to the Cowlitz County Restoration Plan document for more details.

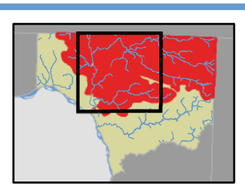
Data sources: Cowlitz County, City of Castle Rock, City of Woodland, Lower Columbia Fish Recovery Board, Habitat Work Schedule, Department of Ecology, Tetra Tech, PRISM, USGS, Interfluve, PacifiCorp, The Watershed Company.

0 0.75 1.5 3 Miles

Date: 6/24/2013
Name: Restoration_Plan_2013-06-11



The Watershed Company
Parametrix



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RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Mill, Abernethy, Germany Assessment Unit

100. Seize opportunities to conduct voluntary floodplain restoration on lands being phased out of agricultural production. Survey landowners, build partnerships, and provide financial incentives. O

101. Assess, upgrade, and replace on-site sewage systems that may be contributing to water quality impairment W

102. Address fish passage barriers, particularly in Germany and Coal Creeks where 30-34% of the habitat is blocked P

103 Enhance off channel habitat in Abernathy Creek near Sarah Creek, Two Bridges and Abernathy hatchery sites. H

104 Enhance off channel habitat in Germany Creek. H

105. Construct engineered log jams and enhance riparian areas to produce future large woody debris in Abernathy and Germany Creeks. H

106. Identify areas where channel modifications (LWD or large rocks) could help slow flows, capture scarce spawning gravels, reconnect floodplain habitat, and enhance instream channel diversity. R H

107. Target riparian restoration efforts along the most productive and/or degraded streams including the agricultural areas (generally lower and middle reaches) of Germany and Abernathy Creeks, and the residential areas of Mill Creek. H

108. Germany Creek Nutrient Enhancement. Placement of salmon carcass analogs and monitoring of salmon population response. M

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
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- Y Hydrologic
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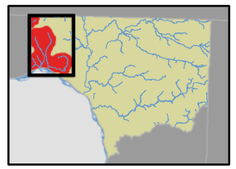
0 0.5 1 2 Miles

Date: 6/24/2013
Name: Restoration_Plan_2013-06-11

THE WATERSHED COMPANY

Parametrix



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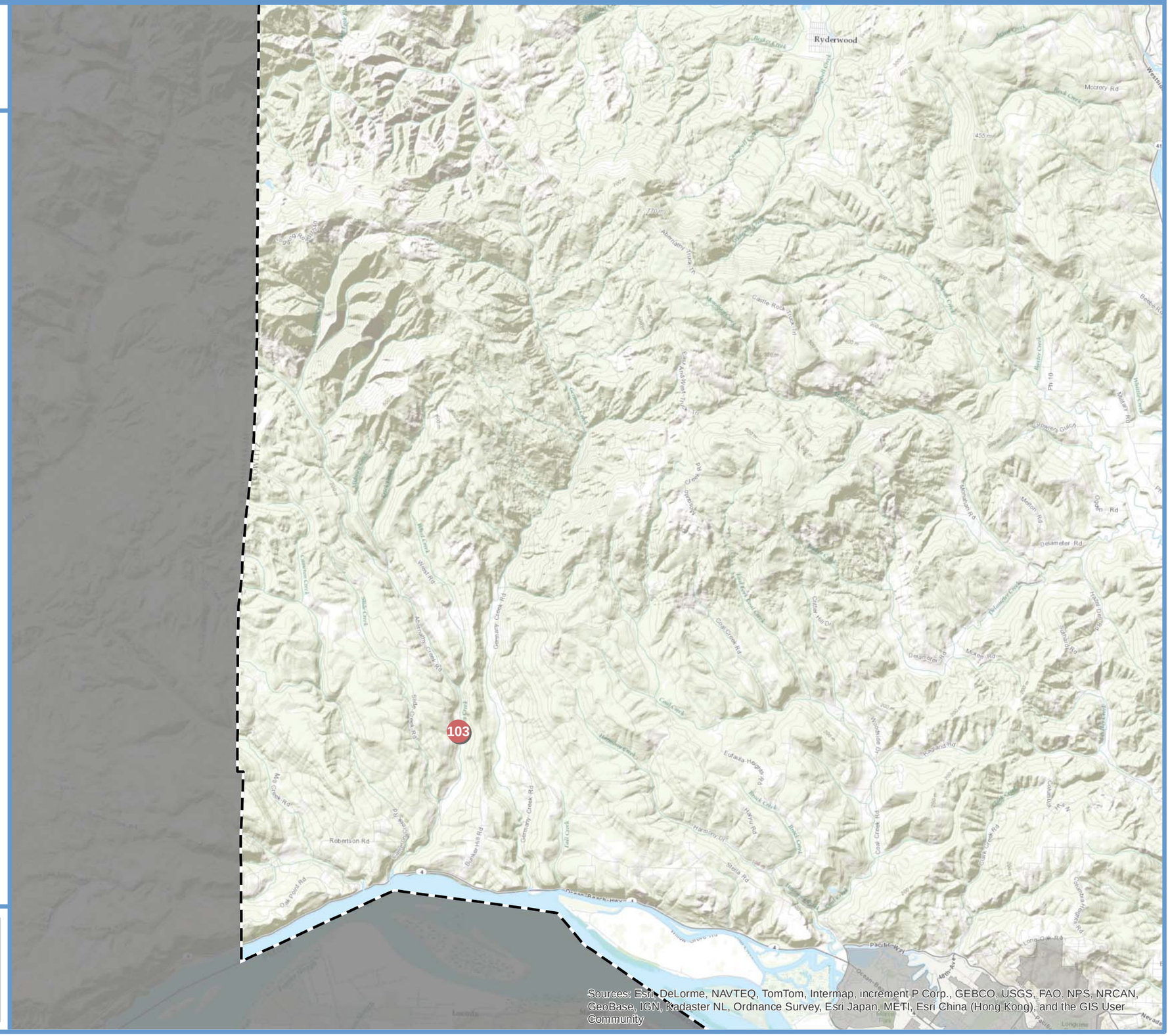

