

# Shoreline Master Program

2012

#### Abstract

This draft represents a comprehensive update to the City of Fife's Shoreline Master Program that was originally adopted in 1973. The comprehensive update is consistent with the Best Available Science recommendations made in the City's *Inventory and Characterization*, as well as other plans and policies including: *Comprehensive Plan*; *Comprehensive Parks*, *Recreation*, *and Open Space Plan*; and *Transportation Plan*.



This project was funded in part by the Washington Department of Ecology and completed with assistance from Grette Associates, LLC.



# CITY OF FIFE DRAFT SHORELINE MASTER PROGRAM

APPEN	IDICES	3
1.	INTRODUCTION	4
A.	Requirements of the Shoreline Management Act	4
B.	Shoreline Jurisdiction	
C.	Applicability	
D.	How the Shoreline Master Program is Used	5
E.	Relationship of this Shoreline Master Program to Other Plans	6
F.	Puyallup Tribe Jurisdiction	6
G.	Severability	6
H.	Liberal Construction	7
2.	SUMMARY OF EXISTING ENVIRONMENTAL CONDITIONS	8
А.	Wetlands	8
B.	Aquifers	
C.	Fish and Wildlife Habitat Conservation Areas	
D.	Geologically Hazardous Areas	9
E.	Frequently Flooded Areas	10
F.	Water Oriented Uses	
3.	SHORELINES OF STATEWIDE SIGNIFICANCE	11
4.	DEFINITIONS AND ACRONYMS	12
5.	SHORELINE MASTER PROGRAM ELEMENTS	
A.	Economic Development Element	
B.	Public Access Element	27
C.	Recreation Element	
D.	Circulation Element	
E.	Shoreline Use Element	
F.	Conservation Element	
G.	Historic, Cultural, Scientific, and Educational Element	35
H.	Flood Prevention Element	
6.	SHORELINE DESIGNATIONS	
A.	Introduction	
B.	Summary of Shoreline Designations	
C.	Official Shoreline Map	
D.	Written Descriptions	
E.	Interpretation of Shoreline Designation Boundaries	40
F.	Conservancy	
G.	Shoreline Residential	44
H.	Urban	46
I.	Levee	48
J.	Aquatic	50
Κ.	Summary Bulk and Dimensional Regulations Table	53
7.	GENERAL REGULATIONS	54
A.	Archaeological, Historic, and Cultural Research activities	54

B.	Critical Areas	54
C.	Flood Hazard Reduction	55
D.	Public Access	56
E.	Shoreline Vegetation Conservation	61
F.	Water quality, storm water and nonpoint source pollution	62
G.	Shoreline Modifications	
H.	Structural Flood Hazard Reduction Measures (Dikes, Levees, Weirs)	71
I.	Environmental Impact Mitigation	74
8.	SHORELINE USE MATRIX	76
9.	USE-SPECIFIC REGULATIONS	78
А.	Agricultural Activities	78
В.	Aquaculture	79
C.	Boating Facilities	81
D.	Commercial Development	82
E.	Dune Modification	83
F.	Forest Practices	
G.	Industry	85
H.	In-stream Structural Uses	86
I.	Marinas, Piers, and Docks	
J.	Mining	
Κ.	Recreational Development	
L.	Residential Development	
М.	Restoration Activities	92
N.	Signs	93
О.	Transportation Facilities and Parking	
Р.	Utilities	
10.	SHORELINE ADMINISTRATIVE PROCEDURES	100
А.	Purpose	100
В.	Permit Processing - General	
C.	Application – Notices	102
D.	Application – Shoreline substantial development permit – Review criteria	
E.	Application – Shoreline conditional use permit – Review criteria	103
F.	Application – Shoreline variance – Review criteria	103
G.	Statement of exemption	
Н.	Development Conformance Burden of Proof	105
I.	Application, Public Hearing, and decision at Open Record Public Hearing	105
J.	Development commencement time	106
Κ.	Permit Time requirements and Extensions Error! Bookmark not	defined.
L.	Decision appeals	106
M.	Time Requirements and Revisions	106
N.	Non-conforming Development, Development & Building Permits, and Unclass	sified
	Uses	
0.	Enforcement and Penalties	
Р.	Master Program – Review, Amendments and Adoption	110

# APPENDICES

- **Appendix A:** City of Fife: Official Shoreline Maps
- Appendix B: Environmental Protection Regulations for Critical Areas within the Shoreline Jurisdiction
- Appendix C: City of Fife: Shoreline Inventory and Characterization
- Appendix D: City of Fife: Restoration Plan

## 1. INTRODUCTION

#### A. Requirements of the Shoreline Management Act

Washington's <u>Shoreline Management Act</u> (SMA) was passed by the State Legislature in 1971 and adopted by voters in 1972. The overarching goal of the SMA is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines"

In conjunction with the enacting of the SMA by the State of Washington, the Department of Ecology was tasked with developing regulatory guidelines to assist local governments with the implementation of the SMA. These guidelines, WAC 173-26, provide state standards which local governments must use in drafting shoreline master programs and updates and translate the broad policies of the SMA into standards for regulation of shoreline uses. These guidelines, first drafted in 1972, were updated by Ecology in 2003 after a lengthy public comment process involving input from business, environmental and local government interests as well as private citizens. The guidelines were adopted with the endorsement of the Association of Washington Business, the Washington Aggregates & Concrete Association, the Washington Environmental Council (WEC) and other environmental organizations. The City of Fife is updating its Shoreline Master Program in compliance with these guidelines.

In its broadest terms, Fife's compliance with the SMA requires:

- 1. Creating an inventory of the natural characteristics and land use patterns along shorelines covered by the SMA.
- 2. Preparing a "Master Program" to provide for the future of shorelines.
- 3. Developing a permit system to further the goals of the SMA and the City of Fife's Shoreline Master Program.

#### **B.** Shoreline Jurisdiction

This Shoreline Master Program (SMP) applies to all lands and waters in the City of Fife that meet the statutory definitions for "*shorelines*", "*shorelands*", "*shorelines of statewide significance*" and "*shorelines of the state*" as defined within RCW 90.58.030. Specifically, the SMA applies to the following:

- All marine waters;
- Streams with a mean annual flow greater than 20 cubic feet per second;
- Lakes and Reservoirs of the state equal to or greater than 20 acres;
- Associated Wetlands;

• Shorelands or shoreland areas.

Upland areas called "shorelands" or "shoreland areas" means those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the streams, lakes and tidal water.

The shoreline jurisdiction within the City of Fife is depicted in Appendix A of this document and includes the shorelands associated with the Puyallup River and Hylebos Creek, all associated wetlands including two wetland areas associated with the Puyallup River (the Radiance Oxbow and the Sha Dadx), as well as the 100-year floodplains of the Puyallup River and Hylebos Creek as currently shown on the approved Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMS). Land necessary for buffers for critical areas are not included if they extend beyond the jurisdictional limits described above.

The SMP jurisdictions and designations identified on the Official Shoreline map located in Appendix A of this document, address all areas within the City of Fife's corporate limits. This map also identifies pre-planned designations for the Fife Urban Growth Areas (UGAS) should they be annexed while this SMP is in effect. Prior to annexation, these areas would be subject to Pierce County Jurisdiction and the Pierce County Shoreline Master Program.

Should new areas, for which pre-designation has not occurred, come under this SMP, the lands shall be automatically designated Conservancy Shoreline consistent with WAC 173-26-211(2)(e) until that time in which the City of Fife can fully evaluate the shorelands and amend its plan. Refer to Section 6.B of this document for additional information.

# C. Applicability

Except when specifically exempted by statue, all proposed uses and development occurring within shoreline jurisdiction must conform to RCW 90.58, the Shoreline Management Act of 1971 (SMA), and this Shoreline Master Program.

In addition to the requirements of the SMA, permit review, implementation and enforcement procedures affecting private property must be conducted in a manner consistent with all relevant constitutional and other legal limitations on the regulation of the private property.

# D. How the Shoreline Master Program is Used

The City of Fife's Shoreline Master Program (SMP) includes goals, policies, and regulations for development occurring within shoreline areas of the City. To ensure that shoreline areas within the City are preserved and development is appropriate, all development proposals within the shoreline area are reviewed in accordance with this SMP. As such, the SMP includes general goals and policies,

general regulations for each shoreline designation, use-specific regulations, and administrative procedures for the issuance of shoreline permits.

Through an extensive public process with the Planning Commission and City Council, five shoreline designations were established to respond to the environmental characteristics of the City's shorelines. These shoreline designations are as follows: Conservancy, Shoreline Residential, Urban, Levee, and Aquatic. These designations are further described in Chapter 6.

## E. Relationship of this Shoreline Master Program to Other Plans

Protection and restoration of critical areas within shorelines jurisdiction was of primary consideration during the preparation of the Shoreline Master Program as was integrating the plan with the City's existing Comprehensive Plan, Development Regulations, and the plans and policies of the Puyallup Tribe of Indians as well as state and federal agencies.

It was the express intent of the City of Fife to achieve consistency between this Master Program and other City plans, policies, and regulations. If inconsistencies are found between this Master Program and other City plans, policies, and regulations, the regulation that affords greater protection to the City's shorelines shall prevail.

In addition, an applicant applying for a permit with the City is required to be in compliance with all other local, county, state, regional, or federal statutes or regulations, which may also be applicable to such development or use. Project relevant regulations within the City may include but are not limited to: Fife Municipal Code (FMC) Title 15.40 – Flood Damage, FMC Title 19 – Zoning, and FMC Title 21 – Low Impact Development. Critical Areas within the shoreline jurisdiction will be reviewed pursuant to Appendix B of this document.

# F. Puyallup Tribe Jurisdiction

The Puyallup Tribe of Indians owns lands that are encompassed within the boundaries of the City of Fife but are regulated by the Puyallup Tribe and are not part of the City of Fife. Within the shoreline Jurisdiction, these lands include the land waterward of the Ordinary High Water Mark on the Puyallup River, the hydrologic connections of both the Oxbow and Sha-Dadx wetlands as well as the entirety of the Sha-Dadx wetland. These lands are identified on the official shoreline map. Development and land use within these areas is regulated by the Puyallup Tribe.

## G. Severability

If any provisions of this Master Program, or its application to any person or legal entity or parcel of land or circumstances is held invalid, the remainder of the Master Program, or the application of the provisions to other persons or legal entities or parcels of land or circumstances, shall not be affected (see Administrative Procedures – Section 10).

## H. Liberal Construction

Pursuant to RCW 90.58.900, the Shoreline Management Act is exempted from the rule of strict construction. Therefore, the Act and this Shoreline Master Program shall be liberally construed to give full effect to the purposes, goals, objectives, and polices for which the Act and this Program have been enacted and adopted.

#### 2. SUMMARY OF EXISTING ENVIRONMENTAL CONDITIONS

An Inventory and Characterization of existing environmental conditions within the City of Fife was conducted in 2010 (Grette Associates 2010). This Chapter provides a very brief summary of the Inventory and Characterization document which is included as Appendix C.

The City of Fife, which incorporated in 1957, is located north of the Puyallup River, near the head of Commencement Bay in northern Pierce County. The City also contains portions of Hylebos Creek, a small independent stream that flows through the City into Commencement Bay, which is located along the north – north eastern boundary of the City. Prior to European settlement, the area was occupied and used by the Puyallup Tribe of Indians.

Historically, the area north of Interstate 5 was emergent tidal marsh land, while the area south was a combination of freshwater wetlands and uplands. Much of the southern area was used for agriculture. Wetlands were drained as a result. As land was increasingly becoming urbanized, flood control was initiated after the 1906 diversion of the White River into the Puyallup River. Channel hardening at the mouths of both the Puyallup and the Hylebos was the result and levees were constructed along much of the lower Puyallup.

During the early and mid 20th century, agriculture continued to be a primary land use but uses began shifting toward industry and commerce. The City is now zoned for residential, commercial, and industrial land uses. However, agriculture is still a permitted use in most of the City's zoning designations.

Similar to the historic marsh areas that are now the City of Fife, the Puyallup River adjacent to the City has also been significantly modified from its historic condition. This includes the construction of a hydroelectric dam, logging of forest lands and the construction of logging roads, significant and extensive agricultural practices within the floodplain, and a major flood control effort that has resulted in straightening and channel hardening of much of river below approximately river mile 28 to the mouth at Commencement Bay. This includes the installation of a complex system of levees, revetments, and dikes on both sides of the River, which greatly limits any ability for water-dependent or water-oriented developments within the City. The Hylebos Creek watershed has been extensively modified as a result of rapid growth in south King County, Federal Way, Milton, as well as northeast Tacoma and Pierce County. Kerwin (1999) characterized the Hylebos Creek basin as "one of the most heavily urbanized watersheds in the State." The conversion of lowland forests to highly developed urban area has resulted in a significantly flashier creek with overall lower flows and seriously degraded water quality.

## A. Wetlands

Many of the prominent wetlands along the Puyallup River were formed from remnant oxbows after the straightening and channel hardening of the river. The Puyallup's main wetlands within shoreline jurisdiction of Fife are the Oxbow wetland and the Sha-Dadx wetland. Both wetlands are hydrologically connected to the Puyallup River through culverts under Levee Road. The hydrologic connections of both wetlands as well as the entire area of the Sha-Dadx wetland are within the jurisdiction of the Puyallup Tribe. In addition to these two wetland areas, there may also be other wetland areas within the floodplain of Hylebos Creek or the Puyallup River. These wetlands within the floodplain are considered shoreline associated wetlands.

The Hylebos Creek shoreline jurisdiction contains over 2.4 acres of mapped associated wetlands. These wetland areas are primarily fringe wetlands located along the banks of the Hylebos. The largest wetland area associated with Hylebos Creek within the City is located on the right bank of the Hylebos and is part of the Milgard Nature Area, a 6-acre mitigation area managed by the City.

## **B.** Aquifers

The majority of the City is identified as being located within an aquifer recharge area according to GIS information available on the City's geographic information system maintained under contract by Pierce County. Accordingly, the Puyallup River is entirely included and the right bank of the Hylebos Creek is included within the aquifer recharge area.

## C. Fish and Wildlife Habitat Conservation Areas

Along the Puyallup, the habitat conservation areas are largely related to the wetland habitat, while on the Hylebos, these areas are either riparian or related to the steep slopes landward of the riparian fringe.

Salmonid fish runs have been located in both the Puyallup and the Hylebos. As the City of Fife is located within close proximity to the mouth of both water bodies, it is believed that all anadromous fish in these systems pass through reaches within shorelines jurisdiction. Salmonid species found in the Puyallup River include spring and fall Chinook, chum, coho, pink, sockeye, and both summer and winter steelhead.

Wildlife species identified in the greater area and anticipated to also be located within the shoreline include bald eagle and great blue heron. Although great blue heron is not identified as a priority species, their breeding areas are considered as priority habitats, and some nests are found within close proximity to the Fife shoreline jurisdiction. The presence of western pond turtle has also been identified within the City though not in either the Puyallup or Hylebos shorelines jurisdiction. Of the non-salmonid species, only bald eagles are listed under the Federal Endangered Species Act. Western pond turtles have State endangered status and are Federal species of concern.

## D. Geologically Hazardous Areas

Three types of geologically hazardous areas are identified in the City's Municipal Code (FMC 17.11). There are no erosion or landslide hazardous areas located on

the Puyallup's shoreline. However, much of the left bank of Hylebos and some of the right bank are identified as hazard areas. These areas extend beyond the shoreline jurisdiction. The entire Puyallup valley floor is considered as a seismic hazard area.

## E. Frequently Flooded Areas

Along the Puyallup River, the levee was constructed for flood control, as well as permanent channel maintenance (see FMC 17.09). For the most part, the mapped 100-year flood plain does not extend above the levee, aside from the two most significant wetlands within the City – the Oxbow and Sha-Dadx. In addition, both banks of Hylebos Creek are within the flood zone.

## F. Water Oriented Uses

The Shoreline Management Act (SMA) requires that, to the maximum extent possible, shorelines should be reserved for "water-oriented" uses including those uses that are water dependent, water related and water enjoyment uses. Due to the average water flow and depth within Hylebos Creek as well as the levee that prevents parcels adjacent to the Puyallup River from having direct shoreline access, the City of Fife is greatly limited in its ability to provide for water dependent uses. As such, the City uses this program to promote water enjoyment uses where feasible, but also allows for non-water related uses within it shoreline designations to provide for development as required within the Growth Management Act.

## 3. SHORELINES OF STATEWIDE SIGNIFICANCE

The Shoreline Management Act has determined certain shoreline areas to be Shorelines of Statewide Significance. According to RCW 90.58.030(2)(f), water bodies that meet the following criteria are designated as shorelines of statewide significance:

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

Within City of Fife shorelines jurisdiction, the Puyallup River meets the definition of a shoreline of statewide significance. The area waterward of the Ordinary High Water Mark is under the Jurisdiction of the Puyallup Tribe. However, with a few exceptions, the majority of the area landward of the Ordinary High Water Mark is within the City of Fife jurisdiction. Based upon RCW 90.58.020, the City of Fife gives preference to use(s) of the Puyallup river shoreline jurisdiction in the following order:

- Recognize and protect the statewide interest over local interest;
- Preserve the natural character of the shoreline;
- Result in long term over short term benefit;
- Protect the resources and ecology of the shoreline;
- Increase public access to publicly owned areas of the shorelines;
- Increase recreational opportunities for the public in the shoreline; and
- Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

# 4. DEFINITIONS AND ACRONYMS

"Accessory Use" means a use incidental, related and clearly subordinate to the principal use of a lot or main building. An accessory use is only located on the same lot as a permitted principal use.

"Act" means the Shoreline Management Act of 1971, as amended (RCW 90.58).

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

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

"Agricultural equipment" and "agricultural facilities" include, but are not limited to:

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

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

"Alteration" means a change or reconfiguration to the structure of a building; rearranging the height or length or depth of the exterior walls of a building; the movement of a structure from one location to another.

"Anadromous fish" means species, such as salmon, which are born in fresh water, spend a large part of their lives in the sea, and return to fresh water rivers and streams to procreate.

"Applicant" means an individual, partnership, corporation, association, organization, cooperative, public or municipal corporation, or agency of the state or local governmental unit, however designated.

"Appurtenance" mean a use/structure 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. The term "appurtenance" may also be referred to as "normal appurtenance."

"Associated wetlands" means those wetlands which are in proximity to and either influence or are influenced by tidal waters or a lake or stream subject to the Shoreline Management Act.

"Aquaculture" means the culture or farming of fish, shellfish, or other aquatic plants and animals. Aquaculture may require development such as fish hatcheries, rearing pens, and structures, as well as use of natural spawning and rearing habitats/areas. This term may also include activities related to the growing, handling, or harvesting of aquatic produce such as propagation, stocking, holding, nurturing, disease treatment, waste disposal, water use, creation of habitat and associated structures as well as similar activities.

"Best management practices (BMPs)" means methods of improving water quality that can have a great effect when applied by numerous individuals. BMPs encompass a variety of behavioral, procedural, and structural measures that reduce the amount of contaminants in stormwater runoff and in receiving waters.

"Boat launch or ramp" means graded slopes, slabs, pads, planks, or rails used for launching boats by means of a trailer, hand, or mechanical device.

"Boating facilities" generally refer to structures providing the boating public recreational opportunities on the waters of the state including but not limited to marinas, public docks, buoys, etc. Boating facilities does not refer to docks that serve four or fewer single family residences.

"Building" means any structure having a roof supported by columns, posts, or walls for the shelter, housing, or enclosure of any individual, animal, process, equipment, goods, or

materials of any kind. Manufactured homes are considered buildings. Vehicles are excluded from this definition.

"Building, detached" means a building surrounded by open space on the same lot.

"Building height" is measured from average grade level to the highest point of a structure: Provided, That television antennas, chimneys, and similar appurtenances shall not be used in calculating height, except where such appurtenances obstruct the view of the shoreline of a substantial number of residences on areas adjoining such shorelines, or the applicable master program specifically requires that such appurtenances be included: Provided further, That temporary construction equipment is excluded in this calculation.

"Channel" means an open conduit for water either naturally or artificially created, but not including artificially created irrigation, return flow, or stock watering channels.

"Channel improvement" means the enlargement of a natural stream's discharge capacity by means of straightening, making "cutoffs", cleaning vegetation, widening, or deepening, and thereby decreasing flood stages.

"City" means the City of Fife.

"Clearing" means the removal of vegetation, ground cover, shrubs and trees associated with maintenance or property modification, but not limited to, root material removal that affects the erosive potential of the soils on the site.

"Commercial development" means retail, wholesale, service, trade or other business activities.

"Council" means the City of Fife City Council.

"Cross section (drawing)" means a visual representation of a vertical cut through a structure or any other three-dimensional form.

"Dedication" means the deliberate appropriation of land by an owner for public use or purpose, reserving no other rights than those that are compatible with the full exercise and enjoyment of the public uses or purpose to which the property has been devoted.

"Designation" means the designations given specific shoreline areas based on the existing development pattern, the biophysical capabilities and limitations, and the goals and aspirations of local citizenry, as part of a Master Program.

"Development" means a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; pile driving; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters of

the state, subject to RCW 90.58 or its successor, at any state of water level [RCW 90.58.030(3)(d)].

"Development regulations" means the controls placed on development or land uses by a county or city, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under RCW 90.58, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto.

"Dike" means an embankment to prevent flooding by a stream or other waterbody.

"Director" means the Fife Director of Community Development, or his/her designee, charged with the responsibility of administering the shoreline master program.

"Dock" means a floating platform serving four or fewer single family residences which abuts the shoreline, extending waterward from ordinary high water, or from the bottom of a ramp extending from a pier, generally used as a landing or moorage place for watercraft.

"Dredged material disposal" means depositing of dredged materials on land or into water bodies. The purpose may be to create additional lands, to dispose of the by-products of dredging, or to enhance or remedy an environmental condition.

"Dredging" means removal or displacement of earth or sediments such as gravel, sand, mud or silt, and/or other materials or debris from any stream, river, lake or marine water body, and associated shorelines and wetlands. Dredging is normally performed for the specific purposes of constructing and maintaining navigation channels, turning basins, harbors and marinas; installing submarine pipelines or cable crossing; or repairing and maintaining dikes or drainage systems. Dredging can be accomplished with mechanical or hydraulic machines. Most dredging is done to maintain channel depths or berths for navigational purposes; other dredging is for shellfish harvesting or cleanup of polluted sediments.

"Dry land" means the area of the subject property landward of the Ordinary High water mark.

"Dwelling, multifamily" means a structure designed exclusively for occupancy by two or more families living separate from each other and containing two or more dwelling units.

"Dwelling, single-family" means a detached building designed exclusively for occupancy by one family and containing one dwelling unit. Includes family group homes and designated manufactured homes, as defined in FMC 19.06.260 and 19.06.465 respectively, but excludes manufactured homes which are not designated.

"Dwelling unit" means one or more rooms providing complete, independent living facilities for one family, including permanent provisions for living, sleeping, cooking and sanitation. "Ecological functions" or "shoreline functions" means the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem.

"Ecology" refers to the Washington State Department of Ecology." Use of "Ecology" or "Washington State Department of Ecology" is preferred over "DOE" to avoid confusing the Washington State Department of Ecology with the Federal Department of Energy.

"Easement" means land which has specific air, surface or subsurface rights conveyed for use by someone other than the owner of the subject property or to benefit some property other than the subject property.

"Emergency" means 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 the master program. Emergency construction is construed narrowly as that which is necessary to protect property from the elements [WAC 173-27-040(2)(d)].

"Endangered Species Act (ESA)" means the federal legislation intended to protect any fish or wildlife species that is threatened with extinction throughout all or a significant portion of its range. (16 U.S.C. 1531-1544, 87 Stat. 884), as amended.

"Enhancement" means the manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in wetland function(s) and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. Examples are planting vegetation, controlling non-native or invasive species, and modifying site elevations to alter hydroperiods.

"Erosion and deposition" means the removal of soils and the placement of these removed soils elsewhere by the natural forces of wind or water.

"Environmentally sensitive areas" means those areas with especially fragile biophysical characteristics and/or with significant environmental resources as identified by the city or by a scientifically documented inventory accomplished as part of the SEPA/NEPA process or other recognized assessment. Environmentally sensitive areas include, but are not limited to, aquifer recharge areas, wildlife habitat areas, fish breeding, rearing or feeding areas, frequently flooded areas, geologically hazardous areas (e.g., steep, unstable slopes), wetlands (i.e., marshes, bogs, and swamps), streams, tidal lagoons, mud flats, and salt marshes.

"Erosion" means the wearing away of land by the action of natural forces.

"Excavate" means to actively cut, or create a cavity, trench, or depression in the earth's surface, through the removal of earth.

"Exempt" means developments that are those set forth in WAC 173-27-040 and RCW 90.58.030 (3)(e), 90.58.140(9), 90.58.147, 90.58.355, and 90.58.515 which are not required to obtain a substantial development permit but which must otherwise comply with applicable provisions of the act and the local master program.

"Fair market value" of a development is 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.

"Federal Emergency Management Administration (FEMA)" means the branch of the federal government responsible for responding to emergencies such as flood events. FEMA administers the National Flood Insurance Program, develops floodplain maps, and enforces federal regulations pertaining to flood plain management.

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

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

In cases where these guidelines require certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant.

In determining an action's infeasibility, the reviewing agency may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames.

"Fill" means the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land.

"Flood control" means any undertaking for the conveyance, control, and dispersal of floodwaters caused by abnormally high direct precipitation or stream overflow.

"Floodplain" is synonymous with 100-year floodplain, this is that land area susceptible to being inundated by stream-derived waters with a one percent chance of being equaled or exceeded in any given year. The limits of this area are based on flood regulation ordinance maps or a reasonable method that meets the objectives of the Shoreline Management Act.

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

"Flood hazard management" means a program or major project carried out on a single parcel or coordinated on a series of parcels for the primary purpose of preventing or mitigating damage due to flooding. Flood hazard management projects or programs may employ physical and/or regulatory controls.

"FMC" means Fife Municipal Code.

"Forest Practices" means any activity conducted on or directly pertaining to forest land, and the growing, processing or harvesting of timber. These activities are generally reviewed by the Washington State Department of Natural Resources pursuant to RCW 76.09. For the purposes of this shoreline master program, this definition does not include activities such as tree marking and surveying.

"Functions and values" means the beneficial roles served by critical areas including, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, ground water recharge and discharge, erosion control, wave attenuation, protection from hazards, historical and archaeological and aesthetic value protection, educational opportunities, and recreation. These beneficial roles are not listed in order of priority. Critical area functions can be used to help set targets (species composition, structure, etc.) for managed areas, including mitigation sites.

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

"Habitat" means the environment(s) where a plant or animal naturally or normally lives.

"Hearings Board" means the state shorelines hearings board established by the Act.

"HPA" means hydraulic project approval. The permit issued by the Washington State Department of Fish and Wildlife pursuant to the State Hydraulic Code.

"Hydric soil" means soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

"Impervious surface" is natural or manmade material on the ground that does not allow surface water to penetrate into the soil. Impervious surfaces consist of buildings, parking areas, driveways, roads, sidewalks, and any other areas of concrete, asphalt, plastic, etc.

"Industry"/"Industrial use" means uses associated with the production, processing, manufacturing, storing or fabrication of goods and/or materials.

"In-stream structure" means a structure placed by humans within a stream or river waterward of the ordinary high-water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow.

"Landward" means toward dry land.

"Levee" means a large dike or embankment, often having an access road along the top, which is designed as part of a system to protect land from floods.

"Marina" means a specially designed harbor with moorings for pleasure craft and small boats.

"May" means the action is acceptable, provided it conforms to the provisions of this chapter.

"Mining" means the removal of naturally occurring materials from the earth for economic uses pursuant to RCW 78.44 and WAC 332-18.

"Mixed-use projects" means developments that combine water-dependent/water-related uses with water enjoyment uses and/or non-water-oriented uses.

"Multi-family or Multiple-family Dwelling" See Dwelling, Multiple-family.

"Native Plants" or "Native Vegetation" means plants species that naturally arise within a given habitat, and are specific and localized to the particular region.

"Nonconforming development" means a shoreline use or structure which was lawfully constructed or established prior to the effective date of the applicable Shoreline Master Program and which no longer conforms to the applicable shoreline provisions.

"Non-water-oriented uses" describes those uses which have little or no relationship to the shoreline and are not considered priority uses under the Shoreline Management Act. Non-water-oriented use examples include professional offices, automobile sales or, repair shops, mini-storage facilities, multifamily residential development, department stores, and gas stations.

"Normal Appurtenance" See appurtenance.

"Normal maintenance" means 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 within a reasonable period after decay or partial destruction, except where repair involves total replacement which is not common practice, or causes substantial adverse effects to the shoreline resource or environment.

"Open space" means land area allowing view, use or passage that is almost entirely unobstructed by buildings, paved areas, or other man-made structures.

"Ordinary high water mark (OHWM)" means that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, that the soil has a character distinct from that of the abutting upland in respect to vegetation as that condition existed on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by the city or Washington State Department of Ecology; provided, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining saltwater shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water. (See RCW 90.58.030(2)(b) or its successor and WAC 173-22-030 (11) or its successor.)

"Over-water Structure" means a device or structure projecting over the ordinary high water mark, including, but not limited to piers, docks, floats, and moorage or anchor buoys.

"Parking" is the use of land for accommodating cars, trucks, trailers and motor vehicles.

"Parking area" means any area designated and/or used for parking vehicles.

"Pedestrian orientation" pertains to facilities which encourage pedestrian movement.

"Permit" (or Shoreline Permit) means any substantial development, variance or conditional use permit, or revision, or any combination thereof, authorized by the Act, RCW 90.58 (WAC 173-27-030(13)).

"Pier" means a platform extending from a shore over water and supported by piles or pillars, used to secure, protect, and provide access to ships or boats.

"Pollutant" means any substance that has been or may be determined to cause or tend to cause injurious, corrupt, impure, or unclean conditions when discharged to surface water, air, ground, sanitary sewer system, or storm drainage system.

"Protective bulkhead" means a structure used to protect lands from erosion at or near the ordinary high water mark, but not for the purpose of creating additional upland [WAC 173-27-040(2)(c)].

"Provisions" means policies, regulations, standards, guideline criteria or shoreline designations.

"Public access" is the ability of the 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. See also WAC 173-26-221(4).

"Public park" means a natural or landscaped area, provided by a unit of government, to meet the active or passive recreational needs of people.

"Public use area" means a portion of private property that is dedicated to public use and which contains one or more of the following elements: benches, tables, lawns, gardens, piers, exercise or play equipment or similar improvements or features. These elements are to provide the public with recreational opportunities in addition to the right to traverse or stand in this area.

"Public utility" means a private business organization such as a public service corporation, including physical plant facilities, performing some public service and subject to special governmental regulations, or a governmental agency performing similar public services, the services by either of which are paid for directly by the recipients thereof. Such services include, but are not limited to, water supply, electric power, telephone, cablevision, gas and transportation for persons and freight.

"RCW" means Revised Code of Washington.

"Recreation" means refreshment of body and mind through forms of play, sports, relaxation, amusement or contemplation.

"Recreational development" provides opportunities for play, sports, relaxation, amusement, or contemplation including both passive and active uses within both public and commercial developments.

"Recreational development, active" means activities that generally require the use of constructed facilities such as playgrounds, athletic fields, and hand launch boat ramps.

"Recreational development, passive" means activities that require a minimum of facilities such as swimming, picnicking, hiking, canoeing and fishing.

"Residential development" means construction or alteration of one or more buildings, structures, or portions thereof which are designed for and used to provide a place of abode for human beings. This includes single-family residences, duplexes, multi-family dwellings, apartments, condominiums, townhomes, mobile home parks, group housing, as well as normal appurtenances. Residential development also includes land divisions, including short plats, of residentially zoned land. It also includes all modifications to land and vegetation associated with construction, preparation, or maintenance of residential structures and/or

normal appurtenances. Residential development shall not include hotels or motels or other accommodation facilities.

"Restore," "restoration" or "ecological restoration" means 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.

"Revegetation" means the re-planting of vegetation to repair and rebuild any vegetative communities that have been disturbed during the construction process. This vegetation shall be regularly maintained to ensure its survival.

"Revetment" means a sloping structure built to protect a scarp, embankment, or shore against erosion by waves or currents. Usually built of riprap, with a heavy armor layer, one or more filter layers of smaller rock or filter cloth, and "toe" protection. A revetment slopes shoreward and has a rough or jagged facing. Its sloping face absorbs wave energy and differentiates it from a bulkhead, which is a vertical structure.

"Riparian area" means the interface between upland area and a waterbody, such as a river or creek.

"Riprap" means a layer, facing, or protective mound of stones placed to prevent erosion, scouring, or sloughing of a structure or embankment.

"Salmon and steelhead habitats" means gravel bottomed streams, creeks, and rivers used for spawning; streams, creeks, rivers, side channels, and wetlands used for rearing, feeding, and cover and refuge from predators and high water.

"Sediment" means the fine-grained material deposited by water or wind.

"Setback" means the required distance measured horizontally from the ordinary high water mark to any allowed development. The setback shall be unoccupied by structures or intrusions except when specifically permitted by this program.

"Shall" indicates a mandate; the particular action must be done.

"Shorelands" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the Washington State Department of Ecology.

"Shoreline conditional use" means a use or development which is specifically listed by this master program as a conditional use within a particular shoreline designation.

"Shoreline designation(s)" means the category of shoreline established by the City of Fife Shoreline Master Program to provide a uniform basis for applying policies and use regulations within distinctively different shoreline areas. This classification system shall was based on the existing use pattern, the biological and physical character of the shoreline, and the goals and aspirations of the community as expressed through comprehensive plans as well as the Shoreline Management Act RCW 90.58 and the Master Program Guidelines, WAC 173-26. For purposes of this Program "shoreline designation" is used in place of the term "shoreline environment designation" referred to in WAC 173-26.

"Shoreline Functions" see ecological functions.

"Shoreline Management Act" means the Shoreline Management Act of 1971, RCW 90.58, as amended.

"Shoreline Master Program" means the comprehensive shoreline plan for the City of Fife, and the use regulations, together with maps, diagrams, charts or other descriptive material and text, a statement of desired goals and standards developed in accordance with the policies enunciated in RCW 90.58.

"Shoreline modification" means those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

"Shoreline permit" means a substantial development, conditional use, revision, variance, or any combination thereof or its successor.

"Shoreline stabilization and flood protection" means actions taken to reduce adverse impacts caused by current, flood, wake, or wave action. These actions include all structural and nonstructural means to reduce impacts due to flooding, erosion, and accretion. Examples of specific structural and nonstructural shoreline stabilization activities include revetments, vegetation planting, riprap, installation and anchoring of large wood debris, bulkheads, and bank stabilization. Enlargement of an existing shoreline stabilization measure shall be considered a new shoreline stabilization measure.

"Shoreline substantial development permit" means the permit required for all substantial developments as defined in RCW 90.58.030(3)(e).

"Shoreline variance" means a procedure to grant relief from the specific bulk, dimensional or performance standards set forth in this master program, and not a means to allow a use not otherwise permitted within a shoreline designation. "Shorelines" means 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.

"Shorelines hearings board" means a six-member, quasi-judicial body, which hears appeals by any aggrieved party on the issuance of a shoreline permit.

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

"Shorelines of statewide significance" means shorelines of the state that meet the criteria for shorelines of statewide significance contained in RCW 90.58.030(2)(e).

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

"Sign" means any commercial or noncommercial communication device, structure, or fixture that is intended to aid an establishment in promoting the sale of a product, good or service using graphics, symbols, or written copy (including the name of a business). Directional and incidental signs are considered signs for the purpose of this Program.

"Solid waste" means solid and semi-solid wastes, including garbage, rubbish, ashes, industrial wastes, wood wastes, and sort yard wastes associated with commercial logging activities, swill, demolition and construction wastes, abandoned vehicles and parts of vehicles, household appliances, and other discarded commodities. Solid waste does not include wastewater, dredge material, agricultural, or other commercial logging wastes not specifically listed above. See "Landfill" and "Dredged material disposal".

"Stream" means a naturally occurring body of periodic or continuously flowing water that is generally located in a channel.

"Structure" means 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.

"Substantial development" shall mean any development of which the total cost or fair market value exceeds five thousand seven hundred eighteen 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 definition, which in turn is based upon the text found in RCW 90.58.030(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. For the purposes of this definition, "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.

"Threatened or endangered species" means native species that are listed in rule by the Washington State Department of Fish and Wildlife as threatened or endangered, or that are proposed to be listed as threatened or endangered or that are listed as threatened or endangered under the federal Endangered Species Act.

"Transportation facilities" means those structures and developments that aid in land and water surface movement of people, goods, and services. Within the City of Fife, transportation facilities include roads and highways, bridges and causeways, railroad facilities, and other related facilities. Bikeways and trails are considered recreational uses.

"Upland" means the area above and landward of the ordinary high water mark, excluding wetlands.

"Utilities" are services that produce, transmit, carry, store, process or dispose of electric power, petroleum, natural gas, water, sewage, communications, etc.

"WAC" means Washington Administrative Code.

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

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

"Water-oriented use" means a use that is a water-dependent, water-related, or waterenjoyment use.

"Water-related use" means a use that is not intrinsically dependent on a waterfront location but whose operation cannot occur economically without a waterfront location.

"Wetland" or "wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal

circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands. When required, wetlands shall be categorized utilizing the *Washington State Wetland Rating System for Western Washington – Revised*. Washington State Department of (Ecology Publication # 04-06-025, 2004).

## **Unlisted Words or Phrases**

Any word or phrase not defined in Section 4 that is called into question when administering this program shall be defined utilizing RCW 90.58 Shoreline Management Act of 1971 and its implementing rules.

Secondary definition sources may be obtained from one of the following sources:

- Fife Municipal Code.
- Any City resolution, ordinance, policy, or regulation.
- The most applicable statute or regulation from the state of Washington.
- Legal definitions generated from case law or provided within a law dictionary.
- The common dictionary.

# 5. SHORELINE MASTER PROGRAM ELEMENTS

## A. Economic Development Element

- 1. **Purpose:** Provide an area for the location and design of industries, industrial projects of statewide significance, transportation facilities, port facilities, tourist facilities, commerce and other developments that are particularly dependent on their location on or use of the Shorelines of the State [RCW 90.58.100(2)(a)].
- 2. Goal: Promote economic growth by encouraging economic activities that will result in minimum disruption to the quality of the shoreline environment. Although water-dependent, water-oriented and water enjoyment uses are encouraged within the City, the average water flows within the Hylebos, the varying jurisdictions along the Puyallup as well as the situation of the levee and associated roadway along the Puyallup generally preclude water dependent uses as well as the need for water oriented business uses. However, water enjoyment uses, such as viewing and other recreational uses and/or mixed use developments that provide for water enjoyment shall be encouraged. In addition, it is a goal of the City to maintain the flood protection provided by the levee within the

shoreline area of the Puyallup River to ensure that economic growth is not threatened by flood events.

# 3. General Policies:

- a. Maintain current uses that have limited impacts upon the ecological functions and values of shoreline areas, while providing for new environmentally sensitive development.
- b. Provide incentives for public/private partnerships designed to enhance property values and provide public amenities.
- c. Review proposed economic use of the shoreline for consistency with the Comprehensive Plan and the Program.

## **B. Public Access Element**

- 1. **Purpose:** Provide public access to publicly owned shoreline areas [RCW 90.58.100(2)(b)].
- 2. **Goal:** To provide for public access to publicly owned shoreline areas, except where deemed inappropriate due to safety hazards, inherent security problems, environmental impacts, conflicts with adjacent uses, or where public access may reduce the effectiveness of flood storage or levee protections.

## 3. General Policies:

- a. Where appropriate, encourage the development of public access to all shorelines of statewide significance.
- b. Expand the shoreline public access opportunities consistent with the character, functions, and values of the shoreline and the uses contemplated in the Fife Comprehensive Plan.
- c. Minimize shoreline public access to fragile shoreline areas.
- d. Protect and preserve the natural features of the shoreline within public access design.
- e. Minimize conflicts of public access areas and trails with water dependent uses along the shoreline, including levee function and flood hazard protection.
- f. Consider public access in the review and approval of all development projects.
- g. Respect private property rights in the design and planning of public access areas ensuring that privacy and security is not unduly infringed upon.
- h. Limit the right to enter upon or cross private property as public access to shorelines, with the exception of dedicated public easements.
- i. Limit the uses allowed on publicly owned shorelines to waterdependent, public recreation uses and protected open space.
- j. Ensure that development uses and activities on or near the shoreline do not impair or detract from the public's visual or physical access to the water.
- k. Ensure that development uses and activities on or near the shoreline, such as public access, do not impair flood hazard protection.
- 1. Encourage preservation and enhancement of the public's visual access to the City of Fife's shoreline areas.
- m. Purchase for public use shoreline areas that hold unique value for public enjoyment, and that provide public access areas of sufficient size to allow passage and allow the visitor to enjoy the setting.

#### 4. Specific Policies:

#### Location

- a. Acquire property to provide public access to the shoreline.
- b. Connect shoreline access to other public areas or public thoroughfares.
- c. Identify, develop and connect public access points to the shoreline providing for greater connectivity.

#### Design

- d. Ensure that the physically handicapped are not precluded from enjoying unfettered access to the City's shorelines.
- e. Ensure that public access and facilities are safe, durable, and require a low level of operation and maintenance.
- f. Construct public access improvements with environmentally friendly materials and support healthy natural processes, whenever financially feasible and possible.
- g. Utilize materials for pedestrian pathways and other pedestrian amenities that are contextual to the surrounding character of the site.
- h. Avoid excess removal of shoreline vegetation.
- i. Incorporate educational opportunities along the shoreline through the identification of unique natural features.
- j. Use signs appropriate to the character of the area to indicate public access.
- k. Design public access to provide for public safety and to minimize potential impacts to private property and individual privacy. This may include providing a physical separation to reinforce the distinction between public and private space, achieved by providing adequate space, through screening with landscape planting or fences, or other means.

## Views

1. Maintain and enhance visual access to the shoreline and existing view shed corridors.

- m. Ensure that parking facilities do not detrimentally impact views to the shoreline.
- n. Provide informal seating areas at identified public vistas.

## C. Recreation Element

- 1. **Purpose:** Preserve and expand recreational opportunities, including but not limited to parks, tidelands, beaches, and recreational areas [RCW 90.58.100(2)(c)].
- 2. **Goal:** Develop public and private recreation opportunities that are compatible with adjacent uses and without adversely impacting the ecological functions and values of the shoreline.

# 3. General Policies:

- a. Assist the City and State in acquiring shoreline areas appropriate for public recreation.
- b. Provide for both active and passive recreational needs in the development of recreational areas.
- c. Prohibit recreational uses and facilities that threaten the functions and values of the shoreline.
- d. Continue to work with Pierce County, the City of Tacoma, and the Puyallup tribe to encourage preservation and expansion of recreational activities for the public on the Puyallup River.

# 4. Specific Policies:

## Trails and Open Space

- a. Encourage and accommodate for multiple functions within the open space and trails system such as stormwater management, viewpoints, wildlife habitat and passive recreation.
- b. Recognize and expand the inventory of trails within the City.
- c. Provide educational opportunities, emphasizing the natural history of the shorelines.
- d. Ensure that all new trails and interpretive signage does not interfere with the existing wildlife habitat of the area.
- e. Develop and adopt standards regarding trail uses that minimize conflicts between different types of trail users.

f. Prohibit the use of off-road vehicles on trails within shorelines jurisdiction.

# **D.** Circulation Element

- 1. **Purpose:** Provide for multi-modal circulation opportunities by planning for the general location and extent of existing and proposed major thoroughfares, transportation routes, and other public utilities and facilities, all consistent with the Shoreline Use Element [RCW 90.58.100(2)(d)].
- 2. **Goal:** Provide safe and adequate vehicular circulation systems to shorelines where routes will have the least possible adverse effect on unique or fragile shoreline features and existing ecological systems, while contributing to the functional and visual enhancement of the system.

# 3. General Policies:

- a. Connect the City's shorelines and upland areas through an efficient and safe multi-modal circulation system.
- b. Accommodate pedestrian, bicycle, and vehicular traffic through an integrated transportation system.
- c. Minimize the impacts of the circulation system to the natural features of the shoreline.
- d. Locate parking facilities as far upland from the shoreline as feasible.
- e. Minimize the impacts of transportation and parking facilities on the shoreline ecology.
- f. Utilize shared parking facilities where possible to minimize impervious surfaces within shoreline areas.

## E. Shoreline Use Element

- 1. **Purpose:** Identify areas associated with the general distribution, location and extent of the use on shorelines and adjacent land areas for housing, business, industry, transportation, recreation, education, and other categories of public and private uses of the land [RCW 90.58.100(2)(e)].
- 2. **Goal:** Ensure that land use patterns will locate activity and development in areas of the shoreline that will be compatible with adjacent uses and will be sensitive to existing shoreline environments, habitat, and ecological systems.

## 3. General Policies:

- a. Identify future demand for shoreline space and potential use conflicts based on characterization of current shoreline use patterns and projected trends.
- b. Ensure that all new development in shoreline areas is consistent with the City of Fife Comprehensive Plan, Zoning Code, the Shoreline Management Act, and the Washington State Growth Management Act.
- c. Manage preferred shoreline uses to maintain or enhance the ecological functions and values of shoreline areas and the character of the zones in which they are located.
- d. Ensure that uses allowed on upland areas result in no net loss to the functions and values of the shoreline ecology.
- e. Encourage the restoration of shoreline areas that have been degraded or diminished in ecological value and function as a result of past use. On the Puyallup River, such restoration should not compromise the function of the levee to perform its flood prevention purpose.
- f. Ensure that building design, height, bulk, and scale requirements respond to the surrounding character of the district.
- g. Encourage signage, lighting and landscaping that are appropriate to the context of the surrounding area.
- h. Avoid uses that would prevent the establishment of the preferred shoreline uses as established by the Shoreline Management Act.
- i. Encourage sustainable residential development techniques.
- j. Discourage residential clearing activities that threaten the stability of the shoreline ecology.
- k. Perform in-water construction, development, or activity as approved by the City of Fife with input from interested state agencies.
- 1. Developments and redevelopments should prevent, control or otherwise treat stormwater consistent with state and local standards.

## **F.** Conservation Element

- 1. **Purpose:** Preserve natural resources, including but not limited to scenic vistas, water quality, aesthetics, and areas for fisheries and wildlife protection [RCW 90.58.100(2)(f)].
- 2. Goal: Utilizing the best available information, create development regulations, design standards, and best management practices that will ensure no net loss as well as the long-term enhancement of unique shoreline features, natural resources, and fish and wildlife habitat.

# 3. General Policies:

- a. Prevent interference with the natural dynamic processes of shoreline formation and change, except for compelling reasons of public necessity or benefit. Preserving the functional integrity of the levee is a compelling reason of public benefit.
- b. Achieve no-net-loss of ecological function relevant to the baseline established by the Inventory and Characterization document (Appendix C).
- c. Protect and enhance wildlife habitats while providing areas for residents to view and learn more about their natural surroundings.
- d. Protect fish and wildlife habitat and water quality through the use of low impact development techniques.
- e. Protect, restore, and enhance shoreline processes, functions, and critical habitats by utilizing both regulatory and non-regulatory methods such as native vegetation shoreline setbacks, city purchase of key properties, development regulations, and incentive and education programs to encourage site design and use that promotes the area's ecology.
- f. Require discharges within shorelines jurisdiction shall meet or exceed the treatment standards of the City of Fife's surface water manual.
- g. Enhance degraded shorelines.
- h. Require to control erosion and stormwater runoff to minimize degradation of the shoreline through the use of temporary erosion and sedimentation control during construction and permanent erosion and sedimentation control after site stabilization.
- i. Require the minimization of noise and glare impacts to aquatic and upland habitats.

- j. Work with adjacent jurisdictions to develop regional policies for protecting shoreline ecological functions while also allowing for development.
- k. Require that all shoreline development located along Hylebos Creek avoid or minimize the need for shoreline stabilization measures and flood protection works, such as bulkheads, revetments, dikes, levees, or substantial site re-grading. Where measures and works are demonstrated to be necessary, nonstructural, natural techniques shall be the preferred design option unless demonstrated to be infeasible or where other alternatives will provide less impact to the shoreline environment.
- 1. Require that all shoreline development be located, designed, constructed, operated, and managed in such a way as to minimize interference with natural shoreline processes, such as water circulation and erosion.

## 4. Specific Policies:

## Earth

- a. Carefully evaluate developments that alter the topography of the shoreline to ensure no increase in the frequency or severity of downstream flooding.
- b. Prohibit alterations to the topography of shoreline areas that would exacerbate erosion.

## Water

- c. Require shoreline development and activity to minimize impacts on hydrogeologic processes, surface water drainage, and groundwater recharge.
- d. Protect shorelines from all sources of pollution, including, but not limited to sedimentation and siltation, petrochemical use and spillage, and storage of wastes and spoils.
- e. Consider alternatives to the use of chemical fertilizers, herbicides, and pesticides as a preferred Best Management Practice (BMP) for lawns and other vegetation maintained within the shoreline.

## Plants and Animals

f. Require projects to avoid the removal of trees in shorelines, wherever practicable and to minimize the removal of other woody vegetation.

g. Require mitigation for the loss of fish and wildlife resources, natural systems, including riparian vegetation, wetlands, and sensitive areas.

#### Noise

- h. Prevent noise levels from interfering with the quiet enjoyment of the shoreline.
- i. Consider ambient noise levels when evaluating a shoreline permit application. Shoreline developments that would increase noise levels to the extent that the natural character of the shoreline would be disrupted shall be prohibited.

### G. Historic, Cultural, Scientific, and Educational Element

- 1. **Purpose:** Protection and restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values [RCW 90.58.100(2)(g)].
- 2. Goal: Ensure the recognition, protection, preservation and restoration of shoreline areas and create a unique "sense of place" for public facilities, recreation areas in the shoreline jurisdiction.

# 3. General Policies:

- a. Ensure the Puyallup Tribe of Indians and the Department of Archaeology and Historic Preservation have the opportunity to review projects with the potential to affect archaeological, historic and cultural sites or buildings in shoreline areas.
- b. Encourage educational projects and programs that foster a greater appreciation of the importance of shoreline management and environmental conservation.
- c. Require that developers and property owners immediately stop work and notify the City of Fife, State Office of Archaeology and Historic Preservation, and Puyallup Tribe of Indians if archaeological resources are uncovered during excavation.
- d. Require that permits issued in areas documented to contain archaeological resources require a site inspection or evaluation by a professional archaeologist in coordination with the City of Fife, State Office of Archaeology and Historic Preservation, and Puyallup Tribe of Indians.
- e. Consider Areas of Historic, Cultural, Scientific and Educational importance for utilization within recreation and public park planning.

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

# H. Flood Prevention Element

- 1. **Purpose:** Recognize statewide interests over individual interests in the prevention and minimization of flood damages [RCW 90.58.100(2)(h)].
- 2. Goal: Protect the City of Fife from losses and damage created by flooding.

# 3. General Policies:

- a. Seek regional solutions to flooding problems through coordinated planning with federal, state, and county agencies, other appropriate interests, and the public.
- b. Ensure that flood hazard protection projects having a positive environmental benefit that emphasize long-term solutions over short term solutions.
- c. Undertake flood management planning in a coordinated manner among affected property owners and public agencies.
- d. Ensure that the removal of gravel for flood control in the Puyallup River and the Hylebos Creek is permitted only if biological and/ or geomorphological studies demonstrate there will be a long-term benefit to flood hazard reduction and that ecological functions will not be detrimentally affected. The extraction of gravel must also be part of a comprehensive flood management solution.
- e. Give preference to non-structural flood control solutions over structural flood control devices along Hylebos Creek.
- f. Analyze non-structural surface water management measures, before employing structural surface water management structures in shoreline areas.
- g. Where new structural public flood hazard reduction measures, such as levees, are necessary, require the dedication and improvement of public access pathways unless public access improvements would cause unavoidable health or safety hazards to the public, inherent and unavoidable security problems, unacceptable and immitigable significant ecological impacts, unavoidable conflict with the proposed use, or a cost that is disproportionate and unreasonable to the total long-term cost of the development.

h. Balance the protection and preservation of the aquatic environment and the habitats it provides with the City's responsibility to ensure protection of life and property from damage caused by flooding.

#### 6. SHORELINE DESIGNATIONS

#### A. Introduction

Through the Shoreline Management Act of 1971 (RCW 90.58), the City of Fife has been given the authority to manage its shorelines through this Shoreline Master Program. The shoreline designations herein are based on the guidelines, WAC 173-26, issued by the Washington State Department of Ecology as adapted to conditions specific to Fife's shorelines. For purposes of this Program "shoreline designation" is used in place of the term "shoreline environment designation" referred to in WAC 173-26.

#### **B.** Summary of Shoreline Designations

The City of Fife's shoreline classification system consists of five shoreline designations. Each shoreline designation has specific criteria, such as amount of intact shoreline function and existing development and type of land use, that are used to assign a designation to a corresponding area of shoreline. Through the use of these shoreline designations, the City of Fife intends to assure that existing shoreline ecological functions are maintained as identified in the Inventory and Characterization document. Such designations should also be consistent with policies for restoration of degraded shorelines. The five shoreline designations are:

- Conservancy;
- Shoreline Residential;
- Urban;
- Levee; and
- Aquatic.

# C. Official Shoreline Map

The Official Shoreline Map shall be housed by the City of Fife Community Development Department. Additionally, a map of the shoreline designations is included on the Shorelines Designation Map within this document (see Appendix A: Shorelines Designation Map). The shoreline jurisdiction shall be defined as the floodway plus 200 feet and shall not include critical area buffers located outside of the shoreline jurisdiction as described in RCW 90.58.030(2)(d). The critical area buffers located outside of the shoreline jurisdiction shall be addressed pursuant to the requirements of FMC Title 17 – Environmental Protection.

In the event that there is an error in the preparation of the Shorelines Designation Map, the City of Fife will rely upon common boundary descriptions and the criteria contained in RCW 90.58.030(2) and WAC 173-22 pertaining to determinations of shorelands.

## **D.** Written Descriptions

A map depicting the City of Fife's shoreline designations is included in Appendix A: Figure 2. The Shoreline Designations Map overlaid to the existing land uses is included as Appendix A: Figure 3. The purpose of these maps is to identify the shoreline designations and is based upon the best mapping data available at the time of this update. As such, this map may not necessarily identify or depict the lateral extent of the shoreline jurisdiction or all of the associated wetlands. The extent of the shoreline jurisdiction shall be determined on a case-by-case basis based upon the location of the Ordinary High Water Mark, floodway, and presence of associated wetlands.

- 1. **Conservancy:** The west bank of the Hylebos Creek from the northern City limit to 4th Street East located in Northwest Quarter of Section 6, Township 20 North, Range 4 East; Both the east and west banks of Hylebos Creek form 4th Street East south to the perpendicular intersection of 62nd Avenue East located in Northwest Quarter of Section 6, Township 20 North, Range 4 East, WM; The small portion of the west side of the Hylebos from 62nd Avenue East to 10th Street East also located in Northwest Quarter of Section 6, Township 20 North, Range 4 East, WM; The entire east bank of the Hylebos within the city limits; and The Sha-Dadx and Oxbow wetlands associated with the Puyallup River.<sup>1</sup>
- 2. Shoreline Residential: That portion of the west side of the Hylebos Creek from 10th Street East (northern boundary) to the north side of 12th Street East located in Northwest Quarter of Section 6, Township 20 North, Range 4 East, WM
- 3. Urban: Generally, 200 feet landward of the west side of Hylebos Creek from the south side of 12th Street East down to the southeast boundary of the City, just north of Pacific Highway. In addition to the small portion of the south side of Hylebos Creek just north of Interstate-5 to the southeastern boundary of the City also located in Northwest Quarter of Section 6, Township 20 North, Range 4 East, WM.
- 4. Levee: Generally, 200 feet landward from the ordinary high water mark along the north side of the Puyallup River from west City Limits at the intersection of 20th Street East in Northeast Quarter of Section 11, Township 20 North, Range 3 East, WM to the eastern City limits located

<sup>&</sup>lt;sup>1</sup> The hydrologic connections of both the Oxbow and Sha-Dadx wetlands as well as the entirety of the Sha-Dadx wetland are under the jurisdiction of the Puyallup Tribe, including any buffers that the tribe may prescribe. Although no development activities are anticipated at this time, the conservancy designation has been provided under this SMP update to address any non-tribal jurisdiction actions that may be taken in this area that will be under review by the City.

in Northeast Quarter of Section 20, Township 20 North, Range 4 East, WM.