RESTORATION PLAN

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Castle Rock Assessment Unit

109 Cowlitz RM 16.7 left bank bar and island enhancement: Enhance bar with LWD and riparian plantings and promote side channel maintenance H

110 Cowlitz RM 16.8 right bank tributary enhancement: Create riparian bench, place LWD and riparian restoration along lower end of Arkansas Creek H

111 Cowlitz RM 17.0 left bank riparian restoration: Setback or slope back levees and create riparian bench along Castle Rock H

112 Cowlitz RM 17.0 right bank riparian restoration: Setback or slope back levees and create riparian bench along Castle Rock H

113 Cowlitz RM 15.0 left bank bar enhancement: Enhance low bar and Sandy Creek and backwater by placing wood and minor excavation. H

114 Channel and riparian restoration at lower Whittle Creek: Remove invasive species, revegetate, remeander channel. H

115 Reconnect backwater channel and place LWD at Janisch Creek, just north of the City limits. Consider remeandering the creek away from railroad tracks. H

116 Restore and enhance riparian vegetation along the Cowlitz River, including School District site. H

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
- M Management
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- A Habitat acquisition and/or protection
- R Research and investigation
- G Regulatory
- O Outreach

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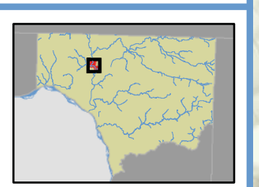
0 0.15 0.3 0.6 Miles

Date: 6/24/2013
Name: Restoration_Plan_2013-06-11



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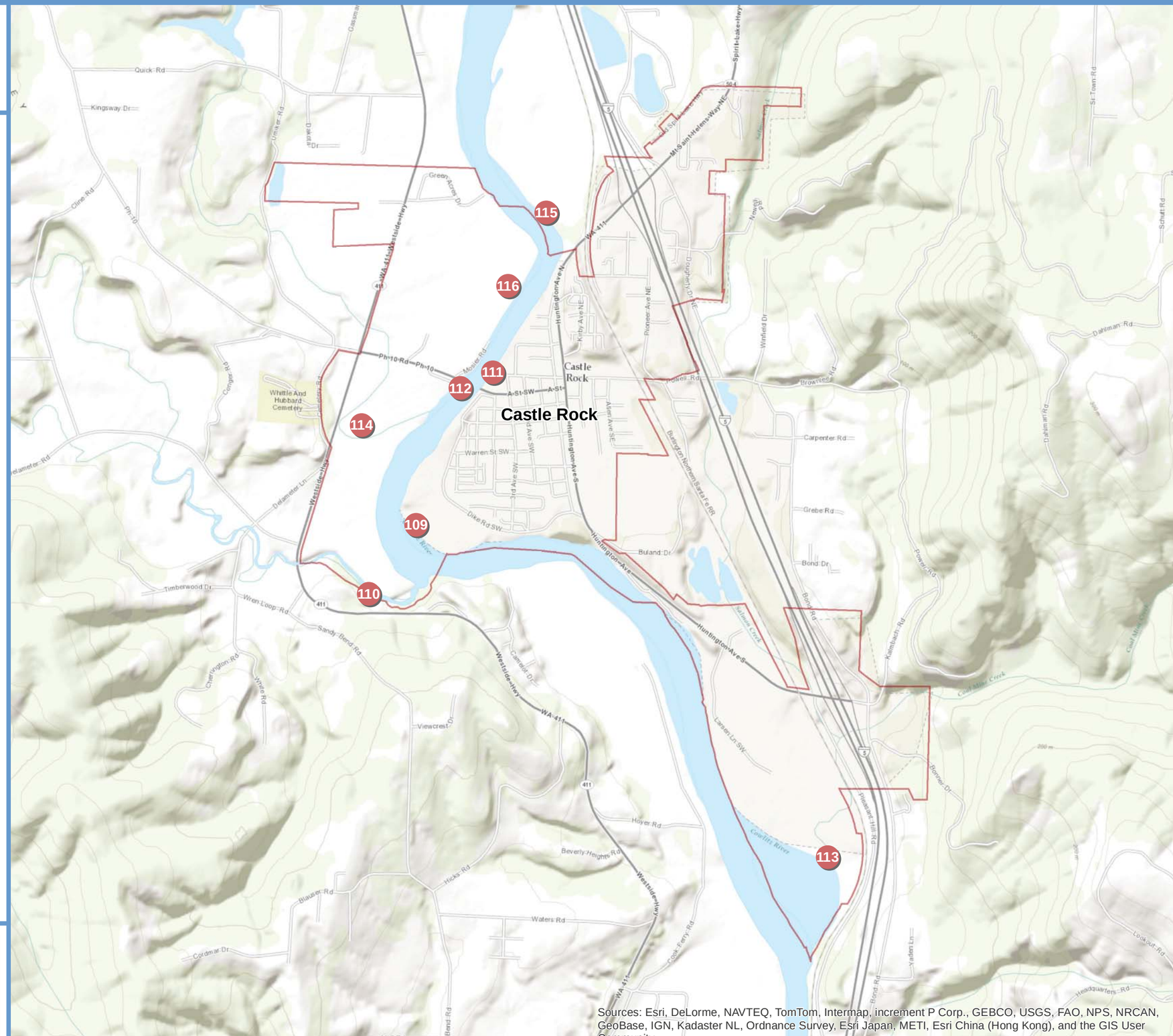