5. Aquatic: The area waterward between the ordinary high water marks of Hylebos Creek. Note: the area waterward of the ordinary high water mark of the Puyallup River would also be designated aquatic. However, this area is owned by the Puyallup Indian Tribe and is therefore subject to the designation processes of that jurisdiction.

# E. Interpretation of Shoreline Designation Boundaries

- 1. Shoreline Designation Boundaries shall be identified primarily by Appendix A: Figure 2 of this document and secondarily by the written descriptions provided in Chapter 5 (B) of this document.
- 2. Shoreline Designation Boundaries shall be construed as following parcel, tract, and/or section lines as applicable.
- **3.** Shoreline Designation Boundaries which follow roads shall be respectively considered to follow centerlines.
- 4. All shoreline areas waterward of the OHWM shall be designated aquatic.
- 5. Upland shoreline designations shall apply to the shorelands.
- 6. As noted in Chapter 5 (A) of this document, all areas that are not mapped shall be automatically designated Conservancy consistent with WAC 173-26-211(2)(e) until that time in which the City of Fife can fully evaluate the shorelands and amend its plan. Map changes must be approved by the City of Fife and the Washington State Department of Ecology.

## F. Conservancy

- 1. **Purpose:** The Conservancy shoreline designation consists of areas that have been modified from their natural state, but have retained significant ecological functions.
- 2. **Designation Criteria:** The Conservancy designation is applied to shoreline areas that have been modified from their natural state, but have retained significant ecological functions. These lands often have historic or culturally significant resources that require preservation respectful of the modified natural environment. If, due to annexation, any new shoreline areas become part of the City they will automatically be designated as Conservancy until the property undergoes the appropriate planning process.

The shorelines of the Conservancy designation contain the following characteristics:

- a. The shoreline retains important ecological functions, even though partially developed;
- b. The shoreline has potential for ecological restoration;
- c. The shoreline has the potential for development that is compatible with ecological restoration;
- d. Areas considered critical wildlife habitat because they are currently documented as providing one of the following functions:
  - 1. Providing food, water or cover and protection for any rare, endangered or threatened species, or for significant populations of flora or fauna during critical stages of their life cycle; or
  - 2. Serving as a seasonal habitat for concentrations of native fish and wildlife (e.g., migration routes, breeding sites, or spawning sites).
- e. Areas possessing severe development limitations, due to the presence of critical environmental features including:
  - 1. Erosion hazard areas;
  - 2. Wetlands; and/or
  - 3. Frequently flooded areas.

- **3. Management policies:** The following policies generally characterize the management goals of the Conservancy designation.
  - a. Prohibit developments and uses that would degrade or deplete the biological resources of the area.
  - b. Allow uses that preserve the natural character of the area or promote preservation of open space, floodplain or sensitive lands.
  - c. Allow uses that result in restoration of ecological functions.
  - d. Allow recreation uses such as wildlife viewing trails and passive recreational parks, provided such uses result in no net loss of ecological functions or values.
  - e. Encourage conservation and/or restoration projects, such as conserving, enhancing, or re-creating ecological functions in those opportunity areas referenced in the Inventory and Characterization (Appendix C) and Restoration Plan (Appendix D) documents.
  - f. Discourage roads, utility corridors, and parking areas in areas designated Conservancy.
  - g. Allow low-intensity scientific, historical, cultural, educational research, and water-oriented recreational access uses; provided the proposal results in no net loss of ecological functions.
  - h. Develop standards to ensure that development does not result in a net loss of shoreline ecological functions or further degrade other shoreline values. Standards should be established for:
    - 1. Shoreline stabilization measures;
    - 2. Vegetation conservation;
    - 3. Water quality; and
    - 4. Shoreline modifications.
  - i. Encourage efforts during development and redevelopment to restore "properly functioning conditions" for species listed as threatened and endangered under federal and state regulations and other ecological functions.
  - j. Encourage the use of soft bank shoreline stabilization techniques over engineered, hardscape stabilization measures.

- k. Allow the construction of structural shoreline stabilization and flood control works only when mitigation is applied and where there is a documented need to protect an existing structure or ecological functions.
- 1. Require that surface water management facilities be designed and constructed in a manner that ensures that all known contaminants are treated before entering groundwater or drainage to shoreline areas.
- m. Ensure that new uses result in no net loss in the ecological functions and values of the shoreline.
- n. Prohibit shoreline modifications requiring significant vegetation removal that would reduce the capability of vegetation to perform normal ecological functions.
- o. Allow discharge of surface water to wetlands which are hydrologically connected to shoreline areas only if designated Category III or IV wetlands.
- p. Require project consistency with the City of Fife Stormwater program and stormwater manual.
- q. Provide for public access whenever feasible to do so in conjunction with ecological restoration opportunities.
- r. Require public access for the development or redevelopment of all non water-dependent development except where deemed inappropriate due to safety hazards, inherent security problems, environmental impacts, or conflicts with adjacent uses.
- s. Preserve and protect cultural and historical resources.
- t. Allow low-intensity recreational uses that are designed and constructed in a manner that respects the limiting environmental condition and does not degrade or deplete resources;
- u. Protect those shoreline areas that possess unique or fragile features which are relatively free of human influence or that include intact or minimally degraded shoreline functions;

## 4. **Regulations**

- a. Use Regulations
  - 1. Permitted, Conditional and Prohibited uses are identified within Section 8 - Shoreline Use Matrix. All shoreline development and use shall comply with Section 7 – General Regulations and Section 9 Use Specific Regulations, as applicable.

Permitted uses shall result in no net loss of shoreline ecological functions and shall not degrade other shoreline values.

- 2. Prohibited Uses: Uses not identified as permitted or conditional are prohibited from being located within the Conservancy designation; unless the Director deems the use as substantially similar to a permitted, conditional, or accessory use. The Director shall consult with the Department of Ecology prior to issuing formal written interpretations consistent with the purpose and intent of RCW 90.58 and the applicable guidelines.
- b. Bulk and Dimensional Regulations

Unless the presence of critical areas would require a more restrictive shoreline setback.

Maximum Height:	30 feet or 2 stories,	
	whichever is less	
Minimum Shoreline Setback as	100 feet (Water Dependent	
measured landward from the	Uses, including public	
Ordinary High Water Mark)*:	access - 0 feet)	
Maximum Impervious Surface:	25 percent	

\* unless the presence of critical areas would require a more restrictive shoreline setback.

# G. Shoreline Residential

- 1. **Purpose:** The purpose of the Shoreline Residential designation is to accommodate residential land uses and provide protection and restoration of ecological functions.
- 2. **Designation Criteria:** The Shoreline Residential designation is applied to shoreline areas that are characterized with a pattern of predominantly single-family or multi-family residential development or are planned and platted for residential uses. These areas contain the following characteristics:

- a. The shoreline contains or is proposed for residential development; and
- b. The shoreline does not contain significant environmental hazards or sensitive areas.
- 3. **Management policies:** The following policies generally characterize the management goals of the Shoreline Residential designation.
  - a. Provide priority use to single-family residences only when developed in a manner consistent with control of pollution and prevention of damage to the natural environment.
  - b. Require multi-family, subdivisions of four lots or greater, and recreational developments to provide public access and joint use for community recreational facilities.
  - c. Require surface water management facilities to be designed and constructed in a manner ensuring that contaminants are treated before entering groundwater.
  - d. Require new development to be located and designed so that future shoreline stabilization is not necessary.
  - e. Ensure that access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
  - v. Encourage conservation and/or restoration projects, such as conserving, enhancing, or re-creating ecological functions in those opportunity areas referenced in the Inventory and Characterization (Appendix C) and Restoration Plan (Appendix D) documents.

### 4. **Regulations**

- a. Use Regulations
  - 1. Permitted, Conditional and Prohibited uses are identified within Section 8 - Shoreline Use Matrix. All shoreline development and use shall comply with Section 7 – General Regulations and Section 9 Use Specific Regulations, as applicable.

Permitted uses shall result in no net loss of shoreline ecological functions and shall not degrade other shoreline values.

- 2. Prohibited Uses: Uses not identified as permitted or conditional are prohibited from being located within the Shoreline Residential designation; unless the Director deems the use as substantially similar to a permitted, conditional, or accessory use. The Director shall consult with the Department of Ecology prior to issuing formal written interpretations consistent with the purpose and intent of RCW 90.58 and the applicable guidelines.
- b. Bulk and Dimensional Regulations

Maximum Height:	30 feet or 2 stories,	
	whichever is less	
Minimum Shoreline Setback (as	50 feet (Water dependent	
measured landward from the	uses, including public access	
Ordinary High Water Mark)*:	-0 feet)	
Maximum Impervious Surface:	30 percent	

\* unless the presence of critical areas would require a more restrictive shoreline setback.

# H. Urban

1. **Purpose:** The purpose of the Urban designation is to accommodate high intensity commercial, industrial, and residential land uses and provide protection and restoration of ecological functions.

Due to the position of the Urban designation along un-navigable waters of Hylebos Creek, the City of Fife is precluded from having water dependent uses within this designation. As such, the City uses this program to promote water enjoyment uses where feasible, but also allows for nonwater related uses within it shoreline designations to provide for development as required within the Growth Management Act.

- 2. **Designation Criteria:** The Urban designation is applied to shorelines that exhibit the following characteristics:
  - a. Areas that can support high-intensity uses without degradation to existing shoreline function;
  - b. Shorelines used or designated by zoning for high intensity commercial, industrial, or multi-family development; and
  - c. Shorelines that have few biophysical limitations to development such as floodplains, steep slopes, or landslide hazard areas.
- 3. **Management policies:** The following policies generally characterize the management goals of the Urban designation.

- a. Promote priority use on sites with physical access to the shoreline in the following order of preference:
  - 1. Water-dependent
  - 2. Water-related
  - 3. Water-enjoyment
- b. Allow the development of new non-water oriented uses on sites where the applicant can demonstrate that the use will not conflict with or limit opportunities for water-oriented uses or where there is no direct physical access to the shoreline.
- c. Ensure optimum use of shorelines that are either presently urbanized or planned for urbanization;
- d. Manage the shoreland environment for a variety of urban uses;
- e. Assure compatibility between upland and aquatic uses by requiring sensitive site design for the upland-aquatic interface;
- f. Provide visual and physical public access to shoreline areas;
- g. Encourage conservation and/or restoration projects, such as conserving, enhancing, or re-creating ecological functions in those opportunity areas referenced in the Inventory and Characterization (Appendix C) and Restoration Plan (Appendix D) documents.

#### 4. **Regulations**

- a. Use Regulations:
  - Permitted, Conditional and Prohibited uses are identified within Section 8 – Shoreline Use Matrix table. All shoreline development and use shall comply with Section 7 – General Regulations and Section 9 - Use Specific Regulations as applicable.

Permitted uses shall result in no net loss of shoreline ecological functions and shall not degrade other shoreline values.

2. Prohibited Uses: Uses not identified as permitted or conditional are prohibited from being located within the Urban designation; unless the Director deems the use as substantially similar to a permitted, conditional, or accessory use. The Director shall consult with the Department of Ecology prior to issuing formal written

interpretations consistent with the purpose and intent of RCW90.58 and the applicable guidelines.

b. Bulk and Dimensional Regulations

Maximum Height:	30 feet or 2 stories, whichever is less	
Minimum Shoreline Setback as	50 feet (Water Dependent	
measured landward from the	Uses, including public access	
Ordinary High Water Mark)*:	-0 feet)	
Maximum Impervious Surface:	45 percent	

\* unless the presence of critical areas would require a more restrictive shoreline setback.

### I. Levee

1. **Purpose:** The purpose of the Levee designation is to ensure the continued existence of the levee structure along the Puyallup River for its important flood management principles and to allow for a mixture of residential, commercial, and industrial uses.

The majority of the parcels within the Levee shoreline designation are separated from direct access to the Puyallup River by the Levee. This positioning within the landscape precludes these parcels from having water dependent uses within this designation. As such, the City uses this Program to promote water enjoyment uses where feasible, but also allows for non-water related uses within it shoreline designations to provide for development as required within the Growth Management Act.

- 2. **Designation Criteria:** The Levee designation is applied to those shorelines along the Puyallup River as identified on the Fife Shoreline Master Program Designations Map.
- 3. **Management Policies:** The following policies generally characterize the management goals of the Levee designation.
  - a. Seek to maintain existing visual and physical access to the shoreline. Encourage new development to accommodate pedestrian shoreline access except where deemed inappropriate due to safety hazards, inherent security problems, environmental impacts, or conflicts with adjacent uses.
  - b. Promote public access and aesthetic objectives through means such as sign control, appropriate development siting, screening and maintenance of natural vegetative buffers.
  - c. Provide priority use on shoreline sites with physical access to the shoreline in the following order of preference:

- 1. Water-dependent
- 2. Water-related
- 3. Water-enjoyment
- d. Ensure that the levee is protected and maintained;
- e. Minimize the potential for downstream properties to be flooded;
- f. Allow a mix of residential, commercial, and industrial uses;
- g. Ensure that uses and activities permitted in the Levee designation are compatible;
- h. Prevent degradation of existing ecological functions; and
- i. Encourage conservation and/or restoration projects, such as conserving, enhancing, or re-creating ecological functions in those opportunity areas referenced in the Inventory and Characterization (Appendix C) and Restoration Plan (Appendix D) documents.

#### 4. **Regulations**

- a. Use Regulations
  - Permitted Uses: Permitted, Conditional and Prohibited uses are identified within the Section 8 - Shoreline Use Matrix. All shoreline development and use shall comply with Section 7 – General Regulations and Section 9 – Use Specific Regulations, as applicable.

Permitted uses shall result in no net loss of shoreline ecological functions and shall not degrade other shoreline values.

2. Prohibited Uses: Uses not identified as permitted or conditional are prohibited from being located within the Levee designation; unless the Director deems the use as substantially similar to a permitted, conditional, or accessory use. The Director shall consult with the Department of Ecology prior to issuing formal written interpretations consistent with the purpose and intent of RCW 90.58 and the applicable guidelines.

b. Bulk and Dimensional Regulations:

Maximum Height:	30 feet or 2 stories, whichever is less	
Minimum Shoreline Setback as	100 feet (Water Dependent	
measured landward from the Ordinary High Water Mark)*:	uses, including public access – 0 feet)	
Maximum Impervious Surface:	45 percent	

\* unless the presence of critical areas would require a more restrictive shoreline setback.

# J. Aquatic

- 1. **Purpose:** The purpose of the Aquatic designation is to manage, maintain, protect and enhance the characteristics of the areas waterward of the ordinary high-water mark of Hylebos Creek.
- 2. **Designation Criteria:** The Aquatic Designation is applied to shoreline areas within the City of Fife Jurisdiction that lie waterward of the ordinary high-water mark (OHWM) of Hylebos Creek. The shoreline area waterward of the OHWM for the Puyallup River is under the jurisdiction of the Puyallup Tribe of Indians.
- **3. Management Policies:** The following policies generally characterize the management goals of the Aquatic designation.
  - a. Ensure that uses and activities permitted in areas adjacent to the Aquatic designation are compatible and will not detrimentally impact aquatic areas.
  - b. Prohibit uses that result in a net loss to the shoreline's ecological functions or values.
  - c. Require projects to minimize shading impacts to aquatic resources.
  - d. Limit the size of overwater structures to the minimum necessary to support the structure's intended use.
  - e. Encourage the multiple-use of over water facilities, if feasible.
  - f. Encourage conservation and/or restoration projects, such as conserving, enhancing, or re-creating ecological functions in those opportunity areas referenced in the Inventory and Characterization (Appendix C) and Restoration Plan (Appendix D) documents.

### 4. **Regulations**

a. Use Regulations

- 1. Permitted, Conditional and Prohibited uses are identified within Section 8 Shoreline Use Matrix. All development and uses shall comply with Section 7 General Regulations and Section 9 Specific Use Regulations as applicable.
  - a. Permitted overwater structures, developments and uses shall be required to mitigate for impacts to shoreline function to ensure no-net-loss.
  - b. New over water structures are allowed only for water dependent uses, public access or ecological restoration.
  - c. The size of overwater structures shall be the limited to the minimum size necessary to support the structure's intended use.
  - d. Permitted overwater structures, developments, and uses shall minimize to the greatest extent possible, impacts to existing navigation.
  - e. Permitted overwater structures, developments, and uses shall provide unobstructed passage for fish and wildlife, particularly those species dependent upon migration.
  - f. Permitted overwater structures, developments and uses shall prevent water quality degradation and alteration to natural hydrographic conditions.
- 2. Prohibited Uses
  - a. Non-water dependent, over-water structures, excluding utilities.
  - b. Uses not identified as permitted, conditional, or accessory are prohibited from locating within the Aquatic designation unless the use is deemed by the Director as substantially similar to a permitted, conditional, or accessory use. The Director shall consult with the Department of Ecology prior to issuing formal written interpretations consistent with the purpose and intent of RCW90.58 and the applicable guidelines.
- b. Bulk and Dimensional Regulations:

Maximum Height:	16 feet

	Conservancy	Shoreline Residential	Urban	Levee	
Maximum Height:	30 feet or 2 stories, whichever is less				
Minimum Shoreline Setback as measured landward from the Ordinary High Water Mark):	100 feet <sup>1</sup>	50 feet <sup>1</sup>	50 feet <sup>1</sup>	100 feet <sup>1</sup>	
Maximum Impervious Surface:	25 percent	30 percent	45 percent	45 percent	

# K. Summary Bulk and Dimensional Regulations Table

<sup>1</sup>For water dependent uses, the minimum shoreline setback is 0 feet.

# 7. GENERAL REGULATIONS

The provisions of this Section apply to all shoreline designations.

### A. Archaeological, Historic, and Cultural Research activities

#### 1. **Purpose**

Due to the limited and irreplaceable nature of archaeological, historic, and cultural resources within the shoreline, the purpose of this section is to prevent the destruction of or damage to sites containing these resources. Historical and cultural and research activities include the creation of sites, structures and/or facilities for the purpose of studying historical and cultural aspects.

#### 2. Policies

- a. Preserve, where possible, archaeological, historic and cultural for study and public observation.
- b. Work with adjacent jurisdictions, such as the Puyallup Tribe, to preserve and protect historically significant areas or areas known to contain archaeological data.
- c. Prevent public or private developments from destroying recognizable sites having scientific, historic, or cultural value.

### 3. **Regulations**

- a. If any archeological artifacts are uncovered during excavation within the shoreline jurisdiction, work must stop and the City of Fife, the Department of Archeology and Historic Preservation and the Puyallup tribe of Indians must be notified.
- b. Permits issued in areas with documented archeological resources shall require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes.

### **B.** Critical Areas

Critical areas located within the City's shorelines jurisdiction shall be protected pursuant to Appendix B of this document. The majority of Appendix B is based directly upon Fife Municipal Code Title 17 (Ordinance Number 1111 § 9, 1992 and as amended by Ordinance Number 1566-05 § 11, 2005). The following portions of FMC 17 are not included in Appendix B in order to maintain consistency with SMA, RCW 90.58, requirements: Exemptions (FMC 17.05.050), Reasonable Use Exception (FMC 17.05.070), Variance (FMC 17.05.110),

Enforcement (FMC 17.05.130) and Non Conforming Activities (FMC17.05.150), Traffic Congestion, Streets, Limitations on Development (FMC 17.08) and Commute Trip Reduction (FMC 17.19) and SEPA Guidelines (FMC17.04). In addition, the wetland regulations found in FMC Title 17 have been modified for Appendix B for this SMP to maintain consistency with SMA requirements.

# C. Flood Hazard Reduction

## 1. Purpose

To reduce flood damage or hazards to shoreline uses and developments as well as limit shoreline modifications that may increase flood hazards.

# 2. Policies

- a. Ensure that new development in areas prone to periodic flooding complies with the Flood Damage Prevention standards, Fife Municipal Code Title 15.40, in an effort to minimize health hazards and property damage due to flooding.
- b. Develop, enhance, and implement education programs aimed at mitigating natural hazards, and reducing the risk to citizens, public agencies, private property owners, businesses and schools.
- c. Encourage development of acquisition and management strategies to preserve open space for flood mitigation, fish habitat, and water quality in frequently flooded areas.
- d. Assure that flood hazard protection measures result in no net loss of ecological functions.

### 3. **Regulations**

- a. All shoreline development shall comply with Fife Municipal Code, Title 15.40 Flood Damage Prevention.
- b. Removal of gravel for flood control shall be consistent with 7(G)2(c)2.

# D. Public Access

## 1. **Purpose**

Public Access is the ability of the 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. See also WAC 173-26-221(4).

# 2. Policies

- a. Prevent public access from resulting in adverse impacts to shoreline process and functions.
- b. Ensure public access facilities are designed to provide for public safety including the provision of ADA accessible parking and sanitation facilities where appropriate.
- c. Require the incorporation of physical or visual access to the shorelines for projects which generate a demand for one or more forms of access or would impair existing legal access opportunities or rights.
- d. Mitigate for public access improvements, when necessary, to avoid a net loss of shoreline ecological processes and functions.
- e. Ensure public access requirements are consistent with all relevant constitutional and other legal limitations on regulation of private property.
- f. Require public access to be designed to minimize potential impacts to private property and individual privacy. Physical separation or other means should clearly delineate public and private space in order to avoid user conflict.
- g. Enhance and preserve views from public shoreline upland areas, as appropriate.
- h. Prevent development, uses and activities on or near the shoreline from unreasonably impairing or detracting from the public's legal access to the water.
- i. Ensure that public access area and facility requirements are commensurate with the scale and character of the development.
- j. Ensure that shoreline development by public entities such as local governments, port districts, state agencies and public utility districts provide public access unless such access is shown to be

incompatible due to reasons of safety, security or impact to the shoreline.

- k. Identify, map, and maintain public access to the shoreline afforded by existing shoreline street ends and rights-of-way and maintained as public access.
- 1. Allow the clearing, thinning and/or limbing of vegetation in the shoreline only where it does not adversely impact ecological and aesthetic values or slope stability. Enhancement of views does not justify excessive removal of vegetation.
- m. Consider public use and access to the water a priority in recreational development.
- n. Encourage private property owners concerned with the protection of views to obtain view easements, purchase intervening property or seek other means of minimizing view obstruction. Private views of the shoreline, although considered during the shoreline permit review process, are not expressly protected.
- o. Encourage public access to connect public areas, undeveloped right-of-way, and other pedestrian or public thoroughfares. In addition, hiking paths, bicycle paths, easements and scenic drives should link shoreline parks, recreation areas and public access points.
- p. Consider providing incentives such as density or bulk and dimensional bonuses if development proposals include additional public access beyond that required by this SMP.

# 3. **Regulations**

- a. Public access improvements shall be constructed and maintained in a manner that does not result in a net loss of shoreline ecological functions.
- b. Except as provided in subsection e and f, below, shoreline substantial developments or conditional uses shall provide public access where any of the following conditions are present:
  - 1. A development or use will create increased demand for public access to the shoreline.
  - 2. A development or use will interfere with an existing public access way. Such interference may be caused by blocking access or by discouraging use of existing on-site or nearby accesses.

- 3. New non-water-dependent uses are proposed.
- 4. A use or activity will interfere with public use of lands or waters subject to the public trust doctrine.
- c. Shoreline development by public entities, port districts, state agencies, and public utility districts shall include public access measures as part of each shoreline development.
- d. Public access shall not be required for single-family residential development of four (4) or fewer lots. (Note: Local governments that conduct a comprehensive public planning process for public access may determine that public access should be required for small subdivisions.)
- e. Public access shall not be required where one or more of the following conditions apply.
  - 1. Unavoidable health or safety hazards to the public exist which cannot be prevented by any practical means.
  - 2. Constitutional or other legal limitations may apply.
  - 3. Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions.
  - 4. The cost of providing the access, easement or an alternative amenity is unreasonably disproportionate to the total long-term cost of the proposed development.
  - 5. Adverse impacts to shoreline ecological processes and functions that cannot be mitigated will result from the public access.
  - 6. Significant unavoidable conflict between any access provisions and the proposed use and adjacent uses would occur and cannot be mitigated.
- f. To meet any of the conditions in 3.e above, the applicant must first demonstrate and the City must determine in its findings that all reasonable alternatives to provide public access have been exhausted, including but not limited to:
  - 1. Regulating access by such means as maintaining a gate and/or limiting hours of use.

- 2. Separating uses and activities (e.g. fences, terracing, use of one-way glazings, hedges, landscaping, etc.).
- 3. Developing access at a site geographically separated from the proposal such as a street end, vista or trail system.
- 4. Sharing the cost of providing and maintaining public access between public and private entities.
- g. When provisions for public access are required as a condition of project approval, the Director shall prepare written findings demonstrating consistency with constitutional and legal practices regarding private property and the principles of nexus and proportionality.
- h. Public access provided by existing shoreline street ends and public rights-of-way shall be preserved, maintained and enhanced consistent with RCW 35.79.035 and RCW 36.87.130.
- i. Required public access sites shall be fully developed and available for public use at the time of occupancy of the shoreline development.
- j. Public access shall consist of a dedication of land or a physical improvement in the form of a walkway, trail, bikeway, corridor, viewpoint, park, deck, observation tower, boat launching ramp, or other area serving as a means of view and/or physical approach to public waters. It may include interpretive centers and displays.
- k. Public access provisions shall run with the land and be recorded via a legal instrument such as an easement, or as a dedication on the face of a plat or short plat. Such legal instruments shall be recorded with the County Auditor's Office prior to the time of building permit approval, occupancy or plat approval, whichever comes first (RCW 58.17.110). Future actions by the applicant's successors in interest or other parties shall not diminish the usefulness or value of required public access areas and associated improvements.
- 1. Maintenance of the public access facility over the life of the use or development shall be the responsibility of the owner unless otherwise accepted by a public or non-profit agency through a formal agreement recorded with the County Auditor's Office.
- m. Minimum width of public access easements shall be at least 12 feet, unless the Director determines that undue hardship to the proponent would result. In such cases, easement width may be reduced only to the minimum extent necessary to relieve the

hardship.

- n. Public access sites shall be made barrier-free for the physically disabled where feasible, and in accordance with the Americans with Disabilities Act (ADA).
- o. The standard state approved logo or other locally approved signs that indicate the public's right of access and hours of access shall be constructed, installed and maintained by the applicant or owner in conspicuous locations at public access sites.
- p. Public access shall incorporate the following location and design criteria:
  - 1. A public pedestrian access walkway is required where open space is provided along the shoreline, and public access can be provided in a manner that will not adversely impact shoreline ecological processes and functions. The walkway shall be buffered from sensitive ecological features and provide limited and controlled access to the water's edge where appropriate. Fencing may be used to control damage to plants and other sensitive ecological features. Trails shall be constructed of permeable materials and limited to 5 feet in width to reduce impacts to ecologically sensitive resources.
  - 2. Public access shall be located adjacent to other public areas, access points and connecting trails and connected to the nearest public street.
  - 3. Where views of the water or shoreline are available and physical access to the water's edge is not present or appropriate, a public viewing area shall be provided.
  - 4. Intrusions on privacy shall be minimized by avoiding locations adjacent to windows and outdoor private open spaces or by screening or other separation techniques.
- q. Public access design shall provide for the safety of users to the extent feasible. Appropriate amenities such as benches, picnic tables and public parking sufficient to serve the users shall be provided.

- r. Public restrooms, facilities for disposal of animal waste and other appropriate public facilities shall be required at developments that attract a substantial number of persons.
- s. New development shall be located and designed to avoid or minimize adverse impacts to views from public property.

# E. Shoreline Vegetation Conservation

### 1. **Purpose**

The intent of vegetation conservation is to protect and restore the ecological functions and ecosystem-wide processes performed by vegetation along the shoreline. Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and non-native species.

# 2. Policies

- a. Prohibit speculative clearing, grading, or vegetation removal within the required shoreline setback.
- b. Limit alteration of the natural landscape within the shoreline setback to the minimum necessary to accommodate the shoreline development or to remove invasive vegetation.
- c. Restrict clearing and grading within shoreline setback in order to maintain shoreline functions.
- d. Permit clearing activities associated with levee maintenance as necessary to provide protection from flood hazards.

# 3. **Regulations**

- a. Speculative clearing, grading, or vegetation removal within the required shoreline setback is prohibited.
- b. During construction, shoreline vegetation shall be protected by placement of a temporary barricade at the location of the shoreline setback and implementation of appropriate erosion and sedimentation controls.

- c. Invasive species within the shoreline setback may be removed by hand, including the use of hand tools. Cleared areas shall be replanted with native vegetation to prevent erosion.
- d. Selective pruning of tree limbs for view protection is allowed but shall not be conducted in such a manner as to result in the death of the tree.
- e. The removal of hazardous trees is allowed with an arborist's report. Tree removal within the shoreline jurisdiction shall also comply with FMC 19.64.140 Retention and Protection of Significant trees and groves of trees.

# F. Water quality, storm water and nonpoint source pollution

# 1. **Purpose**

Prevent impacts to water quality and stormwater quality that would result in a loss of ecological functions, or a significant impact to aesthetic qualities, or recreational opportunities.

# 2. Policy

Protect the City of Fife's shoreline areas by ensuring that surface water quality and quantity regulations are administered in shoreline areas.

# 3. **Regulations**

a. All shoreline development shall comply with Fife Municipal Code, regulations related to water quality, including but not limited to Title 13, Title 15, and Title 21.

# G. Shoreline Modifications

# 1. Clearing and Grading

### a. **Purpose**

Prevent impacts to shoreline functions and processes that may occur as a result of clearing and grading within the shoreline jurisdiction. Clearing and grading includes the activities associated with developing any kind of residential, agricultural, commercial, or industrial project. Clearing involves the removal of vegetation and /or topsoil, while grading means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.

# b. **Policies**

- 1. Permit clearing and grading should only in concert with permitted shoreline development.
- 2. Require clearing and grading activities to be minimized to the extent necessary to accommodate the scope of work within the shoreline.
- 3. Require that best management practices should be utilized during clearing and grading activity consistent with the City's surface water management manual and this SMP.

# c. **Regulations**

- 1. Clearing and grading shall be minimized and areas cleared of vegetation and not developed shall be replanted as soon as possible.
- 2. The clearing of large woody debris shall be avoided whenever practical because of the value that such debris has in providing for biological diversity and shoreline stabilization.
- 3. Clearing and grading activities associated with the necessary maintenance of the levee for the purposes of maintaining flood protection are permitted.
- 4. Normal maintenance, if found to be in compliance with Chapter 7(E) of this document, including pruning and trimming of vegetation, shall be permitted within the shoreline. Topping of trees for view purposes only shall not be permitted.
- 5. Clearing of invasive non-native shoreline vegetation as identified by the State of Washington and/or Pierce County as a noxious weed is permitted in the shoreline jurisdiction. Removal of invasive non-native shoreline vegetation is permitted provided that only hand-held equipment is used and native vegetation is promptly reestablished in the disturbed area.
- 6. Surface water runoff related to clearing and grading associated with shoreline development shall be minimized to the greatest extent and shall be in compliance with the City of Fife Stormwater Management Program and all applicable regulations.

# 2. Dredging and Dredge Material Disposal

### a. **Purpose**

Prevent impacts to shoreline functions and processes that may occur as a result of dredging and the disposal of dredge material within the shoreline jurisdiction. Dredging is described as the scooping or suction activity to remove materials from the bottom of waterways for the purpose of deepening the waterbody or harbor.

### b. Policies

- 1. Require dredging and dredging material disposal to avoid significant ecological impacts.
- 2. Prevent dredging waterward of the ordinary high-water mark for the primary purpose of obtaining fill material, except when the material is necessary for the restoration of ecological functions.
- 3. Permit dredging as part of ecological restoration or enhancement, beach nourishment, public access, or flood storage, if deemed consistent with this program.

# c. **Regulations**

- 1. Dredging and dredge material disposal shall be done in a manner which avoids or minimizes significant ecological impacts. Impacts which cannot be avoided should be mitigated in a manner that assures no net loss of shoreline ecological functions.
- 2. Dredging for flood control shall be allowed only if biological and geomorphological study demonstrates a long-term benefit to flood hazard reduction, no net loss of ecological function, and is part of a comprehensive flood management solution.
- 3. New development siting and design shall avoid the need for new and maintenance dredging.
- 4. Dredging for fill materials shall be prohibited with the exception of projects associated with MTCA or CERCLA habitat restoration, or any other significant restoration effort approved by a Shoreline Conditional Use Permit.
- 5. Dredging to establish new navigational channels is prohibited.

6. Dredge disposal materials shall be disposed either on land away from the shoreline or in open waters, unless such materials are needed for habitat improvement. Open water disposal shall only be approved when authorized by the applicable local, state, and federal agencies.

### 3. Fill

### a. **Purpose**

Prevent impacts to shoreline functions and processes that may occur as a result of fill within the shoreline jurisdiction. Fill is the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to and area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land.

### b. **Policies**

- 1. Require the minimization of the use of fill for any proposal.
- 2. Ensure that the placement of fill does not result in a loss of flood storage.

#### c. **Regulations**

- 1. The following submittal information shall be required for fill projects:
  - a. Proposed use of the fill area;
  - b. Physical, chemical, and biological characteristics of the fill material;
  - c. Source of the fill material, fill material must come from a clean source;
  - d. Method of placement and compaction;
  - e. Location of the fill relating to natural or existing drainage patterns;
  - f. Location of the perimeter of the fill relating to the ordinary high water mark, or any wetland;
  - g. Perimeter erosion control or stabilization means, and schedule for implementation; and
  - h. Type of surfacing and run-off control and treatment

devices.

- 2. Fill shall be permitted only where it is demonstrated that it will not result in the following:
  - a. Net loss to water quality, fish, shellfish, and/or wildlife habitats;
  - b. Adverse alteration to natural drainage and circulation patterns, currents, rivers, or significant reduction of flood water capacities; and
  - c. Adverse interference of geological processes along the shoreline.
- 3. Fill waterward of the OHWM for water dependent use, public access, cleanup and disposal of contaminated sediments as part of an interagency environmental clean – up plan, disposal of dredged material in accordance with the Department of Natural Resources Dredged Material Management Program, or the expansion or alteration of transportation facilities of statewide significance currently located on the shoreline (if alternatives to fill are shown to be not feasible) shall be reviewed through the Conditional Use Permit process.
- 4. Fill waterward of the OHWM for mitigation action, environmental restoration, or enhancement project shall be reviewed as a permitted use pursuant to WAC 173-26-231 (3)(c), or as amended.
- 5. Where fill is permitted, the fill shall be the minimum necessary to accomplish the proposed use.
- 6. The placement of fill shall be timed to minimize damage to water quality and aquatic life.
- 7. To prevent loss of flood storage, compensatory storage shall be provided commensurate with the amount of fill placed in the floodway.
- 8. Fill areas must be designed to prevent erosion and material movement from the filled area. Erosion control techniques shall be utilized including silt curtains, retaining walls and vegetation.
- 9. Speculative fill is prohibited. Fill, water-ward of the ordinary high water mark and/or upland is only allowed in

conjunction with a permitted use.

## 4. Shoreline Stabilization

### a. **Purpose**

The purpose of these shoreline stabilization general regulations is to prevent impacts to shoreline functions and processes that may occur as a result of shoreline modification within the shoreline This section shall be used for both structural and iurisdiction. shoreline stabilization non-structural measures. including revetments and rip-rap used to minimize erosion and/or residential flooding, as well as new stabilization measures including enlargements to existing stabilization structures. Structural modifications associated with the levee along the Puyallup River shall be reviewed under Section 7 (H) Structural Flood Hazard Reduction Measures (Dikes and Levees).

### b. **Policies**

- 1. Require shoreline modification requests to include information on the impacts that such modifications would have on the likely migration of the stream channel.
- 2. Show preference for non-structural-bank shoreline modifications over structural treatments.
- 3. Encourage projects within the Hylebos Creek channel migration zone where the primary purpose of the project is protecting or restoring ecological functions and ecosystem-wide processes.
- 4. Require new development to be located and designed to avoid the need for future shoreline modification to the extent feasible.
- 5. Prohibit new development that would require shoreline modification which causes significant impacts to adjacent or down-current properties and shoreline areas.
- 6. Prohibit hard armoring solutions where it is demonstrated that an existing structure will be damaged within three years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting would foreclose the opportunity to use measures that avoid impacts on ecological functions.

### c. **Regulations**

- 1. Structural shoreline modifications are permitted only through the granting of a Conditional Use Permit.
- 2. The granting of the Conditional Use Permit shall only occur where the applicant has demonstrated that the structural shoreline modification is 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 mitigation or enhancement and that a non-structural shoreline modification or an increase in the setback of the primary structure cannot achieve the same objective.
- 3. Shoreline modifications shall be designed to ensure no net loss of ecological functions and values. In reviewing requests for shoreline modifications, the City shall review modification requests consistent with the specific shoreline segment and environmental conditions of the site. Mitigation measures may be required to address no net loss of ecological function.
- 4. New structural stabilization and/or modification measures are prohibited unless necessity is demonstrated in the following manner:
  - a. To protect existing primary structures:
    - i. New or enlarged structural shoreline stabilization measures for an existing primary structure, including single-family residences, should not be allowed unless there is conclusive geotechnical evidence that the structure is in danger from shoreline erosion. The geotechnical analysis should evaluate onsite drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization and/or modification.
    - ii. The erosion control structure will not result in a net loss of shoreline ecological functions.
  - b. In support of new non-water-dependent development, including single-family residences, when all of the conditions below apply:

- i. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- ii. Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
- iii. The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report, as described in Section 7 General Regulations, (G)(4) (c)(5). The damage must be caused by natural processes.
- iv. The erosion control structure will not result in a net loss of shoreline ecological functions.
- c. In support of water-dependent development when all of the conditions below apply:
  - i. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
  - ii. Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
  - iii. The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.
  - iv. The erosion control structure will not result in a net loss of shoreline ecological functions.
- 5. Geotechnical reports required pursuant to this section shall be prepared by a geologist or geotechnical engineer licensed as a civil engineer in the state of Washington. The geotechnical report shall include at a minimum the following:
  - a. A scaled site plan showing:
    - i. The location of existing and proposed shore stabilization, structures, fill;

- ii. Vegetation, with dimensions indicating distances to the OHWM; and
- iii. Existing site topography, preferably with 2 foot contours.
- b. A description of the processes affecting the site, and surrounding areas that influence or could be influenced by the site, including areas in which creek or river geomorphic processes affect the site, including, but not limited to:
  - i. Soil erosion, deposition, or accretion;
  - ii. Evidence of past or potential channel migration; and
  - iii. An estimate of shoreline erosion rates.
- c. Geotechnical reports generated to identify the need to prevent potential damage to an existing primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation. The report shall also determine whether damage to the primary structure will occur within three years as well as explore alternative shoreline stabilization methods.
- 6. An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by natural conditions.
  - a. The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.
  - b. Replacement walls or bulkheads shall not encroach waterward of the ordinary high-water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety issues or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
  - c. Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be

permitted waterward of the ordinary high-water mark.

- d. For purposes of this section standards on shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.
- 7. When any structural shoreline stabilization measures are demonstrated to be necessary based on the regulations above, the following shall design criteria shall apply:
  - a. The size of stabilization measures shall be limited to the minimum necessary.
  - b. Soft approaches shall be used unless demonstrated not to be sufficient to protect primary structures, dwellings, and businesses.
  - c. Public access to shoreline areas shall not be impaired with publicly funded projects except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions.
  - d. Hydraulic analysis shall be provided to demonstrate that the stabilization strategy allows sediment conveyance to mimic natural conditions.

# H. Structural Flood Hazard Reduction Measures (Dikes, Levees, Weirs)

#### 1. **Purpose**

The purpose of structural flood hazard reduction measures are to provide structural stabilization to the shoreline, such as levees or dikes, specifically utilized to address flooding within and adjacent to the Levee shoreline designation within the City of Fife.

#### 2. Policies

- a. The City intends to manage flood protection through Comprehensive Planning, stormwater and flood hazard regulations.
- b. Assure that flood hazard reduction measures result in no net loss of

ecological functions.

- c. Require new development to be located and designed to avoid the need for future structural flood hazard reduction measures to the extent feasible.
- d. Where possible, the City intends to integrate public access into publically financed flood control and management facilities.

- a. Normal maintenance and repair of existing flood hazard reduction structures shall be allowed pursuant to WAC 173-27-040 (2)(b).
- b. Structural flood hazard reduction measures waterward of the Ordinary High Water Mark are only allowed for water-dependent uses, public access, flood protection or other specific public purpose.
- c. Structural flood hazard reduction measures are permitted only through the granting of a Conditional Use Permit.
- d. Modification of existing structural flood hazard measures shall be allowed where is can be demonstrated by engineering analysis that the existing structure does not provide an adequate level of protection for the surrounding lands or that the existing structure does not meet appropriate engineering design standards for stability.
- e. Flood hazard protection and/or reduction structures shall be shaped and planted with vegetation suitable for wildlife habitat, where feasible.
- f. Flood hazard protection and/or reduction structures shall be designed to ensure no net loss of ecological functions and values. In reviewing requests for shoreline modifications, the City shall review modification requests consistent with the specific shoreline segment and environmental conditions of the site.
- g. Public access measures shall be included a part of publicly funded structural flood hazard reduction measure project except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions.

- h. New structural flood hazard measures shall only be allowed when the structure has been demonstrated to be necessary, non-structural methods are infeasible, and mitigation is accomplished.
- i. New structural flood hazard measures shall be placed landward of associated wetlands and buffer areas except where no alternative exists as documented by geotechnical analysis. The geotechnical analysis shall be prepared by a geologist or geotechnical engineer licensed as a civil engineer in the state of Washington and shall include the following:
  - a. A scaled site plan showing:
    - i. The location of any existing and proposed structural flood hazard measures including any proposed fill; and
    - ii. Vegetation, with dimensions indicating distances to the OHWM; and
    - iii. Existing site topography, preferably with 2-foot contours; and
    - iv. A description of the processes affecting the site, and surrounding areas that influence or could be influenced by the proposed structural flood hazard prevention measure, including areas in which creek or river geomorphic processes affect the site.
- j. Hydraulic analysis shall be provided to demonstrate that the structural flood hazard reduction measure allows sediment conveyance to mimic natural conditions.
- k. Shoreline modification requests for the purposes of flood hazard protection and/or reduction measures shall include information on the impacts that such modifications would have on the likely migration of the stream channel.

## I. Environmental Impact Mitigation

### 1. **Purpose**

Assure no net loss of shoreline ecological functions by requiring mitigation for impacts to shoreline functions. These provisions apply throughout the City of Fife's shoreline jurisdiction.

### 2. Policy

Avoid or mitigate impacts to the City of Fife's shoreline areas to ensure the standards of no net loss to shoreline function are met.

- a. New development proposals shall analyze environmental impacts of the proposal and include measures to mitigate environmental impacts not otherwise avoided or mitigated by compliance with the master program and other applicable regulations. Analysis shall occur through the rubric of the State Environmental Policy Act of 1971 (SEPA), as amended.
- b. Mitigation measures shall be applied in the following sequence of steps listed in order of priority:
  - 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;
  - 5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
  - 6. Monitoring the impact and the compensation projects and taking appropriate corrective measures.
- c. In determining appropriate mitigation measures applicable to shoreline development, lower priority measures should be applied only where higher priority measures are determined to be

infeasible or inapplicable.

- d. Mitigation shall not be required that exceeds that necessary to assure the development will result in no net loss of shoreline ecological functions.
- e. When compensatory measures are appropriate pursuant to the mitigation priority sequence above, preferential consideration shall be given to measures that replace the impacted functions directly and in the immediate vicinity of the impact. However, alternative compensatory mitigation within the watershed that addresses limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans applicable to the area of impact may be authorized. Authorization of compensatory mitigation measures may require appropriate safeguards, terms or conditions as necessary to ensure no net loss of ecological functions.
- f. Mitigation efforts shall be consistent with the City of Fife's Shoreline Restoration Plan (Appendix D), where applicable.

# 8. SHORELINE USE MATRIX<sup>2</sup>

	Shoreline Designations				
Land Uses	Conservancy	Shoreline Residential	Urban	Levee	Aquatic
Agriculture	Р	Р	Х	Р	Х
Aquaculture	Х	С	С	С	С
Boating Facilities	Х	Х	Х	Р	Р
Breakwaters, Jetties	Х	Х	Х	Х	Х
Clearing and Grading <sup>a</sup>	Р	Р	Р	Р	Х
Commercial Development	X	С	Р	Р	X
Dune Modification	N/A	N/A	N/A	N/A	N/A
Dredging	Х	Х	Х	Х	С
Forest Practices	Х	Х	Х	Х	N/A
Industrial development	Х	Х	Р	Р	Х
In-stream structures	N/A	N/A	N/A	N/A	С
Fill <sup>a, b</sup>	С	С	С	С	С
Marinas, Piers, Docks	Х	Х	Х	Х	Х
Mining	Х	Х	Х	Х	Х
Public Access	Р	Р	Р	Р	Р
Restoration Activity	Р	Р	Р	Р	Р
Recreational Development	Р	Р	Р	Р	Р
Residential	Р	Р	Р	Р	Х
Shoreline Stabilization	С	С	С	С	С
Signs	Р	Р	Р	Р	Х
Transportation Facilities and Parking $^{\circ}$	С	Р	Р	Р	С
Utilities <sup>3</sup>	Р	Р	Р	Р	Р
Archaeological, historic and cultural research activities	Р	Р	Р	Р	Р
Structural Flood Hazard Reduction measures (Dikes, weirs, and levees) <sup>d</sup>	С	С	С	С	С
Unclassified Uses	С	С	С	С	С

<sup>&</sup>lt;sup>2</sup> In the event of a conflict between the matrix and the regulatory text, the text shall hold.

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<sup>&</sup>lt;sup>3</sup> Certain utilities are permitted as a conditional use see page 98, Section P(3)(h).

Footnotes for this table are provided on the following page

<sup>a</sup> Only when part of an approved shoreline use or development, otherwise prohibited.

<sup>b</sup> Fill that is conducted as part of an ecological restoration project is a permitted, as opposed to Conditional Use Permit, process.

<sup>c</sup> Parking as a primary use within the shoreline jurisdiction is prohibited, refer to Transportation and Parking regulations, Section 9 (N).

<sup>d</sup> Structures waterward of the Ordinary High Water Mark are only allowed for water-dependent uses, public access, flood protection or other specific public purpose.

P – Permitted, may require Shoreline Exemption Review or Shoreline Substantial Development Permit

C – Conditional Use

X – Prohibited

N/A – Not Applicable

#### 9. USE-SPECIFIC REGULATIONS

The following section includes policies and regulations applicable to specific types of development to be proposed within the shoreline areas of Fife. A proposed project may be covered under multiple sections contained within the regulations.

## A. Agricultural Activities

## 1. **Definition**

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

#### 2. Policies

- a. Although existing agricultural activities occurring on agricultural lands shall not be affected by the adoption of the City of Fife SMP, the City strongly recommends, and will require to the extent possible, best management practices to be used in existing agricultural practices occurring within shorelines jurisdiction.
- b. Require new agricultural uses and the conversion of agricultural uses to non-agricultural uses to be consistent with the shoreline designation, and the general and specific use regulations applicable to the proposed use to prevent net loss of shoreline function and value.
- c. Establish shoreline setbacks on new agricultural development within shorelines jurisdiction.
- d. Encourage the use of appropriate farm management techniques to prevent contamination of the shoreline environment and adverse effects to associated plant, fish, and animals.

### 3. **Regulations**

- a. New agricultural uses and the conversion of agricultural uses to non-agricultural uses shall require consistency with the designation, and the general and specific use regulations applicable to the proposed use and do not result in a net loss of ecological functions associated with the shoreline function and value.
- b. The raising of livestock is not permitted within any of the shoreline designations within the City of Fife.
- c. New agricultural uses shall not be allowed if it is not a permitted or conditional use of the underlying zoning designation.
- d. Non-agricultural uses occurring on lands where the principle use is an agricultural use shall be consistent with the shoreline designation in which the land is located.
- e. New agricultural uses not exempted under RCW 90.58.030(3)(e)(iv) shall be subject to a Shoreline Substantial Development Permit.
- f. The establishment of setbacks, beyond those which are required within each shoreline designation, shall be based on scientific and technical information provided by the applicant to demonstrate how management practices will preserve the ecological functions and qualities of the shoreline environment.
- g. Agricultural activities within shorelines are also governed by Appendix B.
- h. The farming of fin fish, shellfish and management of other aquatic products shall be reviewed pursuant to the policies and regulations of Section 7 General Regulations (B) Critical Areas of this Program.

#### **B.** Aquaculture

#### 1. **Definition**

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

Aquaculture may require development such as fish hatcheries, rearing pens, and structures, as well as use of natural spawning and rearing habitats/areas. This term may also include activities related to the growing, handling, or harvesting of aquatic produce such as propagation,

stocking, holding, nurturing, disease treatment, waste disposal, water use, creation of habitat and associated structures as well as similar activities.

### 2. Policies

- a. Identify aquaculture, as a water-dependent use and a preferred shoreline use.
- b. Require aquaculture activities to control pollution and avoid adverse impacts to shoreline habitat and function.
- c. Preference shall be given to aquaculture activities with the least amount of impact, e.g. activities that involve no structures shall be preferred to those that require structures and projects that require minimal shoreline modification are preferred to those that require substantial modification.
- d. Require aquaculture practices to be designed in such a manner as to support long-term beneficial use of the shoreline and result in no-net loss of shoreline habitat and function.
- e. Require aquaculture projects to address the rights of tribes to aquatic resources within their usual and accustomed areas. Direct coordination between the applicant or applicant's representative and the tribe is encouraged.

- a. The applicant or applicant's representative shall demonstrate that impacts from the proposed aquaculture activity have been avoided to the greatest extent feasible. Impacts that cannot be avoided shall be minimized and then mitigated.
- b. Aquaculture activities that would have a significant impact to shoreline processes, functions, and/or habitat are prohibited.
- c. All aquaculture activities shall obtain all necessary local, state and federal permits and approvals prior to commencing operation.
- d. Waste related to aquaculture activities shall be disposed of in a manner that complies with all applicable waste disposal standards.
- e. Aquaculture shall not be permitted in the Conservancy designation or tangent aquatic designation.
- f. Aquaculture developments shall be screened from view from adjacent residential and recreational areas by fences, berms, and/or vegetative buffers.

g. The operators of aquaculture developments shall control odor so as not to affect adjacent developments.

# C. Boating Facilities

# 1. **Definition**

Boating facilities generally refer to structures providing the boating public recreational opportunities on the waters of the state including but not limited to marinas, public docks, buoys, etc. Boating facilities does not refer to docks that serve four or fewer single family residences. Due to the situation of the City within the landscape, the width and water flow of the Hylebos as well as the width of the Puyallup River preclude most boating facilities.

# 2. Policies

- a. Due to the situation of the City within the landscape, the width, depth and water flow rate of the Hylebos as well as the width of the Puyallup River preclude most boating facilities.
- b. Boating facilities should be located only at sites with suitable environmental conditions, shoreline configuration, access, and compatible adjacent uses.
- c. Boating facilities should not impact existing view access to the shoreline.
- d. There is not suitable shoreline to support live-aboard facilities within the City of Fife. Therefore, live-aboard boating facilities should be prohibited within the City of Fife's shorelines.
- e. Boating facilities that restrict navigation of the City of Fife shorelines should be prohibited.
- f. Boating facilities should be designed in such a manner as to result in no net loss of ecological function.

- a. Aesthetic considerations, including view blockage and modifications to existing landscapes, shall be considered by the City of Fife when considering applications for boating facilities.
- b. New uses are prohibited which would restrict navigation of the City of Fife's shorelines.
- c. Live-aboard boating facilities are prohibited within the City of

Fife's shorelines.

- d. Public access shall be provided for all new boating facilities.
- e. Boating facilities shall be designed to assure that no net loss in ecological function and value occur.
- f. The Director shall consider health, safety, and welfare when reviewing an application for a boating facility site.
- g. Boating facilities shall be restricted to the minimum size necessary to serve the proposed water-dependent use.

#### **D.** Commercial Development

### 1. **Definition**

Commercial development means retail, wholesale, service, trade or other business activities.

### 2. Policies

- a. Give preference to water-oriented development within the shoreline jurisdiction.
- b. Permit non water-oriented commercial uses that comply with shoreline bulk, dimensional and setback requirements and do not result in net loss of ecological function.
- c. Encourage commercial developments to provide either a physical or visual connection to the shoreline, so that the maximum enjoyment can be gained.
- d. Require commercial development to be designed to complement the shoreline area's existing character.
- e. Require new commercial development to provide physical and visual access to shorelines to the extent that such access does not interfere with operations or hazards to life.
- f. Require commercial developments to include conceptual plans for amenities on the shoreline including landscaped areas and open space, as applicable

# 3. **Regulations**

a. New over-water commercial development, that is not waterdependent, is prohibited.

- b. Where on-site public access is appropriate, commercial development shall dedicate, improve, and provide maintenance for a pedestrian easement that provides area sufficient to ensure usable access to and along the shoreline for the general public. Public access easements shall be a minimum of twelve feet in width.
- c. Advertising and signs associated with commercial uses shall comply with applicable policies and regulations of this Master Program.
- d. New or expanded structures shall not extend more than 30 feet in height above average grade level.
- e. Upland commercial or industrial structures shall be screened from view from adjacent residential or recreational areas by fences, berms, and/or vegetative buffers.
- f. New water-oriented commercial uses are permitted in instances where the project complies with shoreline bulk, dimensional and setback requirements and does not result in net loss of ecological function.
- g. Commercial developments shall provide either a physical or visual connection to the shoreline, where feasible, so that the maximum enjoyment can be gained.
- h. Commercial development shall be designed to complement the shoreline area's existing character.

# E. Dune Modification

#### 1. **Definition**

"Dune modification" is the removal or addition of material to a dune, the reforming or reconfiguration of a dune, or the removal or addition of vegetation that will alter the dune's shape or sediment migration

#### 2. Policies

a. The City of Fife does not contain dune habitat therefore Dune modification policies are not required as part of this shoreline master program update.

#### 3. **Regulations**

a. The City of Fife does not contain dune habitat therefore Dune modification policies are not required as part of this shoreline

master program update.

### F. Forest Practices

1. **Definition:** "Forest Practices" means any activity conducted on or directly pertaining to forest land, and the growing, processing or harvesting of timber. These activities are generally reviewed by the Washington State Department of Natural Resources pursuant to RCW 76.09. For the purposes of this shoreline master program, this definition does not include activities such as tree marking and surveying.

### 2. Policies

a. The City of Fife does not contain any parcels within its shoreline jurisdiction that are utilized for Forest Practices. As such, forest practices should be prohibited within the City of Fife shoreline jurisdiction.

### 3. **Regulations**

a. Forest Practices are prohibited within the City of Fife.

### G. Industry

# 1. **Definition**:

"Industry"/"Industrial use" means uses associated with the production, processing, manufacturing, storing or fabrication of goods and/or materials.

## 2. Policies

- a. Require new industrial development to provide physical and visual access to shorelines to the extent that such access does not interfere with operations or hazards to life.
- b. Prohibit industrial development from being located on sensitive and ecologically valuable shorelines.
- c. Encourage industrial uses and redevelopment to locate where environmental cleanup and restoration can be accomplished.

- a. New non-water-oriented industrial uses are permitted in instances where no direct physical connection to the shoreline is present.
- b. Industrial uses shall have structural and mechanical spill prevention strategies approved by the Tacoma-Pierce County Department of Health.
- c. The location, design, and construction of industrial uses and redevelopment is required to assure no net loss of ecological functions.
- d. Where on-site public access is appropriate, industrial development shall dedicate, improve, and provide maintenance for a pedestrian easement that provides area sufficient to ensure usable access to and along the shoreline for the general public. Public access easements shall be a minimum of twelve feet in width.
- e. Outdoor storage and/or disposal of industrial wastes is prohibited within shoreline jurisdiction.
- f. Display and other exterior lighting shall be designed, shielded, and operated to minimize glare, to avoid illuminating nearby properties, and to prevent hazards for public traffic.
- g. Hazardous materials and chemicals shall be stored indoors.

h. Industrial developments shall be screened from view from adjacent residential and recreational areas by fences, berms, and/or vegetative buffers.