RESTORATION PLAN

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Kalama Assessment Unit

117. Conduct floodplain restoration where feasible along the lower mainstem that has experienced channel confinement. Build partnerships with the Port of Kalama and other landowners and provide financial incentives H O

118 Improve hydrologic and habitat connectivity from the Columbia River to wetlands just east of Interstate-5. Y H

119 Look for opportunities to increase and enhance off-channel and rearing habitat within the lower Kalama River Groundwater Channel, Left bank at RM 1.4 R H

120. Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris) R H

121. Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris) R H

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
- M Management
- Y Hydrologic
- P Fish passage
- A Habitat acquisition and/or protection
- R Research and investigation
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- O Outreach

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0 0.15 0.3 0.6 Miles

Date: 6/24/2013
Name: Restoration_Plan_2013-06-11

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RESTORATION PLAN

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Kelso Assessment Unit

121 Cowlitz RM 1.0 Left Bank Side channel restoration and enhancement: Remove some dredged materials and reconnect side channel, create riparian bench. H

122 Coweeman RM 3.5 Right Bank Tributary enhancement: Reconnect remnant oxbow and restore riparian zone. H

123 Coweeman RM 4.0 Tributary enhancement: Place LWD for sediment trapping, cover, and in-stream enhancement upstream of levees. H

124 Cowlitz RM 3.0 Left Bank Riparian restoration: Slope back banks to create riparian bench; remove riprap; revegetate with riparian species. H

126 Conduct floodplain restoration where feasible along the Cowlitz River. In particular, consider restoration of floodplain and riparian functions at former dredge disposal sites. H

127 Discontinue mowing and plant riparian vegetation along the shoreline in the Hart Lake Recreation Area. Evaluate potential to increase hydrologic connections to the wetland from the west. H A R

128 Plant native trees and shrubs along the shoreline at Tam O'Shanter Park. Consider opportunities for interpretive signage. H O

129 Explore opportunities to improve hydrologic and habitat connectivity from the Columbia River to Owl Creek and associated wetlands just east of Interstate-5. R H

130. Pursue opportunities to reduce the effects of existing hardened shoreline armoring or replace or modify existing armoring with softer alternatives (e.g., large woody debris) R H

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
- M Management
- Y Hydrologic
- P Fish passage
- A Habitat acquisition and/or protection
- R Research and investigation
- G Regulatory
- O Outreach

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0 0.35 0.7 1.4 Miles

Date: 6/24/2013
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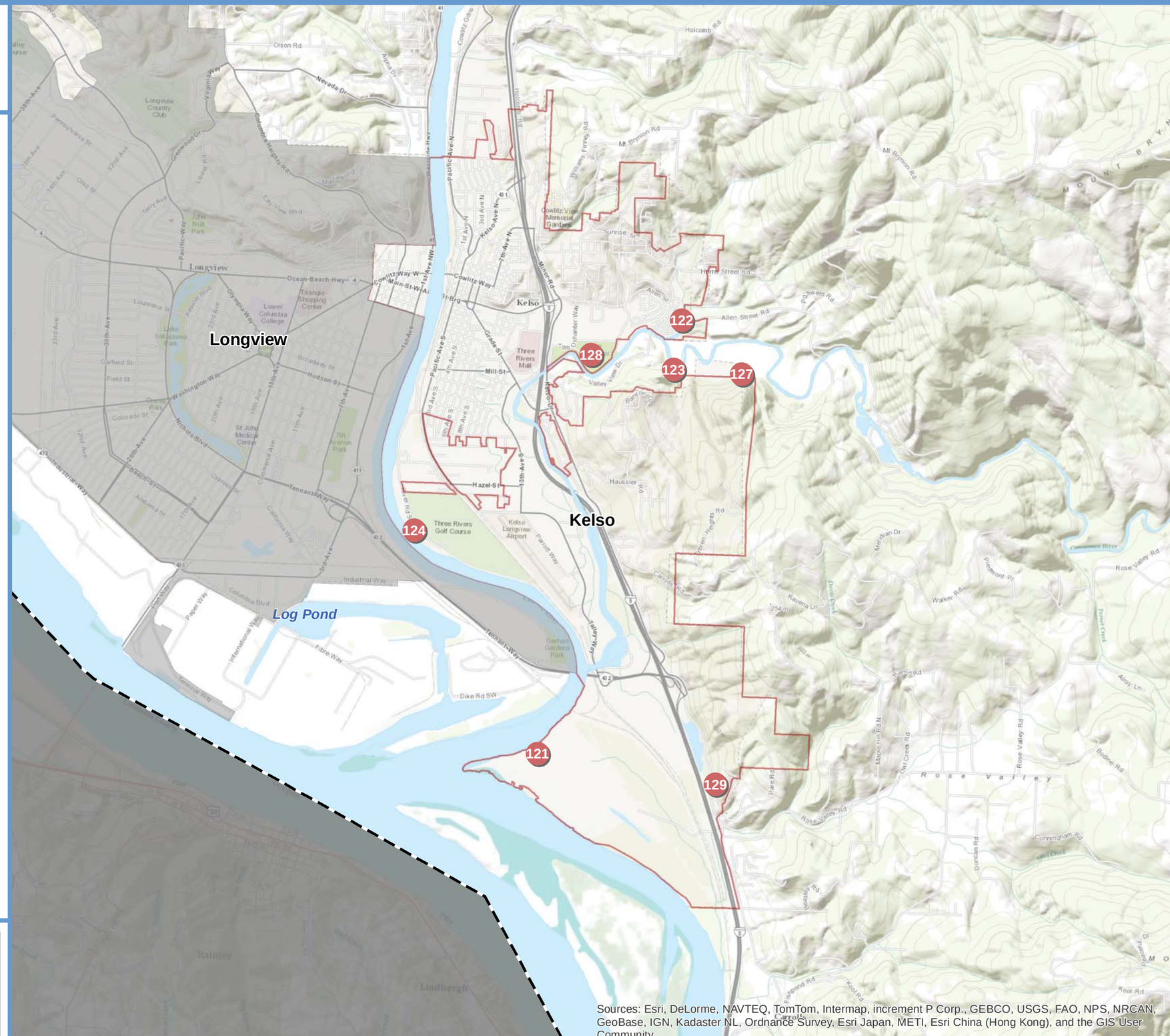
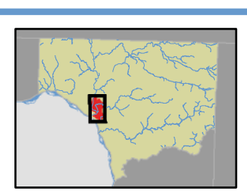


Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community



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RESTORATION PLAN

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY · CASTLE ROCK · KALAMA · KELSO · WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

Woodland Assessment Unit

130 Maintain and restore riparian vegetation within the designated floodway. H

131 Plant shoreline vegetation at Horseshoe Lake Park. H

132 Remove invasive vegetation and replant with native vegetation south of the CC Street Bridge. H

00 Site specific project (mapped)

00. Non-site specific project (unmapped)

Restoration Action Types

- H Habitat-related
- W Water quality
- M Management
- Y Hydrologic
- P Fish passage
- A Habitat acquisition and/or protection
- R Research and investigation
- G Regulatory
- O Outreach

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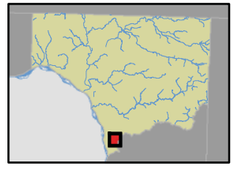
0 0.175 0.35 0.7 Miles

Date: 6/24/2013
Name: Restoration_Plan_2013-06-11

The Watershed Company

Parametrix



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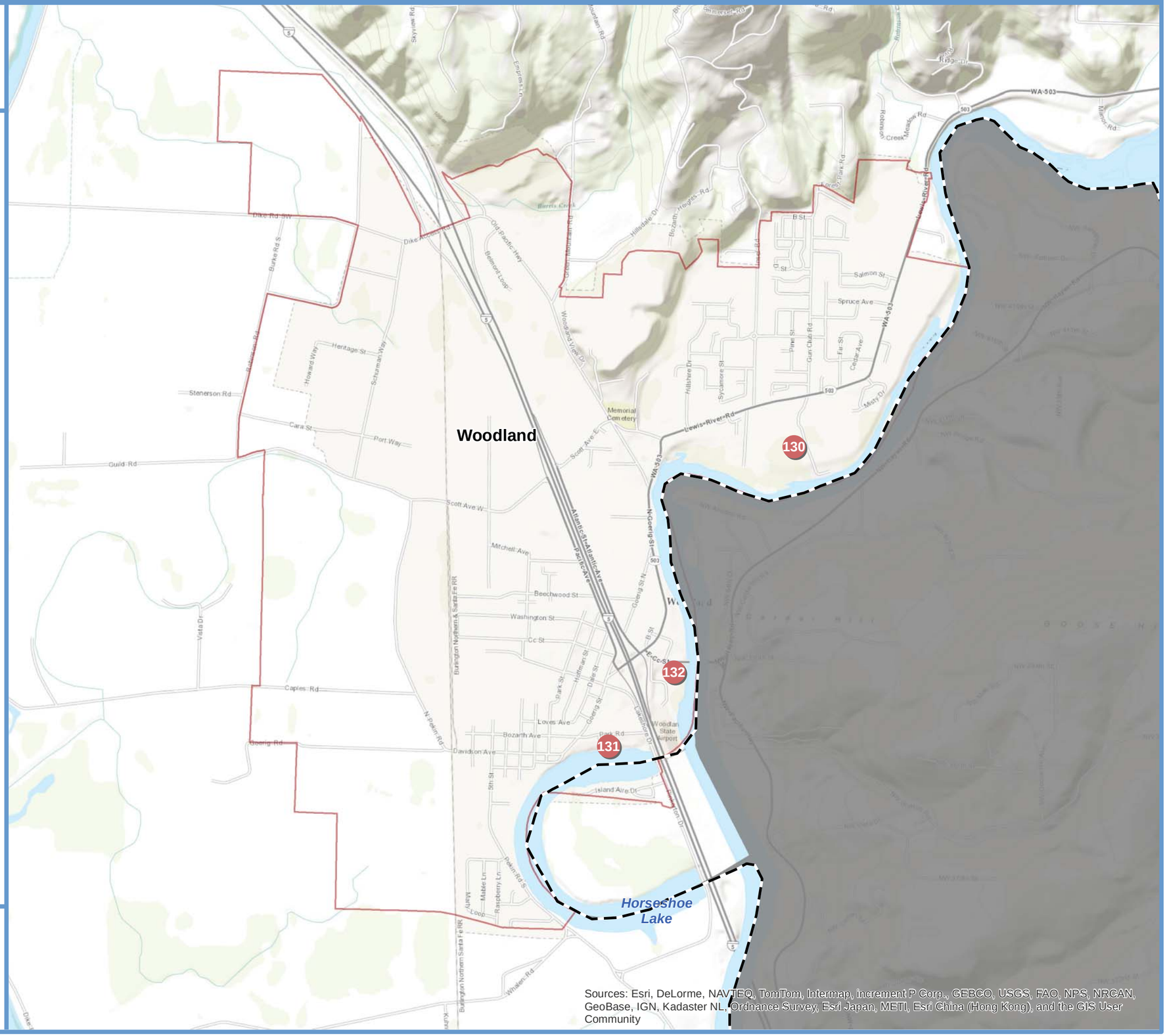


Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

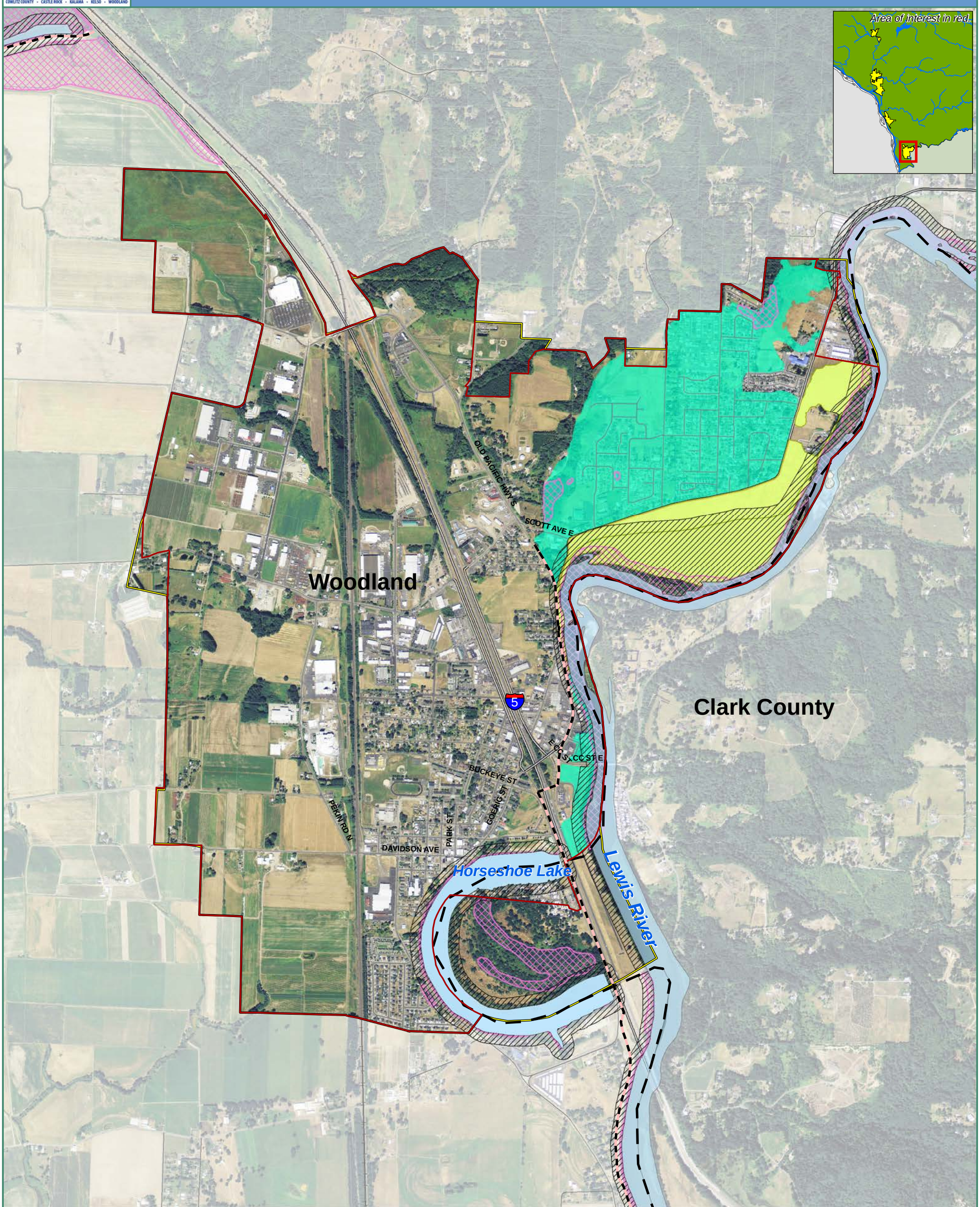
APPENDIX D

Channel Migration Zone Map

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

CITY OF WOODLAND

CHANNEL MIGRATION ZONE



- Levee
- Channel Migration Zone
- DFIRM Floodplain[1]
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- SMP Stream
- SMP Waterbody
- City Boundary
- UGA/UGB/PAB
- County Boundary

Note:
[1] Preliminary Digital Flood Insurance Rate Maps (DFIRM) data drafted by FEMA was used to determine shoreline jurisdiction boundary in City of Castle Rock, Kelso, Kalama, and Woodland. Boundaries of both floodway and floodplain have not been formally adopted.