### H. In-stream Structural Uses

### 1. **Definition**

In-stream structure means a structure placed by humans within a stream or river waterward of the ordinary high-water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow.

### 2. Policies

- a. Promote the location and planning of in-stream structures to emphasize the protection and restoration of priority habitats and species through special consideration to:
  - 1. Full range of public interests;
  - 2. Watershed functions and processes;
  - 3. Environmental concerns.
- b. Require or encourage, as appropriate, the planning and design of in-stream structures to be consistent with and incorporate elements from applicable watershed management plans, restoration plans (Appendix D), and surface and stormwater management plans.

- a. New in-stream structures shall provide for the protection and preservation, of ecosystem-wide processes, ecological functions, and cultural resources including fish and fish passage, wildlife and water resources, shoreline critical areas and hydrogeological processes.
- b. In-stream construction shall protect hydrologic connections between Hylebos Creek and Commencement Bay.
- c. No new in-stream structure shall be approved unless it is demonstrated that there will be no net loss in ecological function and value within Hylebos Creek.
- d. Professionally engineered designs will be required for all in-stream structures.

e. No in-stream structure may be installed without having first obtained all applicable local, state, and federal approvals.

## I. Marinas, Piers, and Docks

### 1. **Definitions**

- a. "Marina" means a specially designed harbor with moorings for pleasure craft and small boats.
- b. "Pier" means a platform extending from a shore over water and supported by piles or pillars, used to secure, protect, and provide access to ships or boats.
- c. "Dock" means a floating platform serving four or fewer single family residences which abuts the shoreline, extending waterward from ordinary high water, or from the bottom of a ramp extending from a pier, generally used as a landing or moorage place for watercraft.

### 2. Policy

a. Neither the shoreline jurisdiction of the Puyallup River nor Hylebos Creek within the City of Fife contain adequate water depth or width to support marinas, piers, and/or docks. As such, marinas, piers and docks are prohibited in the City of Fife.

#### 3. **Regulation**

a. Neither shoreline jurisdiction of the Puyallup River nor Hylebos Creek within the City of Fife contain adequate water depth or width to support marinas, piers, and/or docks. As such, marinas, piers and docks are prohibited in the City of Fife.

### J. Mining

# 1. **Definition**

"Mining" means the removal of naturally occurring materials from the earth for economic uses pursuant to RCW78.44 and WAC 332-18.

#### 2. Policy

a. In order to protect existing shoreline processes and functions, mining is prohibited within the City of Fife Shoreline jurisdiction.

# 3. **Regulation**

a. Mining is prohibited within the City of Fife Shoreline jurisdiction.

### K. Recreational Development

### 1. **Definitions**

"Recreation" means refreshment of body and mind through forms of play, sports, relaxation, amusement or contemplation.

"Recreational development" provides opportunities for play, sports, relaxation, amusement, or contemplation including both passive and active uses within both public and commercial developments.

"Recreational development, active" means activities that generally require the use of constructed facilities such as playgrounds, athletic fields, and hand launch boat ramps.

"Recreational development, passive" means activities that require a minimum of facilities such as swimming, picnicking, hiking, canoeing and fishing.

### 2. Policies

- a. Acquire/Purchase shoreline areas that may be appropriate for recreational use and incorporate these areas into the City's public park and open space system.
- b. Encourage the linking shoreline parks and recreational areas.
- c. Encourage recreational development to take advantage of key views or vistas.
- d. Make provision for vehicular and pedestrian access within recreational developments.
- e. Require the buffering recreational areas from surrounding private property through the use of landscaping and other structures.
- f. Give priority to recreation developments that provide access and use of the water.
- g. Encourage trail systems, including pedestrian and bicycle facilities, to be located in proximity to shoreline areas. The interconnection of these trails to existing trails or bikeways is encouraged.

# 3. **Regulations**

a. The location, design and operation of recreational facilities shall consistent with purpose of the shoreline designations in which the land is located.

- b. Sensitive or fragile areas shall not be used for recreational uses.
- c. Recreational facilities shall make adequate provisions for water supply, sewage disposal, and garbage collection.
- d. Recreational facilities shall make adequate provisions for vehicular parking.
- e. For recreational uses including golf courses or play fields, that might require the use or pesticides, fertilizers or chemicals, the applicant shall submit evidence of the methods used to prevent these chemical applications leaching to adjacent water bodies. Vegetative strips shall be required between shoreline areas and the recreational development where pesticides are utilized. The vegetative area shall not be less than 100 feet wide, when measured on a horizontal plane.
- f. Recreational development and ongoing management practices shall occur in a manner that achieves no net loss of ecological functions and values.
- g. Adequate provisions shall be made for screening, setbacks, fences and signs.
- h. Signs shall be kept to a minimum and shall be used for the purpose of providing information or directions.
- i. Commercial recreational developments shall also comply with all commercial policies and regulations of this Shoreline Master Program.

#### L. Residential Development

#### 1. **Definition**

"Residential development" means construction or alteration of one or more buildings, structures, or portions thereof which are designed for and used to provide a place of abode for human beings. This includes singlefamily residences, duplexes, multi-family dwellings, apartments, condominiums, townhomes, mobile home parks, group housing, as well as normal appurtenances. Residential development also includes land divisions, including short plats, of residentially zoned land. It also includes all modifications to land and vegetation associated with construction, preparation, or maintenance of residential structures and/or normal appurtenances. Residential development shall not include hotels or motels or other accommodation facilities.

### 2. Policies

- a. Identify single-family residences as a priority use of the shoreline only when developed in a manner consistent with control of pollution and prevention of damage to the natural environment.
- b. Prohibit residential development over the water.
- c. Require public access to the shoreline for subdivisions resulting in more than 5 residential dwellings.
- d. Require clustering of new residential development in order to protect natural features and cause the minimum disturbance.
- e. Require that residential development be sited such that flood hazard protection measures are not necessary to protect the structure.

- a. Over water residential development is prohibited.
- b. Residential development is prohibited in the floodway.
- c. If any environmentally sensitive areas exist on the project site, residential development shall be clustered in order to prevent impacts to sensitive areas.
- d. Multiunit residential developments or planned unit developments of 5 or more lots is required to provide for public pedestrian access consistent with the provisions in 7.D Public Access. Public access amenities shall be in the form of pedestrian access, as well as a maintenance agreement for the area that is dedicated for public pedestrian access. The public access easement shall be a minimum of six feet in width.
- e. Subdivisions of land shall depict the applicable shoreline designation on the face of the plat.

- f. Non-water dependent normal appurtenances such as decks, sheds, and stairways shall meet applicable setbacks.
- g. Development shall assure that surface water runoff does not pollute adjacent waters or cause erosion both during or after construction.
- h. Developments shall be designed to include measures to prevent overflow usage of common areas upon adjacent privately owned shorelands and uplands.
- i. Amenities provided by residential developments shall not be detrimental to the natural processes occurring within the shoreline.
- j. Roads, utilities, and other improvements shall comply with the applicable policies and performance standards of this Master Program.
- k. Residential structures shall not be located in areas subject to flooding unless complete flood proofing measures have been provided, and then only when the location of such structures will not aggravate flooding possibilities of nearby properties.
- 1. Alteration of topography for building sites, access roads, and utilities shall be conducted in compliance with the applicable policies and performance standards of this Master Program.
- m. Residential development shall be required to connect to City sewer systems, if available. On-site sewage disposal systems shall only be located within shorelines jurisdiction if City sewer is not available. All on-site sewage systems must comply with shoreline designation setbacks.
- n. Residential structures shall not exceed thirty feet in height.
- o. One footpath to the water is permitted for each residential lot. The footpath shall be no wider than 6 feet and shall be constructed of pervious materials.
- p. Residential development including the subdivision of lots shall be designed to achieve the following:
  - 1. Prevent the loss of ecological functions at full build-out.
  - 2. Be set back from sensitive shoreline habitat such that there is no net loss to shoreline function.

- 3. Prevent the need for new shoreline stabilization or flood hazard reduction measures.
- 4. Be consistent with applicable SMP designations and standards.

### M. Restoration Activities

#### 1. **Definition**

"Restore," "restoration" or "ecological restoration" means 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.

### 2. Policies

- a. Facilitate the projects described within the Shoreline Restoration Plan (Appendix D).
- b. Prioritize restoration and enhancement of public open space and parks within the City.
- c. Create incentives to promote the integration of shoreline restoration into development projects.

- a. Restoration and enhancement shall be carried out in accordance with an approved shoreline restoration plan (Appendix D).
- b. All shoreline restoration and enhancement projects shall protect the integrity of adjacent natural resources, including aquatic habitats and water quality.
- c. Long-term maintenance and monitoring shall be included in restoration or enhancement proposals.
- d. Shoreline restoration and enhancement may be allowed if the project proponent demonstrates that the project will improve ecological processes or habitat.

- e. Shoreline restoration and enhancement shall not impact adjacent properties.
- f. Shoreline restoration and enhancement projects shall be designed using scientific and technical information, and implemented using best management practices.
- g. Shoreline restoration and ecological enhancement projects may be permitted in all shoreline designations.

#### N. Signs

#### 1. **Definition**

"Signs" means any commercial or noncommercial communication device, structure, or fixture that is intended to aid an establishment in promoting the sale of a product, good or service using graphics, symbols or written copy (including the name of a business). Directional and incidental signs are considered signs for the purpose of this Program.

#### 2. Policies

- a. Prohibit signs that impact the ecological function of the shoreline.
- b. In order to maintain consistency throughout the City of Fife, signs and the permitting of signs within the jurisdiction should be consistent with Fife Municipal Code (FMC) Chapter 16 Signs. In the event of a discrepancy between the regulations provided in this SMP and those provided in FMC, Chapter 16 the regulations more protective of shoreline function shall apply.
- c. Require signs to be appropriate to the context and character of their location within the shoreline area.
- d. Prohibit signs from interfering with views and/or access of the shoreline area.
- e. Prohibit moving and/or flashing signs within the shoreline jurisdiction.

- a. Signs that impact shoreline ecological function shall not be permitted.
- b. Signs shall be located on the same property or within the same development as the business or organization being advertised.

Offsite advertising signs, including commercial billboards, are prohibited.

- c. Signs shall comply with the sign regulations in FMC Title 16, except where the requirements of this section are more stringent.
- d. Freestanding signs may be allowed within the shoreline buffer and setback for water-dependent and water-related development and uses that are also located in the buffer and/or setback area, including on-site directory and public information signs, and for public access and park interpretative and directional signage, subject to the following requirements:
  - 1. Signs are limited to 5 feet in height from the ground level and 20 square feet in area.
  - 2. Signs shall not obscure or block view and/or access of the shoreline area.
- e. New, expanded or replacement signs shall not be internally illuminated. Lighting shall be directed downward upon the sign face, not toward the water or neighboring properties, and shall also meet the standards of the city zoning code.
- f. New, expanded or replacement signs shall not be oriented to face Hylebos Creek or the Puyallup River and/or be located in the Aquatic designation, except for directional and interpretative signs for public access and public recreation amenities that can be accessed from the water, such as from hand launch boating facilities.
- g. Signs required by law shall not be subject to limitations with respect to the number, location, and/or size, provided that they are the minimum necessary to achieve the intended purpose. Such signs include, but are not limited to, official or legal notices issued and posted by any public agency or court, or traffic directional or warning signs.
- h. Temporary construction and real estate signs not exceeding the requirements identified in FMC Title 16, as amended, are permitted, but must be located outside of all required setbacks including the right of way.

### **O.** Transportation Facilities and Parking

### 1. **Definition**

In the context of the Shoreline Master Program, "Transportation facilities" means those structures and developments that aid in land and water surface movement of people, goods, and services. Within the City of Fife, transportation facilities include roads and highways, bridges and causeways, railroad facilities, and other related facilities. Bikeways and trails are considered recreational uses.

Parking is the use of land for accommodating cars, trucks, trailers and motor vehicles.

### 2. Policies

- a. Require roads or railway facilities to be appropriately located to fit the characteristics of the shoreline area.
- b. Encourage the joint use of transportation corridors for roads, utilities and motorized forms of transportation within the shoreline jurisdiction.
- c. Circulation planning should include systems for pedestrian, bicycle and public transportation where appropriate. Circulation planning and projects should support existing and proposed shoreline uses that are consistent with this master program.
- d. Minimize parking in shoreline areas and should not be allowed to be the primary use of any shoreline parcel.
- e. Encourage the use of pervious parking surface materials.
- f. Require parking proposed within a shoreline area to be directly associated with a permitted use and should be designed in a manner that is sensitive to the surrounding shoreline area.
- g. Require parking areas to be placed in a manner which lessens the visual impact. Landscaping should be utilized for the purpose of screening.
- h. Require landscaping in shoreline areas to utilize native plant species.
- i. Prohibit parking areas from being located in shoreline setbacks, critical areas or associated buffers.

- a. Proposed transportation and parking facilities shall be required to plan, locate and design routes that will result in no net loss of shoreline ecological function or adversely impact existing or planned water dependent uses.
- b. When feasible, major highways and railroads shall be located away from the shoreline.
- c. Transportation facilities should utilize existing transportation corridors where possible, provided that the shoreline area is not adversely impacted.
- d. Roads and railroads shall be located to provide buffer areas along streams and other shorelines.
- e. Road drainage design shall control the dispersal of surface runoff from roads and exposed soils in order to minimize runoff dispersing into waterways.
- f. All construction work shall minimize impacts to the shoreline area.
- g. Cut and fill slopes shall be protected from erosion by mulching, seeding and other appropriate strategies.
- h. Roads and waterway crossings shall not be wider than necessary to accommodate the anticipated use.
- i. Waterway crossings shall be designed to provide minimal disturbance to banks.
- j. Culverts and similar devices shall be designed to accommodate 100-year flood storm frequencies.
- k. Bridges and similar devices shall be designed to accommodate 100-year flood storm frequencies.
- 1. No machinery shall operate waterward of the Ordinary high water mark except in compliance with a hydraulics permit issued by the Washington State Department of Fish and Wildlife, or current regulating agency as amended.
- m. All material associated with road construction that is potentially unstable or erodible shall be stabilized by compacting, seeding, mulching, or other suitable means.
- n. All roads and drainage systems shall be maintained to prevent

erosion and/or water quality degradation.

- o. Road routes shall make provisions for pedestrian, equestrian, bicycle, and other modes of travel whenever feasible.
- p. Parking, as a primary use is prohibited in the shoreline jurisdiction, but must be provided in association with a permitted use and shall be the minimum size necessary for that use.
- q. Parking in shoreline areas should be designed in concert with landscaping design to screen parking facilities from shorelines and abutting properties.
- r. Pervious paving materials are encouraged to minimize impervious surface runoff.
- s. Proposed landscape areas shall be permanently maintained in a tidy manner, free of rubbish and debris consistent with FMC 19.64.080.B.
- t. Parking shall not be permitted closer to the shoreline that a permitted structure and use.
- u. Security lighting associated with parking facilities shall be beamed, hooded, or directed so as to not cause glare on adjacent properties or water bodies.
- v. Transportation and parking facilities shall be constructed to be consistent with the City of Fife's stormwater manual.

#### P. Utilities

#### 1. **Definition**

"Utilities" are services that produce, transmit, carry, store, process or dispose of electric power, petroleum, natural gas, water, sewage, communications, etc.

### 2. Policies

- a. Where possible, require utilities to utilize existing transportation and utility sites or right-of-ways.
- b. Where possible, require utilities to be placed underground.
- c. Prohibit solid waste disposal in the shoreline area.
- d. Require new utility facilities to be placed in such a manner as to result in the minimum impact to the shoreline area.

- a. When applying for the installation of utility facilities, the following should be included:
  - 1. The need for the utility facility to be located in the shoreline;
  - 2. Descriptions of alternative location(s) and why they have not been selected; and
  - 3. A plan for the reclamation of the area disturbed during construction.
- b. Utilities shall be coordinated with local government agencies and among utility providers and provide for the multiple use of sites and right-of-way, where feasible, to minimize impacts to the shoreline.
- c. The design, location and maintenance of utilities shall result in no net loss of shoreline ecological function.
- d. Utility production and processing facilities and transmission facilities shall be located outside of the shoreline jurisdiction unless no other feasible option exists.
- e. The proposal for a new utility corridor or river crossing shall provide reasoning for the infeasibility of utilizing an existing route.
- f. New solid waste disposal sites or facilities are prohibited within the shoreline jurisdiction.

- g. New utility lines, including electricity, fuel lines or communication shall be installed underground whenever feasible.
- h. The following utility facilities may be permitted as a conditional use if evidence can be provided that no reasonable alternative exists:
  - 1. Sewage system line, interceptors, pump stations, treatment plants.
  - 2. Gas pipelines.
  - 3. Water system treatment plants.
  - 4. Electrical energy generating plants, substations, lines and cables.
- i. Utilities shall be designed and installed to meet future needs when possible.
- j. Where water lines must cross rivers, they shall be completely buried except where they may be affixed to a bridge structure.
- k. If construction of utilities underwater is required, it shall be timed to avoid impacts to fish and wildlife.

### **10. SHORELINE ADMINISTRATIVE PROCEDURES**

#### A. 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; the State Department of Ecology regulations and guidelines adopted as Chapters 173-26 and 173-27 WAC; and the Fife shoreline master program, together with amendments and/or additions thereto.

Issuance of any shoreline permit or exemptions from the City does not obviate requirements for other federal, state and county permits, procedures and regulations.

### B. Permit Processing - General

- 1. Applications for shoreline permits shall be processed in accordance with the applicable provisions of Title 14; provided that, where the provisions of Title 14 and the administration and permitting provisions of the shoreline master program conflict the provisions of the shoreline master program shall apply.
- 2. Applications for shoreline substantial development permits, shoreline conditional use permits and shoreline variances shall be processed as Type 3 permits as provided for in Title 14.
- 3. The Director shall have the responsibility for the administration of the permit system pursuant to the requirements of the Shoreline Management Act (RCW 90.58) and regulations adopted and promulgated by the State Department of Ecology as it pertains to the city including, but not limited to, determinations of whether a development requires a Substantial Development Permit, a Shoreline Conditional Use Permit, a Shoreline Variance and/or is exempt.
- 4. Applications for shoreline permits and/or statements of exemptions shall be made on forms provided by the Director. Applications shall be substantially consistent with the information required by WAC 173-27-180 including but not limited to the following:
  - a. Completed intake form from WAC 173-27-990, Appendix A Shoreline Management Act Permit Data Sheet and Transmittal Letter.
  - b. The name, address and phone number of the applicant. The applicant should be the owner of the property or the primary proponent of the project and not the representative of the owner or primary proponent.
  - c. The name, address and phone number of the applicant's representative, if other than the applicant.

- d. The name, address and phone number of the property owner, if other than the applicant.
- e. Location of the Property. This shall, at a minimum, include the property address and identification of the section, township and range to the nearest quarter, quarter section or latitude and longitude to the nearest minute. All applications for projects located in open water areas away from land shall provide a longitude and latitude location.
- f. Identification of the name of the shoreline (water body) that the site of the proposal is associated with. This shall be the water body from which jurisdiction of the Act over the project is derived.
- g. A general description of the proposed project that includes the proposed use or uses and the activities necessary to accomplish the project.
- h. A general description of the property as it now exists including its physical characteristics and improvements and structures.
- i. A general description of the vicinity of the proposed project including identification of the adjacent uses, structures and improvements, intensity of development and physical characteristics.
- j. A site development plan consisting of maps and elevation drawings, drawn to an appropriate scale to depict clearly all required information, photographs and text which shall include:
  - 1. The boundary of the parcel(s) of land upon which the development is proposed.
  - 2. The ordinary high water mark of all water bodies located adjacent to or within the boundary of the project. This may be an approximate location; provided, that for any development where a determination of consistency with the applicable regulations requires a precise location of the ordinary high water mark the mark shall be located precisely and the biological and hydrological basis for the location as indicated on the plans shall be included in the development plan. Where the ordinary high water mark is neither adjacent to or within the boundary of the project, the plan shall indicate the distance and direction to the nearest ordinary high water mark of a shoreline.
  - 3. Existing and proposed land contours. The contours shall be at intervals sufficient to accurately determine the existing character of the property and the extent of proposed change to the land that is necessary for the development. Areas within the boundary that will not be altered by the development may be indicated as such and contours approximated for that area.
  - 4. A delineation of all wetland areas that will be altered or used as a part of the development.
  - 5. A general indication of the character of vegetation found on the site.
  - 6. The dimensions and locations of all existing and proposed structures and improvements including but not limited to: buildings, paved or graveled areas, roads, utilities, septic tanks and drainfields, material stockpiles or surcharge, and stormwater management facilities.
  - 7. Where applicable, a landscaping plan for the project.

- 8. Where applicable, plans for development of areas on or off the site as mitigation for impacts associated with the proposed project shall be included and contain information consistent with the requirements of this section.
- 9. Quantity, source and composition of any fill material that is placed on the site, whether temporary or permanent.
- 10. Quantity, composition and destination of any excavated or dredged material.
- 11. A vicinity map showing the relationship of the property and proposed development or use to roads, utilities, existing developments and uses on adjacent properties.
- 12. Where applicable, a depiction of the impacts to views from existing residential uses and public areas.
- 13. On all variance applications the plans shall clearly indicate where development could occur without approval of a variance, the physical features and circumstances on the property that provide a basis for the request, and the location of adjacent structures and uses.
- k. The Director shall determine if the application is complete based upon the information required by this chapter.

# C. Application – Notices

- 1. The Director shall give notice of the application in accordance with the applicable provisions of Title 14.03 and 14.06, no less than 30 days prior to permit issuance.
- 2. When a public hearing is required, the notices shall include a statement that any person desiring to present his/her views may do so orally or in writing at the public hearing, or may submit written comments prior to the public hearing which will be provided to the hearing examiner at the public hearing. The public notice shall also state that any person interested in the hearing examiner's action on an application for a permit may notify the Director of his/her interest in writing within 30 days of the last date of publication of the notice. Such notification to the Director or the submission of views to the hearing examiner shall entitle said persons to a copy of the action taken on the application.

# D. Application – Shoreline substantial development permit – Review criteria

- 1. A substantial development permit shall be granted by the Hearing Examiner only when the development proposed is consistent with the following:
  - a. Goals, objectives, policies and use regulations of the City of Fife SMP;
  - b. Fife Comprehensive Plan and Municipal Code; and
  - c. The policies and regulations of the SMA as well as the associated guidelines (Chapter 90.58 RCW; Chapters 173-26 and 173-27 WAC).
- 2. The Hearing Examiner may attach conditions to the approval of permits as necessary to assure consistency of the proposal with the above criteria.

### E. Application – Shoreline conditional use permit – Review criteria

- 1. Pursuant to WAC 173-27-210 and WAC 173-27-160, the criteria below shall constitute the minimum criteria for review and approval of a shoreline conditional use permit. Uses classified as conditional uses, and not uses prohibited by the regulations of this SMP, may be authorized; provided, that the applicant can demonstrate all of the following:
  - a. That the proposed use will be consistent with the policies of RCW 90.58.020, the policies of this SMP, the City of Fife Comprehensive Plan and other applicable plans, programs and/or regulations;
  - b. That the proposed use will not interfere with the normal public use or access to public shorelines;
  - c. That the proposed use of the site and design of the project will be compatible with other permitted uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program;
  - d. That the proposed use will cause no unreasonably adverse effects to the shoreline, will not result in a net loss of ecological functions, and will not be incompatible with the environment designation or zoning classification in which it is to be located;
  - e. That the public interest suffers no substantial detrimental effect;
  - f. That the proposed use is in the best interest of the public health, safety, morals or welfare; and
  - g. That consideration of cumulative impacts resultant from the proposed use has occurred and has demonstrated that no substantial cumulative impacts are anticipated, consistent with WAC 173-27-160(2).
- 2. Other uses which are not classified or set forth in the master program may be authorized as conditional uses provided the applicant can demonstrate consistency with the requirements of this section.
- 3. The Hearing Examiner may attach conditions to the approval of permits as necessary to assure consistency of the proposal with the above criteria.
- 4. The decision of the hearing examiner shall be the final decision of the city. The Department of Ecology shall be the final authority authorizing a shoreline conditional use permit consistent with WAC 173-27-200.

# F. Application – Shoreline variance – Review criteria

- 1. The purpose of a variance permit is strictly limited to granting relief from specific bulk, dimensional or performance standards set forth in this SMP, and where there are extraordinary or unique circumstances relating to the physical character or configuration of property such that the strict implementation of the SMP would impose unnecessary hardships on the applicant or thwart the SMA policies as stated in RCW 90.58.020.
- 2. Pursuant to WAC 173-27-210 and WAC 173-27-170, the criteria below shall constitute the minimum criteria for review and approval of a shoreline variance permit. Variance permits for development that will be located landward of the ordinary high water mark (per RCW 90.58.030(2)(b) definition), 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 requirements of the bulk, dimensional or performance standards set forth in the master program preclude or significantly interfere with a reasonable use of the property not otherwise prohibited by this SMP;
- b. That the hardship described above 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 will be compatible with other permitted activities within the area and with uses planned for the area under the comprehensive plan and shoreline master program and will not cause adverse impacts to the shoreline environment;
- d. That the variance authorized does not constitute a grant of special privilege not enjoyed by other properties in the area, and will be the minimum necessary to afford relief; and
- e. That the public interest will suffer no substantial detrimental effect;
- 3. Variance permits for development that will be located either waterward of the ordinary high water mark or any wetland as defined in RCW90.58.030(2)(h) may be authorized, provided the applicant can demonstrate all the criteria stated above as well as the following:
  - a. That the strict application of the bulk, dimensional or performance standards set forth in this SMP precludes all reasonable use of the property not otherwise prohibited by this SMP; and
  - b. That the public rights of navigation and use of the shorelines will not be adversely affected by the granting of the variance.
- 4. In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if variances were granted to other developments in the area where similar circumstances exist, the total of the variances shall also remain consistent with the policies of RCW90.58.020 and shall not cause substantial adverse effects to the shoreline environment or result in a net loss of ecological functions.
- 5. Variances from the use regulations of the master program are prohibited.
- 6. The decision of the hearing examiner shall be the final decision of the city. The Department of Ecology shall be the final authority authorizing a shoreline variance consistent with WAC 173-27-200.

#### G. Statement of exemption

- 1. A Statement of Exemption shall be required for a development that is exempt from the requirements for a Shoreline Substantial Development Permit.
- 2. The Director shall, for exempt development proposals in shoreline jurisdiction subject to review, approval, and permitting by a federal or state agency, prepare a statement of exemption. The Statement of Exemption shall be addressed to the applicant, the federal or state permitting agency, and the

Department of Ecology. The Statement of Exemption shall indicate the specific exemption provision from WAC 173-27-040 that is being applied to the development and provide a summary of the analysis demonstrating consistency of the project with the Fife SMP and the SMA.

- 3. Exempt proposals shall be consistent with the goals and policies of the shoreline master program.
  - a. Exemptions shall be construed narrowly. Only those development that meet the precise terms of one or more of the listed exemptions may be granted exemptions from the substantial development permit process.
  - b. Exempt proposals shall be consistent with the goals, policies and provisions of the shoreline master program and the Act. An exemption from the substantial development permit process is not an exemption from compliance with the act or the local master program, nor from any other regulatory requirements. A development or use that is listed as a conditional use pursuant to the local master program or is an unlisted use, must obtain a conditional use permit even though the development or use does not require a substantial development permit. When a development or use is proposed that does not comply with the bulk, dimensional and performance standards of the master program, such development or use can only be authorized by approval of a variance.

(c) The burden of proof that a development or use is exempt from the permit process is on the applicant.

(d) If any part of a proposed development is not eligible for exemption, then a substantial development permit is required for the entire proposed development project.

4. The Director may attach conditions to exemptions as necessary to assure consistency of the proposal with the Act and the shoreline master program.

# H. Development Conformance Burden of Proof

The burden of proving that the proposed development is consistent with the criteria set forth in this chapter, the master plan for the City, as well as the requirements of the Shoreline Management Act shall be on the applicant.

# I. Application, Public Hearing, and decision at Open Record Public Hearing

- 1. The hearing examiner shall hold at least one public hearing on each application for a shoreline substantial development permit, shoreline conditional use permit, or shoreline variance on shorelines within the city. The public hearing shall be held not less than 30 days following the final publication of the notice.
- 2. If, for any reason, testimony on any matter set for public hearing, or being heard, cannot be completed on the date set for such hearing, the hearing examiner may, before adjournment or recess of such matters under

consideration, publicly announce the time and place of the continued hearing and no further notice is required.

- 3. When the hearing examiner renders a decision, the hearing examiner shall make and enter written findings from the record and conclusions thereof which support the decision. The findings and conclusions shall set forth the manner in which the decision is consistent with the criteria set forth in the Shoreline Management Act and departmental regulations.
- The Director shall notify the following persons in writing of the hearing examiner's final approval, disapproval or conditional approval of a substantial development permit, shoreline conditional use permit, or shoreline variance application within eight (8) days of the Hearing Examiner's final decision:
   a. The applicant;
  - b. The State Department of Ecology;
  - c. The State Attorney General;
  - d. Any person who has provided written or oral comments on the application at the public hearing;
  - e. Any person who has written the Director requesting notification.

#### J. Development commencement time

Development pursuant to a substantial development permit shall not begin and shall not be authorized until 21 days from the date the Director files the approved substantial development permit with the State Department of Ecology and Attorney General, or until all review proceedings initiated within 21 days of the date of such filing have been terminated.

#### K. Decision appeals

Any person aggrieved by the granting, denying or rescission of a substantial development permit by the hearing examiner may seek review from the State Shorelines Hearings Board by filing a petition for review with the board within 21 days of the date of filing, as defined by RCW 90.58.140(6), of the hearing examiner's final decision. Within seven days of the filing of the petition for review with the board, the person seeking review shall serve a copy of his petition with the State Department of Ecology, the office of the Attorney General and the Director.

#### L. Time Requirements and Revisions

- 1. Time Requirements for Shoreline Permits
  - a. The time requirements of this section shall apply to all substantial development permits and to any development authorized pursuant to a variance or conditional use permit authorized by this SMP.
  - b. Construction activities shall be commenced or, where no construction activities are involved, the use or activity shall be commenced within two years of the effective date of a substantial development permit. However, local government 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 before the expiration date and notice of the proposed extension

is given to parties of record on the substantial development permit and to the department.

- c. Authorization to conduct development activities shall terminate five years after the effective date of a substantial development permit. However, local government 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 before the expiration date and notice of the proposed extension is given to parties of record and to the department.
- d. The effective date of a substantial development permit shall be the date of filing as provided in RCW 90.58.140(6). The permit time periods in subsections (b) and (c) of this section 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.
- e. Revisions to permits, pursuant to the provisions of WAC 173-27-100 and subsection 2, may be authorized after original permit authorization has expired; provided, that this procedure shall not be used to extend the original permit time requirements or to authorize substantial development after the time limits of the original permit.
- f. The Director shall notify the Department of Ecology in writing of any change to the effective date of a permit, as authorized by this section, with an explanation of the basis for approval of the change. Any change to the time limits of a permit, other than those authorized by RCW 90.58.143 and this chapter, as amended shall require a new permit application.
- 2. Revision of Permits
  - a. When an applicant desires to revise a Permit, the applicant must submit detailed plans and text describing the proposed changes. If the Director determines that the revisions proposed are within the scope and intent of the original Permit, consistent with RCW 90.58, the Director may approve the revision. "Within the scope and intent of the original Permit" means all of the following:
    - 1. No additional over-water construction is involved,
    - 2. Ground area coverage and height is not increased more than ten percent (10%);
    - 3. Additional structures do not exceed a total of two hundred fifty (250) square feet or ten percent (10%), whichever is less;
    - 4. The revision does not authorize development to exceed height, setback, lot coverage, or any other requirement of the City of Fife Shoreline Master Program;
    - 5. Additional landscaping is consistent with conditions (if any) attached to the original Permit;
    - 6. The use authorized pursuant to the original Permit is not changed; and
    - 7. No substantial adverse environmental impact will be caused by the project revision.

- b. If the sum of the proposed revision and any previously approved revisions do not meet the criteria above, an application for a new Shoreline Permit must be submitted. If the revision involves a Conditional Use or Variance which was conditioned by the Department of Ecology, the revision also must be reviewed and approved by the Department of Ecology (see RCW 90.58). The City of Fife or the Department of Ecology decision on revision to the Permit may be appealed within twenty-one (21) days of such decision, in accordance with RCW 90.58.
- **c.** Construction allowed by the revised Permit that is not authorized under the original Permit is undertaken at the applicant's own risk until the expiration of the appeals deadline.

# M. Non-conforming Development, Development & Building Permits, and Unclassified Uses

- 1. Non-conforming Development. Nonconforming development is a shoreline use or structure which was lawfully constructed or established prior to the effective date of the Act or the Master Program, or amendments thereto, but which does not conform to present regulations or standards of the Master Program or policies of the act. In such cases, the following standards shall apply:
  - a. Nonconforming uses and structures may continue provided that it is not enlarged or expanded;
  - b. A nonconforming use or structure which is moved any distance must be brought into conformance with the Shoreline Master Program and the Act;
  - c. If a nonconforming structure is damaged to an extent not exceeding fifty percent (50%) replacement cost of the nonconforming structure, it may be reconstructed to those configurations existing immediately prior to the time the structure was damaged, so long as restoration is completed within one year of the date of damage. Single-family nonconforming development may be replaced if damaged to one hundred percent (100%), if the restoration is completed within three years of the date of damage;
  - d. If a nonconforming use is discontinued for twelve (12) consecutive months or for twelve (12) months during any two-year period, any subsequent use shall be conforming; it shall not be necessary to show that the owner of the property intends to abandon such nonconforming use in order for the nonconforming rights to expire;
  - e. A nonconforming use shall not be changed to another nonconforming use, regardless of the conforming or nonconforming status of the building or structure in which it is housed; and
  - f. An undeveloped lot, tract, parcel, site, or division which was established prior to the effective date of the Act and the Master Program, but which does not conform to the present lot size or density standards may be developed so long as such development conforms to all other requirements of the Master Program and the Act.

- g. A use which is listed as a conditional use but which existed prior to adoption of the Master Program for which a Conditional Use Permit has not been obtained shall be considered a nonconforming use.
- h. 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.
- 2. Development and Building Permits. No building permit or other development permit shall be issued for any parcel of land developed or divided in violation of this Master Program. All purchasers or transferees of property shall comply with provisions of the Act and this Master Program and each purchaser or transferee may recover damages from any person, firm, corporation, or agent selling, transferring, or leasing land in violation of the Act or this Master Program including any amount reasonable spent as a result of inability to obtain any development permit and spent to conform to the requirements of the Act or this Master Program as well as cost of investigation, suit, and reasonable attorney's fees occasioned thereby. Such purchaser, transferee, or lessor may, as an alternative to conforming their property to these requirements, may rescind the sale, transfer, or lease and recover cost of investigation, and reasonable attorney's fees occasioned thereby from the violator.

# N. Enforcement and Penalties

- 1. Enforcement
  - a. The provisions of Chapter 19.96 FMC relating to Enforcement shall apply to this chapter.
  - b. All provisions of the Master Program shall be enforced by the Director and/or a designated representative. For such purposes, the Director or a duly authorized representative shall have the power of a police officer.
  - c. The choice of enforcement action and the severity of any penalty should be based on the nature of the violation and the damage or risk to the public or to public resources. The existence or degree of bad faith of the persons subject to the enforcement action, the benefits that accrue to the violator, and the cost of obtaining compliance may also be considered.
- 2. Penalty: Any person found to have willfully engaged in activities on the city's shorelines in violation of the Shoreline Management Act (RCW or in violation of the city's Master Program, rules or regulations adopted pursuant thereto shall be subject to the penalty provisions of FMC 19.96.030(B)(4) Civil citation penalties and FMC 19.96.030(B)(5) Criminal penalties.
- 3. Public and Private Redress: Any person subject to the regulatory program of the Master Program who violates any provision of the 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 may bring suit for damages under this section on behalf of the city. Private persons shall have the right to bring suit for damages under this section on their own behalf and on behalf of all persons similarly situated. If

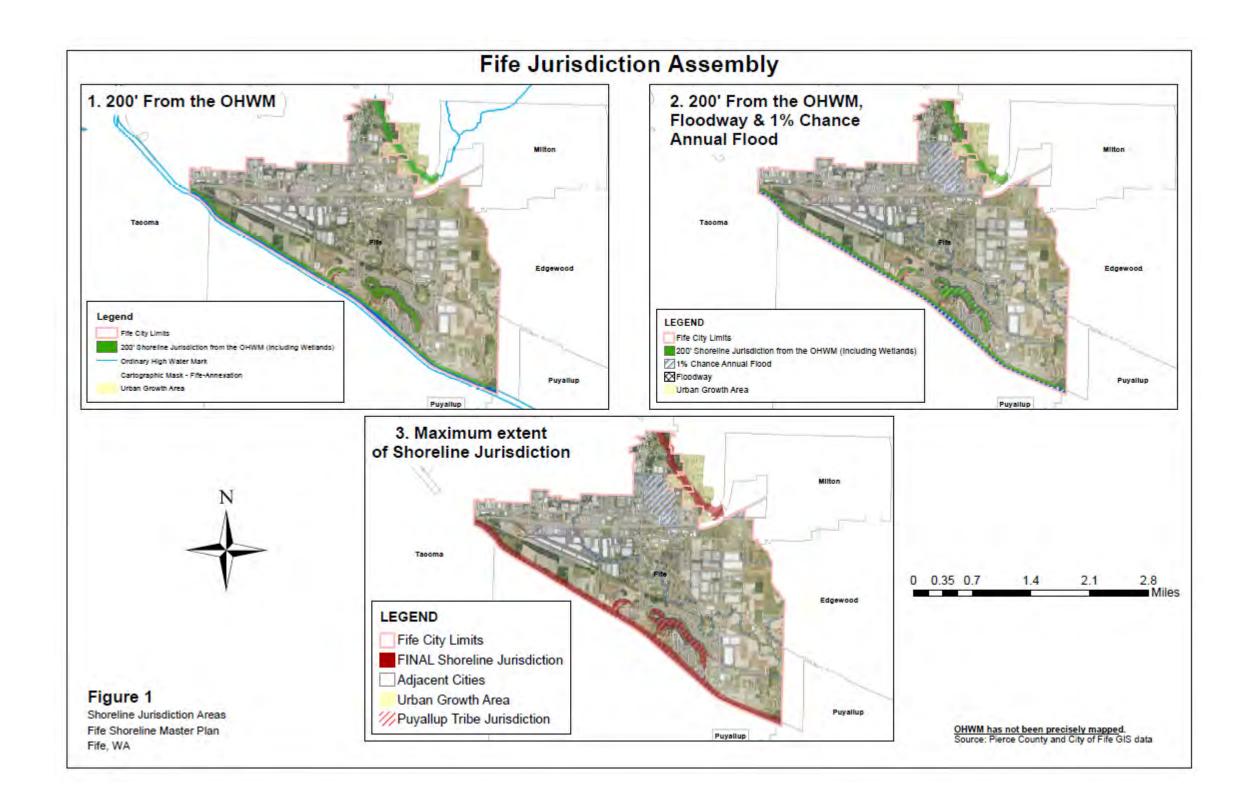
liability has been established for the cost of restoring an area affected by violation, the court shall make provisions to assure that restoration will be accomplished within a reasonable time at the expense of the violator. In addition to such relief, including monetary damages, the court, in its discretion, may award attorneys' fees and costs of the suit to the prevailing party.

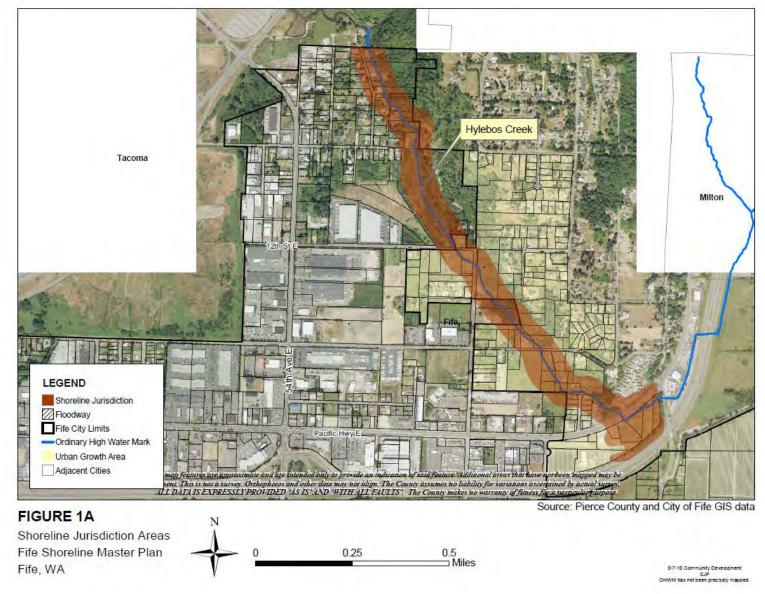
4. Delinquent Permit Penalty: A person applying a Permit after commencement of the use or activity may, at the discretion of the City be required, in addition, to pay a delinquent permit penalty.

## O. Master Program – Review, Amendments and Adoption

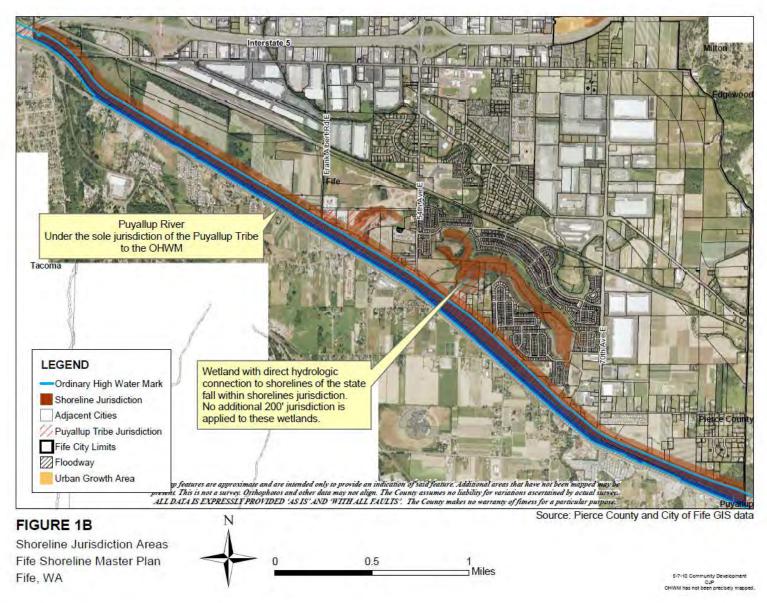
- 1. Tracking: The Director shall track and periodically evaluate the cumulative effects of all project review actions in shoreline areas. This may be scheduled to coincide with the Master Program review.
- 2. Amendments to Master Program. Any of the provisions of this Master Program may be amended as provided for in RCW 90.58.120 and .200 and WAC 173-26. Amendments or revision to the Master Program or Official Shoreline Designation Map, as provided by law, do not become effective until approved by the Washington State Department of Ecology. The full use of existing urban areas within the Urban and Levee designations shall be demonstrated before additional lands may be re-designated Urban or Levee.
- 3. Severability: If any provisions of this Master Program, or its application to any person or legal entity or parcel of land or circumstance, is held invalid, the remainder of the Master Program, or the application of the provisions to other persons or legal entities or parcels of land or circumstances, shall not be affected.
- 4. Effective Date: The effective date is fourteen days from the date of the Washington State Department of Ecology's [Ecology] written notice of final action to the local government stating the department has approved or rejected the proposal.

# Appendix A: City of Fife Official Shoreline Maps

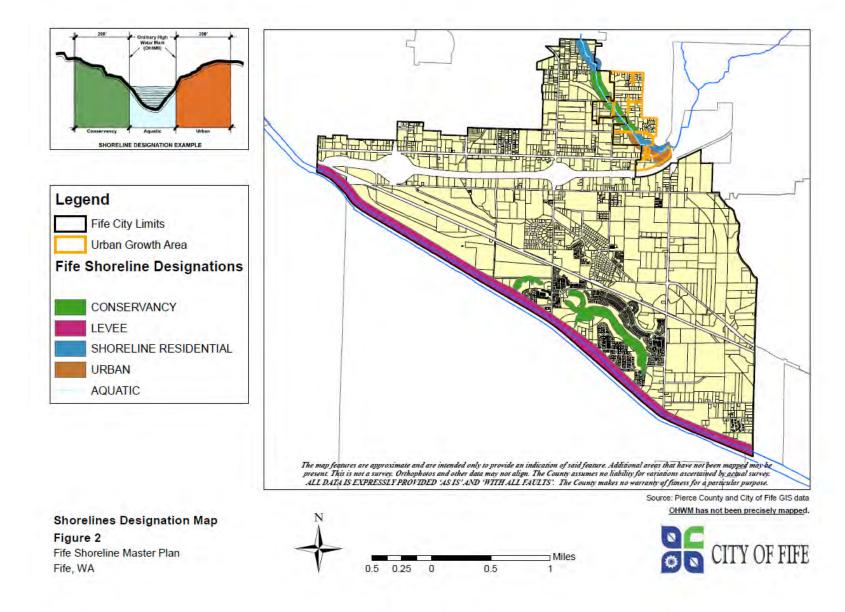


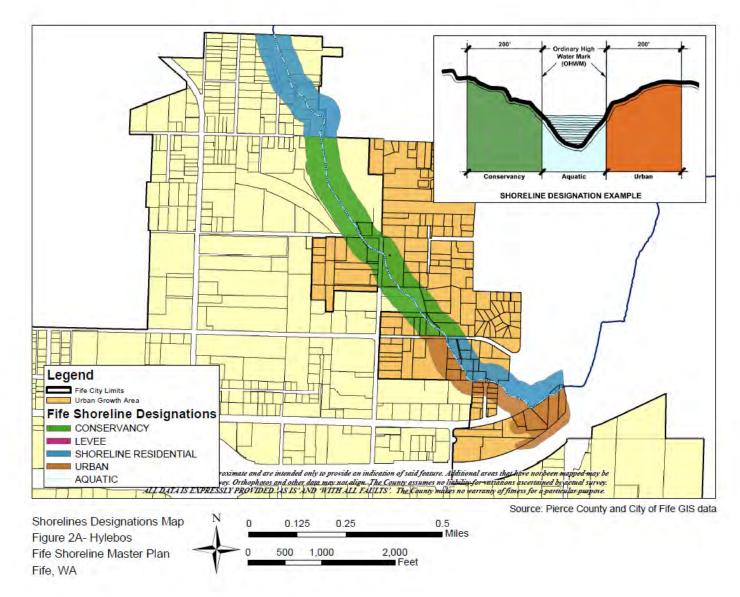


City of Fife Shoreline Master Program Appendix A: Official Shoreline Maps

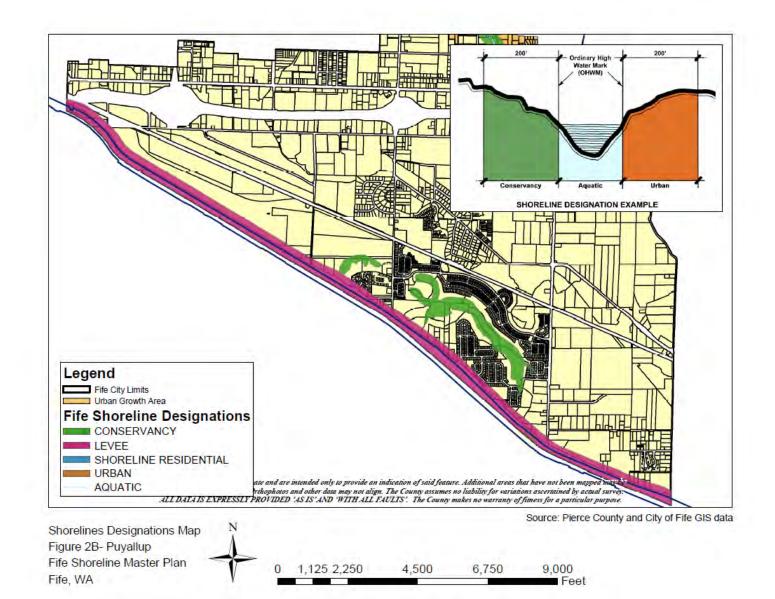


City of Fife Shoreline Master Program Appendix A: Official Shoreline Maps

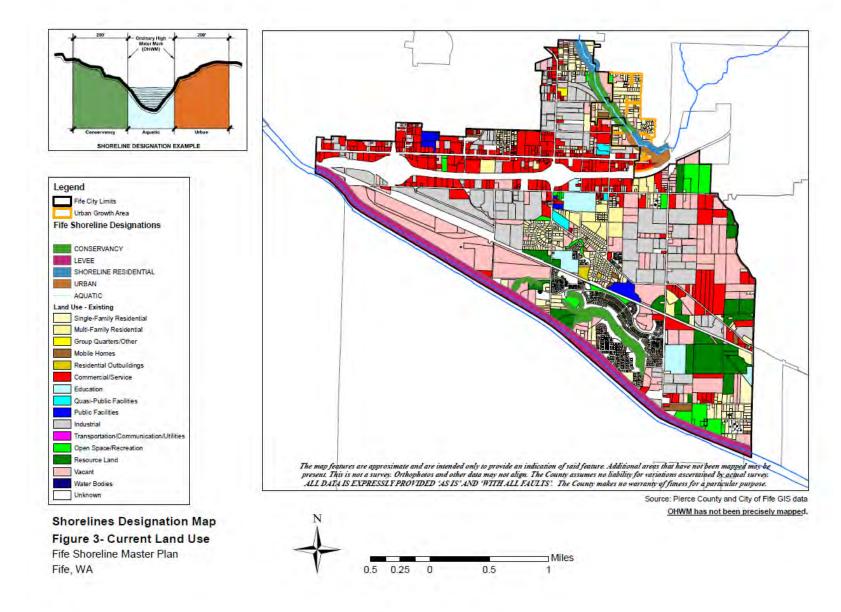


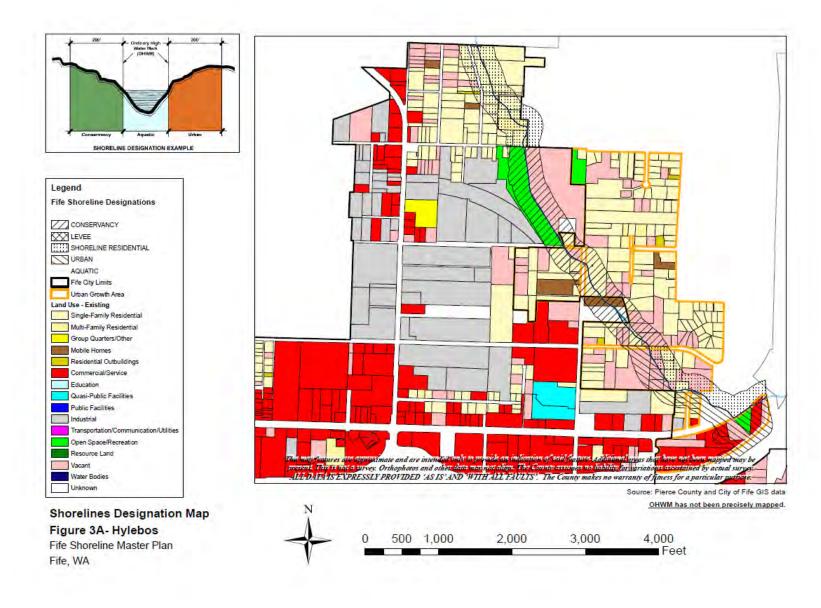


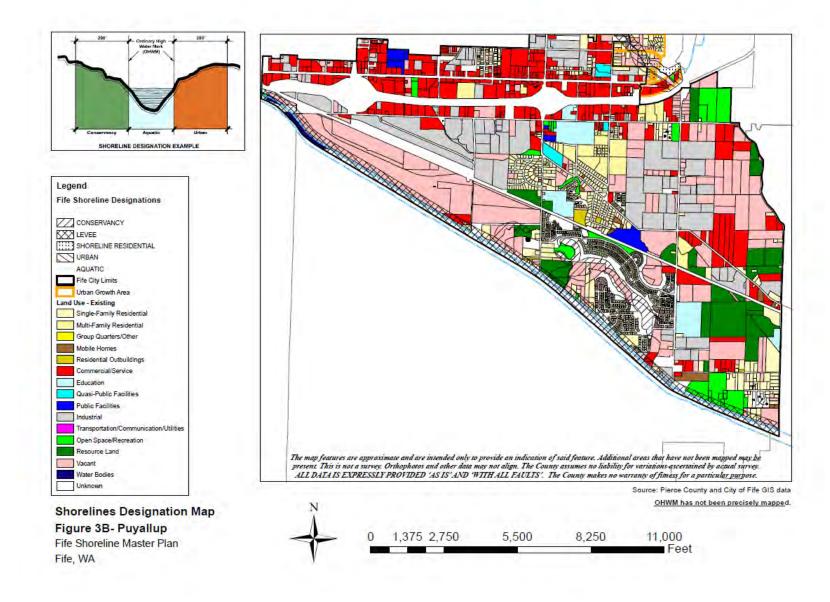
City of Fife Shoreline Master Program Appendix A: Official Shoreline Maps



City of Fife Shoreline Master Program Appendix A: Official Shoreline Maps







# Appendix B: Critical Areas Ordinance Regulations for Critical Areas within the Shoreline Jurisdiction

## Chapter SMP17.05 CRITICAL AREAS WITHIN THE SHORELINE JURISDICTION– GENERAL PROVISIONS

SMP17.05.010	Purpose and goals
SMP17.05.015	Critical areas
SMP17.05.020	Intent
SMP17.05.030	Interpretation
SMP17.05.040	Regulated uses – Activities
SMP17.05.045	Best available science
SMP17.05.075	Application
SMP17.05.080	Critical areas review
SMP17.05.085	Critical areas report
SMP17.05.087	Mitigation sequencing
SMP17.05.095	Critical areas protective measures
SMP17.05.100	Compliance
SMP17.05.120	Bonding
SMP17.05.150	Nonconforming activities
SMP17.05.180	Assessment relief
SMP17.05.190	Maps and inventory
	-

## SMP17.05.010 Purpose and goals

- A. This Chapter and Chapters SMP17.07, SMP17.09, SMP17.11, SMP17.13, SMP17.15 and SMP17.17 FMC establish regulations for development activity in critical areas.
- B. It is the purpose of this chapter to protect areas within the city identified as critical areas from the adverse impacts of development and incompatible land use through the use of clear and reasonable land use regulations and criteria based on best available science in accordance with WAC 365-195-900 through 365-195-925, and in accordance with state and federal agencies and other qualified professionals. In order to accomplish this purpose, the city seeks to implement the following general goals:
  - 1. Maintain and enhance critical areas within the city.
  - 2. Encourage the conservation of lands with significance as critical areas as defined by the Washington State Department of Community, Trade and Economic Development in Chapter 365-190 WAC.
  - 3. Discourage incompatible land uses within critical areas and on adjacent parcels.
  - 4. Maintain open space within the city for recreational and educational uses, as fish and wildlife habitat, and for aesthetic purposes.
  - 5. Enhance and protect the air and water quality, ecologic systems, and high quality of life in the city and its urban growth area.

6. Alert members of the public, including appraisers, assessors, owners, potential buyers, or lessees, to the development limitations of critical areas and adjacent parcels or buffers.

## SMP 17.05.015 Critical areas

Critical areas regulated by this title include:

- A. Wetlands as designated in Chapter SMP17.17 FMC;
- B. Critical aquifer recharge areas as designated in Chapter SMP17.07 FMC;
- C. Fish and wildlife habitat conservation areas as designated in Chapter SMP17.15 FMC;
- D. Frequently flooded areas as designated in Chapter SMP17.09 FMC;
- E. Geologically hazardous areas as designated in Chapter SMP17.11 FMC; and
- F. Seismic hazard areas as designated in Chapter SMP17.13 FMC.