0 900 1,800 2,700 Feet

Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

The Watershed Company | Parametrix

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Date: 4/10/2014
Name: Fig11_CMZ_cities

APPENDIX E

Exemptions from a Shoreline Substantial Development Permit

Introduction

Substantial development as defined by this program and RCW 90.58.030 requires approval from the City through a Shoreline Substantial Development Permit (SSDP) unless:

D. The substantial development is below the threshold levels established in WAC 173-27-040(2), Developments Exempt from Substantial Development Permit Requirement, listed below; or

E. The substantial development is one of the actions described in WAC 173-27-045, Developments Not Subject to the Shoreline Management Act, listed below.

In all cases, if WAC 173-27-040 or WAC 173-27-045 are amended, the amended version supersedes the lists of exemptions provided below.

Any person claiming exemption from the permit requirements of this Program as a result of the exemptions specified in this Section shall make application for a Shoreline Letter of Exemption (SLE) as described in Chapter 8 of this Program.

If any part of a proposed development is not eligible for exemption, then a shoreline permit is required for the entire proposed development project.

Any development which occurs within the regulated shorelines of the state, whether it requires a permit or not, must be consistent with the intent of the Act and this Program.

WAC 173-27-040(2) –

Developments Exempt from Substantial Development Permit Requirement

[Statutory Authority: RCW 90.58.030 (3)(e), 90.58.045, 90.58.065, 90.58.140(9), 90.58.143, 90.58.147, 90.58.200, 90.58.355, 90.58.390, 90.58.515, 43.21K.080, 71.09.250, 71.09.342, 77.55.181, 89.08.460, Chapters 70.105D, 80.50 RCW. WSR 07-02-086 (Order 05-12), § 173-27-040, filed 1/2/07, effective 2/2/07. Statutory Authority: RCW 90.58.140(3) and [90.58].200. WSR 96-20-075 (Order 95-17), § 173-27-040, filed 9/30/96, effective 10/31/96.]

(2) The following developments shall not require substantial development permits:

(a) Any development of which the total cost or fair market value, whichever is higher, does not exceed five thousand dollars, if such development does not materially interfere with the normal public use of the water or shorelines of the state. The dollar threshold established in this Subsection must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual average consumer price index, Seattle, Washington area, for urban wage

earners and clerical workers, all items, compiled by the Bureau of Labor and Statistics, United States Department of Labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the *Washington State Register* at least one month before the new dollar threshold is to take effect. For purposes of determining whether or not a permit is required, the total cost or fair market value shall be based on the value of development that is occurring on shorelines of the state as defined in RCW 90.58.030 (2)(c). The total cost or fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials;

(b) Normal maintenance or repair of existing structures or developments, including damage by accident, fire or elements. "Normal maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal repair" means to restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment;

(c) Construction of the normal protective bulkhead common to single-family residences. A "normal protective" bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the ordinary high water mark for the sole purpose of protecting an existing single-family residence and appurtenant structures from loss or damage by erosion. A normal protective bulkhead is not exempt if constructed for the purpose of creating dry land. 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. When an existing bulkhead is being repaired by construction of a vertical wall fronting the existing wall, it shall be constructed no further waterward of the existing bulkhead than is necessary for construction of new footings. When a bulkhead has deteriorated such that an ordinary high water mark has been established by the presence and action of water landward of the bulkhead then the replacement bulkhead must be located at or near the actual ordinary high water mark. 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.

(d) Emergency construction necessary to protect property from damage by the elements. An "emergency" is an unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time too short to allow full compliance with this Chapter. Emergency construction does not include development of

new permanent protective structures where none previously existed. Where new protective structures are deemed by the administrator to be the appropriate means to address the emergency situation, upon abatement of the emergency situation the new structure shall be removed or any permit which would have been required, absent an emergency, pursuant to Chapter 90.58 RCW, these regulations, or the local master program, obtained. All emergency construction shall be consistent with the policies of Chapter 90.58 RCW and the local master 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;

(e) Construction and practices normal or necessary for farming, irrigation, and ranching activities, including agricultural service roads and utilities on shorelands, construction of a barn or similar agricultural structure, and the construction and maintenance of irrigation structures including but not limited to head gates, pumping facilities, and irrigation channels: Provided, that a feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the shorelands by leveling or filling other than that which results from normal cultivation, shall not be considered normal or necessary farming or ranching activities. A feedlot shall be an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, but shall not include land for growing crops or vegetation for livestock feeding and/or grazing, nor shall it include normal livestock wintering operations;

(f) Construction or modification of navigational aids such as channel markers and anchor buoys;