#### SMP17.05.020 Intent

The intent of this chapter and title is to protect and conserve critical areas in the city by establishing minimum standards for development on sites which contain or adjoin such critical areas. The city seeks to promote the public health, safety, and general welfare by:

- A. Protecting critical areas from the impacts of development;
- B. Mitigating unavoidable impacts to critical areas by regulating alterations within and adjacent to those areas;
- C. Protecting the public against losses from: unnecessary maintenance and replacement of public facilities, publicly funded mitigation of avoidable impacts, and degradation of the natural environment;
- D. Preventing cumulative adverse impacts on water quality, water availability, wetlands, streams and other aquatic resources;
- E. Providing city officials with adequate information to adequately protect critical areas when approving, conditioning, or denying private development proposals;
- F. Implementing the goals of the Growth Management Act (GMA), the State Environmental Policy Act, and other land use policies and plans adopted by the city; and
- G. Protecting public and private resources and facilities from injury and property damage resulting from flooding, erosion, seismic events, soil subsidence, and steep slope failure.

#### SMP17.05.030 Interpretation

In the interpretation and application of this chapter, all provisions shall be:

- A. Considered the minimum necessary;
- B. Liberally construed to serve the purposes and goals of this chapter; and
- C. Deemed neither to limit nor repeal any other powers under federal, state, county, or city statutes, regulations, or ordinances that are intended to accomplish purposes and achieve goals that are the same or similar to the purposes and goals of this chapter and title.

# SMP17.05.040 Regulated uses – Activities

- A. The city shall not grant any approval or permission to alter the condition of any land, water, or vegetation, or to construct or alter any structure or improvement unless the requirements of this chapter and title are met. Such approval or permission includes, but is not limited to, the following: grading permits, building permits, binding site plans, conditional use permits, right-of-way construction permits, site development permits, master plan development such as planned residential developments, subdivisions, short subdivision, special use permit, utility permit, variance, rezone, or any subsequently adopted permit or required approval not expressly exempted by this title. These critical area regulations shall apply as an overlay and in addition to zoning and other regulations adopted by the city.
- B. The permits required by this title shall be in addition to permits or other types of approvals required by any other provisions of the FMC, or any applicable federal, state or county requirements. By resolution, the city council shall establish fees for critical area identification and permit review processing.
- C. The city shall regulate all uses within 300 feet of, or that are likely to affect, one or more critical areas, consistent with the best available science and the provisions of this title.
- D. These critical area regulations shall apply concurrently with review conducted under the State Environmental Policy Act (SEPA). Any conditions required pursuant to this title shall be included in the SEPA review and threshold determination.
- E. As provided herein, the director is given the authority to interpret and apply, and the responsibility to enforce, this title to accomplish its purpose, goals, and intent.

## SMP17.05.045 Best available science

A. Protection for Functions and Values and Anadromous Fish. Critical area reports and decisions to alter critical areas shall rely on the best available science to protect the function and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish and their habitat, such as salmon and bull trout.

- B. Best Available Science to Be Used Must Be Consistent with Criteria. The best available science is that scientific information applicable to the critical area prepared by local, state or federal natural resource agencies, a qualified scientific professional or team of qualified scientific professionals that is consistent with criteria established in WAC 365-195-900 through 365-195-925. Pierce County road and bridge design and construction standards are hereby referenced as a source of best available science for city of Fife critical areas standards. Sources for best available science are also included in the latest edition of "Citations of Recommended Sources of Best Available Science," published by the Washington State Office of Community Development.
- C. Characteristics of a Valid Scientific Process. In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of the city's regulatory decisions, and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. To determine whether information received during the permit review process is reliable scientific information, the Director shall determine whether the source of the information displays the characteristics of a valid scientific process. Such characteristics are as follows:
  - 1. Peer Review. The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline. The proponents of the information have addressed the criticism of the peer reviewers. Publication in a refereed scientific journal usually indicates that the information has been appropriately peer-reviewed;
  - 2. Methods. The methods used to obtain the information are clearly stated and reproducible. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to assure their reliability and validity;
  - 3. Logical Conclusions and Reasonable Inferences. The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented. Any gaps in information and inconsistencies with other pertinent scientific information are adequately explained;
  - 4. Quantitative Analysis. The data have been analyzed using appropriate statistical or quantitative methods;
  - 5. Context. The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge; and
  - 6. References. The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are well referenced with citations to relevant, credible literature and other pertinent existing information.

- D. Nonscientific Information. Nonscientific information may supplement scientific information, but it is not an adequate substitute for valid and available scientific information. Common sources of nonscientific information include anecdotal information, non-expert opinion, and hearsay.
- E. Absence of Valid Scientific Information. Where there is an absence of valid scientific information or incomplete scientific information relating to a critical area, leading to uncertainty about the risk to critical area function of permitting an alteration of or impact to the critical area, the Director shall:
  - 1. Take a "precautionary or no risk approach" that strictly limits development and land use activities until the uncertainty is sufficiently resolved; and
  - 2. Require an effective adaptive management program that relies on scientific methods to evaluate how well regulatory and non-regulatory actions protect the critical area. An adaptive management program is a formal and deliberate scientific approach to taking action and obtaining information in the face of uncertainty. An adaptive management program shall:
    - a. Address funding for the research component of the adaptive management program;
    - b. Change course based on the results and interpretation of new information that resolves uncertainties; and
    - c. Commit to the appropriate time frame and scale necessary to reliably evaluate regulatory and non-regulatory actions affecting protection of critical areas and anadromous fisheries.

# SMP17.05.075 Application

- A. Critical Areas Identification. Prior to the review of any proposed development activity requiring any city permit, the applicant shall submit to the Director a completed critical area identification application on a form provided by the city. The Director shall review the application, conduct a site inspection if deemed necessary, review other information available pertaining to the site and the proposal, and make a determination as to whether any critical areas may be affected by the proposal and if a more detailed critical area report shall be submitted.
- B. Critical Areas Identification Indicators. The Director may use the following indicators to assist in determining the need for a critical area report:
  - 1. Indication of the critical area on the city critical areas maps that may be impacted by the proposed activity;
  - 2. Information and scientific opinions from appropriate agencies, including but not limited to the State Departments of Fish and Wildlife, Natural Resources, and Ecology;

- 3. Documentation, from a scientific or other reasonable source, of the possible presence of a critical area; or
- 4. A finding by a qualified professional or a reasonable belief by the Director that a critical area may exist on or adjacent to the site of the proposed activity.

# SMP17.05.080 Critical areas review

- A. The Director shall perform a critical areas review of all applications for land use activities within critical areas, their buffers, or lands within 200 feet of a critical area, unless otherwise provided in this chapter.
- B. The Director shall verify the information submitted by the applicant to:
  - 1. Confirm the nature and type of critical areas;
  - 2. Determine if the applicant must conduct further studies including submittal of a critical areas report to allow proper analysis of the project impact upon a critical area or its buffer;
  - 3. Determine whether the development proposal is consistent with the purpose, goals and intent of this chapter and title;
  - 4. Determine whether any alterations to the critical area may be avoided by reasonable modification of the proposal;
  - 5. Determine if the management, mitigation, or monitoring plans, if any, proposed by the applicant are sufficient to carry out the intent of this chapter and title.

# SMP17.05.085 Critical areas report

- A. If required by the community development Director, the applicant shall submit a critical areas report prepared by a qualified professional as defined herein. The report shall use scientifically valid methods and studies in the analysis of critical area data and field reconnaissance and reference the source of science used. The report shall evaluate the proposal and all probable impacts to critical areas in accordance with the provisions of this title. Unless otherwise provided, a critical areas report may be supplemented by or composed, in whole or in part, of any reports or studies required by other laws and regulations or previously prepared for and applicable to the development proposal site, as approved by the Director. As a minimum, the report shall contain the following:
  - 1. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested.
  - 2. A copy of the site plan for the development proposal showing:
    - a. Identified critical areas, buffers, and the development proposal with dimensions;

- b. Limits of any areas to be cleared; and
- c. A description of the proposed stormwater management plan for the development and consideration of impacts to drainage alterations.
- 3. The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site.
- 4. Identification and characterization of all critical areas, including wetlands, water bodies, and buffers adjacent to the proposed project area.
- 5. A statement specifying the accuracy of the report, and all assumptions made and relied on.
- 6. An analysis of site development alternatives.
- 7. A description of reasonable efforts made to apply mitigation sequencing as set forth in this Appendix to avoid, minimize, and mitigate impacts to critical areas.
- 8. Plans for adequate mitigation, as needed, to offset any impacts, including, but not limited to:
  - a. The impacts of any proposed development within or adjacent to a critical area or buffer on the critical area completed by a professional biologist or ecologist; and
  - b. The impacts of any proposed alteration of a critical area or buffer on the development proposal, other properties and the environment.
- 9. A discussion of the performance standards applicable to the critical area and proposed activity, including, but not limited to, allowable runoff, tree canopy preservation, and downstream siltation.
- 10. Financial guarantees to ensure compliance.
- 11. Any additional information required for the critical area as specified by the Director.
- 12. An assessment of what impact the use of low impact development facilities will have on any adjacent critical areas.

# SMP17.05.087 Mitigation sequencing

A. Applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts on critical areas. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated for in the following order of preference, and may include a combination of:

- 1. Avoiding the impact altogether by not taking certain action or parts of an action;
- 2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
- 3. Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;
- 4. Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineering or other methods;
- 5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;
- 6. Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and
- 7. Monitoring the hazard or other required mitigation and taking remedial action when necessary.
- B. Mitigation must also meet the goals, provisions, and requirements of Chapter SMP17.17 FMC, and comply with any mitigation standards set forth in this title.

# SMP17.05.095 Critical areas protective measures

- A. Critical Area Markers and Signs. The boundary at the outer edge of critical area tracts and easements shall be delineated with permanent survey stakes, using iron or concrete markers as established by local survey standards. The boundary at the outer edge of the critical area or buffer shall be identified with temporary signs prior to any site alteration. Such temporary signs shall be replaced with permanent signs prior to occupancy or use of the site.
- B. Notice on Title.
  - 1. In order to inform subsequent purchasers of real property of the existence of critical areas, the owner of any property containing a critical area or buffer on which a development proposal is submitted shall file a notice with the county auditor. The notice shall state the presence of the critical area or buffer on the property, of the application of this title to the property, and the fact that limitations on actions in or affecting the critical area or buffer may exist. The notice shall run with the land.
  - 2. This notice on title shall not be required for a development proposal by a public agency or public or private utility within a recorded easement or right-of-way, where the agency

or utility has been adjudicated the right to an easement or right-of-way, or at the site of a permanent public facility.

- 3. The applicant shall submit proof that the notice has been filed for public record before the city approves any development proposal for the property or, in the case of subdivisions, short subdivisions, planned unit developments, and binding site plans, at or before recording.
- C. Native Growth Protection Areas.
  - 1. Unless otherwise required by this title, native growth protection areas shall be used in development proposals for subdivisions, short subdivisions, planned unit developments, and binding site plans to delineate and protect those contiguous critical areas and buffer for all landslide hazard areas and buffers, all wetlands and buffers, all habitat conservation areas, and all other lands to be protected from alterations as conditioned by project approval and permit.
  - 2. Native growth protection areas shall be designated on the face of the plat or recorded drawing in a format approved by the city. The designation shall include an assurance that native vegetation will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, and protecting plants, fish, and animal habitat. The designation shall also assure the right of the city to enforce the terms of the restriction.
- D. Critical Area Tracts.
  - 1. Critical area tracts shall be used in development proposals for subdivisions, short subdivisions, planned unit developments, and binding site plans to delineate and protect the following contiguous critical areas and buffers listed below that total 5,000 or more square feet: landslide hazard areas and buffers, wetlands and buffers, habitat conservation areas, and all other lands to be protected from alterations as conditioned by project approval.
  - 2. Critical area tracts shall be recorded on all documents of title of record for all affected lots.
  - 3. Critical area tracts shall be designated on the face of the plat or recorded drawing in a format approved by the city. The designation shall include an assurance that native vegetation will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, buffering, and protecting plants, fish, and animal habitat. The designation shall also contain the right of the city to enforce the terms of the restriction.
  - 4. The city may require that any required critical area tract be dedicated to the city, held in an undivided interest by each owner of a building lot within the development with

ownership interest passing with the ownership of the lot, or held by an incorporated homeowners' association or other legal entity.

E. Building Setback. Unless otherwise provided, buildings and other structures shall be set back a distance of 15 feet from the edges of all critical area buffers or from the edges of all critical areas, if no buffers are required. The following may be allowed in the setback area: landscaping, uncovered decks, building overhangs extending no more than 18 inches into the setback area, and impervious ground surfaces, such as driveways and patios; provided, that such improvements may be subject to water quality regulations as adopted by the city.

# SMP17.05.100 Compliance

A. Approval of a development proposal does not discharge the obligation of the applicant to comply with the provisions of this title.

# SMP17.05.120 Bonding

- A. Performance Bonds. The Director shall require the holder of a permit to post a cash performance bond or other security acceptable to the city in an amount and with surety and conditions sufficient to fulfill the requirements of this chapter and title and, in addition, to secure compliance with other conditions and limitations set forth in the permit including critical area restoration work. The amount and the conditions of the bond shall be consistent with the purposes of this chapter and title. In the event of a breach of any condition of any such permit, the Director may demand of the surety that the full amount of the bond be tendered to the city, or such lesser amount as the Director determines is necessary to restore the critical area. The Director may allow the surety to perform the remedial work. Until such written release of the bond, the principal or surety cannot be terminated or canceled. The Director shall release the bond upon determining that:
  - 1. All activities, including any required compensatory mitigation, have been completed in compliance with the terms and conditions of the permit and the requirements of this chapter and title; and
  - 2. Upon the posting by the applicant of a maintenance bond in accordance with the provisions of this chapter and title.
- B. Maintenance Bonds. The Director shall require the holder of a development permit issued pursuant to this title to post a cash performance bond or other security acceptable to the Director in an amount and with surety and conditions sufficient to guarantee that structures, improvements, and mitigation required by the permit or by this title perform satisfactorily for a minimum of two years after they have been completed. The Director shall release the maintenance bond upon determining that performance standards established for evaluating the effectiveness and success of the structures, improvements, and/or compensatory mitigation have been satisfactorily met for the required period. For compensation projects, the performance standards shall be those contained in the mitigation plan developed and approved during the permit review process. The maintenance bond applicable to a

compensation project shall not be released until the Director determines that performance standards established for evaluating the effect and success of the project have been met.

# SMP17.05.180 Assessment relief

A. The city of Fife may request that the assessor of Pierce County consider critical areas regulations in determining the fair market value of land. Any owner of an undeveloped critical area who has dedicated an easement or entered into a perpetual conservation restriction with the city or a nonprofit organization to permanently control some or all regulated activities may request to have that portion of land assessed consistent with those restrictions. For purposes of determining the benefitted area and the amount of assessment for any LID, ULID, or similar special assessment district, the easement and/or perpetual conservation restriction shall be taken into account.

# SMP17.05.190 Critical Areas Maps and inventory

A. The approximate location and extent of critical areas in the city is displayed on the city critical area maps. The maps are to be used as guides to show the general location and extent of critical areas. Critical areas not shown on the city critical areas maps are presumed to exist in the city and are protected under all the provisions of this chapter. In the event that any of the critical area designations shown on the maps conflict with the criteria set forth in this chapter, the criteria shall control.

#### Chapter SMP17.07 AQUIFER RECHARGE AREAS

SMP17.07.010Purpose and intentSMP17.07.020DefinitionsSMP17.07.030ApplicabilitySMP17.07.040Surface area – Hydrogeologic assessment

#### SMP17.07.010 Purpose and intent

A. The purpose of this chapter is to protect important water supplies from additional degradation originating from land use activities. It is the intent of the chapter that, due to the exceptional vulnerability and susceptibility of the aquifer recharge areas to further contamination, groundwater resources in the aquifer system be safeguarded from hazardous substance and waste pollution. This will be accomplished by controlling or prohibiting land use activities that introduce such pollution hazards within delineated aquifer recharge areas.

#### SMP17.07.020 Definitions

- A. "Animal feed lots" are sites of land where volumes of animal waste material capable of impacting groundwater resources are deposited.
- B. "Aquifer" means a saturated geologic formation which will yield a sufficient quantity of water to serve as a private or public water supply.
- C. "Aquifer recharge area" is an area where the potential for contamination of groundwater resources is high.
- D. "Contaminant" means any chemical, physical, biological, or radiological substance that does not occur naturally or occurs at concentrations greater than those in natural groundwater.
- E. "DRASTIC" is a model developed by the national water well association and the environmental protection agency for use in measuring aquifer susceptibility.
- F. "Facility" means all structures, contiguous land, appurtenances, and other improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, disposing, or otherwise handling a hazardous substance. This includes underground and above ground tanks and any operations that handle, use, dispose of, or store hazardous substances.
- G. "Groundwater" means all water found beneath ground surface, including slowly moving subsurface water present in aquifers and recharge areas.
- H. "Hazardous substance(s)" means any liquid, solid, gas, or sludge, including any materials, substance, commodity, or waste, regardless of quantity, that exhibits any of the

characteristics or criteria of hazardous waste; and including waste oil and petroleum products.

- I. "Hazardous substance processing or handling" is use, storage, manufacture, or other land use activity involving hazardous substances. It does not include individually packaged household consumer products or quantities of hazardous substances less than five gallons in volume per container. Hazardous substances shall not be disposed of on-site unless in compliance with dangerous waste regulations, WAC 173-303, and any applicable local ordinances.
- J. "Hazardous waste" means all dangerous waste and extremely hazardous waste as designated pursuant to RCW 70.105 and WAC 173-303 as defined below;
- K. "Dangerous waste" is any discarded, useless, unwanted, or abandoned substance including, but not limited to, certain pesticides, or any residues or containers of such substances which are disposed of in such a quantity or concentration as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes:
  - 1. Have short lived, toxic properties that may cause death, injury, or illness or have mutagenic, or carcinogenic properties; or
  - 2. Are corrosive, explosive, flammable, or may generate pressure through decomposition or other means.
- L. "Extremely hazardous wastes" means waste which:
  - 1. Will persist in a hazardous form for several years or more at a disposal site and which in its persistent form presents a significant environmental hazard and may be concentrated by living organisms through the food chain or may affect the genetic make-up of humans or wildlife; and
  - 2. Is disposed of at a disposal site in such quantities as would present an extreme hazard to humans or the environment.
- M. "Hazardous waste treatment and storage facility" means a facility that treats and stores hazardous waste and is authorized pursuant to RCW70.105 and WAC 173-303. It includes all contiguous land and structures used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of hazardous waste. Treatment includes physical, chemical, or biological processing of hazardous wastes to make such waste non-dangerous or less dangerous and safer for transport, amenable for energy or material resource recovery. Storage includes the holding of waste for a temporary period but not the accumulation of waste on the site of generation as long as the storage complies with applicable requirements of WAC173-303.
- N. "On-site treatment and storage facility" means a facility that treats or stores hazardous wastes generated on the same geographically contiguous property.

- O. "Off-site treatment and storage facility" means a facility that treats or stores hazardous wastes generated on property other than those on which the off-site facility is located.
- P. "Hydrogeologic assessment" is a report detailing the subsurface conditions of a site and which indicates the susceptibility and potential for contamination of groundwater supplies.
- Q. "Impervious surface" is natural or manmade material on the ground that does not allow surface water to penetrate into the soil. Impervious surfaces consist of buildings, parking areas, driveways, roads, sidewalks, and any other areas of concrete, asphalt, plastic, etc.
- R. "Landfill" means a disposal facility or part of a facility at which solid waste is permanently placed in or on land and which is not a land spreading disposal facility.
- S. "Permeable surfaces" are sand, gravel, and other penetrable deposits on the ground which permit movement of groundwater through the pore spaces, and which permit the movement of fluid to the groundwater.
- T. "Underground tank" means any one or a combination of tanks (including underground pipes connected thereto) which are used to contain or dispense an accumulation of hazardous substances or hazardous wastes, and the volume of which (including the volume of such substances or waste within the underground pipes) is 10 percent or more beneath the surface of the ground.

## SMP17.07.030 Applicability

- A. Aquifer recharge areas are areas where the potential for contamination of groundwater resources is high.
- B. The city will employ the latest edition of the National Water Well Association and U.S. Environmental Protection Agency's DRASTIC map of Pierce County to identify areas where the potential for contamination of groundwater resources is high. Areas rated and mapped 180 or greater on the DRASTIC index will be included in the aquifer recharge area.

#### SMP17.07.040 Surface area – Hydrogeologic assessment

- A. Permeable Surfaces. Whenever possible, uses that are not otherwise identified as a threat to the aquifer shall provide as much open, permeable surface as possible, and impermeable surfaces shall be minimized to the extent possible consistent with other federal, state, county, and city laws, regulations, and ordinances.
- B. Hydrogeologic Assessment.
  - 1. Because all land areas within the city are designated as aquifer recharge areas, the following activities shall require a hydrogeologic assessment when proposed within the city:

- a. Hazardous substance processing or handling.
- b. Hazardous waste treatment and storage facility.
- c. On-site disposal of sewage for subdivisions and commercial and industrial sites.
- d. Wastewater treatment plant sludge disposal.
- e. Animal feed lots.
- f. Landfills.
- g. Any other activity that the Director determines may have an adverse impact on groundwater quality.
- 2. The hydrogeologic assessment shall include, but is not limited to, the following:
  - a. Information sources.
  - b. Geologic setting. Include well or borings used to identify information.
  - c. Background water quality.
  - d. Groundwater elevations.
  - e. Location/depth to perched water tables.
  - f. Recharge potential of facility site (permeability/transmissivity).
  - g. Groundwater flow direction and gradient.
  - h. Currently available data on wells within 1,000 feet of the site.
  - i. Currently available data on any spring located within 1,000 feet of the site.
  - j. Surface water location and recharge potential.
  - k. Water supply source to facility.
  - 1. Any sampling schedules necessary.
  - m. Discussion of the effects of the proposed project on the groundwater resource.
  - n. Other information required by responsible agencies.
- 3. The hydrogeologic assessment shall be prepared by a qualified professional hydrogeologist, geologist, or engineer, licensed in the state of Washington, with

experience in hydrogeologic assessments. This assessment shall be in addition to the critical areas report required by FMC SMP17.05.085.

- 4. Uses requiring a hydrogeologic assessment may be conditioned or denied based on evaluation of the hydrogeologic assessment by the Director or by an expert accepted by the Director. The hydrogeologic assessment must show that the project or use does not present a threat to the aquifer and will not cause contaminants to enter the aquifer.
- C. Storage Tank Permits.
  - 1. Facilities with Underground Tanks (New Underground Tanks).
    - a. All new underground storage facilities used or to be used for the underground storage of hazardous substances or hazardous wastes shall be designed and constructed so as to:
      - i. Prevent releases due to corrosion or structural failure for the life of the tank;
      - ii. Be protected against corrosion, constructed of noncorrosive material, steel clad with a noncorrosive material, or designed to include a secondary containment system to prevent the release or threatened release of any stored substance; and
      - iii. Use material in the construction or lining of the tank which is compatible with the substance to be stored.
  - 2. Aboveground Tanks.
    - a. No new aboveground storage facility or part thereof shall be fabricated, constructed, installed, used, or maintained in a manner which may allow the release of a hazardous substance to the ground, groundwater, or surface waters of the city.
    - b. No new aboveground storage facility or part thereof shall be fabricated, constructed, installed, used, or maintained without having constructed around and under it an impervious containment area enclosing or underlying the tank or part thereof.
    - c. A new aboveground tank will require a secondary containment system either built into the tank structure or a dike system built outside of the tank for all tanks in the city. The dike shall be so constructed as to be able to contain a sudden discharge of the entire content of the tank as if the tank were filled to capacity, to be contained in such a way as to not permit any of the contents to leave the containment area, or permeate the surface of the ground.
    - d. Any plan for an aboveground tank will include a plan for removal of all materials within the tank should a rupture occur.

#### Chapter SMP17.09 FREQUENTLY FLOODED AREAS

- SMP17.09.010 Purpose
- SMP17.09.020 Definitions
- SMP17.09.030 Applicability
- SMP17.09.040 Regulation
- SMP17.09.050 Special consideration for anadromous fish

# SMP17.09.010 Purpose

A. Floodplains and other areas subject to flooding perform important hydrologic functions and may present a risk to persons and property. The purpose of this chapter is to both protect such areas and minimize flooding hazards.

# 17.09.020 Definitions

- A. "Areas of special flood hazard" means land in a floodplain within the city subject to a one percent or greater chance of flooding in a given year.
- B. "Base flood" means the flood having a one percent chance of being equaled or exceeded in a given year, also referred to as the "100-year flood".
- C. "Base flood elevation" means water surface elevation, in feet, above mean sea level for the base flood and referenced to the National Geodetic Vertical Datum of 1929 (or Pierce County datum or United States Coast and Geodetic Datum of 1929 which are the same).
- D. "Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normal dry land areas from:
  - 1. The overflow of inland or tidal waters; and/or
  - 2. The unusual and rapid accumulation of runoff of surface waters from any source.
- E. "Floodfringe" is the area subject to inundation by the base flood, but outside the limits of the floodway, and which may provide needed temporary storage capacity for flood waters.
- F. "Flood insurance rate map (FIRM)" means the official map on which the Federal Insurance Administration has delineated areas of special flood hazard and the risk premium zones applicable in the city.
- G. "Flood hazard areas" means land in a floodplain within the city subject to a one percent or greater chance of flooding in a given year.
- H. "Floodplain" means the total area subject to inundation by the base flood, including the flood fringe and floodway areas.

I. "Floodway" means the channel of a river, or other watercourse and the adjacent land areas that must be reserved in order to convey and discharge the base flood, without cumulatively increasing the water surface elevation by more than one foot, and those areas designated as deep and/or fast-flowing water

# SMP17.09.030 Applicability

- A. Floodplains and other areas subject to flooding and thus performing important hydrological functions.
- B. All flood hazard areas shall be as identified in the following scientific and engineering reports:
  - 1. The latest edition of "The flood insurance study for the city of Fife, Washington," with the accompanying flood insurance rate maps, Federal Emergency Management Agency (FEMA).
  - 2. The latest edition of "The flood insurance study for Pierce County, Washington," with the accompanying flood insurance rate maps, Federal Emergency Management Agency (FEMA).

## SMP17.09.040 Regulation

A. All development in flood hazard areas shall comply with Chapter 15.40 FMC, and the requirements of the National Flood Insurance Program (NFIP).

## SMP17.09.050 Special consideration for anadromous fish

A. Development in flood hazard protection areas that involve riparian habitat shall also comply with Chapter SMP17.15 FMC.

## Chapter SMP17.11 GEOLOGICALLY HAZARDOUS AREAS

SMP17.11.010	Purpose
SMP17.11.020	Definitions
SMP17.11.030	Hazardous areas
SMP17.11.037	Other hazard areas
SMP17.11.040	Regulation
SMP17.11.050	Geotechnical reports
SMP17.11.060	Performance standards
SMP17.11.070	Geotechnical assessments
SMP17.11.080	Buffer requirements
SMP17.11.090	Modifications to buffer width
SMP17.11.100	Building setback and construction near buffer
SMP17 11 110	On-site sewage disposal

#### SMP17.11.110 On-site sewage disposal

#### SMP17.11.010 Purpose

A. The intent of the classification and designation of geologically hazardous areas is to classify and designate areas on which development should be prohibited, restricted or otherwise controlled because of danger from geologic hazards. For the purpose of this chapter, geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events.

## SMP17.11.020 Definitions

- A. "Alluvial geological unit" means recent stream, lake, swamp and beach deposits of gravel, sand, peat and silt.
- B. "Buffer" is an area contiguous with a critical area that is required for the integrity, maintenance, function, and structural stability of the critical area.
- C. "Clearing" means the removal of timber, brush, grass, ground cover, or other vegetative matter from a site which exposes the earth's surface.
- D. "Erosion" means the wearing away of the earth's surface as a result of movement of wind, water, or ice.
- E. "Erosion hazard areas" are areas that because of natural characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns, or manmade changes to such characteristics, are vulnerable to erosion.
- F. "Geologically hazardous areas" are those areas that, because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development land uses because of concerns for public health, or safety.

- G. "Geotechnical assessment" means an assessment prepared by a geologist or geotechnical engineer licensed as a civil engineer with the state of Washington, detailing the surface and subsurface conditions of a site and delineating the areas of a property subject to geologic hazards.
- H. "Geotechnical report" means a report prepared by a geologist or geotechnical engineer licensed with the state of Washington as a civil engineer, which evaluates the site conditions and mitigating measures necessary to insure that the risks associated with geologic hazards are eliminated on the site proposed to be altered.
- I. "Ground amplification" means an increase in the intensity of earthquake induced ground shaking which occurs at a site where thick deposits of unconsolidated soil or surficial geologic materials are present.
- J. "Landslide" means the abrupt down slope movement of soil, rocks, or other surface matter on a site. Landslides include, but are not limited to, slumps, mudflows, earthflows, rockfall, and snow avalanches.
- K. "Landslide hazard areas" are areas potentially subject to risk of mass movement due to a combination geologic, topographic, and hydrologic factors.
- L. "Liquefaction" means a process by which a water saturated granular (sandy) soil layer loses strength because of ground shaking commonly caused by an earthquake.
- M. "Recessional outwash geologic unit" means sand and gravel materials deposited by meltwater streams from receding glaciers.
- N. "Seismic hazard areas" are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, or soil liquefaction.
- O. "Toe of slope" is a distinct topographic break in slope at the lower most limit of an area where the ground surface drops 10 feet or more vertically within a horizontal distance of 25 feet.
- P. "Top of slope" is a distinct topographic break in slope at the upper most limit of an area where the ground surface drops 10 feet or more vertically within a horizontal distance of 25 feet.

## SMP17.11.030 Hazardous areas

A. Erosion hazard areas are:

1. Those areas that, because of natural characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns, or manmade changes to such characteristics, are vulnerable to erosion; or

- 2. Those areas identified by the United States Department of Agriculture Soil Conservation Service as having a "severe" rill and inter-rill erosion hazard.
- B. Landslide hazard areas are:
  - 1. Areas potentially subject to risk of mass movement due to geologic, topographic, or hydrologic factors.
  - 2. Areas meeting the following criteria:
    - a. Areas delineated by the United States Department of Agriculture, Soil Conservation Service, as having a severe limitation, because of slope conditions, for building site development; or
    - b. Areas with all three of the following characteristics:
      - i. Slopes greater than 15 percent; and
      - ii. Hillsides intersecting geologic contacts with relatively permeable sediment overlying a relatively impermeable sediment of bedrock; and
      - iii. Springs or groundwater seepage; or
    - c. Areas potentially unstable as a result of rapid stream incision or stream bank erosion; or
    - d. Areas with visible signs of earth movement such as rockslides, earthflows, mudflows, and landslides; or
    - e. Those areas mapped by the Department of Ecology (Coastal Zone Atlas) or the Department of Natural Resources (slope stability mapping) as unstable ("U" or Class 3), unstable old slides ("UOS" or Class 4), or unstable recent slides ("URS" of Class 5); or
    - f. Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Department of Natural Resources; or
    - g. Areas that have shown movement during the Holocene epoch (from 10,000 years ago to the present) or that are underlain or covered by mass wastage debris of that epoch; or
    - h. Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials; or

- i. Slopes having gradients steeper than 80 percent subject to rock fall during seismic shaking; or
- j. Areas located on an alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; or
- k. Any area with a slope of 40 percent or steeper and with a vertical relief of 10 or more feet, except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief.

# SMP17.11.037 Other hazard areas.

A. Other hazard areas subject to the provisions of this chapter include those areas determined by the Director to be susceptible to other geologic events including mass wasting, debris flows, rock falls, and differential settlement.

# SMP17.11.040 Regulation

A. For all regulated activities proposed within designated geologically hazardous areas, in addition to a critical areas report as required by FMC 17.05.085, a geotechnical report shall be prepared by a geologist or geotechnical engineer licensed in the state of Washington with experience analyzing geologic, hydrologic, and groundwater flow systems. If an applicant can demonstrate, through submittal of a geotechnical assessment, that no landslide or erosion hazards exist on site, the requirement for a geotechnical report may be waived by the Director.

# SMP17.11.050 Geotechnical reports

- A. If a geotechnical report is required it shall contain, at a minimum, the following information:
  - 1. Site geology information required:
    - a. Topographic data: contour map of proposed site at a scale of one inch equals 200 feet, slopes shall be clearly delineated for the ranges between 15 and 29 percent and 30 percent and greater, including figures for area coverage of each slope category on the site.
    - b. Subsurface data: boring logs and exploratory methods, soil and rock stratigraphy, groundwater levels including seasonal changes.
    - c. Site history: description of any prior grading, soil instability, or slope failure.
    - d. Seismic hazard: data concerning the vulnerability of the site to seismic events.
  - 2. Geotechnical engineering information required:

- a. Slope stability studies and opinion 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. Erosion vulnerability of site;
- h. Suitability of on-site soil for fill;
- i. Laboratory data and soil index properties for soil samples; and
- j. Building limitations.
- 3. Site Evaluation. Evaluation of the ability of the site to accommodate the proposed activity.
- B. Where a valid geotechnical report has been prepared within the last five years for a specific site, and where the proposed activity and surrounding site conditions are unchanged, said report may be utilized and a new report may not be required. The applicant shall submit a geotechnical assessment detailing any changed environmental conditions associated with the site.

# SMP17.11.060 Performance standards

- A. The Director 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. Development must be located to minimize disturbance and removal of vegetation;
    - b. Structures must be clustered where possible to reduce disturbance and maintain natural topographic character; and
    - c. Structures should conform to the natural contours of the slope and foundations should be tiered where possible to conform to existing topography of the site.
  - 2. Design of Development.
    - a. All development proposals shall be designed to minimize the footprint of the building and other disturbed areas;

- b. All development proposals shall be designed to minimize coverage of lot with impervious materials;
- c. Roads, walkways, and parking areas should be designed to parallel the natural contours of the site; and
- d. Access shall be in the least sensitive area of the site.
- 3. Additional standards for slopes 30 percent or greater: All proposed development on slopes 30 percent or more should be avoided.

### SMP17.11.070 Geotechnical assessments

- A. Should the applicant question the presence of landslide or erosion hazard areas on the site, the applicant may submit a geotechnical assessment prepared by a geologist or geotechnical engineer licensed as a professional civil engineer in the state of Washington.
- B. The geotechnical assessment shall include at a minimum the following:
  - 1. A discussion of the surface and subsurface geologic conditions of the site;
  - 2. A site plan of the area delineating all areas of the site subject to landslide and erosion hazards based on mapping and criteria referenced in above. A map meeting the criteria set forth in FMC SMP17.11.050 above shall be included.
- C. If the geotechnical assessment demonstrates, to the satisfaction of the Director, that the proposed site is not located in any landslide and erosion hazard areas, then the requirements of this chapter shall not apply.

# SMP17.11.080 Buffer requirements

- A. A buffer, consisting of native vegetation, and measured in a perpendicular distance from all edges, shall be required from the top of slope, toe of slope, and all sides of all landslide or erosion hazard areas that measure 10 feet or more in vertical elevation change from top to toe of slope, as identified in the geotechnical report, maps, and by field checking. Minimum buffer distance requirements for buffer areas are determined by the Director to eliminate or minimize the risk of property damage, death or injury resulting from erosion and landslides caused in whole or in part by development, based upon review of a concurrence with the critical area report and geotechnical report prepared by a qualified professional.
  - 1. The minimum buffer shall be equal to the height of the slope or 50 feet, whichever is greater.
  - 2. The buffer may be reduced to a minimum of 10 feet when a qualified professional demonstrates to the Director's satisfaction that the reduction will adequately protect the proposed development, adjacent developments and uses and the subject critical area.

3. The buffer may be increased where the Director determines a larger buffer is necessary to prevent risk of damage to proposed and existing development:

Land Use	Vertical relief (less than 75 feet)	Vertical relief (equal to or greater than 75 feet)
a. Residential uses	60 feet	75 feet
b. Commercial and industrial uses	75 feet	100 feet

# SMP17.11-Table 1: Increased Buffer Requirements

B. The buffer shall be clearly staked before any construction or clearing. The city shall inspect the site to confirm that the buffer requirements of this chapter have been met before any construction or clearing begins. The buffer area shall remain in a natural state, and deed instruments shall dedicate the critical area and its buffer, as such, to run with the land.

# SMP17.11.090 Modifications to buffer width

A. When the geotechnical report suggests that a lesser buffer distance, and design and engineering solutions will meet the intent of this chapter, such reduced buffer width and design and engineering solutions may be permitted. Should the report indicate that a greater buffer than required above is needed to meet the intent of this chapter, the greater buffer shall be required.

# SMP17.11.100 Building setback and construction near buffer

A. A minimum setback of 15 feet shall be maintained for the construction of any impervious surface(s) greater than 100 square feet of base coverage. Clearing grading and filling near the buffer shall only be allowed if the applicant can demonstrate that vegetation in the buffer will not be damaged.

# SMP17.11.110 On-site sewage disposal

A. On-site sewage disposal systems are prohibited within designated landslide and erosion hazard areas.

### Chapter SMP17.13 SEISMIC HAZARD AREAS

SMP17.13.010	General
SMP17.13.020	Classification
SMP17.13.030	Geotechnical report
SMP17.13.040	Geotechnical report – Contents
SMP17.13.050	Geotechnical assessments
SMP17.13.060	Location of critical facilities

#### SMP17.13.010 General

A. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting.

### SMP17.13.020 Classification

A. The following criteria shall be used in determining seismic hazard areas:

- 1. Areas identified on U.S. Geologic Survey seismic hazard maps or Washington State Department of Natural Resources seismic hazard maps for Western Washington; or
- 2. Areas having a slope greater than 30 percent; or
- 3. Areas of poorly compacted artificial fill.

#### SMP17.13.030 Geotechnical report

A. For all regulated activities proposed within designated seismic hazard areas or within 200 feet of such areas, a critical areas report as required by FMC 17.05.085 and a geotechnical report prepared by a geologist or geotechnical engineer licensed as a civil engineer in the state of Washington shall be submitted. If an applicant can demonstrate through submittal of a geotechnical assessment that no seismic hazards exist on-site, the requirement for a geotechnical report may be waived by the Director.

#### SMP17.13.040 Geotechnical report – Contents

- A. The geotechnical report shall include at a minimum the following:
  - 1. A discussion of subsurface conditions;
  - 2. A complete discussion of the potential impacts of seismic activity on the site;
  - 3. A site plan of the area delineating all areas of the property subject to seismic hazards;
  - 4. A discussion of mitigating measures which can be taken to eliminate seismic risks;

- 5. A site map showing all known and mapped faults within 200 feet of the project area or that have the potential to be affected by the proposal; and
- 6. An evaluation of the effectiveness of the proposed mitigation measures.

### SMP17.13.050 Geotechnical assessments

- A. Should the applicant question the presence of seismic hazard areas on the site, the applicant may submit a geotechnical assessment prepared by a geologist or geotechnical engineer licensed as a professional civil engineer in the state of Washington.
- B. The geotechnical assessment shall include at a minimum the following:
  - 1. A discussion of the surface and subsurface geologic conditions of the site;
  - 2. A site plan of the area delineating all areas of the site subject to seismic hazards based on mapping and criteria referenced in FMC 17.13.020.
  - 3. A contour map of the proposed site, at a scale of one inch equals 200 feet, clearly delineating slopes for ranges between 15 and 29 percent and 30 percent and greater, and including figures for area coverage of each slope category on the site.
- C. If the geotechnical assessment demonstrates, to the satisfaction of the Director, that the proposed site is not located in any seismic hazard areas, then the requirements of this chapter shall not apply.

#### SMP17.13.060 Location of critical facilities

- A. No critical facilities shall be constructed or located in seismic hazard areas. Critical facilities shall include the following:
  - 1. Hospitals and other medical facilities having surgery and emergency treatment areas;
  - 2. Structures housing, supporting or containing sufficient quantities of toxic or explosive substances to be dangerous to the safety of the general public if released;
  - 3. Buildings for schools through secondary or child day care centers, with a capacity of greater than 500 students;
  - 4. Buildings for colleges or adult education schools with a capacity of over 500 students; or
  - 5. Medical facilities with 50 or more resident incapacitated patients.

#### Chapter SMP17.15 FISH AND WILDLIFE HABITAT CONSERVATION AREAS

SMP17.15.010	Intent
SMP17.15.020	Definitions
SMP17.15.030	General
SMP17.15.040	Fish and wildlife habitat conservation areas
SMP17.15.050	Fish and wildlife habitat buffers
SMP17.15.060	Classification and mapping
SMP17.15.070	Habitat assessment
SMP17.15.080	Habitat management plan
SMP17.15.085	Performance standards
SMP17.15.090	Establishing buffers
SMP17.15.100	Building setback and construction near buffer
SMP17.15.110	Eencing from farm animals
SMP17.15.085	Performance standards
SMP17.15.090	Establishing buffers
SMP17.15.110	Fencing from farm animals
SMP17.15.120	Allowable activities in the buffer
SMP17.15.130	Granting permits
SMP17.15.140	Sensitive area management tracts
SMP17.15.150	Protection of sensitive area management tracts
SMP17.15.160	Marking of Habitat Areas during construction
SMP17.15.170	Permanent marking of management tract
SMP17.15.180	Additional requirements
SMP17.15.190	Deed restrictions

#### SMP17.15.010 Intent

A. It is the intent of this chapter that areas of critical fish and wildlife habitat be protected and preserved from degradation due to incompatible land use in or adjacent to the areas. The creation of isolated pockets of habitat and the resultant isolation of species populations should be avoided. The natural geographic distribution of critical fish and wildlife habitat should be maintained.

# SMP17.15.020 Definitions

- A. "Best management plan" is a plan which is developed for a property by the conservation district of U.S. Department of Agriculture, soil conservation service which specifies best management practices for control of animal wastes, stormwater runoff, and erosion.
- B. "Buffer", for the purposes of this chapter, is an area contiguous with a critical area that is required for the integrity, maintenance, function, and structural stability of the area.
- C. "Fish and wildlife habitat conservation and protection" means land management for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created.
- D. "Fish and wildlife habitat conservation areas" are those areas identified as being of critical importance to the maintenance of fish, wildlife, and plant species, including: areas with

which endangered, threatened, and sensitive species have a primary association; state priority habitats and areas associated with state priority species, as identified by the State Department of Fish and Wildlife; waters of the state; and habitats of local importance.

- E. "Habitat assessment" is a report prepared by a professional wildlife biologist with a degree in wildlife biology, which identifies the presence of fish and wildlife habitat conservation areas in vicinity of the proposed development.
- F. "Habitat management plan" is a report prepared by a professional wildlife biologist with a degree in wildlife biology, which discusses and evaluates the measures necessary to maintain fish and wildlife habitat conservation areas on or near a proposed development site.
- G. "Habitats of local importance" are areas, ranges, or habitats within which a species has a primary association, which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. Examples include areas of high relative density of species richness, breeding habitat, winter range, and movement corridors. These areas may also include habitats that are of limited availability or high vulnerability to alteration, such as cliffs, talus, and wetlands.
- H. "Species of local concern" are species that are of local concern due to their population status or their sensitivity to habitat manipulation or that are a game species.

# SMP17.15.030 General

- A. The provisions of this chapter apply to all lands within the city that are identified as critical fish and wildlife habitats, fish and wildlife habitats of local importance, or fish and wildlife habitat buffers.
- B. Fish and wildlife habitat areas are those areas identified as being critical to the maintenance of fish, wildlife, and plant species.

# SMP17.15.040 Fish and wildlife habitat conservation areas

A. Fish and wildlife habitat conservation areas include:

- 1. Areas with which federally or state designated endangered, threatened, and sensitive species have a primary association and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.
  - a. Federally designated endangered and threatened species are those fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service shall be consulted as necessary for current listing status.
  - b. State designated endangered, threatened, and sensitive species are those fish and wildlife species native to the state of Washington identified by the State Department

of Fish and Wildlife that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. State designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered species), and WAC 232-12-011 (state threatened and sensitive species). The State Department of Fish and Wildlife maintains the most current listing and shall be consulted as necessary for current listing status.

- 2. State priority habitats and areas associated with state priority species, as identified by the State Department of Fish and Wildlife.
- 3. Waters of the state including rivers, streams, inland waters, underground waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington, as classified in WAC 222-16-031.
- 4. Habitats of local importance include the following:
  - a. Areas with which state-listed monitor or candidate species or federally listed candidate species have a primary association and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.
  - b. Special Habitat Areas. These areas include specific habitat types which are infrequent in Fife or Pierce County and may provide specific habitats which certain animals and plants require, such as breeding habitat, winter range, and movement corridors. These areas include, but are not limited to, the following:
    - i. Oak woodlands and associated prairies;
    - ii. Prairies;
    - iii. Aspen stands;
    - iv. Meadows;
    - v. Riparian and Category I and II wetland areas.
    - vi. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish and animal habitat.
    - vii. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity.
    - vii. State natural area preserves and natural resource conservation areas.

- ix. Areas established by the Puyallup Tribe of Indians tribal government as habitat areas of tribal importance for economic, social, cultural, and ceremonial reasons.
- x. Areas for which city policy supports the reestablishment of historical fisheries.

### SMP17.15.050 Fish and wildlife habitat buffers

A. Fish and wildlife habitat buffers are areas of undisturbed natural vegetation required to ensure the retention of habitat areas. The width of the buffers shall be determined on a case-by-case basis by the Director based on the required habitat assessment and on the criteria established in this chapter.

### SMP17.15.060 Classification and mapping

A. Fish and wildlife habitat areas are identified in the following documents:

- 1. Washington State Department of Natural Resources official water type reference maps, as amended;
- 2. Washington State Department of Fish and Wildlife priority habitats and species maps;
- 3. Department of Natural Resources State Natural Area Preserves and Natural Resources conservation area maps;
- 4. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors Reports published by the Washington Conservation Commission; and
- 5. Maps adopted by the city showing habitats of local importance.

#### SMP17.15.070 Habitat assessment

- A. In addition to the general critical areas report requirements of FMC 17.05.085, a habitat assessment shall be required for all regulated activity proposed on a site which contains or is within 1,000 feet of a designated fish and wildlife habitat area. The habitat assessment will be prepared by a professional wildlife biologist with a degree in wildlife biology. At a minimum, habitat assessment shall contain the following:
  - 1. A discussion of species or habitats known or expected to be located on or within 1,000 feet of the site, including: state or federal endangered, threatened, or sensitive species; or species of local importance; and
  - 2. A site plan which clearly identifies and delineates fish and wildlife habitats found on or within 1,000 feet of the site; and
  - 3. A detailed description of vegetation on and adjacent to the project area; and
  - 4. Identification of any species of local importance, priority species, or endangered, threatened, sensitive or candidate species that have a primary association with habitat on

or adjacent to the project area, and assessment of potential project impacts to the use of the site by the species; and

- 5. A discussion of any federal, state, or local special management recommendations, including Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area; and
- 6. Such other information as the Director determines is necessary to adequately evaluate the impact of the regulated activity on fish and wildlife habitat.

# SMP17.15.080 Habitat management plan

- A. If the habitat assessment demonstrates to the satisfaction of the Director that fish and wildlife habitat are not located on or within 1,000 feet of the site, then the development can proceed without further requirements for special wildlife studies; otherwise, a habitat management plan shall be submitted. The habitat management plan will be prepared by a professional wildlife biologist with a degree in wildlife biology. The habitat management plan shall contain at a minimum the following:
  - 1. A discussion of the project's effects on fish and wildlife habitat;
  - 2. A discussion of any federal, state, or local management recommendations which have been developed for species or habitats located at the site;
  - 3. A discussion of measures proposed to preserve existing habitats and restore any habitats which were degraded prior to the current proposed land use activity;
  - 4. A discussion of proposed measures which mitigate the impacts of the project;
  - 5. An evaluation of the effectiveness of proposed mitigation measures;
  - 6. A discussion of ongoing management practices which will protect fish and wildlife habitat after the project site has been fully developed, including proposed monitoring and maintenance programs; and
  - 7. Such further information as the Director determines is necessary to adequately assess the impact of the regulated activity upon the habitat.
- B. Habitat management plans will be sent to the Washington Department of Wildlife, the Puyallup Indian Tribe and other appropriate state and federal agencies for comment.
- C. All projects may be conditioned based on agency comments and the Director's evaluation of potential impacts to fish and wildlife habitats. Projects may be denied if the proposal will result in extirpation or isolation of a critical fish, wildlife, or plant species associated with a fish and wildlife habitat.

# SMP17.15.085 Performance standards

- A. Endangered, Threatened, and Sensitive Species.
  - 1. No development shall be allowed within a habitat conservation area or buffer with which state or federally endangered, threatened, or sensitive species have a primary association.
  - 2. Whatever activities are proposed adjacent to a habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with the critical area report prepared by a qualified professional and approved by the city. Approval for alteration of land adjacent to the habitat conservation area or its buffer shall not occur prior to consultation with the Department of Fish and Wildlife and the appropriate federal agency.
  - 3. Bald eagle habitat shall be protected pursuant to the Washington State Bald Eagle Protection Rules (WAC 232-12-292). Whenever activities are proposed adjacent to a verified nest territory or communal roost, a habitat management plan shall be developed by a qualified professional. Activities are considered adjacent to bald eagle sites when they are within 800 feet, or within a quarter mile (2,640 feet) and in a shorelines 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 Department of Fish and Wildlife.
- B. Anadromous Fish (Fish That Spawn and Rear in Freshwater and Mature in the Marine Environment).
  - 1. All activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to, adhering to the following standards:
    - a. Activities shall be timed to occur only during the allowable work window as designated by the Department of Fish and Wildlife for the applicable species;
    - b. An alternative alignment or location for the activity is not feasible;
    - c. The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas; and
    - d. Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with an approved critical area report.
  - 2. Structures that prevent the migration of salmonids shall not be allowed in the portion of water bodies currently or historically used by anadromous fish. Fish bypass facilities shall be provided that allow the upstream migration of adult fish and shall prevent fry and juveniles migrating downstream from being trapped or harmed.

3. Fills, when authorized by the Fife shoreline master program, shall not adversely impact anadromous fish or their habitat or shall mitigate any unavoidable impacts and shall only be allowed for a water-dependent use.

### SMP17.15.090 Establishing buffers

- A. Based on the information provided in the habitat management plan and such other relevant information available to the Director, buffers consisting of undisturbed natural vegetation shall be required to insure retention of habitat areas. Buffer widths shall be established on a case-by-case basis by the Director. In determining buffer widths the Director shall consider, at a minimum, the following factors:
  - 1. The buffers proximity to specific site conditions which indicate a necessity to have a larger buffer such as landslide hazard areas or wetlands;
  - 2. The need to protect an important documented wildlife migratory corridor or nesting area;
  - 3. The presence of site specific conditions which indicate a necessity to reduce the buffer width, such as the existence of public utilities (when no feasible alternative route exists); and
  - 4. The possibility of reducing the buffer width if a conservation district best management plan has been established for the site and the plan protects fish and wildlife habitat to the satisfaction of the Director.

#### SMP17.15.100 Building setback and construction near buffer

A. A minimum setback of 15 feet from the buffer shall be required for construction of any impervious surface(s) greater than 100 square feet in base coverage. Clearing, grading and filling near the buffer shall be allowed only if the applicant can demonstrate that vegetation within the buffer will not be damaged. The edge of the buffer shall be clearly staked and flagged before construction begins.

# SMP17.15.110 Fencing from farm animals

A. Permanent fencing shall be required to prevent farm animals, if present, from entering the buffer.

# SMP17.15.120 Allowable activities in the buffer

- A. The following activities are allowed within the buffer upon approval from the Director and only if he determines the activity will not adversely impact the species for which the buffer was created:
  - 1. Noxious weeds, as listed in WAC 16-750, may be removed from or destroyed within the buffer, provided that the following conditions are met:

- a. Cleared areas created by such weed removal shall be revegetated to the satisfaction of the department;
- b. Methods and time schedule for removal of such noxious weeds shall be approved by the department after consultation with other responsible agencies.
- 2. Previously cleared lands may be revegetated. The Director may specify plant types and time schedules for such re-vegetation.
- 3. Removal of dead or diseased trees that pose a threat to property if approved by the Director.
- 4. The repairing of fences.
- 5. The cleaning and repair of drainage and irrigation ditches; provided that:
  - a. Vegetation is not disturbed beyond that necessary to accomplish the cleaning or maintenance;
  - b. The water body does not support salmonids;
  - c. Ditches supporting salmonids may be maintained if a best management plan is developed and implemented to the satisfaction of the Director.

# SMP17.15.130 Granting permits

- A. A permit shall only be granted if the permit for the proposed activity, as conditioned:
  - 1. Is consistent with the purposes and intent of this chapter; and
  - 2. Avoids adverse impacts to habitats or takes affirmative and appropriate measures to minimize and compensate for unavoidable impacts; and
  - 3. Is compatible in design, scale, and use, with other development or potential development in the area; and
  - 4. Utilizes to the maximum extent possible the best available construction, design, and development techniques which result in the least adverse impact on the habitat; and
  - 5. All approvals shall be supported by the best available science.

# SMP17.15.140 Sensitive area management tracts

A. As a condition of any permit issued pursuant to this chapter, the permit holder shall be required to create a separate sensitive area management tract containing the areas determined to be habitats. Sensitive area management tracts are legally created tracts containing habitats, and compensation areas that shall remain undeveloped in perpetuity, except for allowed

activities pursuant to this chapter. Sensitive area management tracts are an integral part of the lot in which they are created, are not intended for sale, lease or transfer, and shall be included in the area of the parent lot for purposes of subdivision method and minimum lot size.

#### SMP17.15.150 Protection of sensitive area management tracts

A. The Director shall require, as a condition of any permit issued pursuant to this chapter, that the sensitive area management tracts be protected and maintained in perpetuity by a sensitive area management easement which must be recorded with the Pierce County auditor prior to the commencement of any activity pursuant to the terms of the permit. In addition, an entity that will be responsible for the maintenance and protection of the sensitive area tract must be designated as part of the permit.

### SMP17.15.160 Marking of Habitat Areas during construction

A. The location of the outer extent of the habitat and the areas to be disturbed pursuant to an approved permit shall be marked in the field to prevent unnecessary disturbance by individuals and equipment during the development or construction of the permitted activity. Such field marking shall be approved by the Director prior to the commencement of permitted activities. Such field markings shall be maintained throughout the duration of the permit.

### SMP17.15.170 Permanent marking of management tract

A. The boundary of a sensitive area management tract must be permanently identified by signs, the location, size, and wording of which must be approved by the building official. These signs should be worded as follows:

# Protection of this natural habitat area is in your care. Alteration or disturbance is prohibited by law. Please call the City of Fife, Department of Community Development, for more information.

#### SMP17.15.180 Additional requirements

A. The Director may attach such additional conditions to the granting of a permit as deemed necessary to assure the preservation and protection of affected habitat and to assure compliance with the purposes and requirements of this chapter. These conditions include, but are not limited to fencing, educational signage, and other passive recreational amenities.

# SMP17.15.190 Deed restrictions

A. The permit holder shall establish and record a permanent and irrevocable deed restriction on the property title of all lots containing sensitive area management tracts created as a condition of this permit. Such deed restriction(s) shall prohibit in perpetuity the development, alteration, or disturbance of vegetation within the sensitive area management tract except for allowed activities and regulated activities allowed by a permit issued pursuant to this chapter.

### Chapter SMP17.17 WETLANDS

SMP17.17.010	Policy, purpose and intent
SMP17.17.020	Definitions
SMP17.17.030	Abrogation and greater restrictions
SMP17.17.040	Interpretation
SMP17.17.050	Scope
SMP17.17.060	Applicability
SMP17.17.070	Maps and inventory
SMP17.17.080	Permit requirements – Compliance
SMP17.17.110	Permit information requirements
SMP17.17.150	Sensitive area management tracts
SMP17.17.160	Protection of sensitive area management tracts
SMP17.17.170	Temporary Marking during construction
SMP17.17.180	Permanent marking of management tract
SMP17.17.190	Additional requirements
SMP17.17.200	Deed restrictions
SMP17.17.210	Site analysis
SMP17.17.230	Wetland buffers
SMP17.17.240	Buffers in natural state
SMP17.17.260	Increased wetland buffer zone width
SMP17.17.280	Standard wetland buffer width averaging
SMP17.17.290	Permitted uses in a wetland buffer zone
SMP17.17.310	Limited density transfer
SMP17.17.320	Mitigation Sequencing
SMP17.17.330	Compensatory mitigation performance standards
SMP17.17.340	Compensatory mitigation wetland type
SMP17.17.350	Compensatory Mitigation Plan Elements
SMP17.17.360	Wetlands Mitigation Ratios
SMP17.17.370	Increased replacement ratio.
SMP17.17.380	Decreased replacement ratio.
SMP17.17.400	Timing of wetland compensatory mitigation
SMP17.17.410	Cooperative restoration, creation or enhancement projects
SMP17.17.430	Unauthorized Alterations and Enforcement

### SMP17.17.010 Policy, purpose and intent

A. It is the policy of the City to require site planning to avoid or minimize damage to wetlands wherever possible; to require that activities not dependent upon a wetland location be located

at upland sites; to achieve no net loss of wetlands by requiring restoration or enhancement of degraded wetlands or creation of new wetlands to offset losses that are unavoidable. Identification of wetlands and delineation of their boundaries pursuant to this Chapter shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements. All areas within the City meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this chapter.