(g) Construction on shorelands by an owner, lessee or contract purchaser of a single-family residence for their own use or for the use of their family, which residence does not exceed a height of thirty-five feet above average grade level and which meets all requirements of the state agency or local government having jurisdiction thereof, other than requirements imposed pursuant to Chapter 90.58 RCW. "Single-family residence" means a detached dwelling designed for and occupied by one family including those structures and developments within a contiguous ownership which are a normal appurtenance. An "appurtenance" is necessarily connected to the use and enjoyment of a single-family residence and is located landward of the ordinary high water mark and the perimeter of a wetland. On a statewide basis, normal appurtenances include a garage; deck; driveway; utilities; fences; installation of a septic tank and drainfield and grading which does not exceed two hundred fifty cubic yards and which does not involve placement of fill in any wetland or waterward of the ordinary high water mark. Local circumstances may dictate additional interpretations of normal appurtenances which shall be set forth and regulated within the applicable master program. Construction authorized under this exemption shall be located landward of the ordinary high water mark;

(h) Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single-family and multiple-family residences. A dock is a landing and moorage facility for

watercraft and does not include recreational decks, storage facilities or other appurtenances. This exception applies if either:

(i) In salt waters, the fair market value of the dock does not exceed two thousand five hundred dollars; or

(ii) In fresh waters the fair market value of the dock does not exceed ten thousand dollars, but if subsequent construction having a fair market value exceeding two thousand five hundred dollars occurs within five years of completion of the prior construction, the subsequent construction shall be considered a substantial development for the purpose of this Chapter.

For purposes of this Section salt water shall include the tidally influenced marine and estuarine water areas of the state including the Pacific Ocean, Strait of Juan de Fuca, Strait of Georgia and Puget Sound and all bays and inlets associated with any of the above;

(i) Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that now exist or are hereafter created or developed as a part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored groundwater from the irrigation of lands;

(j) The marking of property lines or corners on state-owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;

(k) Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed or utilized primarily as a part of an agricultural drainage or diking system;

(l) Any project with a certification from the governor pursuant to Chapter 80.50 RCW;

(m) Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under this Chapter, if:

(i) The activity does not interfere with the normal public use of the surface waters;

(ii) The activity will have no significant adverse impact on the environment including but not limited to fish, wildlife, fish or wildlife habitat, water quality, and aesthetic values;

(iii) The activity does not involve the installation of any structure, and upon completion of the activity the vegetation and land configuration of the site are restored to conditions existing before the activity;

(iv) A private entity seeking development authorization under this Section first posts a performance bond or provides other evidence of financial responsibility to the local jurisdiction to ensure that the site is restored to preexisting conditions; and

(v) The activity is not subject to the permit requirements of RCW 90.58.550;

(n) The process of removing or controlling aquatic noxious weeds, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by a final environmental impact statement published by the department of agriculture or the department of ecology jointly with other state agencies under Chapter 43.21C RCW;

(o) Watershed restoration projects as defined herein. Local government shall review the projects for consistency with the shoreline master program in an expeditious manner and shall issue its decision along with any conditions within forty-five days of receiving all materials necessary to review the request for exemption from the applicant. No fee may be charged for accepting and processing requests for exemption for watershed restoration projects as used in this Section.

(i) "Watershed restoration project" means a public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of the plan and consists of one or more of the following activities:

(A) A project that involves less than ten miles of streamreach, in which less than twenty-five cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;

(B) A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or

(C) A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred square feet in floor area and is located above the ordinary high water mark of the stream.

(ii) "Watershed restoration plan" means a plan, developed or sponsored by the department of fish and wildlife, the department of ecology, the department of natural resources, the department of transportation, a federally recognized Indian tribe acting within and pursuant to its authority, a city, a county, or a conservation district that provides a general program and implementation measures or actions for the preservation, restoration, re-creation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to Chapter 43.21C RCW, the State Environmental Policy Act;

(p) A public or private project that is designed to improve fish or wildlife habitat or fish passage, when all of the following apply:

(i) The project has been approved in writing by the department of fish and wildlife;

(ii) The project has received hydraulic project approval by the department of fish and wildlife pursuant to Chapter 77.55 RCW; and

(iii) The local government has determined that the project is substantially consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent.

Fish habitat enhancement projects that conform to the provisions of RCW 77.55.181 are determined to be consistent with local shoreline master programs, as follows:

(A) In order to receive the permit review and approval process created in this Section, a fish habitat enhancement project must meet the criteria under (p)(iii)(A)(I) and (II) of this Subsection:

(I) A fish habitat enhancement project must be a project to accomplish one or more of the following tasks:

- Elimination of human-made fish passage barriers, including culvert repair and replacement;
- Restoration of an eroded or unstable streambank employing the principle of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or
- Placement of woody debris or other instream structures that benefit naturally reproducing fish stocks.

The department of fish and wildlife shall develop size or scale threshold tests to determine if projects accomplishing any of these tasks should be evaluated under the process created in this Section or under other project review and approval processes. A project proposal shall not be reviewed under the process created in this Section if the department determines that the scale of the project raises concerns regarding public health and safety; and

(II) A fish habitat enhancement project must be approved in one of the following ways:

- By the department of fish and wildlife pursuant to Chapter 77.95 or 77.100 RCW;
- By the sponsor of a watershed restoration plan as provided in Chapter 89.08 RCW;
- By the department as a department of fish and wildlife-sponsored fish habitat enhancement or restoration project;
- Through the review and approval process for the jobs for the environment program;
- Through the review and approval process for conservation district-sponsored projects, where the project complies with design standards established by the

conservation commission through interagency agreement with the United States Fish and Wildlife Service and the natural resource conservation service;

- Through a formal grant program established by the legislature or the department of fish and wildlife for fish habitat enhancement or restoration; and
- Through other formal review and approval processes established by the legislature.

(B) Fish habitat enhancement projects meeting the criteria of (p)(iii)(A) of this Subsection are expected to result in beneficial impacts to the environment. Decisions pertaining to fish habitat enhancement projects meeting the criteria of (p)(iii)(A) of this Subsection and being reviewed and approved according to the provisions of this Section are not subject to the requirements of RCW 43.21C.030 (2)(c).

(C)(I) A hydraulic project approval permit is required for projects that meet the criteria of (p)(iii)(A) of this Subsection and are being reviewed and approved under this Section. An applicant shall use a joint aquatic resource permit application form developed by the office of regulatory assistance to apply for approval under this Chapter. On the same day, the applicant shall provide copies of the completed application form to the department of fish and wildlife and to each appropriate local government. Local governments shall accept the application as notice of the proposed project. The department of fish and wildlife shall provide a fifteen-day comment period during which it will receive comments regarding environmental impacts. Within forty-five days, the department shall either issue a permit, with or without conditions, deny approval, or make a determination that the review and approval process created by this Section is not appropriate for the proposed project. The department shall base this determination on identification during the comment period of adverse impacts that cannot be mitigated by the conditioning of a permit. If the department determines that the review and approval process created by this Section is not appropriate for the proposed project, the department shall notify the applicant and the appropriate local governments of its determination. The applicant may reapply for approval of the project under other review and approval processes.

(II) Any person aggrieved by the approval, denial, conditioning, or modification of a permit under this Section may formally appeal the decision to the hydraulic appeals board pursuant to the provisions of this Chapter.

(D) No local government may require permits or charge fees for fish habitat enhancement projects that meet the criteria of (p)(iii)(A) of this Subsection and that are reviewed and approved according to the provisions of this Section.

WAC 173-27-045 –

Developments Not Subject to the Shoreline Management Act

[Statutory Authority: RCW 90.58.030 (3)(e), 90.58.045, 90.58.065, 90.58.140(9), 90.58.143, 90.58.147, 90.58.200, 90.58.355, 90.58.390, 90.58.515, 43.21K.080, 71.09.250, 71.09.342, 77.55.181, 89.08.460, Chapters 70.105D, 80.50 RCW. WSR 07-02-086 (Order 05-12), § 173-27-045, filed 1/2/07, effective 2/2/07.]

Certain developments are not required to meet requirements of the Shoreline Management Act as follows:

(1) Pursuant to RCW 90.58.390, certain secure community transition facilities are not subject to the Shoreline Management Act. An emergency has been caused by the need to expeditiously site facilities to house sexually violent predators who have been committed under Chapter 71.09 RCW. To meet this emergency, secure community transition facilities sited pursuant to the preemption provisions of RCW 71.09.342 and secure facilities sited pursuant to the preemption provisions of RCW 71.09.250 are not subject to the provisions of this Chapter.

This Section expires June 30, 2009.

(2) Pursuant to RCW 90.58.045 regarding environmental excellence program agreements, notwithstanding any other provision of law, any legal requirement under the Shoreline Management Act, including any standard, limitation, rule, or order is superseded and replaced in accordance with the terms and provisions of an environmental excellence program agreement, entered into under Chapter 43.21K RCW.

(3) Pursuant to RCW 90.58.355 regarding hazardous substance remedial actions, the procedural requirements of the Shoreline Management Act shall not apply to any person conducting a remedial action at a facility pursuant to a consent decree, order, or agreed order issued pursuant to Chapter 70.105D RCW, or to the department of ecology when it conducts a remedial action under Chapter 70.105D RCW. The department of ecology shall ensure compliance with the substantive requirements of Chapter 90.58 RCW, Chapter 173-26 WAC and the local master program through the consent decree, order, or agreed order issued pursuant to Chapter 70.105D RCW, or during the department-conducted remedial action, through the procedures developed by the department pursuant to RCW 70.105D.090.

(4) The holder of a certification from the governor pursuant to Chapter 80.50 RCW shall not be required to obtain a permit under Chapter 90.58 RCW.

APPENDIX F

Shorelines Critical Areas Identification Checklist

Building & Planning Department

P.O. Box 9, 230 Davidson Avenue
Woodland, WA 98674
www.ci.woodland.wa.us
Building: (360) 225-7299 / Planning: (360) 225-1048 / Fax: (360) 225-7336

CRITICAL AREAS IDENTIFICATION CHECKLIST

Applicant: _____

Site Address: _____

Land Use Application Number: _____

Please answer the following questions concerning Critical Areas indicators located on or within 200 feet of the subject site:

1. Are you aware of any environmental documentation that has been prepared related to critical areas that includes the subject site? If yes, please attach a list of document titles.

2. Are there any surface waters (including year-round and seasonal streams, lakes, ponds, bogs, swamps)?

3. Have any wetlands been identified? Any vegetation that is associated with wetlands?

4. Are there areas where the ground is consistently inundated or saturated with water?

5. Is the project located within a Flood Hazard Zone?

6. Are there are state or federally listed sensitive, endangered, or threatened species or habitats?

7. Are there slopes of 15% or greater?

8. Are there any landslide hazard areas?

I grant permission to the field inspector to enter the building site to determine the presence or absence of critical areas. I understand that if the information on this form is later determined to be incorrect, the project or activity may be subject to conditions or denial as necessary to meet the requirements of WMC 15.08.

Signature: _____ Date: _____