- B. The purposes of this chapter are to protect the public health, safety, and welfare by:
  - 1. Regulating land use to avoid the adverse impacts of development within and adjacent to wetlands and to maintain the functions and values of wetlands within the shoreline jurisdiction throughout the City of Fife;
  - 2. Protecting the public against losses from:
    - a. Unnecessary maintenance and replacement of public facilities, including the dredging of ports and navigation channels;
    - b. Publicly funded mitigation of avoidable impacts; and
    - c. Cost for public emergency rescue and relief operations.
  - 3. Alerting appraisers, assessors, owners, and potential buyers or lessees to the development limitations of wetlands;
  - 4. Providing city officials with information to evaluate, approve, condition, or deny public or private development proposals;
  - 5. Implementing the policies of the Growth Management Act, the State Environmental Policy Act, RCW 43.21(C), City Comprehensive Plan, as updated, and all other present and future city environmental and community plans and programs; and
  - 6. Establishing review procedures for development proposals in and adjacent to wetlands within the shoreline jurisdiction.
  - 7. Recognizing and protecting the beneficial functions performed by many wetlands, which include, but are not limited to, providing food, breeding, nesting and/or rearing habitat for fish and wildlife; recharging and discharging ground water; contributing to stream and river flow during low flow periods; stabilizing stream/creek/river banks and shorelines; storing storm and flood waters to reduce flooding and erosion; and improving water quality through biofiltration, adsorption, and retention and transformation of sediments, nutrients and toxicants.

- C. It is the intent of the city that activity in or affecting wetlands shall not threaten public safety, cause nuisances, or destroy or degrade natural wetland functions and values by:
  - 1. Impeding flood flows, reducing flood storage capacity, or impairing natural flood control functions, thereby resulting in increased flood heights, frequencies, or velocities on other lands;
  - 2. Increasing water pollution through location of domestic waste disposal systems in wetlands; unauthorized application of pesticides and herbicides; disposal of solid waste at inappropriate sites; creation of unstable fills; or the destruction of wetland soils and vegetation;
  - 3. Increasing erosion;
  - 4. Decreasing breeding, nesting, and feeding areas for many species of waterfowl and shorebirds, including those that are rare, endangered, threatened, or of local significance;
  - 5. Interfering with the exchange of nutrients needed by fish and other forms of wildlife;
  - 6. Decreasing habitat for fish and other forms of wildlife;
  - 7. Adversely altering the recharge or discharge functions of wetlands, thereby impacting groundwater or surface water supplies;
  - 8. Significantly altering wetland hydrology and thereby causing either short or long term changes in vegetation composition, soils characteristics, nutrient cycling, or water chemistry;
  - 9. Destroying sites needed for education and scientific research, such as outdoor biophysical laboratories, living classrooms, and training areas; or
  - 10. Destroying or damaging aesthetic and property values including significant public view sheds.

# SMP17.17.020 Definitions

- A. "Alteration" for the purposes of this chapter, means any human-induced change in an existing condition of a wetland or its buffer. Alterations include, but are not limited to, grading, filling, channelizing, dredging, clearing of vegetation, construction, compaction, excavation, or any other activity that changes the character of the critical area.
- B. "Applicant" means an individual, partnership, corporation, association, organization, cooperative, public or municipal corporation, or agency of the state or local government unit, however designated.

- C. "Best Available Science" means current scientific information used to designate, protect, or restore critical areas, that is derived from a valid scientific process as defined by WAC 365-195-900 through 925. Examples of best available science are included in Citations of Recommended Sources of Best Available Science for Designating and Protecting Critical Areas published by the Washington State Department of Commerce
- D. "Best Management Practices" or "BMPs", for the purposes of this chapter, means conservation practices or systems of practices and management measures that:

1. Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics, or sediment;

2. Minimize adverse impacts to surface water and ground water flow and circulation patterns and to the chemical, physical, and biological characteristics of wetlands;

3. Protect trees, vegetation and soils designated to be retained during and following site construction and use native plant species appropriate to the site for re-vegetation of disturbed areas; and

4. Provide standards for proper use of chemical herbicides within critical areas

- E. "Bog" means a low-nutrient, acidic wetland with organic soils and characteristic bog plants, which is sensitive to disturbance and impossible to re-create through compensatory mitigation.
- F. "Buffer" or "Buffer Zone" means the area contiguous with a critical area that maintains the functions and/or structural stability of the critical area.
- G. "Category I wetlands" Category I wetlands are: (1) relatively undisturbed estuarine wetlands larger than 1 acre; (2) wetlands that are identified by scientists of the Washington Natural Heritage Program/DNR as high-quality wetlands; (3) bogs larger than ½ acres; (4) mature and old-growth forested wetlands larger than 1 acres; (5) wetlands in coastal lagoons; and (6) wetlands that perform many functions well (e.g. those scoring 70 points or more on the rating form included in the *Washington State Wetland Rating System for Western Washington Revised*. Washington State Department of (Ecology Publication # 04-06-025, 2004).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 in a human lifetime; or (4) provide a high level of function.
- H. "Category II wetlands" Category II wetlands are: (1) estuarine wetlands smaller than 1 acre, or disturbed estuarine wetlands larger than 1 acres; (2) wetlands identified by the Washington State Department of Natural Resources as containing "sensitive" plant

species; (3) bogs between  $\frac{1}{4}$  and  $\frac{1}{2}$  acre; (4) interdunal wetlands larger than 1 acre; or (5) wetlands with a moderately high level of functions (scoring 51-69 points on the rating form included in the *Washington State Wetland Rating System for Western Washington – Revised*. Washington State Department of (Ecology Publication # 04-06-025, 2004).).

- I. "Category III wetlands" Category III wetlands are: (1) wetlands with a moderate level of functions (scoring between 30 and 50 points on the rating form included in the *Washington State Wetland Rating System for Western Washington Revised*. Washington State Department of (Ecology Publication # 04-06-025, 2004); and (2) interdunal wetlands between 0.1 and 1 acre. Wetlands scoring between 30 and 50 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.
- J. "Category IV wetlands" Category IV wetlands have the lowest level of functions (scoring less than 30 points on the rating form included in the *Washington State Wetland Rating System for Western Washington Revised*. Washington State Department of (Ecology Publication # 04-06-025, 2004) and are often heavily disturbed.
- K. "Compensation project" means actions necessary to replace project-induced wetland and wetland buffer losses, including land acquisition, planning, construction plans, monitoring and contingency actions.
- L. "Compensatory mitigation" means replacing project induced wetland losses or impacts, and includes, but is not limited to, the following:

1. Restoration. Actions performed to reestablish wetland functional characteristics and processes which have been lost by alterations, activities, or catastrophic events within an area where a wetland formerly existed, but which no longer meet the definition of a wetland.

2. Creation. Actions performed to intentionally establish a wetland at a site where it did not formerly exist.

3. Enhancement. Actions performed to improve the condition of existing degraded wetlands so that the functions they provide are of a higher quality.

M. "Conservation easement" means a reservation or encumbrance on a particular piece of real property that precludes building improvement(s) intended for human habitation or other structures or activities that would frustrate the primary purpose of the easement as a buffer.

- N. "Critical Areas" includes any of the following areas or ecosystems: critical aquifer recharge areas, fish and wildlife habitat conservation areas, geologically hazardous areas, frequently flooded areas, and wetlands, as defined in RCW 36.70(A) and this Chapter.
- O. "Creation", for the purposes of this chapter, means the manipulation of the physical, chemical, or biological characteristics to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Creation results in a gain in wetland acreage and function. A typical action is the excavation of upland soils to elevations that will produce a wetland hydroperiod and hydric soils, and support the growth of hydrophytic plant species.
- P. "Cumulative Impacts" or "Cumulative Effects" means the combined, incremental effects of human activity on ecological or critical area functions and values. Cumulative impacts result when the effects of an action are added to or interact with the effects of other actions in a particular place and within a particular time. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis and changes to policies and permitting decisions.
- Q. "Developable Area" means a site or portion of a site that may be used as the location of development, in accordance with the rules of this Chapter.
- R. "Development" means a land use consisting of the construction or exterior alteration of structures; grading, dredging, drilling, or dumping; filling; removal of sand, gravel, or minerals; bulk heading; driving of pilings; placement of obstructions or any project of a temporary or permanent nature which modifies structures, land, or shorelines and which does not fall within the allowable exemptions contained in the Shoreline Master Program.
- S. "Development proposal" means all activity relating to the use and/or development of land requiring a permit or approval from the city, including, but not limited to: commercial or residential permit; franchise right-of-way permit; grading and clearing permit; mixed use approval; planned unit development; shoreline conditional use permit; shoreline substantial development permit; shoreline variance; short subdivision; special use permit; subdivision; flood hazard permit; unclassified use permit; utility and other use permit; variance; rezone; or any subsequently required permit or approval not expressly exempted by this chapter.
- T. "Enhancement" means the manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in wetland function(s) and can lead to a decline in other wetland functions, but does not result in a gain in wetland

acres. Examples are planting vegetation, controlling non-native or invasive species, and modifying site elevations to alter hydroperiods.

- U. "Existing and on-going agriculture" includes those activities conducted on lands defined in RCW 84.34.020(2), and those activities involved in the production of crops or livestock, for example the operation and maintenance of farm and stock farms or drainage ditches, operation and maintenance of ditches, irrigation systems, irrigation laterals, canals, or irrigation drainage ditches, changes between agricultural activities, and normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas. Activities which bring an area into agricultural use are not part of an on-going operation. An operation ceases to be ongoing when the area on which it is conducted is converted to a nonagricultural use or has lain idle for more than five years, unless the idle land is registered in a federal or state soils conservation program, or unless the activity is maintenance of irrigation ditches, laterals, canals, or drainage ditches related to an existing and ongoing agricultural activity. Forest practices are not included in this definition.
- V. "Extraordinary hardship" means strict application of this chapter and/or programs adopted to implement this chapter by the city would prevent all reasonable use of the parcel.
- W. "Functions and Values", for the purposes of this chapter, means the services provided by critical areas to society, including, but not limited to, improving and maintaining water quality, providing fish and wildlife habitat, supporting terrestrial and aquatic food chains, reducing flooding and erosive flows, wave attenuation, historical or archaeological importance, educational opportunities, and recreation.
- X. "Growth Management Act" means RCW 36.70A and 36.70B, as amended
- Y. "Hazardous Substances" means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-090 or 173-303-100
- Z. "High intensity land use" includes land uses which are associated with moderate or high levels of human disturbance or substantial wetland impacts including, but not limited to, residential densities higher than four units per acre, multifamily residential, active recreation, and commercial and industrial land uses.
- AA. "Hydric soil" means a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

- BB. "Hydrophytic vegetation" means macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. The presence of hydrophytic vegetation shall be determined following the methods described in the "federal manual for identifying and delineating jurisdictional wetlands".
- CC. "Impervious Surface" means any alterations to the surface of a soil that prevents or retards the entry of water into it compared to its undisturbed condition, or any reductions in infiltration that cause water to run off the surface in greater quantities or at an increased rate of flow compared to that present prior to development. Common impervious surfaces include, but are not limited to, rooftops, 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.
- DD. "In-kind compensation" means to replace wetlands with substitute wetlands whose characteristics and functions closely approximate those destroyed or degraded by a regulated activity. It does not mean replacement "in-category".
- EE. "Isolated wetlands" means those regulated wetlands which:

1. Are outside of and not contiguous to any 100-year floodplain of a lake, river, or stream; and

2. Have no contiguous hydric soil or hydrophytic vegetation between the wetland and any surface water, including other wetlands

- FF. "Low intensity land use" includes land uses which are associated with low levels of human disturbance or low wetland impacts, including, but not limited to, passive recreation, open space, or most types of agricultural or forest management land uses.
- GG. "Major structures and improvements" mean projects which require a threshold determination and environmental documentation under the city's environmental policy act.
- HH. "Maps and inventory" means that series of maps maintained by the city department of community development for the purpose of graphically depicting the boundaries of wetland, and the associated report entitled, "wetland inventory, City of Fife" of October, 1991.
- II. "Mitigation" includes avoiding, minimizing or compensating for adverse impacts. Mitigation for individual actions may include a combination of measures. Mitigation, in the following order of preference, is:

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

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

3. Rectifying the impact to wetlands by repairing, rehabilitating or restoring the affected environment to the conditions existing at the time of the initiation of the project;

4. Minimizing or eliminating a hazard by restoring or stabilizing the hazard area through engineered or other methods;

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

6. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments;

6. Monitoring the impact and the compensation project and taking appropriate corrective measures as necessary.

Mitigation for individual actions may include a combination of the above measures.

- JJ. "Monitoring" means evaluating the impacts of development proposals on the biological, hydrological, and geological elements of such systems, and assessing the performance of required mitigation measures through the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features. Monitoring includes gathering baseline data.
- KK. "Native vegetation" means plant species that naturally arise within a given habitat and are specific and localized to the particular region.
- LL. "Off-site compensation" means to replace wetlands away from the site on which a wetland has been impacted by a regulated activity.
- MM. "On-site compensation" means to replace wetlands at or adjacent to the site on which a wetland has been impacted by a regulated activity.
- NN. "Ordinary High Water Mark" or "OHWM" means that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, that the soil has a character distinct from that of the abutting upland in respect to vegetation as that condition existed on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by the City or the Washington State

Department of Ecology; provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining saltwater shall be the line of mean higher high tide and the ordinary high water mark adjoining freshwater shall be the line of mean high water. "Out-of-kind compensation" means to replace wetlands with substitute wetlands whose characteristics do not closely approximate those destroyed or degraded by a regulated activity. It does not refer to replacement "out-of-category".

- OO. "Practicable alternative design" means an alternative project design that is reasonable and capable of being carried out after taking into consideration: cost, existing technology, and logistics in light of overall project purposes, and having less impact on wetlands. It includes, but is not limited to: reducing density, phasing of project development, changing the timing of activities, revision of road and utility and lot layout.
- PP. "Preservation" means the removal of a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This term includes the purchase of land or easements, repairing water control structures or fences, or structural protection. Preservation does not result in a gain of wetland acres but may result in a gain in functions over the long term.
- QQ. "Project Area" means all areas, including those within fifty (50) feet of the area, proposed to be disturbed, altered, or used by the proposed activity or the construction of any proposed structures. When the action binds the land, such as a subdivision, short subdivision, binding site plan, planned unit development, or rezone, the project area shall include the entire parcel, at a minimum,
- RR. "Prior Converted Croplands" or "PCCs" are defined in federal law as wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985, to enable production of an agricultural commodity, and that: 1) have had an agricultural commodity planted or produced at least once prior to December 23, 1985; 2) do not have standing water for more than 14 consecutive days during the growing season, and 3) have not since been abandoned.
- SS. "Qualified Professional" means a person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905. A qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, engineering, environmental studies, fisheries, geomorphology, or related field, and have at least five years of related work experience.

1. A qualified professional for wetlands must be a professional wetland scientist with at least two years of full-time work experience as a wetlands professional, including

delineating wetlands using the state or federal manuals, preparing wetlands reports, conducting function assessments, and developing and implementing mitigation plans.

2. A qualified professional for habitat must have a degree in biology or a related degree and professional experience related to the subject species.

3. A qualified professional for a geological hazard must be a professional engineer or geologist, licensed in the state of Washington.

4. A qualified professional for critical aquifer recharge areas means a hydrogeologist, geologist, engineer, or other scientist with experience in preparing hydrogeologic assessments.

TT. "Regulated activities" means any of the following activities which are directly undertaken or originate in a regulated wetland or its buffer:

1. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;

- 2. The dumping, discharging, or filling with any material;
- 3. The draining, flooding, or disturbing of the water level or water table;
- 4. The driving of pilings;
- 5. The placing of obstructions;
- 6. The construction, reconstruction, demolition, or expansion of any structure;

7. The destruction or alteration of wetlands vegetation that would alter the character of a regulated wetland; provided, that these activities are not part of a forest practice governed under RCW 76.09 and its rules; or

8. Activities that result in a significant change of water temperature, a significant change of physical or chemical characteristics of wetland water sources, including quantity, or the introduction of pollutants.

- UU. "Repair or maintenance" means an activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design are not included in this definition.
- VV. "Restoration" for the purposes of this chapter, means measures taken to restore an altered or damaged natural feature, including:

1. Active steps taken to restore damaged wetlands, streams, protected habitat, or their buffers to the functioning condition that existed prior to an unauthorized alteration; and

2. Actions performed to re-establish structural and functional characteristics of the critical area that have been lost by alteration, past management activities, or catastrophic events.

- WW. "Serviceable" means presently useable.
- XX. "Species, Endangered" means any wildlife species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state (WAC 232-12-297, Section 2.4).
- YY. "Species, Priority" means any fish or wildlife species requiring protective measures and/or management guidelines to ensure its persistence at genetically viable population levels as classified by the Washington Department of Fish and Wildlife, including endangered, threatened, sensitive, candidate, and monitor species, and those of recreational, commercial, or tribal importance.
- ZZ. "Species, Threatened" means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats (WAC 232-12-297, Section 2.5).
- AAA. "Species, Sensitive" means any wildlife species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened throughout a significant portion of its range within the state without cooperative management or removal of threats (WAC 232-12-297, Section 2.6).
- BBB. "Unavoidable impacts" are impacts to regulated wetlands that remain after all practicable avoidance and minimization has been achieved.
- CCC. "Wetland" or "wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands. When required, wetlands shall be categorized utilizing the *Washington State Wetland Rating System for Western*

*Washington – Revised.* Washington State Department of (Ecology Publication # 04-06-025, 2004).

DDD. "Wetland edge" means the boundary of a wetland as delineated based on the definitions contained in this chapter.

#### SMP17.17.030 Abrogation and greater restrictions

A. It is not intended that this chapter repeal, abrogate, or impair any existing regulations, easements, covenants, or deed restrictions. However, where this chapter provides more protection to wetlands, the provisions of this chapter shall prevail unless specifically provided otherwise in this chapter.

### SMP17.17.040 Interpretation

A. The provisions of this chapter shall be held to be minimum requirements in their interpretation and application and shall be liberally construed to serve policies, goals and purposes of this chapter.

### SMP17.17.050 Scope

A. The city shall not grant any approval or permission to conduct a regulated activity in a wetland unless the activity is in compliance with this chapter and with the City of Fife Shoreline Master Program.

# SMP17.17.060 Applicability

- A. For the purposes of this chapter, regulated activities in wetlands or its buffer include: the removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind; dumping, discharging, or filling with any material; draining, flooding, or disturbing of the water level or water table; driving of pilings; placing of water obstructions; construction, reconstruction, demolition, or expansion of any structure; destruction or alteration of wetlands vegetation through clearing, harvesting, shading, intentional burning, or planting of vegetation that would alter the character of a wetland; provided, that these activities are not part of a forest practice governed under RCW 76.09 and its rules, or otherwise permitted by this chapter; activities that result in a significant change of water sources, including quantity, timing or the introduction of pollutants.
- B. Subdivisions. The subdivision and/or short subdivision of land in wetlands and associated buffers are subject to the following:

- 1. Land that is wholly within a wetland or its buffer may not be subdivided through this process.
- 2. Land that is partially within a wetland or its buffer may be subdivided provided that an accessible and contiguous portion of each new lot is located outside the wetland buffer and meets the minimum lot size requirements of the underlying zoning density.
- C. Isolated Category III and IV wetlands less than 1,000 square feet in size that are not associated with riparian areas or buffers, are not part of a wetland mosaic, and do not contain habitat identified as essential for local populations of priority species as identified by the Washington State Department of Fish and Wildlife or a species of local importance are exempt from buffer provisions and the normal mitigation sequencing process. These wetlands may be filled if approval is granted from all relevant local, state and federal agencies and impacts can be fully mitigated based on the provisions of this chapter.
- D. The following uses shall be allowed within a wetland to the extent that the uses are not prohibited by any other chapter or law and provided they are conducted using best management practices, except where such activities result in the conversion of a wetland to a use to which it was not previously subjected:
  - 1. Conservation or preservation of soil, water, vegetation, fish, shellfish, and other wildlife including activities undertaken for purposes of habitat enhancement that is part of an enhancement project which has received prior written approval from the city and any other agency with jurisdiction over such activity;
  - 2. Outdoor recreational activities, including hunting, fishing, bird watching, hiking, boating, horseback riding, swimming, canoeing, and bicycling. The development of horseback riding, hiking, and bicycling trails shall not be considered an allowed activity;
  - 3. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, or alteration of the wetland by changing existing topography, water conditions or water sources. Commercial harvesting of wild crops shall not be considered an allowed use;
  - 4. Existing and ongoing agricultural activities including farming, horticulture, aquaculture, irrigation, ranching or grazing of animals. Activities on areas lying fallow, as part of a conventional rotational cycle, are part of an ongoing operation. Activities which bring an area into agricultural use are not part of an ongoing operation. An operation ceases to be ongoing when the area on which it was conducted has been converted to another use or has lain idle so long that modifications to the hydrological regime are necessary to resume operations;
  - 5. The maintenance of drainage ditches;

- 6. Education, scientific research, and use of nature trails;
- 7. Site investigative work necessary for land use application submittals such as surveys, soil logs, percolation tests and other related activities. In every case, impacts shall be minimized and disturbed areas shall be immediately restored;
- 8. Emergency repair or construction activities, or vegetation harvesting (mowing) that the city determines to be necessary to protect the health, safety, or welfare of area residents; and
- 9. Normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas. Maintenance and repair does not include any modification that changes the character, scope, or size of the original structure, facility, or improved area and does not include the construction of a maintenance road.
- 10. Drilling for utilities/utility corridors under a wetland, with entrance/exit portals located completely outside of the wetland buffer, provided that the drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water down through the soil column will be disturbed.

# SMP17.17.070 Maps and inventory

A. The approximate location and extent of wetlands in the city are shown on adopted critical area maps, including city maps and National Wetlands Inventory maps. Additionally, soil maps produced by the United States Department of Agriculture Natural Resources Conservation Service may be used to help identify potential wetland areas. These maps are to be used as a guide for the city, project applicants, and/or property owners, and shall be continuously updated as new critical areas are identified. They are a reference and do not provide a final critical area designation. The exact location of a wetland's boundary shall be determined through the performance of a field investigation by a qualified professional applying the latest edition of the Washington State Wetlands Identification and Delineation Manual as required by RCW 36.70A.175.

# SMP17.17.080 Permit requirements – Compliance

A. Except as specifically provided by this chapter, no regulated activity shall occur or be permitted to occur within a wetland without a written permit from the Director. Any alteration approved by such written permit shall comply fully with the requirements and purposes of this chapter, other applicable regulations, and any terms or conditions of said permit. All activities that are not allowed or permitted shall be prohibited.

# SMP17.17.110 Permit information requirements

In addition to the submittal requirements required for Shoreline permit documents, the following items will be required for shoreline permit applications with associated wetlands.

A. A description of the project, including the following information:

- 1. The purposes of the project and an explanation why the proposed activity cannot be located at other sites including an explanation of how the proposed activity is dependent upon wetlands;
- 2. A description of the vegetative cover of the critical area and adjacent area including dominant species;
- B. Associated maps and figure sheets of the project area, including:
  - 1. A map scaled no smaller than one inch equals 400 feet showing the entire parcel of land owned by the applicant
  - 2. All wetlands and recommended buffers within the project area as well as 300 feet of the project area
  - 3. All shoreline areas, water features, floodplains and other critical areas and related buffers within 300 feet of the project area;
  - 4. The location, width, depth and length of all existing and proposed structures, roads, sewage treatment, and installations within and adjacent to wetlands
  - 5. Elevations of the site and adjacent lands within the wetlands at contour intervals of no greater than two feet;
  - 6. The exact sites and specifications for all regulated activities including the amounts and methods;
  - 7. Typical cross-section views of the wetlands to scale;

C. A study of flood, erosion, or other hazards at the site and the effect of any protective measures that might be taken to reduce such hazards;

D. Wetland Critical Area Report. If the Director determines that the site of a proposed development includes, is likely to include, or is adjacent to a wetland, a wetland report, prepared by a qualified professional, shall be required. The expense of preparing the wetland report shall be borne by the applicant. The wetland critical area report shall contain the following:

- 1. The name and contact information of the applicant; the name, qualifications, and contact information for the primary author(s) of the wetland critical area report; a description of the proposal; identification of all the local, state, and/or federal wetland-related permit(s) required for the project; and a vicinity map for the project.
- 2. A statement specifying the accuracy of the report and all assumptions made and relied upon.
- 3. Documentation of any fieldwork performed on the site, including field data sheets for delineations, rating system forms, baseline hydrologic data, etc.
- 4. A description of the methodologies used to conduct the wetland delineations, rating system forms, or impact analyses including references.
- 5. Identification and characterization of all critical areas, wetlands, water bodies, shorelines, floodplains, and buffers on or adjacent to the proposed project area. The exact location of the wetland and critical area boundaries within the parcel and/or project boundaries shall be determined by a qualified professional through the performance of a field investigation applying the wetland definitions contained in this chapter. For areas off site of the project site, estimate conditions within 300 feet of the project boundaries using the best available information.

a. Identification of wetlands and delineation of their boundaries pursuant to this Chapter shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements. All areas within the City meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this Chapter. Wetland delineations are valid for five years; after such date the City shall determine whether a revision or additional assessment is necessary.

b. Wetlands shall be rated according to the Washington Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-025, or as revised and approved by Ecology).

6. For each wetland identified on site and within 300 feet of the project site provide: the wetland rating, including a description of and score for each function, required buffers; hydrogeomorphic classification; wetland acreage based on a professional survey from the field delineation (acreages for on-site portion and entire wetland area including off-site portions); Cowardin classification of vegetation communities; habitat elements; soil conditions based on site assessment and/or soil survey information; and to the extent possible, hydrologic information such as location and condition of inlet/outlets (if they can be legally accessed), estimated water depths

within the wetland, and estimated hydroperiod patterns based on visual cues (e.g., algal mats, drift lines, flood debris, etc.). Provide acreage estimates, classifications, and ratings based on entire wetland complexes, not only the portion present on the proposed project site.

- 7. A description of the proposed actions, including an estimation of acreages of impacts to wetlands and buffers based on the field delineation and survey and an analysis of site development alternatives, including a no-development alternative.
- 8. An assessment of the probable cumulative impacts to the wetlands and buffers 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. A discussion of measures, including avoidance, minimization, and compensation, proposed to preserve existing wetlands and restore any wetlands that were degraded prior to the current proposed land-use activity.
- 11. A conservation strategy for habitat and native vegetation that addresses methods to protect and enhance on-site habitat and wetland functions.
- 12. An evaluation of the functions of the wetland and adjacent buffer.
- 13. Include reference for the method used and data sheets.
- 14. A copy of the site plan sheet(s) for the project must be included with the written report and must include, at a minimum: Maps (to scale) depicting delineated and surveyed wetland and required buffers on site, including buffers for off-site critical areas that extend onto the project site; the development proposal; other critical areas; grading and clearing limits; areas of proposed impacts to wetlands and/or buffers (include square footage estimates) and a depiction of the proposed stormwater management facilities and outlets (to scale) for the development, including estimated areas of intrusion into the buffers of any critical areas. The written report shall contain a discussion of the potential impacts to the wetland(s) associated with anticipated hydroperiod alterations from the project.

J. Mitigation plan, which includes baseline information, environmental goals and objectives, performance standards, detailed construction plans, a monitoring program, and a contingency plan as described in 17.17.350.

#### SMP17.17.150 Sensitive area management tracts

A. As a condition of any permit issued pursuant to this chapter, the permit holder shall be required to create a separate sensitive area management tract containing the areas determined to be wetlands. Sensitive area management tracts are legally created tracts containing wetlands, and compensation areas that shall remain undeveloped in perpetuity, except for allowed activities pursuant to this chapter. Sensitive area management tracts are an integral part of the lot in which they are created, are not intended for sale, lease or transfer, and shall be included in the area of the parent lot for purposes of subdivision method and minimum lot size.

#### SMP17.17.160 Protection of sensitive area management tracts

A. The Director shall require, as a condition of any permit issued pursuant to this chapter, that the sensitive area management tracts be protected and maintained in perpetuity by a sensitive area management easement which must be recorded with the Pierce County auditor prior to the commencement of any activity pursuant to the terms of the permit. In addition, an entity that will be responsible for the maintenance and protection of the sensitive area tract must be designated as part of the permit.

#### SMP17.17.170 Temporary Marking during construction

A. The location of the outer extent of the wetland and the areas to be disturbed pursuant to an approved permit shall be marked in the field to prevent unnecessary disturbance by individuals and equipment during the development or construction of the permitted activity. Such field marking shall be approved by the Director prior to the commencement of permitted activities. Such field markings shall be maintained throughout the duration of the permit until such time a permanent signs are in place.

#### SMP17.17.180 Permanent marking of management tract

A. The boundary of a sensitive area management tract must be permanently identified by signs, the location, size, and wording of which must be approved by the building official. These signs should be worded as follows:

# Protection of this natural wetland area is in your care. Alteration or disturbance is prohibited by law. Please call the City of Fife, Department of Community Development, for more information.

B. Permanent signs shall be made of an enamel-coated metal face and attached to a metal post of another non-treated material of equal durability.

- C. Signs shall be posted at an interval of one (1) per lot or every fifty (50) feet, whichever is less, and shall be maintained by the property owner in perpetuity.
- D. The applicant shall be required to install a permanent fence around the wetland or buffer when domestic grazing animals are present or may be introduced on site.
- E. Fencing installed as part of a proposed activity or as required in this subsection shall be designed so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes impacts to the wetland and associated habitat.

### SMP17.17.190 Additional requirements

A. The Director may attach such additional conditions to the granting of a permit as deemed necessary to assure the preservation and protection of affected wetland and to assure compliance with the purposes and requirements of this chapter. These conditions include, but are not limited to, fencing, educational signage, and other passive recreational amenities.

#### SMP17.17.200 Deed restrictions

A. The permit holder shall establish and record a permanent and irrevocable deed restriction on the property title of all lots containing sensitive area management tracts created as a condition of this permit. Such deed restriction(s) shall prohibit in perpetuity the development, alteration, or disturbance of vegetation within the sensitive area management tract except for allowed activities and regulated activities allowed by a permit issued pursuant to this chapter.

#### SMP17.17.210 Site analysis

- A. Where the applicant has provided a delineation of the wetland boundary, the Director shall verify the accuracy of, and may render adjustments to, the boundary delineation. In the event the adjusted boundary delineation is contested by the applicant, the Director shall, at the applicant's expense, obtain expert services to render a final delineation.
- B. The Director, when requested by the applicant, may waive the delineation of the boundary requirement for the applicant and, in lieu of delineation by the applicant, perform the delineation. The Director shall consult with qualified professional scientists and technical experts or other experts as needed to perform the delineation. The applicant shall be charged for the costs incurred as part of his permit application fee.
- C. Where the Director performs a wetland delineation at the request of the applicant, such delineation shall be considered a final determination.

D. Illegal modifications. Wetland rating categories shall not change due to illegal modifications made by the applicant or with the applicant's knowledge.

### SMP17.17.230 Wetland Buffers

- A. Buffer Requirements. The standard buffer widths in Table 1 have been established in accordance with the best available science. They are based on the category of wetland and the habitat score as determined by a qualified wetland professional using the Washington state wetland rating system for western Washington.
  - 1. The use of the standard buffer widths requires the implementation of the measures in Table 1, where applicable, to minimize the impacts of the adjacent land uses.
  - 2. If an applicant chooses not to apply the mitigation measures in Table 2, then a 33% increase in the width of all buffers is required. For example, a 75-foot buffer with the mitigation measures would be a 100-foot buffer without them.
  - 3. The standard buffer widths assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is not vegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community or the buffer should be widened to ensure that adequate functions of the buffer are provided.
  - 4. Additional buffer widths are added to the standard buffer widths. For example, a Category I wetland scoring 32 points for habitat function would require a buffer of 225 feet (75 + 150).
  - 5. Buffer Mitigation Ratios. Impacts to buffers shall be mitigated at a 1:1 ratio. Compensatory buffer mitigation shall replace those buffer functions lost from development.

Wetland Category	Standard Buffer Width	Additional Buffer width if wetland scores 21-25 habitat points	Additional Buffer width if wetland scores 26-29 habitat points	Additional Buffer width if wetland scores 30-36 habitat points
Category I: Based on Total Score	75 ft	Add 30 ft	Add 90 ft	Add 150 ft
Category I: Bogs	190 ft	N/A	N/A	Add 35 ft

### SMP17.17 Table 1: Wetland Buffer Requirements for Western Washington

Wetland Category	Standard Buffer Width	Additional Buffer width if wetland scores 21-25 habitat points	Additional Buffer width if wetland scores 26-29 habitat points	Additional Buffer width if wetland scores 30-36 habitat points
Category I: Natural Heritage Wetlands	190 ft	N/A	N/A	Add 35 ft
Category I: Coastal Lagoons	150 ft	N/A	Add 15 ft	Add 75 ft
Category I: Forested	75 ft	Add 30 ft	Add 90 ft	Add 150 ft
Category I: Estuarine	150 ft	N/A	N/A	N/A
Category II: Based on Score	75 ft	Add 30 ft	Add 90 ft	Add 150 ft
Category II: Interdunal	110 ft	N/A	Add 55 ft	Add 115 ft
Category III (all)	60 ft	Add 45 ft	Add 105 ft	N/A
Category IV (all)	40 ft	N/A	N/A	N/A

# SMP17.17 Table 2: Required measures to minimize impacts to wetlands\*

Disturbance	Required Measures to mitigate impacts
Lights	Direct lights away from wetlands
Noise	Locate activities that generate noise away from the wetland.
	If warranted, enhance existing buffer with native vegetation planting adjacent to noise source

	For activities that generate relatively continuous, potentially disruptive noise, such as heavy industry or mining, establish an additional 10' of heavily vegetated buffer strip immediately adjacent to the wetland buffer. Other sound reduction techniques and methodologies, as available, may also be considered in lieu of the additional 10' heavily vegetated buffer but may not limit habitat connectivity and must be as effective as the 10' buffer in reducing noise impacts.
Toxic runoff	New, untreated runoff shall be directed away from wetland while ensuring wetland is not dewatered.
	Establish covenants limiting the use of pesticides within 150 feet of the wetland.
	Apply integrated pest management.
Stormwater runoff	Retrofit stormwater detention and treatment for roads and existing adjacent development.
	Prevent channelized flow from lawns that directly enters the buffer.
	Use Low Intensity Development techniques (per PSAT publication on LID techniques)
Change in water regime	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns.
Pets and human disturbance	Use privacy fencing or plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate to the ecoregion
Dust	Use best management practices to control dust.
Disruptions of corridors or connections.	Maintain existing connections to off-site areas

that are undisturbed.

\*if applicable to a specific proposal.

B. All buffers shall be measured perpendicular from the wetland boundary as surveyed in the field. Lawns, walkways, driveways, and other mowed or paved areas will not be considered buffers and shall not be included in buffer calculations.

C. Created, enhanced, and restored wetlands shall have buffers consistent with the requirements of this chapter.

D. If buffers for two contiguous critical areas overlap (e.g. the shoreline and wetland buffer), the wider buffer applies.

### SMP17.17.240 Buffers in natural state

A. Wetland buffer zones shall be retained in their natural condition. Where buffer disturbance is unavoidable during adjacent construction, re-vegetation will be required with native plant materials required.

### SMP17.17.260 Increased wetland buffer zone width

The Director shall require increased standard buffer zone widths on a case by case basis when a larger buffer is necessary to protect wetlands functions and values based on local conditions. This determination shall be supported by appropriate documentation showing that it is reasonably related to protection of the functions and values of the regulated wetland. Such determination shall be attached as a permit condition and shall demonstrate that:

A. The wetland is used by species proposed or listed by the federal government or the state as endangered, threatened, rare, sensitive or monitor, critical or outstanding potential habitat for those species or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees; or

B. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse wetland impacts; or

C. The adjacent land has minimal vegetative cover or slopes greater than 30 percent.

### SMP17.17.280 Standard wetland buffer width averaging

A. To improve wetland protection, standard wetland buffer zones may be modified by averaging buffer widths. Wetland buffer width averaging shall be allowed only where the applicant demonstrates all of the following:

1. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or a "dual-rated" wetland with a Category I area adjacent to a lower rated area.

2. The buffer is increased adjacent to the higher-functioning area of habitat or more-sensitive portion of the wetland and decreased adjacent to the lower-functioning or less-sensitive portion as demonstrated by a report from a qualified wetland professional.

3. That width averaging will not adversely impact the wetland functional values; and

4. That the total area contained within the wetland buffer after averaging is no less than that contained within the standard buffer prior to averaging. In no instance shall the buffer width be reduced by more than 25 percent of the standard buffer or be less than 35 feet.

B. Averaging to allow reasonable use of a parcel may be permitted when all the following are met:

1. There are no feasible alternatives to the site design that could be accomplished without buffer averaging.

2. The averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a critical area report from a qualified wetland professional.

3. That the total area contained within the wetland buffer after averaging is no less than that contained within the standard buffer prior to averaging. In no instance shall the buffer width be reduced by more than 25 percent of the standard buffer or be less than 35 feet.

### SMP17.17.290 Permitted uses in a wetland buffer zone

A. Regulated activities shall not be allowed in a buffer zone except for the following:

1. Conservation and restoration activities aimed at protecting the soil, water, vegetation or wildlife.

2. Educational and scientific research activities.

3. Passive recreation. Passive recreation facilities designed and in accordance with an approved critical area report, including:

a. New walkways and trails provided that those pathways are limited to minor crossings having no adverse impact on water quality. They should be generally parallel to the perimeter of the wetland, located only in the outer twenty-five percent (25%) of the wetland buffer area, and located to avoid removal of significant trees. They should be limited to pervious surfaces no more than five

(5) feet in width for pedestrian use only. Raised boardwalks utilizing non-treated pilings may be acceptable.

b. Wildlife-viewing structures

4. Normal and routine maintenance and repair of any existing public or private facilities within an existing right-of-way, provided that the maintenance or repair does not increase the footprint or use of the facility or right-of-way.

5. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

6. Drilling for utilities/utility corridors under a buffer, with entrance/exit portals located completely outside of the wetland buffer boundary, provided that the drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water water down through the soil column is disturbed.

7. Enhancement of a wetland buffer through the removal of non-native invasive plant species. Removal of invasive plant species shall be restricted to hand removal. All removed plant material shall be taken away from the site and appropriately disposed of. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds must be handled and disposed of according to a noxious weed control plan appropriate to that species. Revegetation with appropriate native species at natural densities is allowed in conjunction with removal of invasive plant species

8. Stormwater management facilities. Stormwater management facilities are limited to stormwater dispersion outfalls and bioswales. They may be allowed within the outer twenty-five percent (25%) of the buffer of Category III or IV wetlands only, provided that:

a. No other location is feasible; and

b. The location of such facilities will not degrade the functions or values of the wetland; and

c. Stormwater management facilities are not allowed in buffers of Category I or II wetlands.

9. Non-Conforming Uses. Repair and maintenance of non-conforming uses or structures, where legally established within the buffer, provided they do not increase the degree of nonconformity.

B. The Director may impose such conditions on the above referenced uses as is necessary to protect the integrity of the wetland and to fulfill the policies purposes, and further the goals set forth in this chapter.

## SMP17.17.310 Limited density transfer

A. For development proposals on lands containing wetland buffers, the Director shall determine allowable dwelling units for residential development proposals based on the formulas below.

B. The following formula for density calculations is designed to provide incentives for the preservation of wetlands and wetland buffers, flexibility in design, and consistent treatment of different types of development proposals. The formula shall apply to all properties within existing residential zones on which wetlands and wetland buffers are located.

C. The maximum number of dwelling units (DU) for a lot or parcel which contains wetlands and wetland buffers shall be equal to:

(Acres in Wetland Buffer) x (DU/Acre) x (Density Credit)

The density credit figure is derived from the following table:

Percentage of the site in Buffers	Density Credit
1-10%	100%
11-20%	90%
21-30%	80%
31-40%	70%
41-50%	60%
51-60%	50%
61-70%	40%
71-80%	30%
81-90%	20%

### SMP17.17 Table 3: Density Credit Derivation Table

90-99	10%

D. The density credit can only be transferred within the development proposal site. To the extent that application of the formula may result in lot sizes less than the minimum allowed by the underlying district, they are hereby authorized; provided, that the resultant lot is of sufficient size for an on-site waste disposal system if no sanitary sewer system exists.

E. The Director shall not allow credit for density for the portions of the site occupied by wetlands.

### SMP17.17.320 Mitigation sequencing

A. Before impacting any wetland or its buffer, an applicant shall demonstrate that the following actions have been taken. Actions are listed in the order of preference:

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

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

4. Reduce or eliminate the impact over time by preservation and maintenance operations.

5. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments.

6. Monitor the required compensation and take remedial or corrective measures when necessary.

B. As a condition of any permit allowing alteration of wetlands and/or wetland buffers, or as an enforcement action pursuant to FMC 17.05.100, the Director shall require that the applicant engage in the restoration, creation or enhancement of wetlands and their buffers in order to offset the impacts resulting from the applicant's actions. The applicant shall develop a plan that provides for land acquisition (if necessary), construction, maintenance and monitoring of replacement wetlands that provides equal or greater functions and values as the original wetlands. The overall goal of any compensatory project shall be no net loss of wetland functions and values and to strive for a net resource gain in wetland functions and values over present conditions. Compensation should be completed prior to wetland alteration, where possible.

## SMP17.17.330 Compensatory mitigation performance standards

- A. Requirements for Compensatory Mitigation:
  - Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater biologic functions. Compensatory mitigation plans 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.
  - 2. Mitigation ratios shall be consistent with this Chapter.
  - 3. Mitigation requirements may also be determined using the credit/debit tool described in "Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Operational Draft" (Ecology Publication #10-06-011, February 2011, or as revised) consistent with subsection H of this Chapter.
- B. Compensating for Lost or Affected Functions. Compensatory mitigation shall address the functions affected by the proposed project, with an intention to achieve functional equivalency or improvement of functions. The goal shall be for the compensatory mitigation to provide similar wetland functions as those lost, except when either:
  - 1. The lost wetland provides minimal functions, and the proposed compensatory mitigation action(s) will provide equal or greater functions or will provide functions shown to be limiting within a watershed through a formal Washington state watershed assessment plan or protocol; or
  - 2. Out-of-kind replacement of wetland type or functions will best meet watershed goals formally identified by the City, such as replacement of historically diminished wetland types.
- C. Preference of Mitigation Actions. Methods to achieve compensation for wetland functions shall be approached in the following order of preference:
  - 1. Restoration (re-establishment and rehabilitation) of wetlands.
  - 2. Creation (establishment) of wetlands on disturbed upland sites such as those with vegetative cover consisting primarily of non-native species.

This should be attempted only when there is an adequate source of water and it can be shown that the surface and subsurface hydrologic regime is conducive to the wetland community that is anticipated in the design.

3. Enhancement of significantly degraded wetlands in combination with restoration or creation. Enhancement alone will result in a loss of wetland acreage and is less effective

at replacing the functions lost. Enhancement should be part of a mitigation package that includes replacing the impacted area and meeting appropriate ratio requirements.

4. Preservation. Preservation of high-quality, at-risk wetlands as compensation is generally acceptable when done in combination with restoration, creation, or enhancement, provided that a minimum of 1:1 acreage replacement is provided by re-establishment or creation.

Preservation of high-quality, at risk wetlands and habitat may be considered as the sole means of compensation for wetland impacts when the following criteria are met:

- a. Wetland impacts will not have a significant adverse impact on habitat for listed fish, or other ESA listed species.
- b. There is no net loss of habitat functions within the watershed or basin.
- c. Mitigation ratios for preservation as the sole means of mitigation shall generally start at 20:1. Specific ratios should depend upon the significance of the preservation project and the quality of the wetland resources lost.
- d. The impact area is small (generally <½acre) and/or impacts are occurring to a low-functioning system (Category III or IV wetland).
- e. All preservation sites shall include buffer areas adequate to protect the habitat and its functions from encroachment and degradation.

D. Given the uncertainties in scientific knowledge and the need for expertise and monitoring, wetland compensatory projects may be permitted only when the Director finds that the compensation project is associated with an activity or development otherwise permitted and that the restored, created, or enhanced wetland will be as persistent as the wetland it replaces. Additionally, applicants shall:

1. Demonstrate sufficient scientific expertise, supervisory capability, and financial resources to carry out the proposed mitigation project;

2. Demonstrate the capability for monitoring the site and to make corrections during the monitoring period if the project fails to meet projected goals; and

3. Protect and manage or provide for the protection and management of the compensation area to avoid further development or degradation and to provide for long term persistence of the compensation area.

E. Wetland functions and values shall be calculated using the best professional judgment of a qualified wetland ecologist using the best available techniques.

### SMP17.17.340 Compensatory mitigation wetland type

A. In-kind compensation shall be provided except where the applicant can demonstrate that:

1. The hydrology and ecosystem of the original wetland and those who benefit from the hydrology and ecosystem will not be significantly adversely impacted by the on-site loss; and

2. The wetland system is already significantly degraded and out-of-kind replacement will result in a wetland with greater functional value; or

3. Scientific problems such as exotic vegetation and changes in watershed hydrology make implementation of in-kind compensation impossible; or

4. Out-of-kind replacement will best meet identified regional goals (e.g., replacement of historically diminished wetland types).

5. On-site compensation is not scientifically feasible due to problems with hydrology, soils, waves, or other factors; or

6. Compensation is not practical due to potentially adverse impact from surrounding land uses; or

7. That local or regional goals for flood storage, flood conveyance, habitat or other wetland functions have been established and strongly justify location of compensatory measures at another site.

B. Where out-of-kind replacement is accepted, greater acreage replacement ratios may be required to compensate for lost functional values. Off-site compensation shall occur within the same watershed as the wetland loss occurred; provided, that Category IV wetlands may be replaced outside of the watershed when there is no reasonable alternative and local or regional environmental goals are furthered by this action.

In selecting compensation sites, applicants shall pursue siting in the following order of preference:

1. Degraded wetland sites;

2. Upland sites which were formerly wetlands;

3. Upland sites generally having bare ground or vegetative cover consisting primarily of exotic introduced species, weeds, or emergent vegetation;

4. Other disturbed upland sites.

C. Wetland Mitigation Banks.

1. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:

a. The bank is certified under state rules;

b. The Director determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and

c. The proposed use of credits is consistent with the terms and conditions of the bank's certification.

2. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the bank's certification.

3. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the bank's certification. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

D. In-Lieu Fee. To aid in the implementation of off-site mitigation, the City may develop a program which prioritizes wetland areas for use as mitigation and/or allows payment in lieu of providing mitigation on a development site. This program shall be developed and approved through a public process and be consistent with state and federal rules. The program should address:

1. The identification of sites within the City that are suitable for use as offsite mitigation. Site suitability shall take into account wetland functions, potential for wetland degradation, and potential for urban growth and service expansion, and

2. The use of fees for mitigation on available sites that have been identified as suitable and prioritized.

- E. Advance Mitigation. Mitigation for projects with pre-identified impacts to wetlands may be constructed in advance of the impacts if the mitigation is implemented according to state and federal rules.
- F. Alternative Mitigation Plans. The Director may approve alternative critical areas mitigation plans that are based on best available science, such as priority restoration plans that achieve restoration goals identified in the SMP. Alternative mitigation proposals must provide an equivalent or better level of protection of critical area functions and values than would be provided by the strict application of this chapter.

The Director shall consider the following for approval of an alternative mitigation proposal:

- 1. The proposal uses a watershed approach consistent with Selecting Wetland Mitigation Sites Using a Watershed Approach (Ecology Publication #09-06-32, Olympia, WA, December 2009.)
- 2. Creation or enhancement of a larger system of natural areas and open space is preferable to the preservation of many individual habitat areas;
- 3. Mitigation according to Section E is not feasible due to site constraints such as parcel size, stream type, wetland category, or geologic hazards;
- 4. There is clear potential for success of the proposed mitigation at the proposed mitigation site;
- 5. The plan shall contain clear and measurable standards for achieving compliance with the specific provisions of the plan. A monitoring plan shall, at a minimum, meet the provisions in Section I;
- 6. The plan shall be reviewed and approved as part of overall approval of the proposed use;
- 7. A wetland of a different type is justified based on regional needs or functions and values; the replacement ratios may not be reduced or eliminated unless the reduction results in a preferred environmental alternative;
- 8. Mitigation guarantees shall meet the minimum requirements as outlined in this code.
- 9. Qualified professionals in each of the critical areas addressed shall prepare the plan;
- 10. The City may consult with agencies with expertise and jurisdiction over the resources during the review to assist with analysis and identification of appropriate performance measures that adequately safeguard critical areas.

### SMP17.17.350 Compensatory Mitigation Plan Elements

When a project involves wetland and/or buffer impacts, a compensatory mitigation plan prepared by a qualified professional shall be required, meeting the following minimum standards:

- A. Wetland Critical Area Report. A critical area report for wetlands must accompany or be included in the compensatory mitigation plan and include the minimum parameters described in Minimum Standards for Wetland Reports 17.17.110(D) of this Chapter.
- B. Compensatory Mitigation Report. The report must include a written report and plan sheets that must contain, at a minimum, the following elements. Full guidance can be found in

Wetland Mitigation in Washington State–Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication #06-06-011b, Olympia, WA, March 2006 or as revised). The written report must contain, at a minimum:

- 1. The name and contact information of the applicant; the name, qualifications, and contact information for the primary author(s) of the compensatory mitigation report; a description of the proposal; a summary of the impacts and proposed compensation concept; identification of all the local, state, and/or federal wetland-related permit(s) required for the project; and a vicinity map for the project.
- 2. Description of how the project design has been modified to avoid, minimize, or reduce adverse impacts to wetlands.
- 3. Description of the existing wetland and buffer areas proposed to be impacted. Include acreage (or square footage), water regime, vegetation, soils, landscape position, surrounding lands uses, and functions. Also describe impacts in terms of acreage by Cowardin classification, hydrogeomorphic classification, and wetland rating, based on Wetland Ratings as defined within this Chapter.
- 4. Description of the compensatory mitigation site, including location and rationale for selection and compensation goals. Include an assessment of existing conditions: acreage (or square footage) of wetlands and uplands, water regime, sources of water, vegetation, soils, landscape position, surrounding land uses, and functions. Estimate future conditions in this location if the compensation actions are NOT undertaken (i.e., how would this site progress through natural succession?).
- 5. A description of the proposed actions for compensation of wetland and buffer areas affected by the project. Include overall goals of the proposed mitigation, including a description of the targeted functions, hydrogeomorphic classification, and categories of wetlands.
- 6. Detailed Construction Plans. Written specifications and descriptions of compensation techniques shall be provided including the proposed construction sequence, grading and excavation details, erosion and sediment control features needed for wetland construction and long term survival, a planting plan specifying plant species, quantities, locations, size, spacing, and density; source of plant materials, propagules, or seeds; water and nutrient requirements for planting; where appropriate, measures to protect plants from predation; specification of substrate stockpiling techniques and planting instructions; descriptions of water control structures and water-level maintenance practices needed to achieve the necessary hydrocycle/hydroperiod characteristics; etc. These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and

any other drawings appropriate to show construction techniques or anticipated final outcome. The plan shall provide for elevations which are appropriate for the desired habitat type(s).

- 7. A description of the proposed mitigation construction activities and timing of activities.
- 8. A review of the available literature and/or experience to date in restoring or creating the type of wetland proposed shall be provided. An analysis of the likelihood of success of the compensation project at duplicating the original wetland shall be provided based on the experiences of comparable projects, if any. An analysis of the likelihood of persistence of the created or restored wetland shall be provided based on such factors as surface and groundwater supply and flow patterns, dynamics of the wetland ecosystem; sediment or pollutant influx and/or erosion, periodic flooding and drought, etc., presence of invasive flora or fauna, potential human or animal disturbance, and previous comparable projects, if any.
- 9. A discussion of ongoing management practices that will protect wetlands after the project site has been developed, including proposed monitoring and maintenance programs (for remaining wetlands and compensatory mitigation wetlands).
- 10. A bond estimate for the entire compensatory mitigation project, including the following elements: site preparation, plant materials, construction materials, installation oversight, maintenance twice per year for up to five (5) years, annual monitoring field work and reporting, and contingency actions for a maximum of the total required number of years for monitoring.
- 11. Proof of establishment of Notice on Title for the wetlands and buffers on the project site, including the compensatory mitigation areas.
- 12. Scaled plan sheets for the compensatory mitigation. These plans must contain, at a minimum:
  - a. Surveyed edges of the existing wetland and buffers, proposed areas of wetland and/or buffer impacts, location of proposed wetland and/or buffer compensation actions.
  - b. Existing topography, ground-proofed, at two-foot contour intervals in the zone of the proposed compensation actions if any grading activity is proposed to create the compensation area(s), existing cross-sections of on-site wetland areas that are proposed to be impacted, and cross-section(s) (estimated one foot intervals) for the proposed areas of wetland or buffer compensation.
  - c. Surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, created, or restored compensatory

mitigation areas. Also, illustrations of how data for existing hydrologic conditions were used to determine the estimates of future hydrologic conditions.

- d. Conditions expected from the proposed actions on site, including future hydrogeomorphic types, vegetation community types by dominant species (wetland and upland), and future water regimes.
- e. Required wetland buffers for existing wetlands and proposed compensation areas. Also, identify any zones where buffers are proposed to be reduced or enlarged outside of the standards identified in this Chapter.
- f. A plant schedule for the compensation area, including all species by proposed community type and water regime, size and type of plant material to be installed, spacing of plants, typical clustering patterns, total number of each species by community type, timing of installation.
- g. Performance standards Specific criteria shall be provided for evaluating whether or not the goals and objectives of the project and for beginning remedial action or contingency measures. Such criteria may include water quality standards, survival rates of planted vegetation, species abundance and diversity targets, habitat diversity indices, or other ecological, geological, or hydrological criteria.
- C. Monitoring. Mitigation monitoring shall be required for a period necessary to establish that performance standards have been met, but not for a period less than five years. If a scrubshrub or forested vegetation community is proposed, monitoring may be required for ten years or more. The project mitigation plan shall include monitoring elements that ensure certainty of success for the project's natural resource values and functions. If the mitigation goals are not obtained within the initial five-year period, the applicant remains responsible for restoration of the natural resource values and functions until the mitigation goals agreed to in the mitigation plan are achieved.
  - 1. Monitoring may include, but is not limited to:
    - a. Establishing vegetation plots to track changes in plant species composition and density over time;
    - b. Using photo stations to evaluate vegetation community response;
    - c. Sampling surface and subsurface waters to determine pollutant loading, and changes from the natural variability of background conditions (pH, nutrients, heavy metals);
    - d. Measuring base flow rates and storm water runoff to model and evaluate water quality predictions, if appropriate;

- e. Measuring sedimentation rates, if applicable; and
- f. Sampling fish and wildlife populations to determine habitat utilization, species abundance and diversity.
- 2. A protocol shall be included outlining how the monitoring data will be evaluated by agencies that are tracking the progress of the compensation project. A monitoring report shall be submitted annually, at a minimum, documenting milestones, successes, problems, and contingency actions of the compensation project. The compensation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five years.
- D. Contingency Plan. Identification of potential courses of action, and any corrective measures to be taken when monitoring or evaluation indicates project performance standards are not being met.

# SMP17.17.360 Wetlands Mitigation Ratios

- A. Any person proposing to alter wetlands may propose to create wetlands of equivalent areas or greater functions and values than those altered in order to compensate for wetland losses.
- B. Where feasible, created wetlands should be a higher category than the altered wetland.
- C. Acreage Replacement Ratio. The following ratios apply to creation which is in kind, on-site, timed prior to or concurrent with alteration, and has a high probability of success. These ratios do not apply to remedial actions resulting from illegal alterations. The first number specifies the acreage of wetlands requiring replacement and the second specifies the acreage of wetlands altered:

Category and Type of Wetland	Creation or Re-establishment	Rehabilitation	Enhancement	Preservation
Category I: Bog, Natural Heritage Site	Not considered possible	6:1	Case by Case	10:1
Category I: Mature Forested	6:1	12:1	24:1	24:1
Category I: Based on	4:1	8:1	16:1	20:1

**SMP17.17** Table 4: Wetland Mitigation Ratios

Function				
Category II	3:1	6:1	12:1	20:1
Category III	2:1	4:1	8:1	15:1
Category IV	1.5:1	3:1	6:1	10:1

H. Credit/Debit Method. To more fully protect functions and values, and as an alternative to the mitigation ratios found in the joint guidance "Wetland Mitigation in Washington State Parts I and II" (Ecology Publication #06-06-011a-b, Olympia, WA, March, 2006), the Director may allow mitigation based on the "credit/debit" method developed by the Department of Ecology in "Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Operational Draft," (Ecology Publication #10-06-011, Olympia, WA, February 2011, or as revised). (Ord. 1116 § 37, 1992).

### SMP17.17.370 Increased Wetland Mitigation ratios

- A. The Director may increase the ratios for wetland enhancement, restoration, or creation projects under the following circumstances:
  - 1. Uncertainty as to the probable success of the proposed enhancement, restoration or creation; or
  - 2. Significant period of time between destruction and replacement of wetland functions and values; or
  - 3. Projected losses in functional value; or
  - 4. Off-site compensation.

### SMP17.17.380 Decreased wetland mitigation ratios

- A. The Director may decrease the required as identified in SMP17.17.360 ratios if all of the following items apply:
  - 1. Findings of special studies coordinated with agencies with expertise demonstrate that no net loss of wetland function or value is attained under the decreased ratio;
  - 2. If a compensatory mitigation project is undertaken adjacent to riverine or wetland systems and increases the functions and values of these systems; and

3. If compensatory mitigation successfully occurs in advance of the proposed wetland altering activity.

### SMP17.17.400 Timing of wetland compensatory mitigation

- A. Where feasible, compensatory projects should be completed prior to activities that will disturb wetlands, and immediately after activities that will temporarily disturb wetlands.
- B. In all other cases, compensatory projects should be completed prior to use or occupancy of the activity or development which was conditioned upon such compensation.
- C. Construction of compensation projects shall be timed to reduce impacts to existing wildlife and flora.
- D. The Director may authorize a one-time temporary delay in completing construction or installation of the compensatory mitigation when the applicant provides a written explanation from a qualified wetland professional as to the rationale for the delay. An appropriate rationale would include identification of the environmental conditions that could produce a high probability of failure or significant construction difficulties (e.g., project delay lapses past a fisheries window, or installing plants should be delayed until the dormant season to ensure greater survival of installed materials). The delay shall not create or perpetuate hazardous conditions or environmental damage or degradation, and the delay shall not be injurious to the health, safety, or general welfare of the public. The request for the temporary delay must include a written justification that documents the environmental constraints that preclude implementation of the compensatory mitigation plan. The justification must be verified and approved by the City.

### SMP17.17.410 Cooperative restoration, creation or enhancement projects

A. The Director may encourage, facilitate, and approve cooperative projects wherein a single applicant or other organization with demonstrated capability may undertake a compensation project with funding from other applicants under the following circumstances:

1. Restoration, creation, or enhancement at a particular site may be scientifically difficult or impossible; or

- 2. Creation of one or several larger wetlands may be preferable to many small wetlands.
- B. Persons proposing cooperative compensation projects shall:

- 1. Submit a joint mitigation plan;
- 2. Demonstrate compliance with all standards;
- 3. Demonstrate the organizational and fiscal capability to act cooperatively; and
- 4. Demonstrate that long term management can and will be provided.

### SMP17.17.430 Unauthorized Alterations and Enforcement

- A. When a wetland or its buffer has been altered in violation of this Chapter, all ongoing development work shall stop, and the critical area shall be restored.
- B. Requirement for Restoration Plan. All development work shall remain stopped until a restoration plan is prepared and approved by the City. Such a plan shall be prepared by a qualified professional using the currently accepted scientific principles and shall describe how the actions proposed meet the minimum requirements described in Subsection (C). The Director shall, at the violator's expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or violator for revision and resubmittal.
- C. Minimum Performance Standards for Restoration. The following minimum performance standards shall be met for the restoration of a wetland, provided that if the violator can demonstrate that greater functions and habitat values can be obtained, these standards may be modified:
  - 1. The historic structure, functions, and values of the affected wetland shall be restored, including water quality and habitat functions.
  - 2. The historic soil types and configuration shall be restored to the extent practicable.
  - 3. The wetland and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities. The historic functions and values should be replicated at the location of the alteration.
  - 4. Information demonstrating compliance with other applicable provisions of this Chapter shall be submitted to the Director.
- D. Site Investigations. The Director is authorized to make site inspections and take such actions as are necessary to enforce this Chapter. The Director shall present proper credentials and make a reasonable effort to contact any property owner before entering onto private property.
- E. Penalties. Any person, party, firm, corporation, or other legal entity convicted of violating any of the provisions of this Chapter shall be guilty of a misdemeanor.

- 1. Each day or portion of a day during which a violation of this Chapter is committed or continued shall constitute a separate offense. Any development carried out contrary to the provisions of this Chapter shall constitute a public nuisance and may be enjoined as provided by the statutes of the state of Washington. The City may levy civil penalties against any person, party, firm, corporation, or other legal entity for violation of any of the provisions of this Chapter. The civil penalty shall be assessed at a maximum rate of \$100 dollars per day per violation for each of the first five days that a violation exists and of \$500.00 for each subsequent day of violation from the sixth day of the violation.
- 2. If the wetland affected cannot be restored, monies collected as penalties shall be deposited in a dedicated account for the preservation or restoration of landscape processes and functions in the watershed in which the affected wetland is located. The City may coordinate its preservation or restoration activities with other cities in the watershed to optimize the effectiveness of the restoration action.

# **Appendix C:**

# **Shoreline Inventory and Characterization**

# **Appendix D: Restoration Plan**

# CITY OF FIFE Shoreline Master Program Update

# **INVENTORY AND CHARACTERIZATION**

PREPARED FOR:



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September 2010



IN	TROD	UCTION	1
	1.1	Study Area Boundary	1
	1.2	Methodology	2
	1.3	Report Organization	3
	1.4	Shoreline Reaches	3
2	FCOG		0
2		YSTEM CONTEXT	
	2.1	Watershed Natural Characteristics	
		2.1.1 Precipitation	
		2.1.2 Vegetation	
		2.1.3 Surficial Geology and Soils	
		2.1.4 Topography	
	2.2	Land Use	
		2.2.1 Historic	
		2.2.2 Current	13
3	WATI	ERSHED PROCESSES	15
5	3.1	Water	
	3.2	Sediment	
	3.3	Phosphorus and Toxins	
	3.4	Nitrogen	
	3.5	Pathogens	
	3.6	Large Woody Debris	
	5.0		
4	SHOR	ELINE CHARACTERISTICS AND FUNCTIONS	24
	4.1	Puyallup Reach 1 (P1)	25
	4.2	Puyallup Reach 2 (P2)	29
	4.3	Puyallup Reach 3 (P3)	33
	4.4	Hylebos Reach 1 (H1)	37
	4.5	Hylebos Reach 2 (H2)	41
	4.6	Hylebos Reach 3 (H3)	45
	4.7	Shoreline Function Summary	49
5		RTUNITIES FOR SHORELINE PROTECTION, RESTORATION,	
		IC ACCESS AND USE	
	5.1	Shoreline Protection and Restoration Opportunities	
		5.1.1 P1	
		5.1.2 P 2	
		5.1.3 P 3	
		5.1.4 H 1	
		5.1.5 H 2	
		5.1.6 H 3	
		5.1.7 General Recommendations for all City Shorelines	
	5.2	Public Access Opportunities	55
	5.3	Shoreline Use Analysis and Identification of Potential Conflicts	55

# TABLE OF CONTENTS

6	DATA	A GAPS	56
	6.1	Identified Gaps	56
	6.2	Recommendations to Address Data Gaps	57

### TABLES

# DIAGRAMS

Diagram 1: Left and Right bank designations for various flow scenarios\_\_\_\_\_8

# APPENDICES

Appendix A: City of Fife Shoreline Master Program Update: Task 2.1 - Inventory

#### FIGURES<sup>1</sup>

Figure 1. Shoreline Jurisdiction Areas – City of Fife Figure 1A. Shoreline Jurisdiction Areas – Hylebos Creek Figure 1B. Shoreline Jurisdiction Areas – Puyallup River Figure 2. Study Segments – City of Fife Figure 2A. Study Segments – Hylebos Creek Figure 2B. Study Segments – Puyallup River Figure 3. Existing Land Use – City of Fife Figure 3A. Existing Land Use – Hylebos Creek Figure 3B. Existing Land Use – Puyallup River Figure 4. Existing Zoning – City of Fife Figure 4A. Existing Zoning – Hylebos Creek Study Segments Figure 4B. Existing Zoning – Puyallup River Study Segments Figure 5. Storm Water- City of Fife Figure 5A. Storm Water- Hylebos Creek Study Segments Figure 5B. Storm Water – Puyallup River Study Segments Figure 6. Critical Areas – City of Fife Figure 7. Tribal Properties Figure 8. Sewer Lines Figure 9. Utilities & Roads Figure 10. Contours & Hazard Areas Figure 11. Puyallup River Watershed Figure 12. Water Body & 303d Listings Figure 13. Impervious Surface Figure 14. Restoration Sites

Segments Maps Figure H1 Figure H2 Figure H3 Figure P1 Figure P2 Figure P3

<sup>&</sup>lt;sup>1</sup> All figures are located at the end of the document for easy reference. In some instances, some figures are also inserted into the body of document to provide further clarification of the text (e.g. the location of a reach). Page numbers are provided in this table for those figures that are incorporated into the body of the document.

### INTRODUCTION

This report is intended to provide baseline information on the existing ecosystem processes and shoreline functions occurring within the City of Fife's (City) shoreline jurisdiction (Figures 1, 1A and 1B) to provide a basis for the update of the City's Shoreline Master Program (SMP). The City of Fife Urban Growth Areas (UGAs) are not included in this study as the City does not anticipate the annexation of these areas before the next shoreline master program update is scheduled to occur. City staff did confer with the adjacent jurisdiction, Pierce County, to ensure these areas were reviewed within the County Inventory and Analysis Document and that the results of that document corresponded to the findings as outlined in this document. This document utilizes the information resources identified in the Shoreline Inventory, submitted to the Washington State Department of Ecology (Ecology) in June 2010 as part of the SMP update. This document describes larger-scale (i.e., watershed) physical and biological processes occurring in the City's shoreline jurisdiction as well as specific shoreline functions based on a shoreline reach analysis. Finally, this report analyzes opportunities for shoreline protection and restoration, as well as public access and shoreline uses, and provides information on specific data gaps or limitations that were identified during the analysis and characterization process as well as recommendations as to how those data gaps should be addressed.

### 1.1 STUDY AREA BOUNDARY

The City of Fife, which is 5.7 square miles in area, is located to the southeast of the City of Tacoma and to the west of the City of Milton and is located in the Puyallup River floodplain near the head of Commencement Bay in north Pierce County. Figure 2 shows an aerial view of the City and surrounding areas. The estimated 2009 population was 7,810. The shoreline within the City of Fife is approximately 6.13 miles long.

Two water bodies within the City are regulated under the State Shoreline Management Act (SMA). The Puyallup River is listed as such under the Washington State Administrative Code (WAC 173-18-310). Hylebos Creek is not on this list, but does meet the flow requirements for SMA regulation in the City as well as in the neighboring City of Milton.

This study focuses on the water bodies inside the City, including associated wetlands and the shore lands within 200 feet upland of the Puyallup River and Hylebos Creek. Consistent with the Shoreline Management Act, the study area includes the aquatic area, the edge of the water body as defined as the ordinary high water mark (OHWM) and shorelands within 200 feet upland of the OHWM (Figures 1, 1A, and 1B).

The Puyallup River waterward of the OHWM is under the sole jurisdictions of the Puyallup Tribe of Indians. Refer to Figure 7. In addition, the Sha Dadx wetland area and the hydrologic connection between the Oxbow wetland and the Puyallup River as well as the surrounding upland areas for both wetlands, are also under the jurisdiction of the Puyallup Tribe of Indians. Pursuant to RCW 37.12.060,

Nothing in this chapter shall authorize the alienation, encumbrance, or taxation of any real or personal property, including water rights and tidelands, belonging to any Indian or any Indian tribe, band, or community that is held in trust by the United States or is subject to a restriction against alienation imposed by the United States; or shall authorize regulation of the use of such property in a manner inconsistent with any federal treaty, agreement, or statute or with any regulation made pursuant thereto; or shall confer jurisdiction upon the state to adjudicate, in probate proceedings or otherwise, the ownership or right to possession of such property or any interest therein; or shall deprive any Indian or any Indian tribe, band, or community of any right, privilege, or immunity afforded under federal treaty, agreement, statute, or executive order with respect to Indian land grants, hunting, trapping, or fishing or the control, licensing, or regulation thereof.

The baseline analysis provided by this document includes all shorelines within City limits including those areas that are under the jurisdiction of the Puyallup Tribe of Indians. However further Shoreline Master Program Update tasks, including but not limited to policy and regulation development will be conducted in such a manner as to maintain compliance with both those laws and rules defining the Shoreline Management Update process as well as those laws and rules defining tribal jurisdiction.

# **1.2 Methodology**

As noted in the introduction, the purpose of this document is to provide baseline information regarding City shorelines in order to inform the SMP update. It is intended to integrate information from a number of existing sources in order to address the requirements of the Shoreline Management Act (SMA) and to identify gaps for which existing information is not available. It relies heavily on adaptation of existing information and analyses of City shorelines. New data gathering and extensive re-analysis of existing data is not a requirement of the SMP update process and is therefore outside of the scope of the City's SMP update.

This document addresses City shorelines at two different spatial scales: ecosystem/regional and reach. Regional information is largely in narrative form and comes from documents addressing conditions at Water Resource Inventory Area (WRIA), County, watershed, or basin level. All of the documents and other resources used for the characterization process are identified within the Inventory (Appendix A). Some of the sources from which regional-scale information were drawn include:

- Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Water Resource Inventory Area 10) (Kerwin 1999)
- *City of Fife Draft Comprehensive Plan* (City of Fife 2005)
- Draft City of Fife Shoreline Inventory (Grette Associates 2004)

Reach scale information is largely based on review of geospatial data available in map format from the City and Pierce County. The geospatial data layers available to be utilized for reach review are summarized in the Shoreline Inventory (Appendix A). Additionally, aerial photos,

site visits, and institutional knowledge within the City all were used to supplement information at the reach scale.

In order to best use limited grant resources, this Inventory and Characterization is focused on reach-scale analysis of conditions and opportunities within the City shorelines. Regional information is presented within the context of City shorelines where it is available from the sources listed above, but will not be the sole source of information used by the City during the SMP update process. Pierce County completed an Inventory and Analysis of the jurisdictional shoreline area in 2009 as part of their SMP update process which was also used as a reference for this document. Additionally, Ecology is preparing analyses of watershed processes for Puget Sound shorelines that will become available in 2010. The City intends to supplement the regional information provided herein with County and Ecology information as it becomes available during the SMP update process.

## **1.3 REPORT ORGANIZATION**

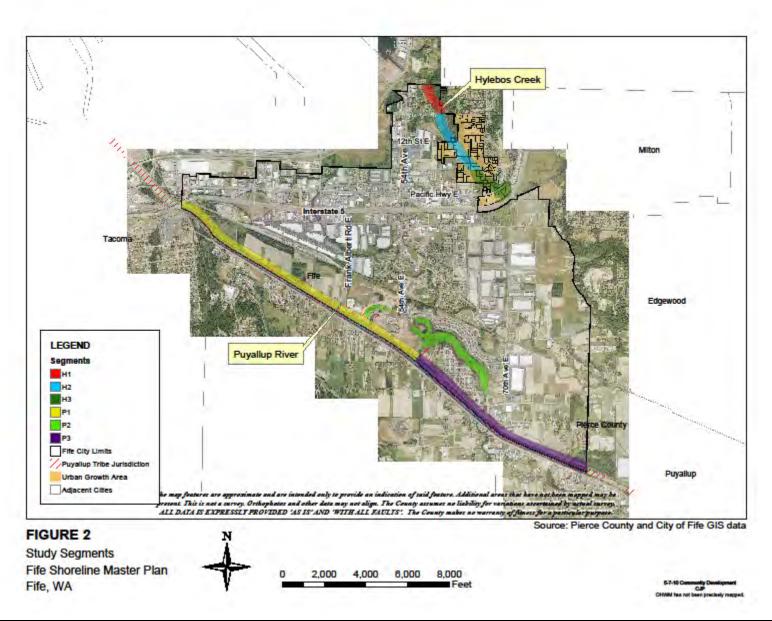
This report is organized to correlate with requirements of Shoreline Management Act (SMA), Revised Code of Washington (RCW) 90.58, and its implementing guidelines in Washington Administrative Code (WAC) 173-26. It is intended to review large-scale information, and scale down sequentially to smaller reaches (reaches defined below in Section 1.4). This approach combines the requirement outlined in WAC 173-26-201(3)(d), Ecology's draft SMP Handbook Chapter 7 Shoreline Inventory and Characterization (Ecology 2009), and Ecology's guidance document Protecting Aquatic Ecosystems: A Guide for Puget Sound Planners to Understand Watershed Processes (Stanley et al. 2005).

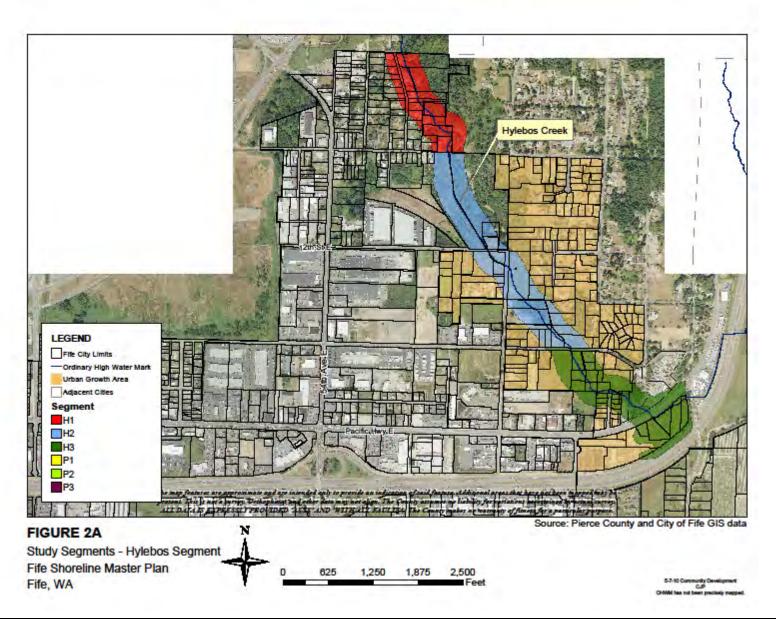
## **1.4 SHORELINE REACHES**

During the inventory process, the City of Fife divided the shoreline into a number of lineal segments according to environmental characteristics (e.g., significant wetlands, undeveloped habitat) and land use (e.g., zoning, existing and planned future land use) (Table 1, Figures 2, 2A and 2B). In some instances, study segments can also be identified according to the City of Fife street systems (e.g., from 4<sup>th</sup> Street East to 12<sup>th</sup> Street East along the Hylebos). However the street systems were only utilized in instances where a change in environmental characteristics, land use, or zoning was also present. For example, it was not possible to correlate a segment break to the street system for Puyallup Reach 2 (P2), which is primarily comprised of remnant oxbow of the Puyallup River that now functions as a large, wetland complex with a hydrologic connection to the River but also contains a smaller restored wetland habitat area identified as Sha Dadx (formerly the "Frank Albert Road Wetland") (Section 4.2).

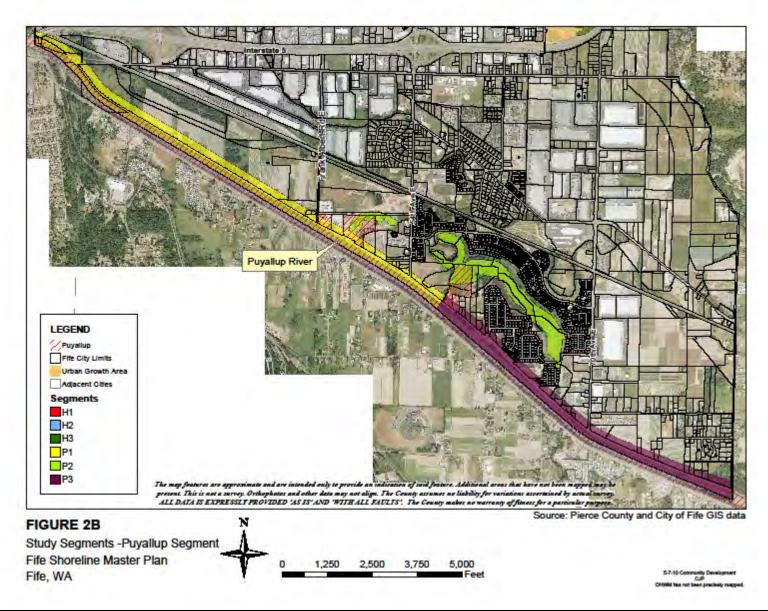
Study Segment (Reach)	Location	Description	Approx. Length (ft)	River Mile
P1	Puyallup	I-5 Bridge (West City Limit) upstream to the hydrological connection to the Oxbow wetland upstream of 54th Ave	13,150	2.4 - 4.9
P2	Puyallup	Oxbow wetland, hydrological connection to Oxbow wetland, Sha Dadx wetland	Associated wetland (63 acres)	4.9
Р3	Puyallup	Upstream edge of the hydrological connection to the Oxbow wetland to Freeman Rd (southeast city limit)	9,840	4.9-6.8
H1	Hylebos	Fife City limit (north, co-terminus of 57th and 55th Ave E) upstream to 4th St E, both banks	1,650	0.3-0.6
H2	Hylebos	4th St E upstream to 12th St E; both banks	3,335	0.6-1.3
H3	Hylebos	12th St E upstream to 70th; both banks,	4,380	1.3-2.1

 Table 1. Shoreline inventory reaches in the City of Fife.

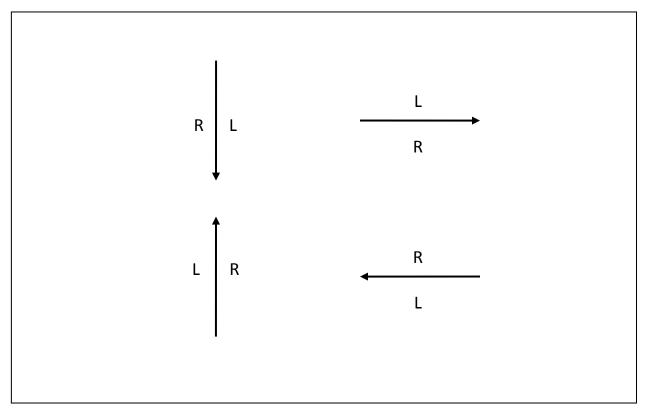




City of Fife Shoreline Master Program Update Inventory and Characterization



City of Fife Shoreline Master Program Update Inventory and Characterization Note: Text within this Characterization, specifically for those reaches associated with Hylebos Creek, refers to left and right stream banks. This refers to bank orientation when facing upstream.



**Diagram 1.** Left and Right bank designations for various flow scenarios.

### 2 ECOSYSTEM CONTEXT

The City of Fife is located in the Puyallup River floodplain near the head of Commencement Bay in north Pierce County and is bordered by the Puyallup River to the south. The land was historically used by the Puyallup Indian Tribe and was included in its Reservation Lands within the 1856 amendments to the Medicine Creek Treaty. Just over a century later, in 1957, the City of Fife was incorporated and has been expanded periodically since that time. However, a significant portion of the City is still owned by the Tribe (Figure 7). The City's present corporate limits and urban growth area are shown in Figure 1.

As noted in the introductory text of this document, the City of Fife contains two water bodies that are regulated under the State Shoreline Management Act. These two water bodies are the Puyallup River and Hylebos Creek. In order to place the jurisdictional riparian shorelines of the City of Fife within an ecosystem context, the following subsections describe the natural and development characteristics of the larger watershed.

### 2.1 WATERSHED NATURAL CHARACTERISTICS

The City of Fife is located entirely within the within the Puyallup Water Resource Inventory Area (WRIA 10). WRIA 10 is approximately 1,065 square miles (673,133 acres) in size and contains over 728 miles of rivers and streams that flow over 1,287 linear miles. WRIA 10 is located in both King and Pierce County jurisdictions. However, the majority of the WRIA is located within Pierce County jurisdiction. As such, the densest areas of population within this WRIA are located in Pierce County and include cities of Tacoma, Puyallup and Fife. The Puyallup River basin was one of the first watersheds in the Puget Sound to experience the full impacts of industrial, urban, and agricultural development (Kerwin 1999). As such, habitat and other watershed characteristics within WRIA 10 have been negatively impacted.

The major water systems within WRIA 10 include the White, Carbon and Puyallup Rivers. The Puyallup River is the largest drainage in WRIA 10. Pursuant to WAC 173-18-310, the Puyallup River is a shoreline of statewide significance. The Puyallup River is approximately 45 miles long. Its headwaters are the glaciers located on the western side of Mount Rainier and its mouth is at Commencement Bay. The Carbon and White Rivers flow into the Puyallup River upstream of the City of Fife. The City of Fife is located along River Miles 2.4 and 6.8 of the Puyallup River.

The Salmon Habitat Limiting Factors Report for the Puyallup River Basin (WRIA 10) separates the basin into six subbasins as follows: (1) Commencement Bay and Puget Sound Nearshore, (2) Lower Puyallup (RM 0.0 to 41.7), (3) Upper Puyallup (RM 41.7 to headwaters), (4) Carbon River, (5) White River, (6) Independent Tributaries to Puget Sound (including Hylebos Creek) (Kerwin 1999). Of those six subbasins, the City of Fife contains portions of both the Lower Puyallup River subbasin and the Hylebos Creek subbasin<sup>2</sup>.

<sup>&</sup>lt;sup>2</sup> The Pierce County Surface Water Management website refers to Lower Puyallup River and Hylebos Creek Watersheds. Although a map overlay analysis was not completed as part of this report, the area identified as *City of Fife Shoreline Master Program Update* 

#### Lower Puyallup subbasin

The Lower Puyallup subbasin is comprised of the downstream portion of the Puyallup River and begins below the confluence of the White River adjacent to the City of Puyallup (RM 0.0 to 41.7).

The Puyallup River channel within this subbasin has been modified utilizing dikes, revetments, and levees along both banks downstream of RM 28.6 to Commencement Bay. The placement of these water flow modifications has straightened and confined the river to an active channel width of approximately 130 feet and the resulting habitat is simplified throughout the subbasin (Kerwin 1999).

#### Hylebos Creek subbasin

The Hylebos Creek subbasin is comprised of the extent of the Hylebos Creek and drains approximately 18,300 acres and is connected to 25 miles of streams, 11 named lakes, and wetlands (Kerwin 1999). The Creek originates from Lake Geneva and Lake Killarney about four miles north and east of the City of Milton. The City of Fife is located along River Miles 0.3 and 2.1 of Hylebos Creek.

Hylebos Creek is thought to have been one of the most productive small stream systems in southern Puget Sound. However, due to the altered state of the creek, salmonid production is greatly reduced (Kerwin 1999). Alteration for this subbasin includes residential development, areas of channelization, modification/reduction/removal of adjacent wetlands, erosion and frequent flooding.

The City's location near the terminus of the subbasin for both the Puyallup River and Hylebos Creek makes its shorelines susceptible to influence from conditions and practices in the rest of the basin. The level of development in both subbasins, particularly in the Hylebos basin, has resulted in very high road density as well as other impervious areas (e.g., parking lots, buildings). In addition to development, forestry and hydrology management (dams, diversions, and other forms of flood control) have also impacted the condition of watershed functions and processes for both subbasins.

## 2.1.1 Precipitation

WRIA and Pierce County based climate and precipitation information is discussed in a number of documents (Kerwin 1999, ESA Adolphson 2007). As is general for Western Washington area, Pierce County and the City of Fife typically experience a relatively long, mild wet season spanning fall to spring and a short, cool, dry season during the summer. In this area, the majority of rainfall occurs from November through April.

watersheds by Pierce County are assumed to be generally consistent with the areas identified as subbasins within the Salmon Habitat Limiting Factors Report. As the Limiting Factors report was utilized as the primary document for the ecosystem characterization, use of the terminology subbasin is maintained throughout this report.

Average City temperatures are in the 60's in the summer and in the 40's during the winter. The warmest month of the year for the City is August with an average maximum temperature of 78.40 degrees Fahrenheit. The coldest month of the year for the City is January with an average minimum temperature of 32.90 degrees Fahrenheit.

The annual average precipitation at Fife is between 35 to 55 inches per year (City of Fife 2002). Winter months tend to be wetter than summer months. November is generally the wettest month of the year, with an average rainfall of 6.11 inches.

# 2.1.2 Vegetation

The primary source of information regarding vegetation within WRIA 10 is the Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Kerwin 1999). This document indicates that vegetation within this WRIA is generally subject to vegetation-related stressors including urbanization, agricultural uses, riparian fragmentation, floodplain modifications, and increased amounts of impervious surface. General information on the vegetation within the Lower Puyallup River and Hylebos Creek subbasins is summarized from the Limiting factors report in the following text:

## Lower Puyallup River subbasin

Historic records of the Puyallup River indicate that coniferous riparian habitat was present along the lower mainstem of the River. However, the construction of revetments and levees along the lower river has resulted in substantial modification to riparian vegetation including the elimination of connectivity to side and off channel habitat. Maintenance of the levees often eliminates adjacent vegetation and eliminates sources of LWD (See also Section 3.6 of this document). Remaining habitat is fragmented and only 5% of the mainstem of the Puyallup contains high quality habitat (Kerwin 1999). No areas of high quality habitat directly adjacent to the OHWM of the Puyallup River are located within the City. Development of the levee, roads, residences, parks, commercial and industrial uses have all altered shoreline vegetation presence and cover. Invasive species, including Himalayan blackberry (*Rubus armeniacus*) and Reed Canary Grass (Phalaris arundinacea) are present in many disturbed areas.

## Hylebos Creek subbasin

Historic land use surveys of the Hylebos subbasin depict the area as containing coniferous forests interspersed with frequent disturbance (burning). Recent growth in this area has resulted in the replacement of habitat areas with urban, residential and industrial areas. Pierce County estimates that the range of impervious surface within the Hylebos Creek basin ranges from 2 to 53 percent. Degradation of aquatic processes and functions is observable when impervious surfaces reach 10 percent (Booth 1997). However, further studies indicate that impervious surfaces should not exceed 5% if high quality ecosystems associate with Puget Sound lowland streams are to be retained.

## 2.1.3 Surficial Geology and Soils

Soils information was primarily derived from the *Soil Survey of Pierce County Area, Washington* (Zulauf 1979). The soils of Pierce County formed mainly in glacial drift deposited by the most recent several continent-sized glacial ice sheets. This 3,000-foot thick glacier, emanating from Canada, formed most of the topography and waterways of the area between 13,000 and 15,000 years ago. The predominant deposit, and therefore parent soil material, is glacial till. It generally consists of compact basal till covered by a thin discontinuous layer of ablation till that was deposited during glacial retreat.

After the glacial retreat, the Puget Sound waters extended into the Puyallup and Lower White River valleys and layers of silt and clay accumulated in the associated estuaries. The present location of the Puget Sound in relation to the general location of the Puyallup and White rivers within the ecosystem results from a combination of Mount Rainier lahars and fluvial deposition.

The predominant soils in Fife are the Sultan, Briscot, Puyallup, and Pilchuck series. Each of these series is formed in alluvium and is likely to have resulted from the lahars and fluvial deposition described above. These soils range from poorly drained to moderately well drained (Zulauf 1979).

# 2.1.4 Topography

The City of Fife lies within an abandoned floodplain from the Puyallup River that is located on top of a previous mudflow from Mount Rainier. The amount of gradient (vertical drop) from one end of the City to the other is only a few feet (City of Fife 2002).

# 2.2 LAND USE

# 2.2.1 Historic

Historically, the area north of Interstate 5 was emergent tidal marsh land, while the area south was a combination of freshwater wetlands and uplands. During the late 1800s much of the area was used for agriculture, requiring ditching and draining of both tidal and freshwater wetlands. In 1874, the first railroad was constructed across the head of Commencement Bay, waterward of the area that is now Fife, thereby initiating the conversion of the Bay's tideflats to a highly urbanized seaport. This conversion, in combination with flood control efforts made in the wake of the 1906 diversion of the White River into the Puyallup (made permanent by the Corps in 1914), resulted in channel hardening at the mouths of both the Puyallup and the Hylebos. Levees were constructed along much of the lower Puyallup, including the reach that defines the south edge of the City.

During the early and mid 20th century, agriculture continued to be a primary land use in the area that is now Fife. However as the Port of Tacoma facilities expanded during the mid and late part of the century, land use began to shift toward industry and commercial uses. These have included regionally significant trade and commerce, and also commercial uses that benefit from visibility on the Interstate 5 corridor. The City's Comprehensive Plan (2005) recognizes the ultimate

12

conversion of agricultural lands to other urban uses by designating them with traditional urban designations (e.g., residential, commercial, industrial, etc.).

The City has a limited series of historic aerial photos that are more than twenty years old. There is a single image of the City with limits taken in 1984 (print, color, 1:4,800), images of different parts within the City from 1978 that include some of the Puyallup River and all of Hylebos Creek within the City (print, black and white, 1:4,800), and some undated images taken as a single series including some of the Puyallup River (print, black and white, 1:2,400). The undated series pre-dates 1978.

These aerial photos clearly demonstrate the development of commercial, industrial, and residential areas in the City. Even in 1984, there remained large tracts of agriculture in areas that have since been developed. However, changes in shoreline areas have been significantly lower in magnitude that those along the Interstate 5 corridor. In some cases, access has been restricted since the beginning of the photographic record. The north end of Levee Road was at one time open to all vehicle traffic, and there were two active roads, Berens and Ferguson Roads, where road beds still exist.

The same is true on Hylebos Creek, where there was greater vehicular access and activity on the left bank between 4th and 8th Streets East from an old gravel mine, and included clearing within the shoreline area. With the exception of some commercial and industrial development (e.g., near Frank Albert Road East and 70th Avenue East on the Puyallup River, and near Pacific Highway on the Hylebos), shoreline land use has either remained relatively constant or been reduced according to the photographic record.

# 2.2.2 Current

Existing land use designations in the City include residential, commercial/service, education, public facilities, industrial, utilities, open space/recreation, resource land and vacant. Developable vacant land comprises a considerable portion of the area within the City. Commercial and industrial uses are also common in the City.

Existing land use practices on these shorelines were observed using aerial photos, field visits, and review of City GIS data. On the Puyallup River, waterward of Levee Road, the entire shoreline is comprised of the Puyallup River Levee, which is not developable. There are some areas of trees or shrubby vegetation, but not enough to characterize it as forested. Shoreline jurisdiction extends landward of the levee, and includes Levee Road and a narrow strip of adjacent land.

Most of the shore lands downstream of Frank Albert Road are vacant and have been cleared or otherwise used for agriculture. There are scattered residences with access from the road whose property extends into the shoreline jurisdiction. Upstream of Frank Albert Road to 70<sup>th</sup> Avenue East most of the land has been cleared and much of it has been subdivided into single-family residential properties. At 56<sup>th</sup> Avenue East there is a small group of houses with frontage on Levee Road whose properties extend into the shoreline jurisdiction. Land use in the area immediately adjacent to 70<sup>th</sup> Avenue East includes commercial (dumpster storage) and medium-

13

density residential (mobile homes and single family). The remainder of the Puyallup River shoreline along Levee Road is being utilized for agriculture. However, current and future zoning designations for the City have zoned this land for residential and commercial uses.

Approximately one-quarter mile southeast of 54<sup>th</sup> Avenue East is the hydrological connection between the Puyallup River and the Oxbow Wetland. Because of this connection, the wetland is included in the shoreline jurisdiction. The Puyallup Tribe of Indians has a considerable interest in biological and cultural integrity of the Oxbow Wetland. Most of the area adjacent to the wetland was cleared and used for agriculture in the recent past. Multiple residential subdivisions now surround this wetland.

Along the Hylebos, most of the land is developed as single family residential dwelling units or is vacant, undeveloped land. A wetland mitigation area (Milgard Nature Area) is on the right bank between 4th and 8th Streets East in an area that is in industrial use. The left bank of the Hylebos, across from the Milgard site, contains another restoration site (Hylebos Estuary Wetlands Project). There is a small area on the south side of Pacific Highway within the shoreline jurisdiction that is designated for multiple uses (high-density residential, commercial) and has scattered homes.

## **3 WATERSHED PROCESSES**

Ecology's *Protecting Aquatic Ecosystems: A Guide for Puget Sound Planners to Understand Watershed Processes* guidance (Stanley et al. 2005, referenced hereafter as Protecting Aquatic Ecosystems) provides a framework for assessing important watershed processes. The six processes addressed by this guidance are the delivery, movement, and loss of water, sediment, phosphorus and toxins, nitrogen, pathogen, and large woody debris within a watershed. This guidance has been recommended by Ecology to fulfill the regional-scale analysis of shoreline process and function during the SMP update process.

Watershed-scale (regional) analysis has been limited to what can be reasonably inferred from the documents and information gathered during the Inventory phase of the SMP update. The City will be able to supplement this information with pertinent regional analyses conducted as part of the Pierce County SMP update and Ecology's analysis of watershed processes in Puget Sound.

Because Fife's shorelines are almost entirely riverine, with the exception of a few associated wetlands, the six watershed processes have variable degrees of influence on shoreline function. Additionally, the majority of the Lower Puyallup River and Hylebos subbasins are outside of City jurisdiction, shoreline or otherwise. For each process addressed below, relative importance of each watershed process for influencing Fife's shorelines is assessed. This is followed by a brief discussion of delivery, movement, and loss of each process component within the watershed. Finally, potential alterations of those processes are assessed as much as possible based on inventory information. This assessment has been completed using modified tables describing indications of alteration based on Protecting Aquatic Ecosystems appendices. This approach is intended ensure that all six watershed processes have been considered despite the limited nature of the assessment.

Information in this section is largely drawn from the Salmon Habitat Limiting Factors Report (Kerwin 1999), with other documents referenced as noted.

## 3.1 WATER

Within the City shorelines, water movement is primarily controlled by freshwater flow, as opposed to tidal flow movement related to marine processes. However, there may be some tidal influences near the mouths of the Puyallup River and Hylebos Creek that affects water movement within the City. As the majority of water movement is related to freshwater flow, the larger watershed process (e.g. precipitation) is important for informing shoreline function within the City. Delivery, movement, and loss of water within larger watershed are described briefly below on best available information. However, a complete analysis of water processes within the Lower Puyallup River and Hylebos subbasins is beyond the scope of this Inventory and Characterization document.

Freshwater delivery into the City from precipitation is described in Section 2.1.1. The majority of rainfall occurs from the third week of October through the month of June, and average annual rainfall varies from 35-55 inches. Only a small portion of this precipitation falls as snow.

As noted in Section 2.1, water transport within the Lower Puyallup River subbasin has been significantly modified from its historic condition. This includes the construction of hydroelectric dam(s), logging of forest lands and the construction of logging roads, significant development in the lower basin, extensive agricultural practices in the floodplain, and a major flood control effort that has resulted in straightening and channel hardening of much of river below approximately river mile 28 to the mouth at Commencement Bay, including the installation of a complex system of levees, revetments, and dikes on both sides of the River.

The Hylebos Creek subbasin is also highly modified as a result of rapid growth in south King County, Federal Way, Milton, as well as northeast Tacoma and Pierce County. Kerwin (1999) characterized the Hylebos Creek basin as "one of the most heavily urbanized subbasins in the State". The conversion of lowland forests to highly developed urban area has resulted in a significantly flashier creek with overall lower flows and seriously degraded water quality.

The City shorelines adjacent to the Puyallup River contain a levee that extends the entire length of the City's jurisdiction. This levee protects adjacent land use but also modifies water flow and removes connectivity to floodplain as well as off and side channel habitat. The City shorelines adjacent to Hylebos Creek are less modified than those adjacent to the Puyallup River and may provide a relatively larger capacity for surface water storage than the Puyallup River shorelines. However, water flows within Hylebos Creek are substantially smaller than those of the Puyallup River and as such the need for surface water storage along the Hylebos is unlikely to be as necessary as it is along the Puyallup. Most of the developed shoreline more likely runs off into the Puyallup or Hylebos either overland or by way of the City's storm drain system.

Within the Lower Puyallup and Hylebos subbasins, some amount of water loss would be expected from evaporation and transpiration; however the majority of surface water loss is more likely due to drainage to Commencement Bay from the Puyallup River and Hylebos Creek. Once water has drained to marine areas, tidal processes become the dominant mechanism in its movement, including export outside of Commencement Bay towards the Puget Sound. At the City scale, it is anticipated that drainage would by far be the dominant form of water loss.

A number of the causes of change and indicators of alteration described in Table B-3 of Protecting Aquatic Ecosystems are present in the Lower Puyallup River and Hylebos subbasins, in particular those related to development along stream and wetland corridors. These indicate that water movement, particularly surface and shallow sub-surface movement, has been altered in this system. As stated previously, water movement within the Puyallup River shoreline areas is primarily controlled by levees and revetments along the Puyallup River rather than watershed-processes. As such, up-stream watershed-scale alterations to water transport (excluding flood events) are unlikely to result in significant affect to existing shoreline conditions. However, water movement within Hylebos Creek is not a restricted as it is along the Puyallup. As such, up-stream watershed-scale alterations are more likely to result in an affect to shoreline conditions.

Component of Process	Sub-Component	Indicators of Alteration	Present in the Lower Puyallup River/Hylebos subbasins
Delivery	Climate	(none included in Protecting Aquatic Ecosystems Table B-3)	Not evaluated <sup>1</sup>
	Precipitation	Non-forested vegetation in rain-on- snow zones	No
Movement	Surface, overland flow	Watershed imperviousness Stormwater discharge pipes Drainage ditches in seasonally saturated areas Loss of seasonally saturated areas	Yes
	Surface, storage	Loss of depressional wetlands Straight-line hydrography in depressional wetlands Straight-line hydrography of stream reaches with floodplains Dikes and levees on stream reaches with floodplains Dams	Yes
	Below surface, shallow subsurface flow	New construction Land uses with impervious cover on geologic deposits of low permeability Non-forested vegetation on geologic deposits of low permeability	Yes
	Below surface, recharge	Non-forested vegetation on geologic deposits of high permeability Land uses with impervious cover on areas of high permeability Utility lines Septic systems Unlined irrigation canals	Yes
	Below surface, vertical and lateral subsurface flow	Drawdown patterns Baseflow trends	Not evaluated <sup>2</sup>
	Below surface, subsurface storage	Constantly wet road ditches	Not evaluated <sup>2</sup>
	Return to surface, discharge	Well locations pumping rates and volumes	Not evaluated <sup>2</sup>
LOSS	Evaporation	(none included in Table B-3)	Not evaluated <sup>1</sup>
	Transpiration	Land cover	Yes
	Streamflow out of basin	Diversion structures	Not evaluated <sup>2</sup>
	Groundwater flow out of basin	Baseflow trends Well locations, pumping volumes	Not evaluated <sup>2</sup>

Table 2. Indicators of altered water delivery, movement, and loss within the Lower Puyallup River/ Hylebos subbasins

<sup>1</sup>Where climate is the major natural control, evaluation of these indicators is beyond the scope of regional analyses (Stanley et al. 2005).

<sup>2</sup> Evaluation of these indicators is beyond the scope of the City's Inventory and Characterization. The City will utilize Watershed Process analyses completed by Pierce County as part of their SMP update, and by Ecology, to inform water processes and indicators of alteration.

## 3.2 SEDIMENT

Delivery, movement, and loss of sediment within the Lower Puyallup and Hylebos subbasins are described briefly below based on best available information with a focus on the City shorelines of the Puyallup River and Hylebos Creek; a complete analysis of sediment processes within the Lower Puyallup River/Hylebos subbasins is beyond the scope of this Inventory and Characterization document.

Sediment delivery into the Puyallup River and Hylebos subbasins likely occurs through all three mechanisms described in Protecting Aquatic Ecosystems: surface erosion, mass wasting and inchannel erosion (Table 3). Large amounts of fine sediment load are found throughout the Lower Puyallup subbasin (Kerwin 1999); the majority of this sediment load is likely provided by the headwater glaciers as well as upstream watersheds. The development of the levee along the Puyallup River is likely to prevent the shorelines within the city from providing substantial contribution to the sediment load, with the exception of occasional levee failures. In addition, the levee also serves to reduce areas of off and side channel habitat and the straightening of the river also result in the ability of the shorelines to act as a storage area for sediment.

Due to the relative lack of shoreline armoring/levees, as compared to the Puyallup shorelines within the City, as well as the existing off and side channel habitat areas (both existing and created), it is anticipated that the shorelines adjacent to Hylebos Creek have the potential to contribute to and be modified by watershed sediment processes. In addition, the Limiting Factors Report finds that sediment problems will persist with increases in water flow (Kerwin 1999). However, no specific information regarding sediment transport within Hylebos Creek was identified during the inventory process.

Component of Process	Sub- Component	Indicators of Alteration	Present in the Lower Puyallup River/Hylebos Subbasins
Delivery	Surface erosion	Non-forested land cover on highly erodible slopes adjacent to aquatic resources New construction draining to aquatic resources Row crops agriculture draining directly to aquatic resources Roads within 200 ft of aquatic resources	Yes
	Mass wasting	Roads in high mass wasting hazard areas Non-forested land cover on high mass wasting hazard areas	Not evaluated <sup>1</sup>
	In-channel erosion	Straight-line hydrography in unconfined channels Urban land cover	Yes
Movement	Sedimentation	Loss of depressional wetlands Straight-line hydrography in depressional	Yes

 Table 3. Indicators of altered sediment delivery, movement, and loss within the Lower Puyallup River/

 Hylebos Subbasins

		wetlands Straight-line hydrography on stream reaches with floodplains or depositional channels Dikes and levees on stream reaches with floodplains	
Loss	n/a	Use local data	Not evaluated <sup>1</sup>

<sup>1</sup> Evaluation of these indicators is beyond the scope of the City's Inventory and Characterization. The City will utilize Watershed Process analyses completed by Pierce County as part of their SMP update, and by Ecology specifically for Puget Sound marine shorelines, to inform water processes and indicators of alteration.

#### **3.3 PHOSPHORUS AND TOXINS**

Because the City's shorelines are located near the confluence of both the Puyallup River and Hylebos Creek into Commencement Bay, one of the primary concerns for the interaction between City Shorelines and watershed-scale phosphorus and toxins processes is how they affect delivery into Commencement Bay and ultimately Puget Sound, whether from the entire subbasins or areas within the City. However, no information sources have been identified during the SMP update that directly informs phosphorus and toxins movement within the subbasins and a complete analysis of the phosphorus and toxin transport processes within the Lower Puyallup River and Hylebos subbasins is beyond the scope of this Inventory and Characterization. As such, the analysis of the delivery, movement and loss of phosphorus and toxins within the City is limited to the information available via Ecology's 303(d) listings as well as the information provided in the Limiting factors report.

Ecology's 303(d) and Level 4 listings of the Puyallup River within the City include fecal coliform and mercury. Level 2 listings for the Puyallup River include dissolved oxygen. Phosphorus and specific toxins are not listed for the Puyallup River within the boundaries of the City.

Ecology's 303(d) listings of Hylebos Creek within the City include fecal coliform. Level 2 listings include dissolved oxygen. The Limiting Factors Report indicates that Hylebos Creek has been found to contain elevated levels of phosphorus (Kerwin 1999); however this is not reflected within the information available on the Washington State Department of Ecology's Water Quality Assessment website. Toxins were not listed on Ecology's 303(d) list for the Hylebos within the City. In addition, monitoring by the Friends of the Hylebos also indicate that pH, dissolved oxygen, and nitrates, while acceptable now, may be worsening over time.

Other documents generally identify stormwater run off, sewer, and septic systems as concerns within the Lower Puyallup River and Hylebos subbasins, all of which may result in increased phosphorus and toxin loads within the City water bodies. Both urban and agricultural land use are prominent in the basin, which may indicate altered processes according to Protecting Aquatic Ecosystems Table D-2 (Table 4).

Component of Process	Sub-Component	Indicators of Alteration	Present in the Lower Puyallup River/Hylebos Subbasins
Delivery	Phosphorus sources	Urban land use Agricultural land use Agricultural land use adjacent to dairies	Yes
	Toxin sources	Urban land use Row crop land use	Yes
	Surface Erosion	(Table 3 – Sediment Delivery, Movement, and Loss)	Yes (see Table 3)
Movement	Biotic uptake and decomposition	(none included in Protecting Aquatic Ecosystems Table D-2)	Not evaluated <sup>1</sup>
	Adsorption (P)	Straight-line hydrography in depressional wetlands with mineral soils Loss of depressional wetlands with mineral soils Urban land cover in areas of clay soils adjacent to aquatic ecosystems	Not evaluated <sup>1</sup>
	Adsorption (T)	Straight-line hydrography in wetlands with organic or clay soils Loss of wetlands with organic or clay soils	Not evaluated <sup>1</sup>
	Sedimentation	(Table 3 – Sediment Delivery, Movement, and Loss)	Yes (see Table 3)
Loss		(Table 2 – Water Delivery, Movement, and Loss)	Yes (see Table 2)

 Table 4. Indicators of altered phosphorus and toxins delivery, movement, and loss within the Lower
 Puyallup River/Hylebos subbasins.

<sup>1</sup> Evaluation of these indicators is beyond the scope of the City's Inventory and Characterization. The City will utilize Watershed Process analyses completed by Pierce County as part of their SMP update, and by Ecology specifically for Puget Sound marine shorelines, to inform water processes and indicators of alteration.

## 3.4 NITROGEN

A complete analysis of the nitrogen process within the Lower Puyallup River and Hylebos subbasins is beyond the scope of this Inventory and Characterization. No information sources have been identified during the SMP update review process that directly informs nitrogen movement in the Lower Puyallup River or Hylebos subbasins.

Ecology's Water Quality Assessment information for the Puyallup River and Hylebos Creek is discussed in Section 3.3 of this document. Nitrogen is not listed within the either subbasin as a Level 5 (303 d), Level 4, or Level 2 impairment for either of the waterbodies within the City. Ammonia meets testing standards in the Puyallup River within the City of Fife (Level 1) but is not listed for the Hylebos. The Limiting Factors Report indicates that Hylebos Creek has been found to contain elevated levels of nitrogen (Kerwin 1999); however this is not reflected within the information available on the Washington State Department of Ecology's Water Quality Assessment website.

The potential for process alteration within the Puyallup River and Hylebos Creek based on the information provided in Protecting Aquatic Ecosystems Table E-2 is provided in Table 6.

Component of Process	Sub-Component	Indicators of Alteration	Present in the Lower Puyallup River/Hylebos Subbasins
Delivery	Nitrogen sources	Agricultural land use Rural residential land use	Yes
Movement	Biotic uptake and decomposition	Straight-line hydrography in headwater streams	Yes
	Nitrification	Straight-line hydrography in depressional wetlands Loss of depressional wetlands	Not evaluated <sup>1</sup>
	Adsorption	Straight-line hydrography in headwater streams	Yes
Loss	Denitrification	Straight-line hydrography in depressional wetlands Loss of depressional wetlands	Not evaluated <sup>1</sup>

 Table 5. Indicators of altered nitrogen delivery, movement, and loss within the Lower Puyallup River/Hylebos Subbasins

<sup>1</sup> Evaluation of these indicators is beyond the scope of the City's Inventory and Characterization. The City will utilize Watershed Process analyses completed by Pierce County as part of their SMP update, and by Ecology to inform water processes and indicators of alteration.

## 3.5 PATHOGENS

Pathogens, specifically fecal coliform bacteria, are a significant concern for both the Puyallup River and Hylebos Creek within the City. Both waterbodies and a number of the associated tributaries have been included in Ecology's 303(d) list in successive years.

Delivery, movement, and efforts to reduce levels of fecal coliform within both the Lower Puyallup River and Hylebos are described briefly below on best available information. As with the other watershed-scale processes, complete analysis of the pathogen process within the both the Lower Puyallup River and Hylebos subbasins is beyond the scope of this document.

In natural systems, delivery of fecal coliform and other pathogens is from wildlife fecal material. Some delivery from wildlife (terrestrial and aquatic) is pertinent within the Lower Puyallup River and Hylebos subbasins. However, in altered systems fecal coliform loads are more likely due to domestic animals (agricultural and residential) and failing septic systems. Portions of both the Lower Puyallup River and Hylebos subbasins have a large component of rural residential land use which may result in both mechanisms. This likely contributes to increased fecal coliform levels within both subbasins.

Increased fecal coliform delivery is likely exacerbated by alterations in its movement through the watershed. Specifically, alterations described in Table F-2 of Protecting Aquatic Ecosystems have reduced the watershed's ability to slow downstream transport, which has in turn reduced sedimentation potential (Table 7). Both the Puyallup and Hylebos contain segments that have been channelized (Kerwin 1999). Ultimately, this results in less fecal coliform being retained within the watershed, or it being retained for a shorter period of time. This affects the ability for

natural predation by other microbes to remove it from the system. Therefore, not only is more fecal coliform being delivered, but the system is less able to remove it. Within both subbasins as well as within City shorelines, it is likely that increased impervious surface has likely increased the rate of fecal coliform transport, similarly reducing opportunity for sedimentation and eventual predation. Increased impervious surface in developed areas outside of City shorelines are also likely to contribute to increased fecal coliform impairments in the creeks and Bay.

Component of Process	Sub-Component	Indicators of Alteration	Present in the Lower Puyallup River/Hylebos Subbasins
Delivery	Fecal inputs	Rural residential land use	Yes
Movement	Transport (overland, surface, and subsurface flow; recharge)	Straight-line hydrography Urban land cover and/or impervious cover Ditching on geologic deposits of low permeability	Yes
	Adsorption	Loss of depressional wetlands Straight-line hydrography in all depressional wetlands	Not evaluated <sup>1</sup>
	Sedimentation	(Table 3 – Sediment Delivery, Movement, and Loss)	Yes (see table 3)
Loss	Death	Loss of depressional wetlands	Yes

 Table 6. Indicators of altered pathogen delivery, movement, and loss within the Lower Puyallup River/Hylebos Subbasins.

<sup>1</sup> Evaluation of these indicators is beyond the scope of the City's Inventory and Characterization. The City will utilize Watershed Process analyses completed by Pierce County as part of their SMP update, and by Ecology to inform water processes and indicators of alteration.

# **3.6 LARGE WOODY DEBRIS**

Large woody debris (LWD) has been increasingly identified as an important habitat component for channel morphology and salmonids in river systems. LWD within a stream system can result in the formation of an upstream pool as well as a downstream plunge pool as water flows around the wood. The pools provide deeper water habitats that allow for hiding and resting areas and are also important during low streamflow periods. These pools can also provide cover habitat for juvenile fish. LWD can also modify the velocity of waterflow within a stream, especially behind large rootwads. These areas of reduced velocity provide areas for the fish to rest. In larger streams and rivers, LWD can also serve to trap and accumulate smaller pieces of wood, branches, leaves and other organic materials that provide complexity and diversity to in-stream habitat.

LWD can be recruited to a stream or river from bankside vegetation in the immediate area including side and off channel habitats and from upstream sources. The most common recruitment process for LWD into a stream system is primarily streambank erosion and windthrow. However, the construction of levees, dikes and revetments has separated the main channel from contributing side and off-channel aquatic habitats.

The delivery, movement, and loss of LWD within the larger watershed are described briefly below and is based on best available information the remainder of the section text is focused the jurisdictional shorelines of the Puyallup River and Hylebos Creek. A complete analysis of LWD processes within the Lower Puyallup River and Hylebos subbasins is beyond the scope of this Inventory and Characterization.

LWD in the Lower Puyallup subbasin has been described as "virtually absent" (Kerwin 1999).

Along the Puyallup shoreline, the river is completely disconnected from vegetation across Levee Road, with the exception of the Oxbow wetland. Vegetation from the levee itself is the only potential source of LWD. However, practices of the US Corps of Engineers (between RM 0 and RM 3) and the Pierce County River Improvement District (upstream of RM 3) generally dictate the removal of trees greater than six inches in diameter at breast height (Kerwin 1999), thereby eliminating the capacity for the shoreline to function as a source for LWD.

Much of shoreline on the Hylebos has been developed and cleared of large woody vegetation up to the Creek banks. However, since there are large reaches where forested habitat extends to the shoreline, including most of the left bank, there is capacity for LWD recruitment. No quantitative data exist on LWD frequency in these two shoreline areas, but based on field observations it is very low in both areas. This is consistent with Kerwin's (1999) assessment that LWD is a limiting factor for salmonids in both the Puyallup and the Hylebos.

A number of the indicators of alterations described in Protecting Aquatic Ecosystems Table G-2 are present within the subbasins (Table 8). In addition reach specific LWD information is provided in section 4 of this document.

Component of Process	Sub-Component	Indicators of Alteration	Present in the Lower Puyallup River/Hylebos Subbasins
Delivery	Streambank erosion	Dikes and levees Straight-line hydrography in floodplains Non-forested land cover within 100 ft of stream in a floodplain	Yes
	Mass wasting	Non-forested land cover on high mass wasting hazard areas	Not evaluated <sup>1</sup>
	Windthrow	Non-forested land cover within 100 ft of streams	Yes
Movement	Storage	Dikes and levees Straight-line hydrography in floodplains	Yes
Loss	Breakage/Decomposition	(not included in Protecting Aquatic Ecosystems Table G-2)	

Table 7. Indicators of altered large woody debris delivery, movement, and loss within the Lower
Puyallup/Hylebos Subbasins.

<sup>1</sup> Evaluation of these indicators is beyond the scope of the City's Inventory and Characterization. The City will utilize Watershed Process analyses completed by Pierce County as part of their SMP update, and by Ecology to inform water processes and indicators of alteration.

## 4 SHORELINE CHARACTERISTICS AND FUNCTIONS

An assessment of the characteristics and functions of the shoreline is necessary to provide a means of developing viable land use regulations and permitting frameworks. Per WAC 173-26-201(3)(d)(i)(C), shoreline ecological functions for rivers includes, but are not limited to:

- Hydrologic: Transport of water and sediment across the natural range of flow variability; attenuating flow energy; developing pools, riffles, gravel bars, recruitment and transport of large woody debris and other organic material.
- Shoreline vegetation: Maintaining temperature; removing excessive nutrients and toxic compound, sediment removal and stabilization; attenuation of flow energy; and provision of large woody debris and other organic matter.
- Hyporheic functions: Removing excessive nutrients and toxic compound, water storage, support of vegetation, and sediment storage and maintenance of base flows.
- Habitat for native aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish: Habitat functions may include, but are not limited to, space or conditions for reproduction; resting, hiding and migration; and food production and delivery.

Per WAC 173-26-201(3)(d)(i)(C), shoreline ecological functions for wetland includes, but are not limited to:

- Hydrological: Storing water and sediment, attenuating wave energy, removing excessive nutrients and toxic compounds, recruiting woody debris and other organic material.
- Vegetation: Maintaining temperature; removing excessive nutrients and toxic compound, attenuating wave energy, removing and stabilizing sediment; and providing woody debris and other organic matter.
- Hyporheic functions: Removing excessive nutrients and toxic compound, storing water and maintaining base flows, storing sediment and support of vegetation.
- Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish: Habitat functions may include, but are not limited to, space or conditions for reproduction, resting, hiding and migration; and food production and delivery.

The following text of this section of the document provides information on the current land use of each of the identified reaches as well as information on hydrologic, vegetation, and habitat functions.

The current land use section provides information on existing land use as well as current and future zoning designations. The current and future zoning designations are established by current zoning maps as well as by the City of Fife's Comprehensive Plan. This section also

24

provides data on transportation infrastructure, utilities, and water dependent uses and structures. This section is concluded with information on public access within the reach including direct and/or view access as provided by City parks, trails/pedestrian easements, and public street ends. The information regarding infrastructure, utilities, water dependent uses/structures, and public access was gathered utilizing the knowledge of City of Fife staff, City of Fife GIS mapping data, and Pierce County GIS mapping data. Review of available aerial photography resources including available Pierce County GIS data and online resources was conducted to confirm or expand upon existing mapped data such as confirmation of shoreline armoring types. The current land use section also commonly provides information on archeological, cultural, and historic resources within in a reach. However, at this time, there are no known archeological, cultural, or historic resources mapped within the City reaches. As such this information is not included.

The hydrologic functions section provides information on shoreline armoring and any other noted shoreline modifications, outfalls and streams located within the reach, FEMA data, and sediment transport.

The vegetation functions section provides a qualitative overview of the vegetation within the reach and includes information regarding level of disturbance and amount of habitat.

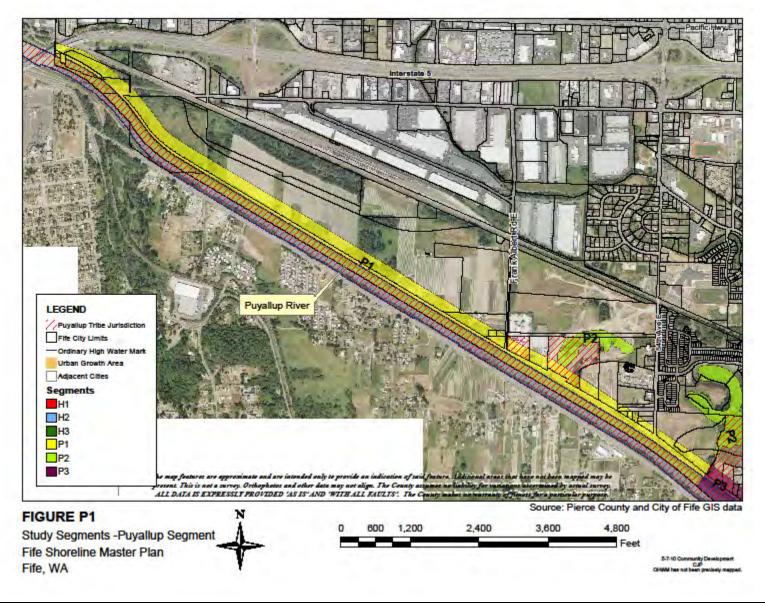
The habitat functions section provides information on habitat within the reach including fish use, wetlands, and terrestrial habitat. Data was obtained by reviewing WDFW, City of Fife and various on-line mapping resources. The following anadromous fish species may frequent Liberty Bay: bull trout, chinook salmon, chum salmon, coho salmon and steelhead trout. Use of each reach within the City by these species is assumed.

Each function subsection is concluded with an assessment of the functionality. A rating of high, medium-high, medium-low or low based upon the identified components is provided.

A summary table of the function assessment for each reach is provided at the end of this chapter.

# 4.1 PUYALLUP REACH 1 (P1)

Segment P1 is the most downstream City of Fife shoreline segment on the Puyallup River. It is 13,510 feet in length and extends on the left bank from the City limit at RM 2.4 (at the Interstate 5 bridge) at the downstream extent to RM 4.9, the where the Oxbow wetland is connected to the Puyallup River. As noted in Section 1.1 of this document, the Puyallup River waterward of the OHWM is under the sole jurisdiction of the Puyallup Tribe of Indians. Figures 3B, 4B and P1 provide a visual representation of the data provided below in Table 8 pertaining to this reach.



City of Fife Shoreline Master Program Update Inventory and Characterization

Table 8. P1 Summary

Land Use Types <sup>1</sup>	Shoreline Indicators <sup>2</sup>	Public Shoreline Access <sup>4</sup>	Habitat <sup>5</sup>
Total Acreage – 206.76	Permanently protected	1	No mapped priority habitat
	areas <sup>3</sup> - 34.68 acres	throughout reach from	areas within the reach.
Commercial/Service –		the adjacent N Levee	Vegetation adjacent to the
9.36 acres (4.52%)	Water quality list, 303(d)	Road. Informal areas of	shoreline is primarily invasive
Open Space/Recreation –	– Yes, fecal coliform and	direct access have been	species, such as Himalayan
0.06 acres (0.03%)	mercury	created. No formal	blackberry and is subject to
Resource Land –		public access areas such	levee maintenance.
34.62 acres (16.74%)	Linear Feet of Levees -	as parks and /or trails are	
Single Family Residential	13,150 feet (entire length	identified.	
- 20.34 acres (9.84%)	of shoreline)		
Vacant – 136.68 acres			
(66.11 %)			
Water Body – 5.70 acres			
(2.76 %)			of this document. Dereentages

1 Data derived from Pierce County and City of Fife GIS data. Refer to figure 3B of this document. Percentages may not equal 100% due to rounding.

2 Shoreline indicators based upon available No Net Loss indicators as identified by Washington State Department of Ecology. See also Section 6.1 of this document.

3 Based upon GIS Resource Land and Open Space/Recreation designation.

4 Data derived utilizing Washington State public access data resources and City of Fife GIS data.

5 Data derived by aerial review conducted by Grette Associates and City of Fife and Pierce County GIS Data.

#### Current Land Use

Existing land use designations within this reach include commercial/service (4.52%), Open Space Recreation (0.03%), Resource Land (16.74%), Single Family Residential (9.84%), Vacant (66.11%), and water body (2.76%). Current zoning designations within this reach include Industrial, Community Commercial, and Neighborhood Residential (Figure 4B). The Future Land Use Map found in the City of Fife Comprehensive Plan indicates that zoning designations will remain similar to the current zoning designations. Much of the vacant land has been used for agricultural at some point in the past, but there are large areas that are completely undeveloped, particularly at the downstream end of the segment. Most of the land downstream of Frank Albert Road is owned by railroad companies and is zoned for industrial uses, and the remaining shoreline is either residential or commercial. Based on this, future land use will likely result in greater shoreline development and greater land use density; although the levee area (waterward of Levee Road) is generally undevelopable and will likely remain the same.

The dominant feature of this segment is the levee, which runs the length of the City shoreline along the Puyallup River. Levee Road runs parallel to the River at the top of the bank for the length of the segment, but it is closed to public vehicle access at approximately the halfway point, downstream of Frank Albert Road.

There are two mapped stormwater inputs into the Puyallup River mapped in this reach. One input is located at the terminus of Frank Albert Road E and is culverted. The other input is mapped as

an open ditch and is located at the southern end of the reach and is associated with the reach terminus as well as the Oxbow wetland.

Review of aerial photographs did not result in the identification of any water dependent uses, such as marinas, or water dependent uses or structures, such as docks or piers within this reach. Water-related enjoyment may be provided by views from the adjacent, informal trail system as well as North Levee Road and Melroy Bridge.

Direct public access to the waterfront may be obtained from informal breaks in the vegetation on the levee. These informal breaks provide access for pedestrians as well as off-road vehicles.

## Hydrologic Function

Water quality is somewhat impaired, with Category 5, 2, and 1 303(d) listings. The channel has been straightened, hardened, and permanently fixed, all of which have contributed to reduced capacity for functioning salmonid habitat. Land use practices in the greater watershed have also negatively affected salmonid habitat by altering hydrology and water quality. Major modifications to basin hydrology (such as dams, diversions, and the re-routing of the White River into the Puyallup Basin) also have had negative implications on salmonid habitat in this segment.

Due to the high levels of channel modification, including the levee that extends along the entire length of the reach, as well as the impaired water quality evidenced by the 303(d) listings, the hydrologic function of this reach is considered to be low.

## Vegetation Function

The levee and Levee Road completely disconnect most, if not all, of the shoreline area from the Puyallup River, and therefore restrict its ability to provide any function for salmonid habitat in this segment. Other than the vegetation on the levee, which is subject to maintenance practices by the Corps and Pierce County River Improvement District, there is no functioning riparian habitat. Vegetation management on the levee severely restricts the potential for woody debris recruitment from the banks, although overhanging levee vegetation (relatively continuous fringe of willow, alder, and blackberry) does provide some shade and refuge opportunities for fish in the mainstem. Levee vegetation is primarily herbaceous or shrubby, with some small stands of relatively young alder or cottonwood.

Due to the level of alteration to the vegetation as well as the potential for future alteration, the vegetation function of this reach is considered to be low.

## Habitat Function

Eight species of salmonids (chinook, chum, coho, pink, sockeye, steelhead, cutthroat, bull trout) use this reach of the Puyallup River for migration. Chinook, coho, and likely chum also spend time rearing there. There are no other records of priority habitats and species within the shoreline area of this segment, but other priority species present in the greater area (e.g., avian species) are likely to at least transit through the area.

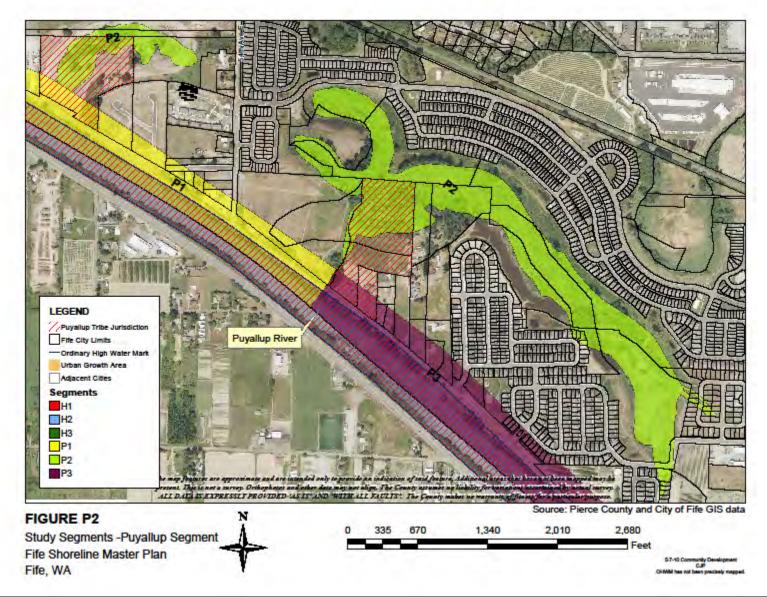
28

The entire segment is part of a greater aquifer recharge and seismic hazard areas. There are no wetlands, 100-year flood zones, or steep slopes mapped within this reach. There are also large areas of open space, including undeveloped land and agricultural areas that are likely to provide wildlife habitat, at least for birds, deer, and small mammals. However, there are no designated habitat areas according to the PHS inventory. Limited vehicle access in the downstream reach also means that the undeveloped areas are less subject to regular human disturbance than those further upstream.

Due to the minimal levels of mapped habitat and in conjunction with the habitat disturbance presented by the reduced hydrologic and vegetation functions, the overall habitat function rating for this reach is low.

## 4.2 PUYALLUP REACH 2 (P2)

Segment P2 consists of two wetland complexes, the Sha Dadx wetland area and the Oxbow wetland, plus the hydrologic connection between Oxbow wetland and the Puyallup River, located at RM 4.9. There is no shoreline length associated with this segment, as it has no shoreline frontage. However, as both wetland areas are associated with the Puyallup River, the shoreline jurisdiction extends to the upper edge of the wetland. It is 63 acres in area. As noted in Section 1.1 of this document, the Sha Dadx wetland areas are solely under the jurisdiction of the Puyallup Tribe of Indians. Potions of the Oxbow wetland including the hydrologic connection to the Puyallup River are under the Tribe's jurisdiction; the remaining portions would be under shoreline jurisdiction. Figures 3B, 4B and P2 provide a visual representation of the data provided below in Table 9 pertaining to this reach.



*City of Fife Shoreline Master Program Update Inventory and Characterization* 

#### Table 9. P2 Summary.

Land Use Types <sup>1</sup>	Shoreline Indicators <sup>2</sup>	Public Shoreline Access <sup>4</sup>	Habitat <sup>5</sup>
		No formal public access, such as trails, exists for	Reach contains mapped critical areas, based on wetlands,
Open Space/Recreation –		either wetland component of	aquifer recharge and seismic
25.27 acres (18.23 %)	Water quality list,	this reach. View access is	hazard areas, and flood zones.
Resource –	303(d) – No	provided by N. Levee Road.	Reach wetlands include forested
42.14 acres (30.40%)		In addition, unintended	components, which increases
Vacant –	Linear Feet of Levees	pedestrian access to the	their habitat value. The Oxbow
60.17 acres (43.41%)	– 0 feet	Oxbow wetland may occur	wetland contains large area of
Single Family Residential		by the residents of the	undisturbed habitat, which is
– 7.87 acres (5.68%)		adjacent residential	uncommon in the immediate
Transportation,		development.	vicinity.
Communication, Utility –			
3.16 acres (2.28%)			

1 Data derived from Pierce County and City of Fife GIS data. Refer to figure 3B of this document. Percentages may not equal 100% due to rounding.

2 Shoreline indicators based upon available No Net Loss indicators as identified by Washington State Department of Ecology. See also Section 6.1 of this document.

3 Based upon GIS Resource Land and Open Space/Recreation designation.

4 Data derived utilizing Washington State public access data resources and City of Fife GIS data.

5 Data derived by aerial review conducted by Grette Associates and City of Fife and Pierce County GIS Data.

#### Current Land Use

Existing land use for reach P2 includes Open Space Recreation (18.23%), Resource Land (30.40%), Single Family Residential (5.68%), Transportation/Communication/Utility (2.28%), and Vacant (43.41%). Refer to Figure 3B. Current zoning designations include industrial, commercial, residential and public use/open space (Figure 4B). The wetland areas themselves are largely undisturbed and serve as either as a resource or open space parcel for the surrounding parcels. The Oxbow wetland is bordered by neighborhood residential/high density residential areas, with some industrial areas on the southeast margin. The area around Frank Albert Road wetland is zoned for industrial and community commercial uses. Potential exists for recreational access in the wetlands and buffer areas in the form of trails and interpretive areas in compliance with the City's critical areas ordinance.

There is no mapped transportation infrastructure within the shoreline jurisdiction of this reach, as identified on Figure 1B. However, Levee Road does provide view access to both wetlands and also crosses the points where these wetlands connect to the Puyallup River.

A storm water ditch is mapped through the majority of the Oxbow wetland (Figure 5B). However upon further review, City staff has confirmed that the line on the map is not a ditch, but more or less indicative of the conveyance of storm water through the wetland. This storm water system appears to convey water from the 70<sup>th</sup> Avenue East as well as portions of the adjacent subdivision to the north through the Oxbow system and eventually connecting with the Puyallup River.

There are no water dependent uses in this reach. Shoreline related/enjoyment uses within this reach include view access from North Levee Road.

No formal public access, such as trails, exists for either wetland component of this reach. View access is provided by N. Levee Road. In addition, unintended pedestrian access to the Oxbow wetland may occur by the residents of the adjacent residential development.

## Hydrologic Function

The wetlands of this reach are likely to provide floodwater storage for adjacent development. The transport of stormwater to the Puyallup River is also facilitated by a ditch that traverses the Oxbow wetland system from 70<sup>th</sup> Avenue to the Puyallup River. Connectivity between the Oxbow wetland and the Puyallup River is restricted by the North Levee Road Crossing and associated culvert, controlled by the Puyallup Tribe of Indians. It is anticipated that the combined culvert and crossing does not provide the level of function that would exist if the crossing and culvert were not present.

Waterflow in the Sha Dadx wetland is controlled by a floodgate/culvert maintained by the Puyallup Tribe of Indians. A ring levee is located around the site to control floodwaters within the habitat area and protect the properties adjacent to the site.

Due to the flood water storage capacity, the hydrologic function of this reach is considered to be medium-high.

## Vegetation Function

P2 is the most intact shoreline of the Puyallup reach series. Both wetlands within this reach, contain forested components. Neither of these wetlands is subject to the vegetation maintenance prescribed to maintain the Levee that is found in reaches P1 and P3.

Due to the relatively low level of alteration to the vegetation as well as the semi-protected nature of the existing land use, the vegetation function of this reach is considered to be medium-high.

## Habitat Function

The Oxbow wetland does have potential for salmonid access, but presence has not been documented in the wetland.

The Sha Dadx wetland area is a habitat site created from a relic Oxbow channel of the Puyallup River. It provides the opportunity for off-channel habitat and is connected to the Puyallup River via a culvert. Fish use including Coho salmon has been documented by Puyallup Tribe of Indians staff (Sullivan, Per. Comm. 2010).

Both wetlands are listed as polygons in the PHS inventory, with multiple attributes including (for both):

- Wetlands (broadleaf shrub, shrub scrub, emergent, farmed, cottonwood swamps)
- Waterfowl concentrations (regular, regular large)

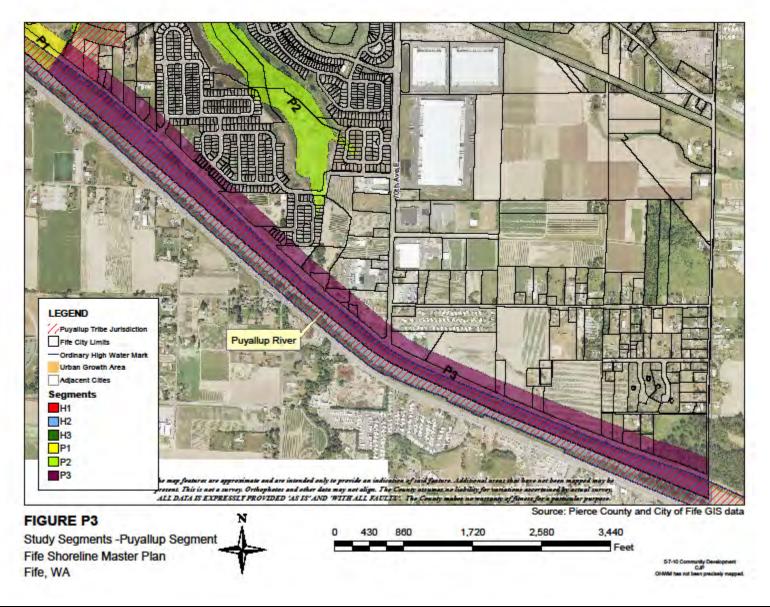
• Deer and raptor use

Segment P2 is entirely comprised of critical areas, based on wetlands, aquifer recharge and seismic hazard areas, and flood zones. As noted in the vegetation function text, both wetlands include forested components, which increases their habitat value. The Oxbow wetland in particular is a very large area of undisturbed habitat, which is uncommon in the immediate vicinity.

Due to the higher levels of mapped habitat relatively intact hydrologic and vegetation functions, the habitat function rating for this reach is medium-high.

## 4.3 PUYALLUP REACH 3 (P3)

Segment P3 is the most upstream reach in the City on the Puyallup River. It is 9,840 feet in length and extends on the left bank from the hydrologic connection to the Oxbow wetland (RM 4.9) to Freeman Road (RM 6.8). As noted in Section 1.1 of this document, the Puyallup River waterward of the OHWM is under the sole jurisdiction of the Puyallup Tribe of Indians. Figures 3B, 4B and P3 provide a visual representation of the data provided below in Table 10 pertaining to this reach.



City of Fife Shoreline Master Program Update Inventory and Characterization

#### Table 10. P3 Summary.

Land Use Types <sup>1</sup>	<b>Shoreline Indicators</b> <sup>2</sup>	Public Shoreline Access <sup>4</sup>	Habitat <sup>5</sup>
Total Acreage- 116.87	Permanently protected	View Access is available	No mapped PHS areas
	areas <sup>3</sup> - 52.82 acres	throughout reach from the	within the reach.
Commercial/Service –		adjacent N Levee Road. Informal	Vegetation adjacent to the
1.6 acres (1.37%)	Water quality list, 303(d)	areas of direct access have been	shoreline is primarily
Industrial –	– Yes, fecal coliform and	created. No formal public access	invasive species, such as
16.39 acres (14.02%)	mercury	areas such as parks and /or trails	Himalayan blackberry and
Open Space/Recreation –		are identified.	is subject to levee
0.38 acres (0.34%)			maintenance.
Resource Land –	Linear Feet of Levees -		
52.44 acres (44.87%)	9,840 feet (entire length		
Single-Family Residential	of shoreline)		
– 22.19 Acres (23.93%)			
Vacant – 13.94 acres			
(11.93%)			
Mobile Home Park – 8.20			
Acres (7.01%)			

1 Data derived from Pierce County and City of Fife GIS data. Refer to Figure 3B of this document. Percentages may not equal 100% due to rounding.

2 Shoreline indicators based upon available No Net Loss indicators as identified by Washington State Department of Ecology. See also Section 6.1 of this document.

3 Based upon GIS Resource Land and Open Space/Recreation designation.

4 Data derived utilizing Washington State public access data resources and City of Fife GIS data.

5 Data derived by aerial review conducted by Grette Associates and City of Fife and Pierce County GIS Data.

#### Current Land Use

As with segment P1, the dominant feature of this segment is the levee. Existing land use includes Commercial/Service (1.37%), Industrial (14.02%), Open Space/Recreation (0.38%), Resource Land (44.87%), Single-Family Residential (23.93%), Vacant (11.93%), and Mobile Home Park (7.01%). Refer to Figure 3B. The area is zoned for medium density residential, commercial, and industrial uses. This indicates that the shoreline area will become increasingly developed, except for the levee itself. Potential for increased recreational use in this segment is the same as for segment P1. The Future Land Use Map found in the City of Fife Comprehensive Plan indicates that zoning designations will remain similar to the current zoning designations. Based upon current zoning designations, it is anticipated that future land use within this reach will likely include development of the undeveloped parcels pursuant to zoning, and redevelopment of previously developed properties as property value increases.

There is one mapped stormwater input into the Puyallup River mapped in this reach. This input is mapped as an open ditch and is located at the northern end of the reach and is associated with the reach terminus as well as the Oxbow wetland.

Review of aerial photographs did not result in the identification of any water dependent uses, such as marinas, or water dependent uses or structures, such as docks or piers within this reach. Water-related enjoyment may be provided by views from the adjacent, informal trail system as well as North Levee Road.

Direct public access to the waterfront may be obtained from informal breaks in the vegetation on the levee. These informal breaks provide access for pedestrians as well as off-road vehicles.

# Hydrologic Function

Water quality is somewhat impaired, with Category 5, 2, and 1 303(d) listings. The channel has been straightened, hardened, and permanently fixed, all of which have contributed to reduced capacity for functioning salmonid habitat. Land use practices in the greater watershed have also negatively affected salmonid habitat by altering hydrology and water quality. Major modifications to basin hydrology (such as dams, diversions, and the re-routing of the White River into the Puyallup Basin) also have had negative implications on salmonid habitat in this segment.

Due to the high levels of channel modification, including the levee that extends along the entire length of the reach, as well as the impaired water quality evidenced by the 303(d) listings, the hydrologic function of this reach is considered to be low.

## Vegetation Function

The levee and Levee Road serve to disconnect the majority of the of the associated shoreline area from the Puyallup River, and therefore restrict its ability to provide any function for salmonid habitat in this segment. Other than the vegetation on the levee, which is subject to maintenance practices by the Corps and Pierce County River Improvement District, there is no functioning riparian habitat. Vegetation management on the levee prevents the potential for woody debris recruitment from the banks, although overhanging levee vegetation (relatively continuous fringe of willow, alder, and blackberry) does provide some shade and refuge opportunities for fish in the mainstem. Levee vegetation is primarily herbaceous or shrubby, with some small stands of relatively young alder or cottonwood.

Due to the level of alteration to the vegetation as well as the potential for future alteration, the vegetation function of this reach is considered to be low.

# Habitat Function

Critical areas are similar to those in segment P1. The entire segment is part of a greater aquifer recharge and seismic hazard areas. There are also three small wetlands, totaling 0.7 acre in area. There is a small forested wetland area at the intersection of Freeman Road and Levee Road that is connected to a larger wetland to the east, outside of the City, by way of a culvert under Freeman Road. There is no hydrologic connection from this wetland to the Puyallup River. There are also two other small wetlands near Levee Road, one halfway between 56<sup>th</sup> Ave and 70<sup>th</sup> Ave (emergent), and the other at the Melroy Bridge (shrub).

Salmonid use in this segment is the same as segment P1. There is also a PHS polygon the wetland at Freeman Road that has been assigned the same PHS attributes as Frank Albert Road and Oxbow wetlands: wetlands, waterfowl concentrations, and deer and raptor use.

Salmonid habitat limiting factors are the same as for segment P1. There is severely limited riparian function, no access to off-channel habitat, impaired water quality, and factors related to practices and conditions in the greater watershed.

Due to the minimal levels of mapped habitat and in conjunction with the habitat disturbance presented by the reduced hydrologic and vegetation functions, the overall habitat function rating for this reach is low.

## 4.4 HYLEBOS REACH 1 (H1)

Segment H1 is the most downstream reach of Hylebos Creek in the City. Located between RM 0.3 and 0.6 (4th St E), it is 1,650 feet in length. Both the right and left bank are in City jurisdiction. Figures 3A, 4A and H1 provide a visual representation of the data provided below in Table 12 pertaining to this reach.

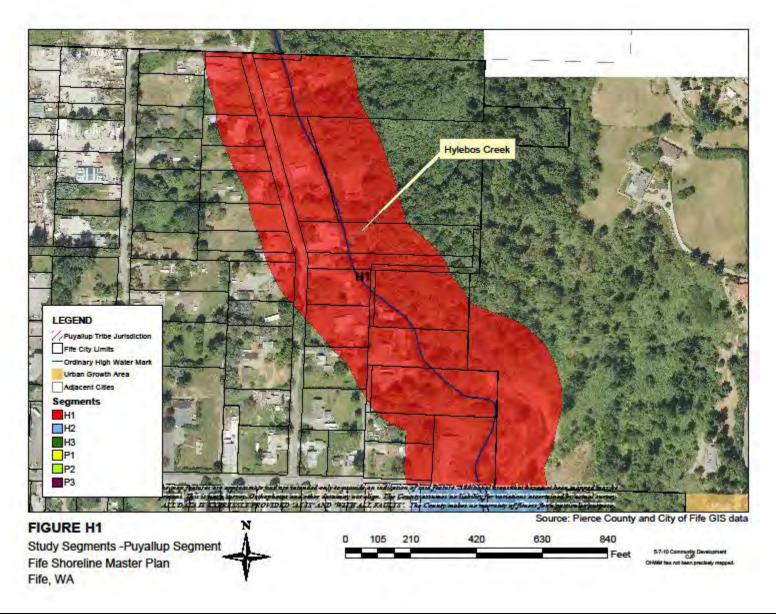


Table 11. H1 Summary.

Land Use Types <sup>1</sup>	Shoreline Indicators <sup>2</sup>	Public Shoreline Access <sup>4</sup>	Habitat <sup>5</sup>
Total Acreage – 23.31	Permanently protected areas <sup>3</sup> -	None	Right side of the bank
	0 acres		contains residential
Multi-Family Residential –			development and impacts
1.34 acres (5.76%)	Water quality list, 303(d) – yes		to shoreline vegetation and
Residential Outbuildings –	(bioassessment)		habitat generally
0.22 acres (0.92%)			associated with residential
Single Family Residential –			development such as
19.97 acres (88.58%)			shoreline armoring and
Vacant –			ornamental vegetation and
1.10 acres (4.73%)			lawns. The left side of the
Mobile Home Park – 0.39			bank also contains
Acres (1.65%)			residential development
			but at a greatly reduced
			amount as these areas are
			only accessed by bridges
			across the Hylebos as a
			result shoreline vegetation
			and habitat appears to be
			generally more intact on
			the left side of the bank.

1 Data derived from Pierce County and City of Fife GIS data. Refer to Figure 3B of this document. Percentages may not equal 100% due to rounding.

2 Shoreline indicators based upon available No Net Loss indicators as identified by Washington State Department of Ecology. See also Section 6.1 of this document.

3 Based upon GIS Resource Land and Open Space/Recreation designation.

4 Data derived utilizing Washington State public access data resources and City of Fife GIS data.

5 Data derived by aerial review conducted by Grette Associates and City of Fife and Pierce County GIS Data.

## Current Land Use

Existing land use in this segment includes Multi-family Residential (5.76%), Residential Outbuildings (0.92%), Single Family Residential (88.58%), Vacant (4.73%) and Mobile Home Park (1.65%). Refer to Figure 3A. Most of the lots are entirely within the shoreline jurisdiction. The current zoning designation for the entire reach is Neighborhood Commercial. The Future Land Use Map found in the City of Fife Comprehensive Plan indications that the intended future zoning of this area is Mixed Medium Density Residential/Commercial. Based on current and future zoning, it is anticipated that future land use may result in greater shoreline development and greater land use density.

There is one mapped stormwater input into the Hylebos River in this reach. It is located along the northern side of 4<sup>th</sup> street and is primarily a ditch. However, a small portion of the conveyance is culverted within the shoreline jurisdiction, and is likely the result of a residential driveway.

Review of aerial photographs did not result in the identification of any water dependent uses, such as marinas. Four bridges (either foot or vehicular) were also noted during review of available aerial photographs.

There is no direct public access to the Hylebos Creek in this area, although view access of the southern end of the reach is available from a bridge located at the end of 4<sup>th</sup> Street East. As such,

shoreline recreational activities, if any, are likely limited to in-water activities. However, Hylebos Creek is generally too shallow and has too many obstructions (road crossings) to be accessible to small boats (e.g., kayaks, canoes). It is anticipated that there will be continue to be no opportunities for public recreation in this segment.

## Hydrologic Function

Shoreline armoring along the Hylebos have not been mapped; however, review of available aerial photography indicates that portions of the left and right banks contain shoreline armoring. Residential development of the right bank, including the removal of native shoreline vegetation has likely modified the flow and velocity of precipitation inputs.

Based upon the information listed above, the hydrologic function of this reach is considered to be medium.

## Vegetation Function

Vegetation on both the right and left banks of this segment have been modified by residential development. Vegetation on the left bank of this segment is somewhat less impacted than the right as access to the left bank is limited by steep slopes to the east of the Hylebos resulting in bridges extending from the right bank as the primary way to access the left bank. Along the right bank, the majority of the tree canopy has been removed and the shoreline contains lawns and ornamental shrubs associated with residential development.

Due to the reduced level of alteration to the vegetation, the vegetation function of this reach is considered to be medium-low.

## Habitat Function

Segment H1 includes a number of critical areas. The 100-year flood zone extends up into the shoreline area. There are areas of erosion and landslide hazards. The entire segment is part of the greater seismic hazard and aquifer recharge areas. There are no identified habitat conservation areas, or substantial open spaces available for habitat.

Five species of salmonids (chinook, chum, coho, steelhead, cutthroat) are present in Hylebos Creek. It is likely that chinook, coho, and chum also spend time rearing there. There are no other PHS records within the shoreline area of this segment, but other priority species present in the greater area (e.g., bald eagles) are likely to at least transit through the area.

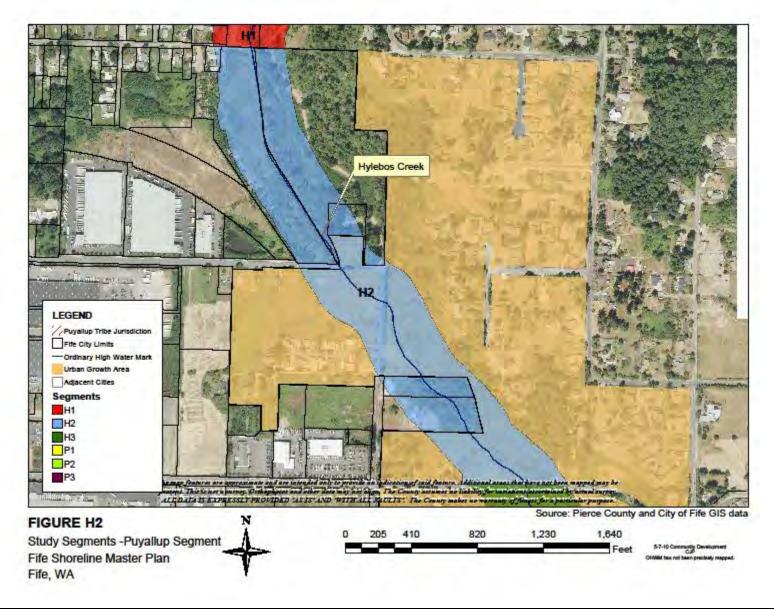
In general, Hylebos Creek is much more connected to its floodplain than is the Puyallup River in the City of Fife. There is no structure comparable to the levee in this stream. The channel at the upstream extent of segment H1 is not stabilized, but it is likely that banks in front of some of the residences have been stabilized with riprap or other similar material, which is detrimental to instream salmonid habitat. There are no barriers to access in the mainstem of the Creek, but there is no off-channel habitat available for fish. It is apparent from aerial photos that most of the

riparian vegetation has been removed along this reach, also reducing habitat function. However, the left bank in this area is forested, and the creek is relatively narrow.

Based upon the information provided above the habitat function of this reach is considered to be medium-high.

## 4.5 HYLEBOS REACH 2 (H2)

Segment H2 consists of both banks Hylebos Creek between 4th Street East (RM 0.6) and 12th Street East (RM 1.3). It is 3,335 feet in length, portions of the right and left bank are within City jurisdiction. Figures 3A, 4A and H2 provide a visual representation of the data provided below in Table 12 pertaining to this reach.



*City of Fife Shoreline Master Program Update Inventory and Characterization* 

Table 12. H2 Summary.			
Land Use Types <sup>1</sup>	<b>Shoreline Indicators</b> <sup>2</sup>	Public Shoreline Access <sup>4</sup>	Habitat <sup>5</sup>
Total Acreage – 30.36	Permanently protected areas <sup>3</sup> - 24.33 acres	4 <sup>th</sup> Street Bridge	Northern portion of the reach contains restored off and side
Mobile Homes –		Milgard Nature Area	channel habitat on both the
1.37 acres (4.51%)	Water quality list,		right and left banks (Milgard
Open Space – 24.33 acres	303(d) – yes	Hylebos Estuary Nature	Nature Area and Hylebos
(80.15 %)	(bioassessment)	Area	Nature area). For the
Single Family Residential –			remainder of the reach, the
0.38 acres (1.25 %)			right bank contains residential
Transportation,			development and associated
Communication, Utility – 4.28			modification to shoreline
acres (14.10 %)			habitat including lawns and
			ornamental vegetation.
			Review of aerial photos
			indicate that the left bank is
			fairly intact and contains

1 Data derived from Pierce County and City of Fife GIS data. Refer to Figure 3B of this document. Percentages may not equal 100% due to rounding.

2 Shoreline indicators based upon available No Net Loss indicators as identified by Washington State Department of Ecology. See also Section 6.1 of this document.

3 Based upon GIS Resource Land and Open Space/Recreation designation.

4 Data derived utilizing Washington State public access data resources and City of Fife GIS data.

5 Data derived by aerial review conducted by Grette Associates and City of Fife and Pierce County GIS Data.

#### Current Land Use

Existing land use within this reach includes Mobile Homes (4.51%), Open Space (80.15%), Single Family Residential (1.25 %), and Transportation, Communication, Utility (14.10 %). Refer to Figure 3A. Current zoning designations within this reach include neighborhood commercial, public use open space, industrial, small lot residential, and single family residential. The future land use map found in the City of Fife Comprehensive Plan indicates that zoning designations will remain similar to current zoning designations. Based on current and future zoning, it is anticipated that future land use may result in greater shoreline development and greater land use density.

Segment H2 has relatively more open space than do any of the other segments within the City. Included in this segment are the Milgard Nature Area, Hylebos Estuary Nature Area, two City well sites, and a great deal of vacant land, including much of the forested hillside on the left bank. Residential development is almost entirely limited to the right bank of Hylebos Creek in this area. The Milgard Nature Area is zoned industrial, but because it is a mitigation area, it is unlikely that land use will change on that site in the future. The remaining area of this segment is designated either single family or zoned small lot residential. On the right bank, there is potential for increased residential development as vacant, formerly agricultural land is converted to residential use.

However, the left bank is mostly forested, steep slopes that are on the backside of residential lots on the hill above Hylebos Creek. Under the City's critical areas ordinance, these areas are likely to remain undeveloped. The Milgard Nature Area and Hylebos Estuary Nature area currently

forested canopy.

provides the most opportunity for shoreline access and recreation on Hylebos Creek. Although there are no formal trails or interpretive areas in the Milgard Nature area, the area is available for bird watching and other low-impact activities. The Hylebos Estuary Nature area contains a public trail as well as interpretive signage.

Transportation infrastructure, including 8<sup>th</sup> Street East, 12<sup>th</sup> Street East, and 64<sup>th</sup> Avenue East, is located within the shoreline jurisdiction of this reach.

A storm water ditch that flows into the Hylebos is mapped adjacent to the southern side of 8<sup>th</sup> Street East (Figure 5A).

There are no water dependent uses in this reach, such as marinas or other commercial uses. Shoreline related/enjoyment uses within this reach include view access from Milgard and Hylebos Estuary Nature areas.

There is no direct public access to the Hylebos Creek in this area, although view access of the northern end of the reach is available from a bridge located at the end of 4<sup>th</sup> Street East. In addition view access may also be obtained from trails associated with the Milgard and Hylebos Estuary Nature areas. Shoreline recreational activities, if any, are likely limited to in-water activities. However, Hylebos Creek is generally too shallow and has too many obstructions (road crossings) to be accessible to small boats (e.g., kayaks, canoes). It is anticipated that there will be continue to be no opportunities for public recreation in this segment.

## Hydrologic Function

Due to the high percentage of dedicated open space and intact forest canopy that exists along the left bank of this reach segment, it is anticipated that overall impacts to hydrologic function within this reach are minimal. However, some impact to normal hydrologic processes may occur within the reach on the right side of the bank southeast of 8<sup>th</sup> Street, where the majority of the residential development and modification to shoreline vegetation is located. In addition, given the proximity of residential development to the shoreline it is anticipated that some form of shoreline armoring may be present within this area.

Hylebos Creek is crossed by both 8<sup>th</sup> Street East and 62<sup>nd</sup> Avenue East in this reach.

Based upon the information listed above, the hydrologic function of this reach is considered to be medium-high

## Vegetation Function

As noted in the hydrologic function section, the majority of this reach contains either undisturbed or restored habitat with a relatively small portion of the reach containing residential development. Due to the low amount of alteration to the vegetation, the vegetation function of this reach is considered to be medium-high.

## Other Habitat Function

There are a number of critical areas in segment H2. The 100-year flood zone extends up into the shoreline area on both banks. Much of the left bank, with its steep slopes, is an erosion and landslide hazard area. The entire right bank and areas of the left bank are part of the greater seismic hazard and aquifer recharge areas. The Milgard Nature area and Hylebos Estuary Nature Area have identified wetland areas that based on aerial photos and field observations include emergent, shrub-scrub, and forested components. There is an additional wetland area on the left bank upstream from 62nd Avenue East that appears to be primarily emergent vegetation.

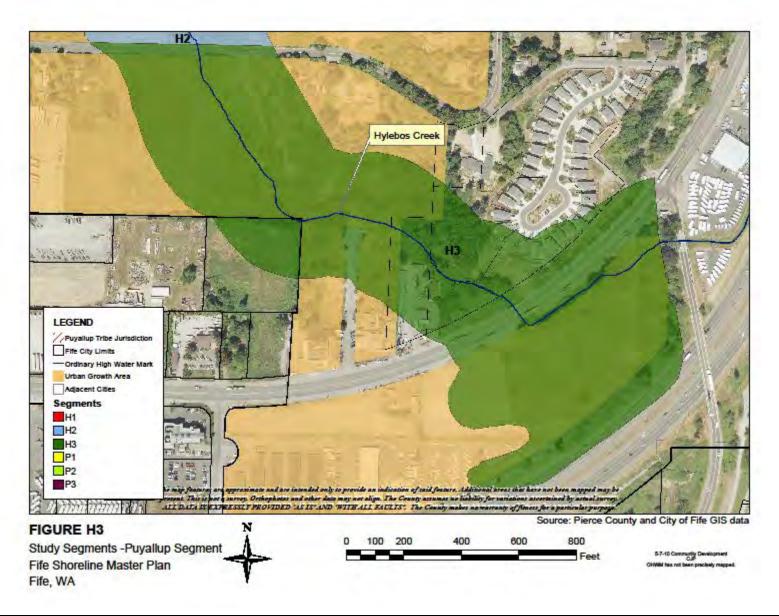
In addition to the salmonids in Hylebos Creek, the PHS inventory includes two polygons on the left bank in this segment. Immediately adjacent to Hylebos Creek is a polygon extending almost the length of shoreline area that is identified as undeveloped riparian habitat. It provides general habitat for birds and mammals, and limited salmonid habitat. Landward of that polygon, extending north from 12th Street East is identified as urban natural open space comprised of steep slopes and bluffs, providing raptor habitat and bird and mammal refugia.

Many of the same limiting factors from segment H1 apply to this segment. However, there is significantly more riparian vegetation and much larger areas of completely undeveloped shoreline in this segment. The channel has been stabilized in a number of places, including a timber bulkhead on both banks between 4th Street East and 8th Street East. There also are areas where the banks are stabilized, particularly the left bank upstream of 62nd Avenue East.

Based upon the information listed above, the habitat function rating for this reach is mediumhigh.

## 4.6 HYLEBOS REACH 3 (H3)

Segment H3 is the most upstream reach of the Hylebos Creek, extending 4,380 feet from the 70th Avenue East (RM 2.1) to 12th Street East (RM 1.3), with the exception of a small area of unincorporated Pierce County immediately downstream of the Pacific Highway crossing. Figures 3A, 4A and H3 provide a visual representation of the data provided below in Table 13 pertaining to this reach.



*City of Fife Shoreline Master Program Update Inventory and Characterization* 

Table 13. H3 Summary.

Land Use Types <sup>1</sup>	Shoreline Indicators <sup>2</sup>	Public Shoreline Access <sup>4</sup>	Habitat <sup>5</sup>
Total Acreage -2.03	Permanently protected	No direct public access,	The majority of the habitat in
	areas <sup>3</sup> - 0 acres	such as parks, was	this reach is disrupted either
Single Family Residential		identified in this reach.	by residential or commercial
- 2.03 acres (100.00%)	Water quality list, 303(d) –		development. The northern
	yes (bioassessment)	The Hylebos is crossed	portion of the segment, from
		by 12 <sup>th</sup> Street and Pacific	12 <sup>th</sup> Street to Pacific
		Highway E in this	Highway contains adjacent
		jurisdiction.	forested canopy of varying
			widths. The majority of
			Hylebos Creek to the south
			of Pacific Highway is
			channelized with poor
			quality adjacent vegetation.

1 Data derived from Pierce County and City of Fife GIS data. Refer to Figure 3B of this document. Percentages may not equal 100% due to rounding.

2 Shoreline indicators based upon available No Net Loss indicators as identified by Washington State Department of Ecology. See also Section 6.1 of this document.

3 Based upon GIS Resource Land and Open Space/Recreation designation.

4 Data derived utilizing Washington State public access data resources and City of Fife GIS data.

5 Data derived by aerial review conducted by Grette Associates and City of Fife and Pierce County GIS Data.

## Current Land Use

Only one parcel within this reach is located within the City of Fife. The rest of the parcels are located in Pierce County. A general review of existing land use in the segment, including Pierce County indicates that land use is mostly residential, but also includes Commercial/Service, Open/Space/Recreation and Vacant. Upstream of Pacific Highway is commercial use, open space, and a single residential lot. Current zoning of this segment includes small lot residential, single family residential and regional commercial. The future land use map found in the city of Fife Comprehensive Plan indicates that zoning designations will remain similar to current zoning designations. Zoning in this segment indicates that future land use is likely to result in increasing of residential areas downstream of Pacific Highway as vacant land is developed. The zoning upstream of Pacific Highway is commercial, but future land use and environmental conditions will be dependent upon the final configuration of the planned State Route 167 extension. Restoration, enhancement, and re-configuration of reaches of Hylebos Creek in this reach and immediately upstream of the City are an important environmental component of this Project. As with Segment H1 there are no existing opportunities for public access and recreation in segment H3.

Transportation infrastructure, including portions of 12<sup>th</sup> Street East, Pacific Highway East, 65<sup>th</sup> Avenue Court East, 67<sup>th</sup> Avenue East, is located within the shoreline jurisdiction of this reach.

A storm water ditch that extends along the I-5 corridor connects with the Hylebos in the southern portion of the reach (Figure 5A).

There are no water dependent uses in this reach or formal public access, such as trails. Shoreline related/enjoyment uses within this reach include view access from 12<sup>th</sup> Street East, Pacific Highway East, 65<sup>th</sup> Avenue Court East, 67<sup>th</sup> Avenue East.

# Hydrologic Function

Due to the impacts of residential and commercial development to the adjacent shoreline vegetation, arterial road crossing, as well as the channelization of the Hylebos in the southern portion of this segment, it is anticipated that overall impacts to hydrologic function within this reach are relatively higher than the other Hylebos segments within this jurisdiction. In addition, given the proximity of residential and commercial development to the shoreline it is anticipated that some form of shoreline armoring may be also be present within this segment.

Based upon the information listed above, the hydrologic function of this reach is considered to be medium-low.

# Vegetation Function

As noted in the Hydrologic function section, this segment contains areas of modified vegetation related to residential and commercial development. In the northern portion of the segment, vegetation on the left bank is relatively more intact than the vegetation on the right bank. The left and right banks are equally disturbed and contain a small number of adjacent trees for the portion of the segment located to the south of Pacific Highway.

Due to the level of alteration to the vegetation, the vegetation function of this reach is considered to be medium-low.

# Other Habitat Function

There are a number of critical areas in segment H3. The 100-year flood zone extends beyond up into the shoreline area of both banks. The right bank is part of larger aquifer recharge and seismic hazard areas. However, there are no wetlands or erosion and landslide hazard areas in this segment.

PHS information for this segment is similar to segment H2, except that the steep slope polygon does not extend upstream into this segment and the riparian habitat polygon ends at the downstream side of Pacific Highway.

Many of the same limiting factors from segments H1 and H2 apply to this segment. The only offchannel habitat in this segment is a large drainage ditch (Surprise Lake Stream) flowing into Hylebos Creek immediately upstream of Pacific Highway.

Based on the information provided above, the habitat function rating for this reach is medium-low.

## 4.7 SHORELINE FUNCTION SUMMARY

Table 15 provides a qualitative summary of relative hydrology, vegetation, and habitat function for each reach based on the detailed reach assessment provided for the specified reach in the above text, comparison to function of other reaches within the City, as well as the anticipated function of an undeveloped reach. Designations of high, medium-high, medium, medium-low, or low are assigned for each reach function followed by a brief supporting narrative. In the final column, an overall qualitative score, also based upon high/medium/low designations, is provided. The overall qualitative score is determined based upon the qualitative ratings of the three separate functions as well as the quantitative assessment provided in the specific reach assessments. In general, as is typical in urban areas, the quality of habitat, hydrologic, and vegetative function within the City is diminished by the concentrated level of development.

Reach (Planning Segment)	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>
Ρ1	high amounts of channel modification, including	potential for future alteration.		
P2	provides high levels of stormwater storage capacity for the City	Medium-High: This reach contains two protected wetlands. Each wetland is primarily emergent but also contains forested areas. Both wetlands contain Tribal Land.	Medium – High: Both wetlands within this reach have been mapped as containing Priority Habitat.	Medium- high
P3	high amounts of channel modification, including	potential for future alteration.		
H1	•	within this reach are modified as a result of residential development.	Medium-high: This segment contains a number of critical areas. However, existing impacts to hydrology and vegetation prevent a rating of "high".	Medium

Table 14	. Ecological Function	Assessment Summary	for City	shorelines.
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Reach (Planning Segment)	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>
H2	Medium-High: Segment has relatively intact vegetation and low amounts of impervious surfaces, based upon visual estimation of aerial photographs. Shoreline also contains an undetermined amount of shoreline armoring.	Medium-High: Shoreline vegetation within this reach is relatively intact, when compared to adjacent segments. Segment contains two restoration projects (Milgard and Hylebos Estuary Nature Areas)	Medium-High: This segment contains a number of critical areas. However, existing impacts to hydrology and vegetation prevent a rating of "high".	Medium- High
Н3	aerial photographs indicates that portions of the segment have been channelized. Shoreline also contains an	Medium-Low: The majority of the vegetation within this reach has been disturbed by both residential and commercial development. However, review of aerial photography indicates that central portions of the left bank do contain tree canopy that extends over the Hylebos.	Medium-Low: This segment contains a number of critical areas. However, impacts to hydrology and vegetation function prevent higher habitat functionality.	Medium- Low

1 -Qualitative Summary Function Score provides a qualitative score (high, medium-high, medium, medium-low, low) based upon the summary of the hydrologic, vegetation, and habitat analysis contained in Section 4 of this document and summarized in the table.

## 5 OPPORTUNITIES FOR SHORELINE PROTECTION, RESTORATION, PUBLIC ACCESS AND USE

# 5.1 SHORELINE PROTECTION AND RESTORATION OPPORTUNITIES

This section of the Inventory and Characterization document describes opportunities within the City to advance the goals of shoreline protection and restoration. Shoreline protection and restoration opportunities were primarily identified by utilizing the baseline watershed processes and reach characterization and functions information provided in Sections 3 and 4 of this document. Suggestions based upon the analysis for each shoreline reach as well as general suggestions for all City shorelines area provided. It should be noted that all of the protection and recommendation opportunities identified in this section of the document will be considered by the City and associated stakeholders. The City may ultimately choose to incorporate and/or implement any or all of the restoration measures as identified in the text below based upon community visioning, stakeholder comments and guidance from the Department of Ecology. In addition, the City intends to work with adjacent jurisdictions including Pierce County and neighboring tribes in identifying collaborative shoreline restoration efforts, such as those identified in the Pierce County Shoreline Restoration Report. Further refinement of the proposed restoration goals, policies and activities will occur during Task 4.1 - Restoration Planning of the update process.

# 5.1.1 P 1

Many of the conditions in segment P1, particularly those related to salmonid habitat, are due to factors outside the jurisdiction of the City of Fife. These include upstream land use, major alterations in basin hydrology, and placement and maintenance of the levee. However, the City can identify areas for conservation and/or restoration within the shoreline area that would provide some habitat for non-aquatic species. In particular, as the City works with land owners to plan development downstream of Frank Albert Road, areas could be identified for open space corridors that connect upland and shoreline areas. Forested areas are strongly recommended for conservation, and could also be prioritized for connection to the shoreline areas by way of open space corridors. Additionally, where possible, the City could collaborate with the Corps and Pierce County River Improvement District to develop vegetation plans for the levee that complement vegetation and open space across Levee Road as well as improve water quality, habitat, and vegetation functions.

# 5.1.2 P 2

The majority of this reach contains open space and resource land uses. It is highly recommended that zoning be modified to reflect the existing land use. In addition, land use in the immediately adjacent areas should be planned to minimize impacts. Areas of the wetlands or their associated buffers that may have been altered due to past development are recommended for enhancement actions, including invasive species removal and native vegetation planting. The Oxbow wetland represents the greatest potential for the City to enhance salmonid habitat on the Puyallup shoreline.

## 5.1.3 P 3

As with segment P1, the City does not have jurisdiction over many of the factors influencing salmonid habitat function in this segment. Conservation of upland open space areas, particularly forested areas, is highly recommended, as is conservation and enhancement of wetland areas. Collaboration with the Pierce County River Improvement District to develop vegetation and habitat enhancement plans that complement each other on both sides of Levee Road also is recommended.

## 5.1.4 H 1

Because the entire segment is privately owned and occupied, there are essentially no opportunities for conservation and restoration without homeowner involvement or property acquisition. However, the City could explore developing an educational program to inform homeowners of actions they can take to minimize their impacts in-stream habitat or ways to enhance it with native landscaping, soft shoreline armoring techniques and invasive species removal. Non-governmental organizations (such as Friends of the Hylebos, Citizens for a Healthy Bay) familiar with outreach programs in the watershed would be useful partners in such an effort.

# 5.1.5 H 2

Restoration activities have been completed on both the right and left banks within the northern portion of this reach. The Milgard Nature area is located along the right bank and the Hylebos Estuary Nature area is located along the left bank. Conservation of the remaining undeveloped riparian areas on the left bank is strongly recommended. Additional property acquisition for conservation and restoration actions on the right bank to complement and enhance the riparian areas on the left bank also is recommended where possible, as is shoreline property owner outreach and education regarding actions they can take to minimize impacts and enhance habitat on their property. One opportunity for restoration is the left bank between 8th Street East and 62nd Avenue East, where an undeveloped area dominated by reed canary grass with limited riparian vegetation could be cleared and replanted with native vegetation, or even graded down to create off-channel wetland habitat. Kerwin (1999) identified off-channel habitat as a limiting factor in Hylebos Creek. Off-channel habitat with a riparian community could provide input of nutrients and a forage base for coho salmon (as well as chinook). Another opportunity for restoration is the left bank immediately downstream of 12th Street East, where there is a large amount of debris and invasive vegetation in the shoreline area.

These opportunities are typical of those in the City shoreline area on Hylebos Creek in that they would require either significant property owner cooperation or property acquisition. The City also could develop guideline for building setbacks and riparian vegetation requirements for new residential development in this segment.

## 5.1.6 H 3

It is strongly recommended that the City conserve remaining riparian vegetation in this segment. As with segments H1 and H2, opportunities for conservation and restoration area somewhat limited to options involving property owner involvement or property acquisition. Guidelines for building new residential development as vacant land is converted to residential areas could be used to enhance and conserve riparian areas. This is a likely scenario for the undeveloped and agricultural shoreline areas immediately upstream of 12th Street East. As this area becomes developed, riparian areas could be conserved and vegetation restored, including removal of the large stand of Japanese knotweed (*Polygonum cuspidatum*) on the left bank and its replacement with native vegetation. The eventual extension of State Route 167 may present the greatest opportunity for habitat restoration and enhancement, as well as the greatest opportunity for partnership and coordination with stakeholders working upstream of the City.

## 5.1.7 General Recommendations for all City Shorelines

The following recommendations are provided for the entire jurisdiction:

- Work with the Corps of Engineers and the Pierce County River Improvement district to investigate means to provide increased shoreline function along the Puyallup River without compromising flood control capacity.
- Conserve wetlands in the shoreline area through buffer maintenance. Consider off-channel habitat creation, enhancement or improvement projects for the Hylebos Creek, wherever possible.
- Carefully consider the impacts of uplands development upslope of shoreline areas, even outside of the shoreline jurisdiction.
- Ensure stormwater facilities and stormwater designs provide adequate water treatment before re-introduction to waterbodies. Explore new stormwater technologies, including low impact development and water recycling.
- Conserve riparian vegetation within the shoreline areas, wherever possible, especially where there is opportunity for large woody debris (LWD) recruitment into the adjacent streams.
- Inform shoreline property owners about shoreline habitat and the special functions associated with shoreline areas. Promote restoration or re-vegetation of riparian areas through education or incentive programs.
- Work with shoreline property owners on pile removal, removal of hardened banks, and shoreline stabilization using vegetation and removal of remnant crossings.
- Coordinate with local jurisdictions, business, and citizen action groups on large scale habitat creation or restoration projects.

## 5.2 PUBLIC ACCESS OPPORTUNITIES

Shoreline public access is the ability of the general public to reach and touch the water and the ability to view the water and the shoreline from upland locations. Public access facilities include public parks, boat launches, trails, improved street ends and overlooks. On Fife shorelines, public access to the Puyallup is provided by N. Levee Road adjacent to the Puyallup as well as informal areas of direct access created by an adjacent trail as well as breaks in the adjacent vegetation. Public access to the Hylebos is limited due to adjacent residential and commercial development.

As the majority of the parcels adjacent to the shoreline are not owned by the city, potential new public access opportunities to Fife's shoreline area are limited and would likely require obtaining new shoreline properties. The City of Fife may choose to work with adjacent jurisdictions, such as Pierce County to explore future public access opportunities.

## 5.3 SHORELINE USE ANALYSIS AND IDENTIFICATION OF POTENTIAL CONFLICTS

Planned shoreline use for the City of Fife includes Industrial, Mixed Medium Density Residential/Commercial, Medium Density Residential, Low Density Single Family Residential, Small Lot Single Family Residential, and Mixed Commercial High Density Residential (City of Fife 2009). There are a substantial number of vacant, agricultural, and/or undeveloped properties that are zoned for other uses such as commercial or industrial. Future development is likely to involve the conversion of existing agricultural and residential use parcels to industrial and commercial uses.

As identified in the shoreline characterization and function portion of this document (Section 4), the levee system adjacent to the Puyallup River as well as the lack of navigability within the Hylebos result in a reduced opportunity for water dependent activities within the City. At this time, only limited water dependent recreational activities, such as fishing along the Puyallup and Hylebos Creek are available.

## 6 DATA GAPS

This section of the Inventory and Characterization describes data gaps or limitations identified during document development. Identification of data gaps uncovered during the Shoreline Master Program Update is a necessary part of the Inventory and Characterization process pursuant to WAC 173-26-201(3)(c)(viii). These data gaps generally represent elements of the report where the analysis may be limited, relevant data cannot be found, and/or the City will continue to obtain information beyond the completion of this document. This section is not intended to provide an exhaustive list of all of the items the City should address. However, the items listed within this section are provided to serve as the initial development of possible directions the City may wish to pursue to facilitate future code updates and/or amendments to the Shoreline Master Program.

## 6.1 IDENTIFIED GAPS

#### **Regional Information**

As noted in Section 2 of this document, Pierce County is conducting its SMP update concurrent with the City effort, and will prepare a county-wide assessment of regional conditions including watershed processes and shoreline functions. Additionally, Ecology is preparing analyses of watershed processes for Puget Sound marine shorelines that will become available in 2010. This information should be utilized for this update process, as it becomes available, as well as for future updates.

#### Land Cover/Impervious Surfaces

The overall level of impervious surface for the City of Fife is estimated to be 44%, as derived from external GIS resources including the National Oceanic and Atmospheric Administration and the Washington State Department of Ecology. However, this document is not able to provide quantitative data regarding the percent or acreage of impervious land cover for each reach, which is the common metric utilized for obtaining baseline land cover information, based on the level of information currently available.

## Site Specific Critical Area Information

As noted within some of the reach assessments within Section 4 of this document, site specific studies may yield information regarding critical areas that are currently unknown and unmapped.

#### Shoreline Indicators

The Washington State Department of Ecology has identified several quantifiable shoreline indicators that are intended for use to demonstrate no net loss during future update processes. These potential no net loss indicators include: loss of forest cover (preferred measurement acres converted), shoreline stabilization (linear length), shoreline vegetation (linear measurement or percent cover), permanently protected areas in acres, Docks/overwater structures (square footage), road lengths in feet within 200 feet of waterbody, number of road crossings of water

bodies, water quality list 303(d) listing, linear feet of levees/docks, and floodplain area (acres allowed to flood – as determined by lack of structures). Unfortunately, due to the lack of digitized information as well as the limitation of the update to existing data, the majority of these parameters could not be quantified for this update process.

# FEMA flood maps

The currently available flood map information was utilized by the City of Fife during this Inventory and Characterization process. However, FEMA is in the process of revising the maps that designate flood areas within the City of Fife. These maps once adopted would change the extent of the shoreline jurisdiction within the city and amendments to the Shoreline Master Program in Fife would be required. It is anticipated that these maps will be made available to the City in time for the next Shoreline Master Program Update.

# 6.2 RECOMMENDATIONS TO ADDRESS DATA GAPS

The City of Fife has shoreline information in several formats; GIS, hard copy maps, photographs and project reports. The bulleted items provided below are suggestions that the City may choose to pursue to facilitate future update processes:

- Digitize all existing paper maps for use in GIS, if possible, and update content during digitization.
- Complete an impervious surface analysis for the City, and digitize the results.
- Complete a detailed wetland inventory, both within the shoreline area and in the City at large to improve critical areas management and provide information for comprehensive planning; digitize the results.
- Log wetlands delineations from shoreline permit applications into a central file for reference, and if possible, digitize wetland data.
- Coordinate with other local jurisdictions and interest groups (i.e., Friends of the Hylebos), to share data regarding salmon habitat, distribution and use of both Hylebos Creek and the Puyallup River.

# CITY OF FIFE SHORELINE MASTER PROGRAM UPDATE

# TASK 2.1 – INVENTORY

PREPARED FOR:



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This document has been generated to address Task 2.1 – Inventory of the Shoreline Master Program Update process for the City of Fife. Plans, studies, inventories, geographic information systems (GIS) data, and other data resources were reviewed for information pertinent to the update process and to the requirements outlined within WAC 173-26-201(3)(c). The inventory information provided below is divided into four data types. The first three data types are outlined by the Washington State Department of Ecology within the *Shoreline Planners Toolbox*<sup>3</sup>. The fourth data type has been added to identify specific City of Fife planning documents.

#### Integrated reports, catalogs, multi-feature data sets, and internet mapping sites

Northwest Salmon Recovery Planning http://www.nwfsc.noaa.gov/trt/index.cfm

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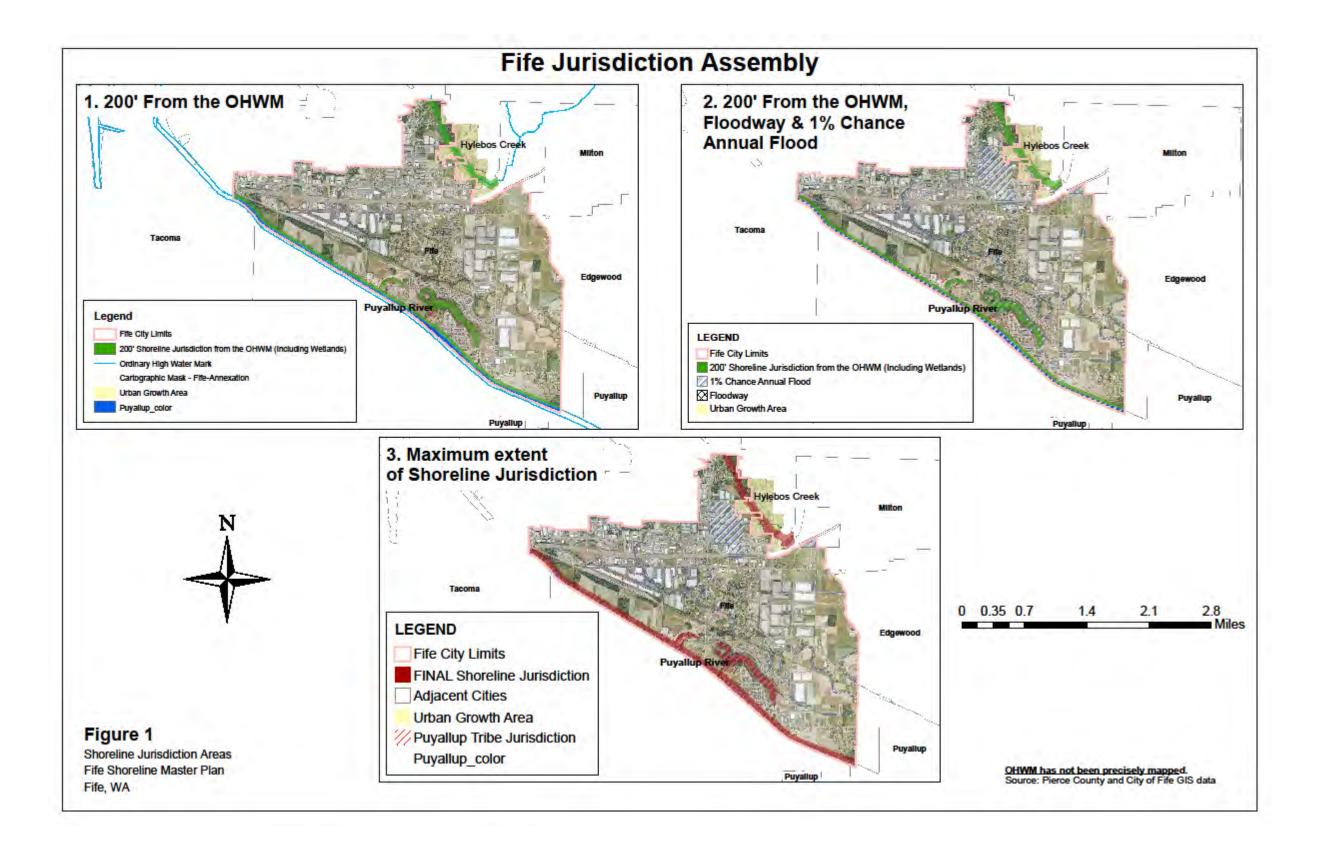
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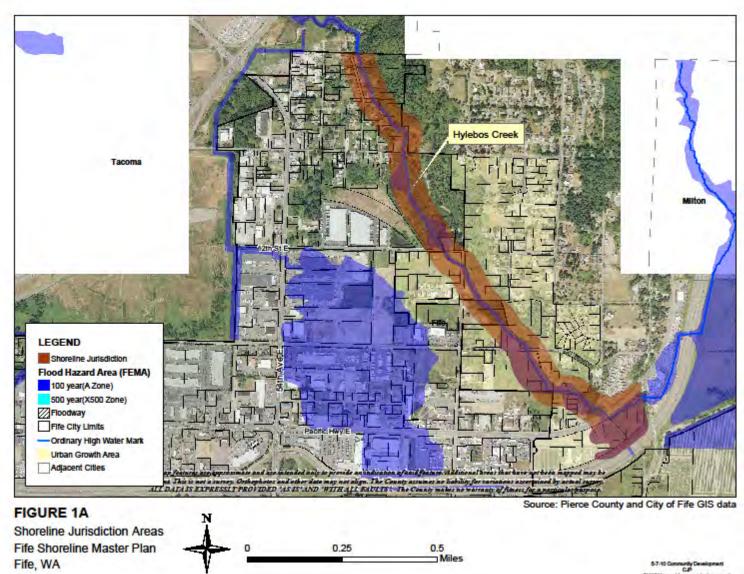
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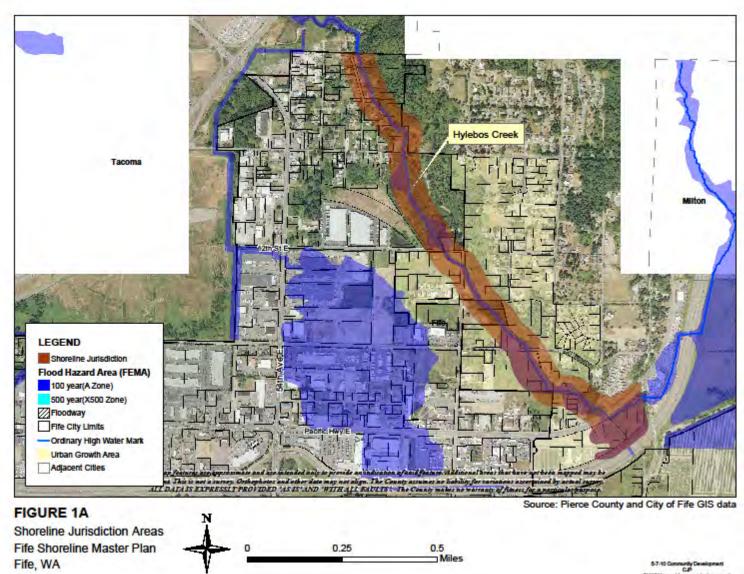
CITY OF FIFE SHORELINE MASTER PROGRAM UPDATE

**INVENTORY AND CHARACTERIZATION FIGURES** 

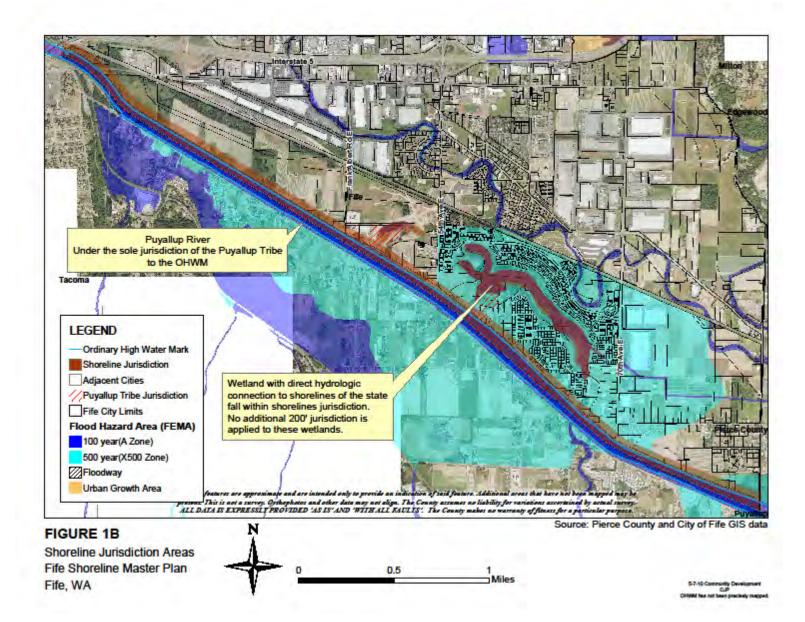


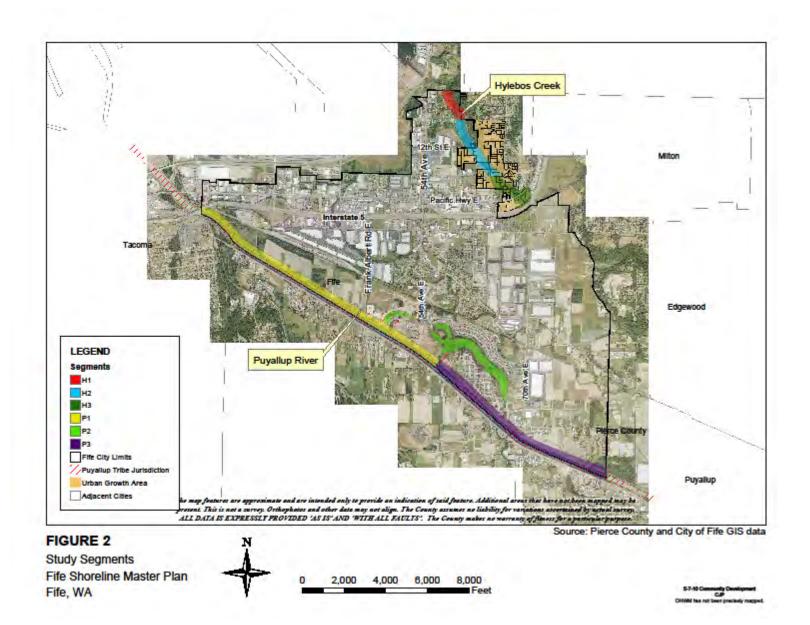


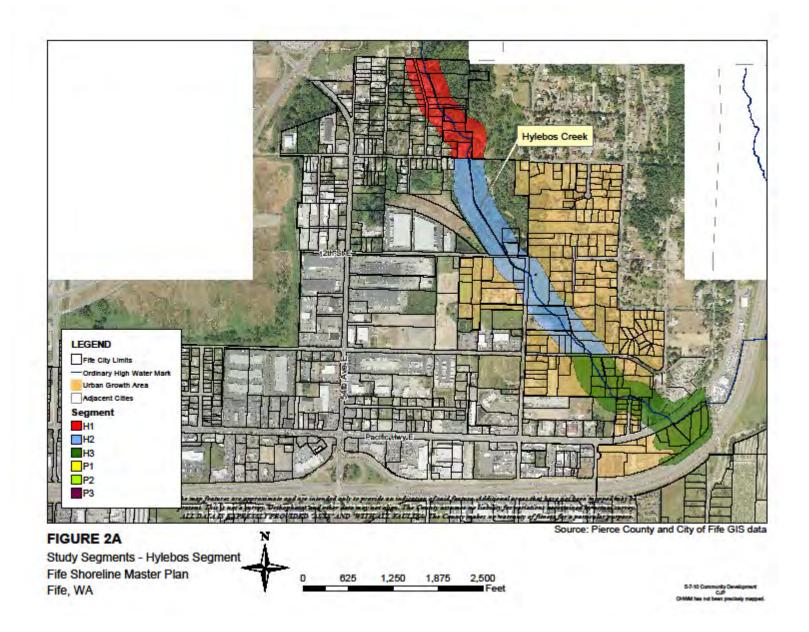
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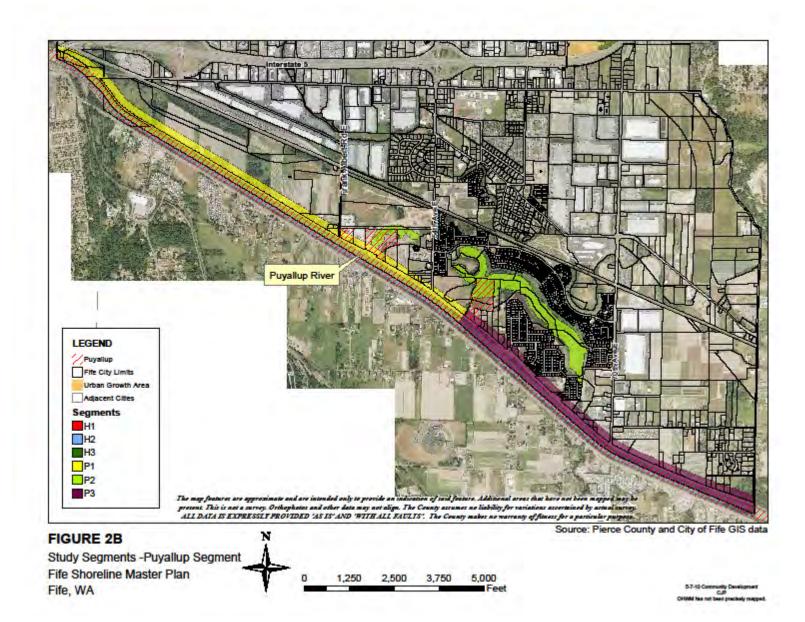


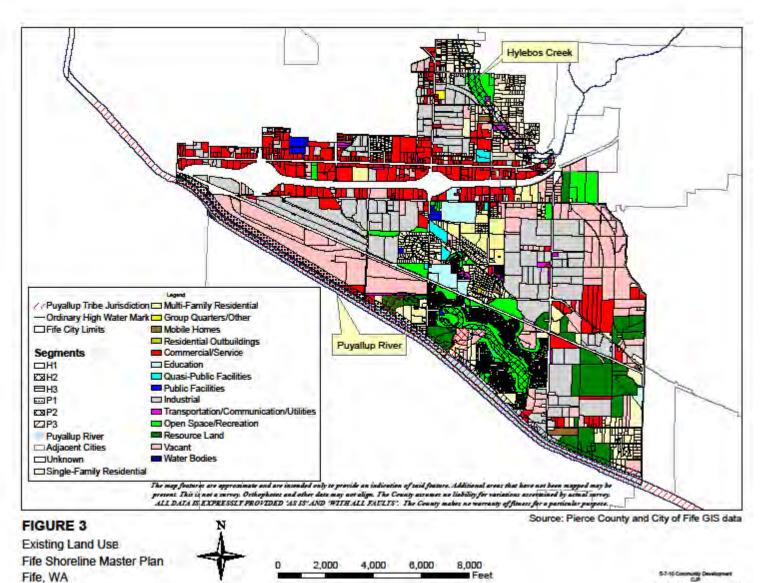
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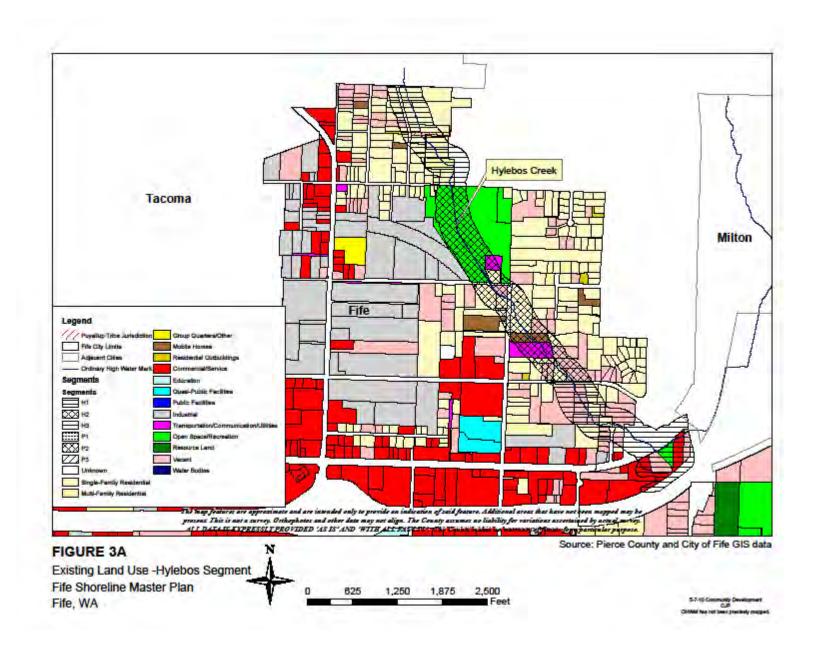


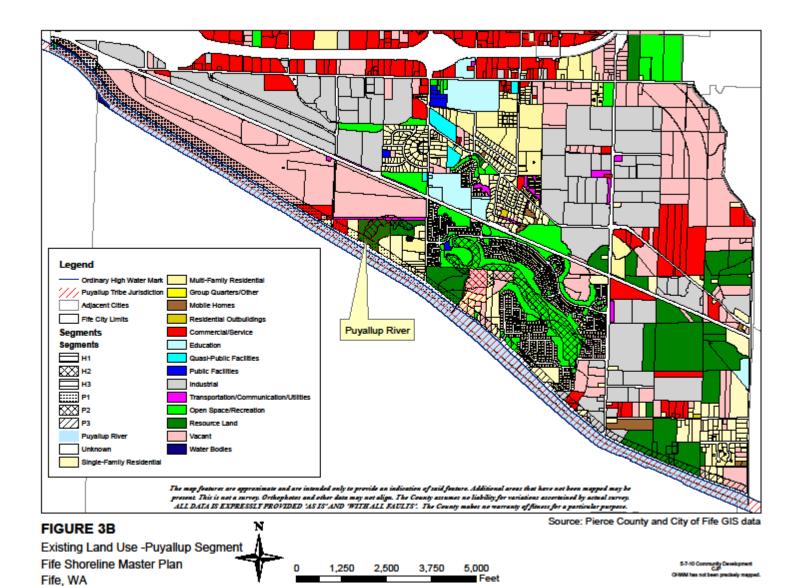


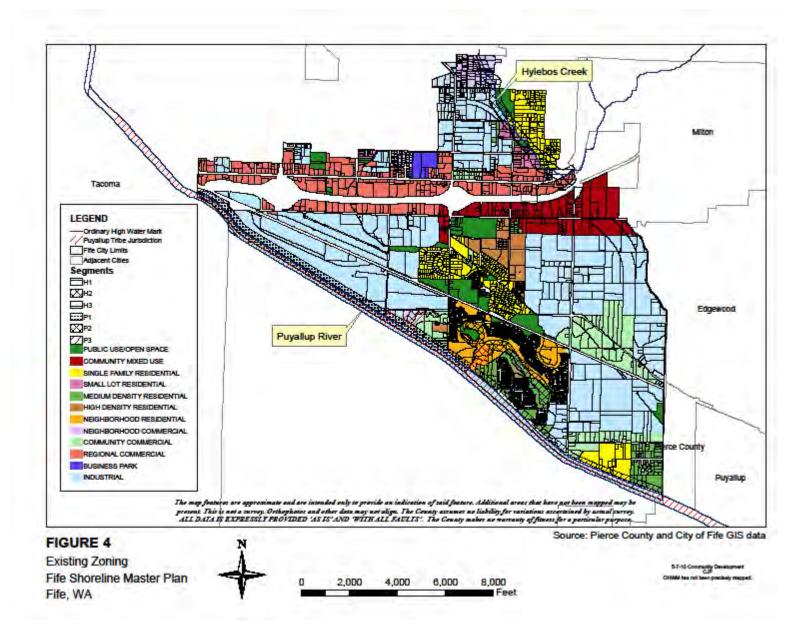


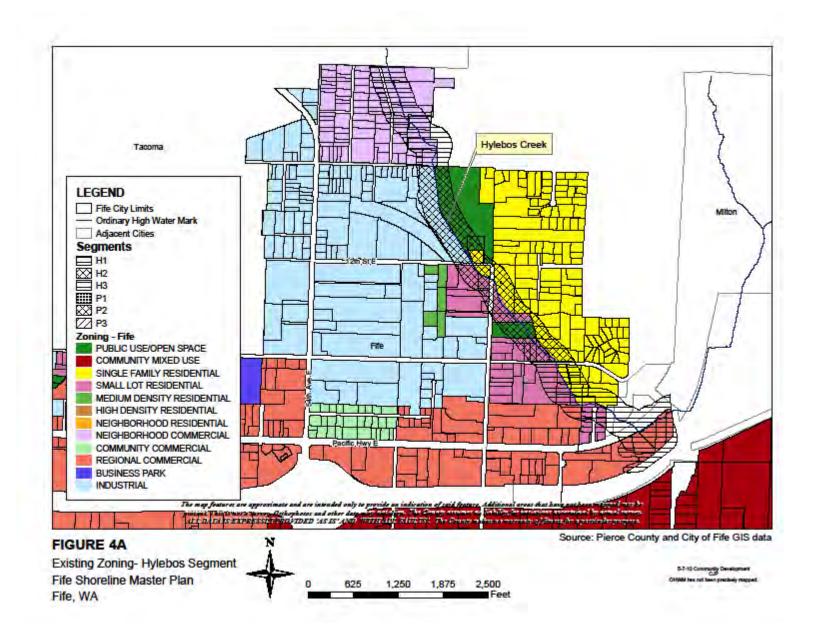
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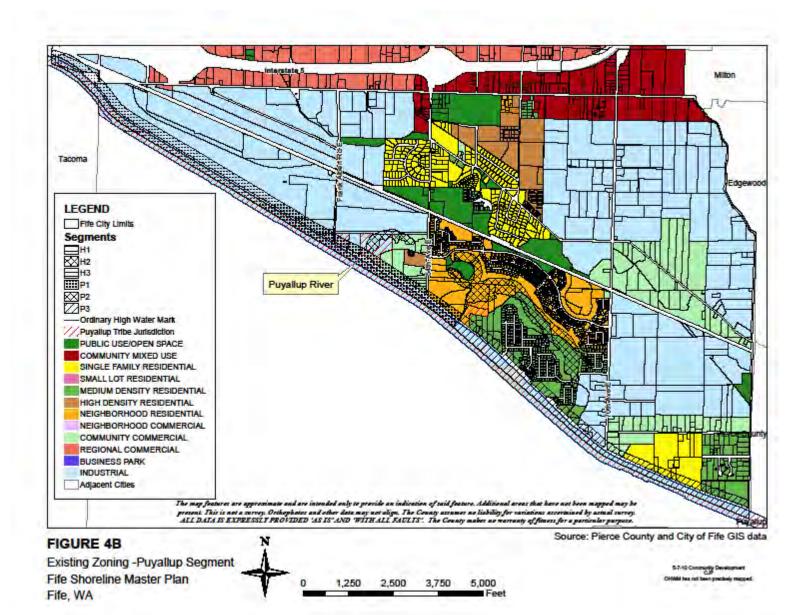
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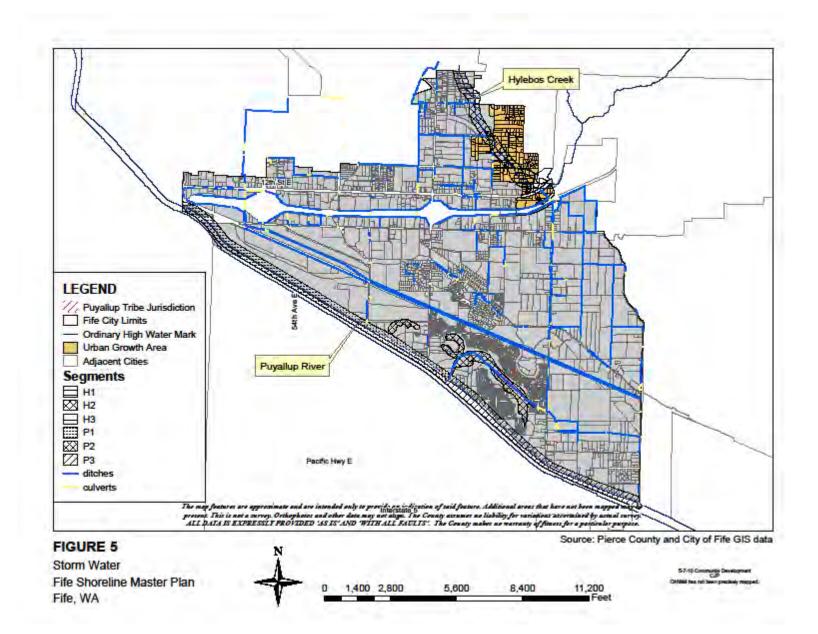


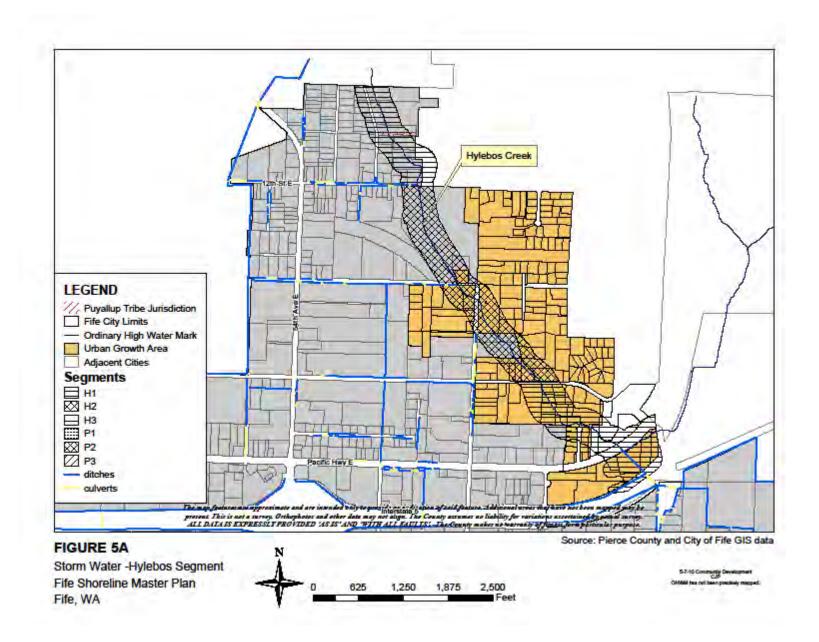


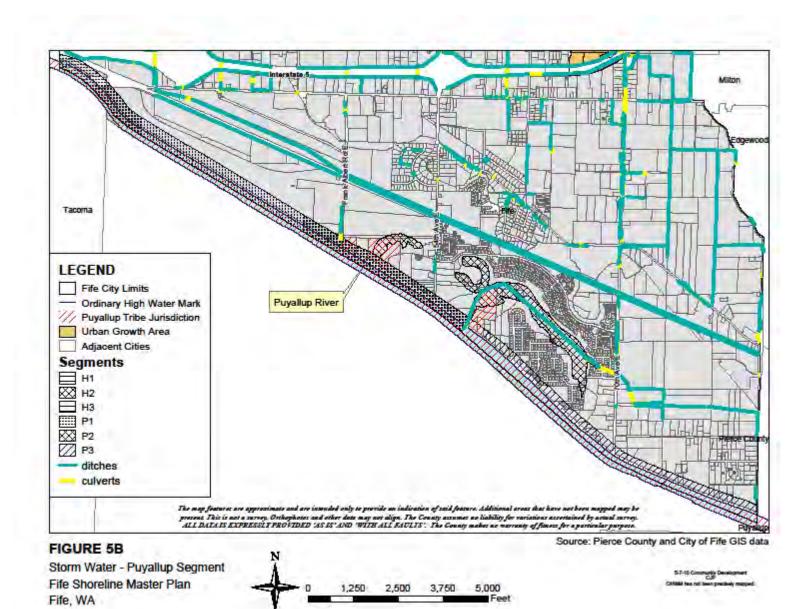


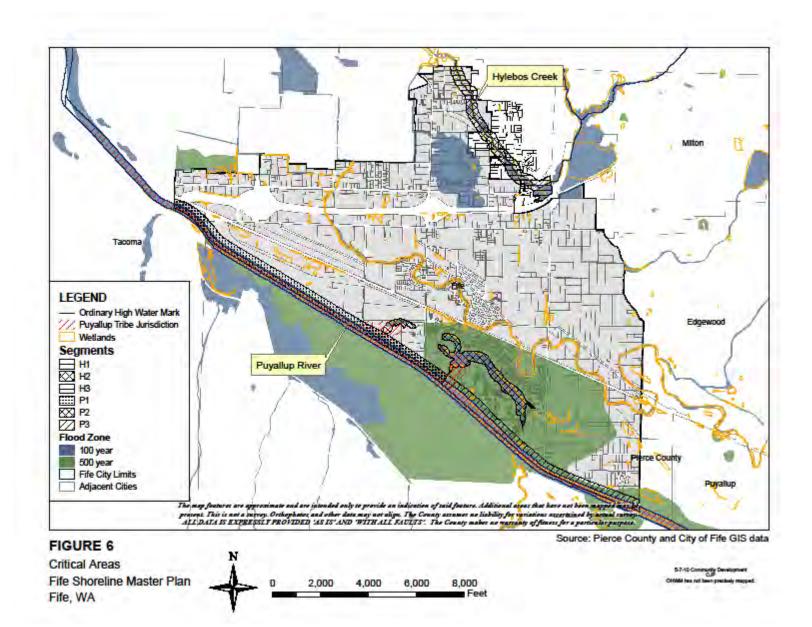


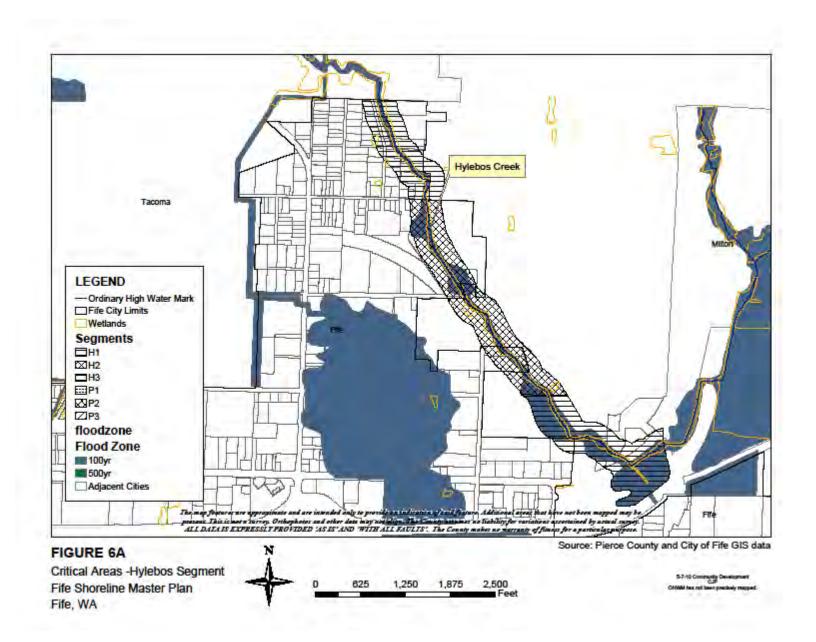


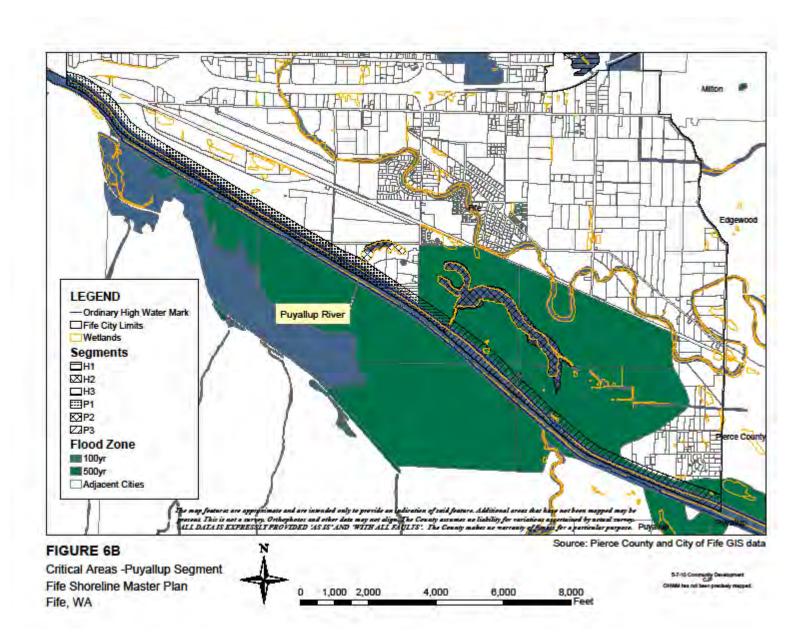


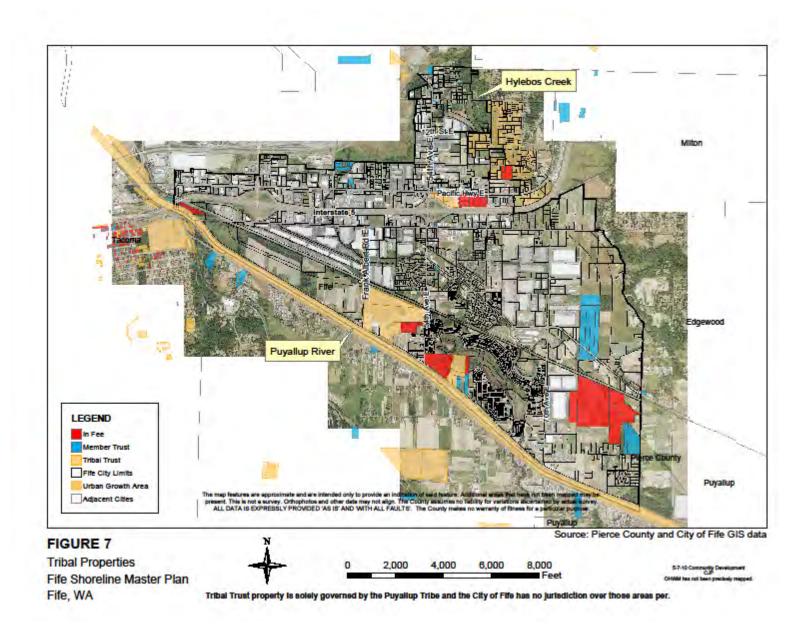


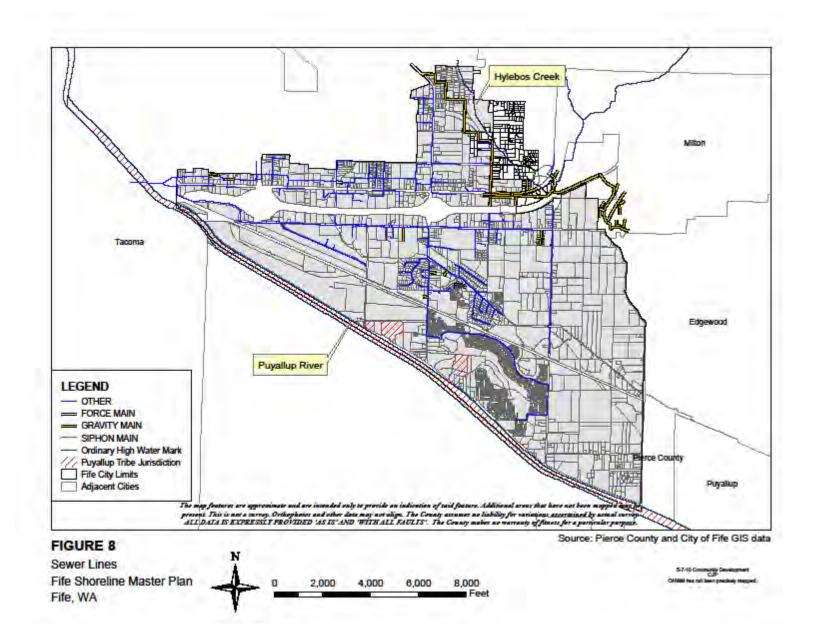


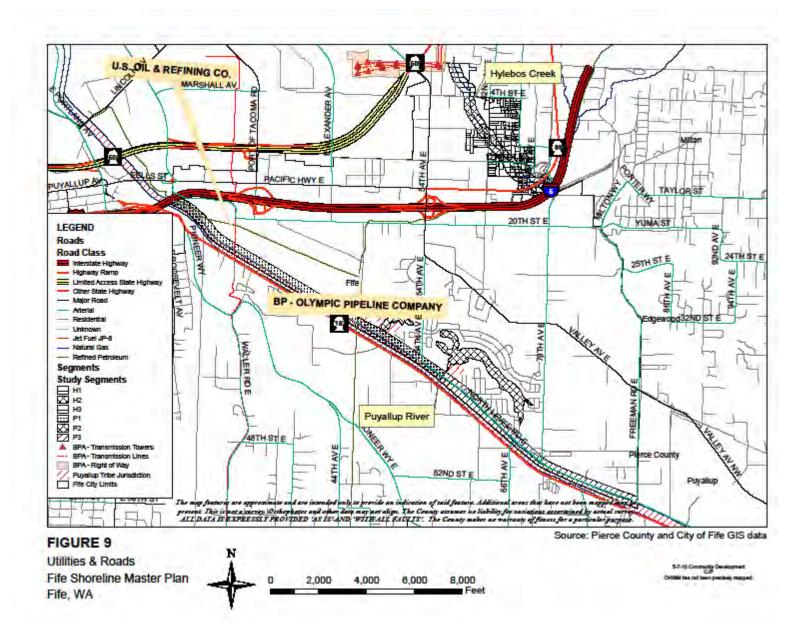


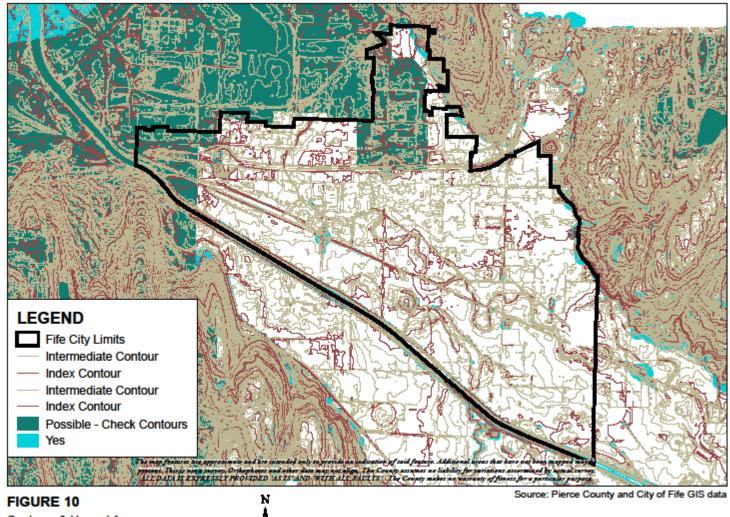






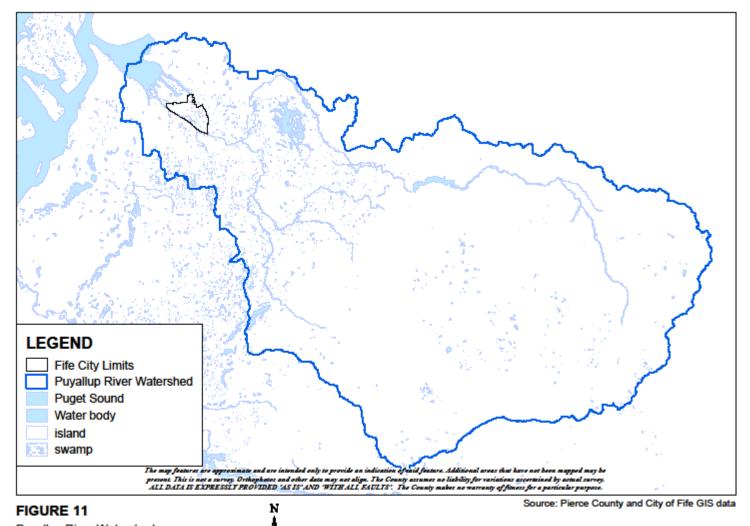






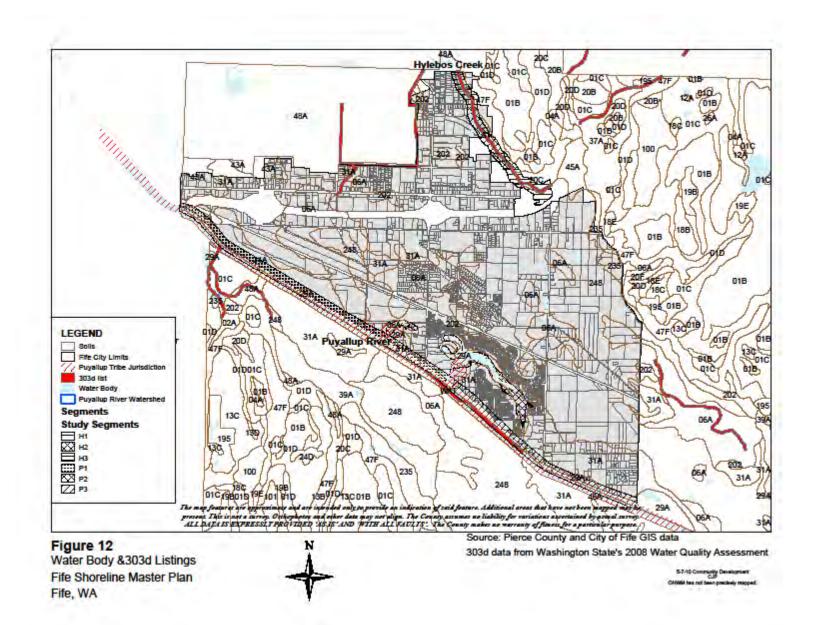
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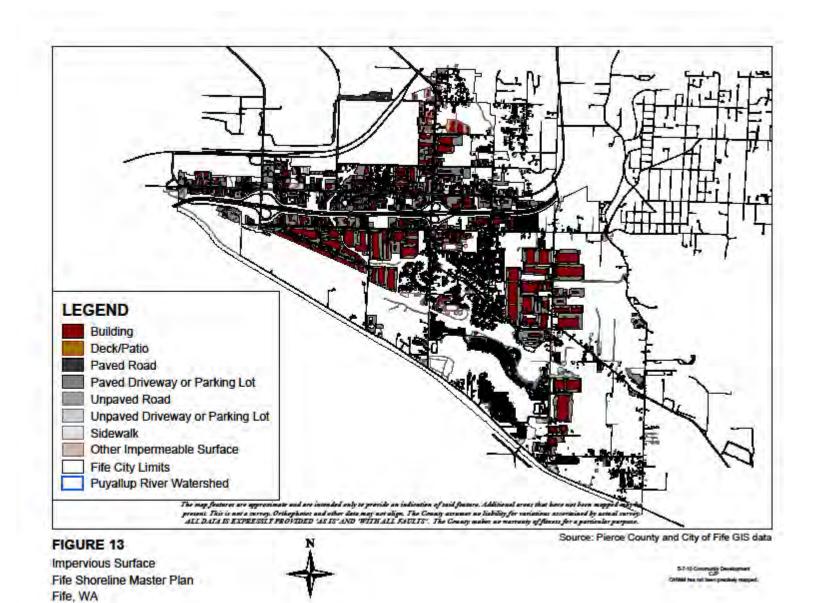
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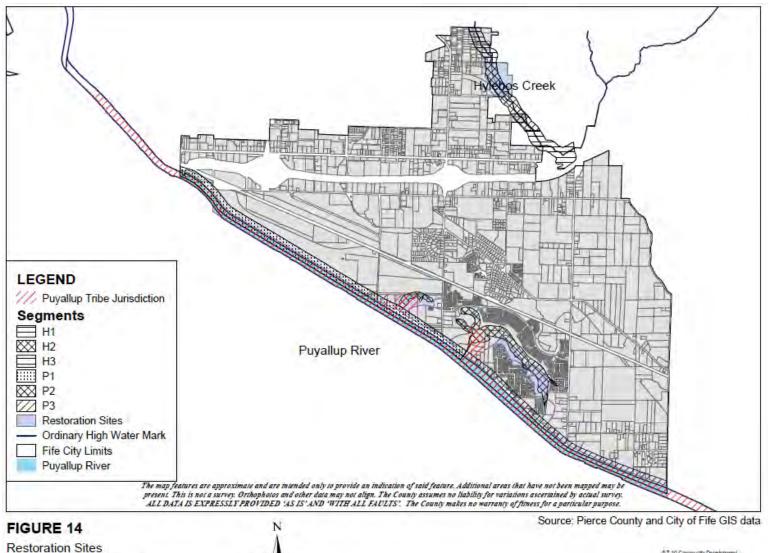


Puyallup River Watershed Fife Shoreline Master Plan Fife, WA

5-7-10 Community Development CJP OHWM has not been precisely mapped









# CITY OF FIFE Shoreline Master Program Update

# **RESTORATION PLAN**

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FINAL - APRIL 2012



# TABLE OF CONTENTS

1	INTR	ODUCTION	3
	1.1	Restoration Planning and the Built Environment	4
	1.2	Report Organization	
2	SHOF	RELINE INVENTORY AND CHARACTERIZATION SUMMARY	
	2.1	Introduction	
	2.2	Shorelines within the City of Fife	
		2.2.1 Puyallup River	
		2.2.2 Hylebos Creek	10
2	ргот	ODATION DOLICIES, COALS AND DDIODITIES	1.4
3		ORATION POLICIES, GOALS AND PRIORITIES	
	3.1	Policies and Goals	
		3.1.2 Goals	
	3.2	Priorities for Restoration:	
	5.2		13
4	EXIS	TING RESTORATION ACTIVITIES AND RELATED PLANS AND PROGRA	AMS 16
	4.1	Existing Restoration Activities	
		4.1.1 Hylebos Creek/ Milgard Nature Areas	
		4.1.2 Radiance Oxbow Green Space and Wetland Mitigation	
	4.2	Related Plans and Programs	
		4.2.1 WRIA 10/12 Efforts for Salmon Restoration	
		4.2.2 Flood Hazard Management Plan for the Puyallup River	17
		4.2.3 City of Fife Plans/Regulations	
		4.2.3.1 Comprehensive Plan	18
		4.2.3.2 Critical Areas Regulations	18
		4.2.3.3 Stormwater Management	18
		4.2.3.4 Floodways and Floodplain Regulations	19
		4.2.3.5 Sewer and Septic waste disposal	19
_	-		•
5		JRE RESTORATION OPPORTUNITIES	
	5.1	General and Ecosystem Specific Restoration Opportunities	
	5.2	Reach Specific Restoration Opportunities	21
6	IMPI	EMENTATION OF RESTORATION PROGRAM	26
0	6.1	Partnership Opportunities	
	0.1	6.1.1 Friends of the Hylebos	
		6.1.2 Puget Sound Partnership	
		6.1.3 WRIA 10 Watershed Action Committee	
		6.1.4 Puyallup River Watershed Council	
		6.1.5 Puyallup Tribe	
		6.1.6 Adjacent Jurisdictions	
	6.2	Potential Funding Resources	
	6.3	Mechanisms and Strategies for implementing a successful restoration plan	
		6.3.1 Implementation	

i

	6.4	Timel	ines and Benchmarks	29
		6.4.1	Evaluation of Restoration	30
7	REFE	RENCE	ES	.31

#### TABLES

Table 1: City of Fife Puyallup River Shoreline Jurisdiction Reach Summary Table 2: City of Fife Hylebos Creek Shoreline Jurisdiction Reach Summary Table 3: Shoreline restoration opportunities in the City of Fife

# FIGURES

Figure 1: Washington State Department of Ecology's achieving no net loss of ecological function chart.Figure 2: Hylebos Creek/ Milgard Nature AreasFigure 3: Radiance Oxbow Restoration.

### EXHIBITS

Figure 14: Restoration Site

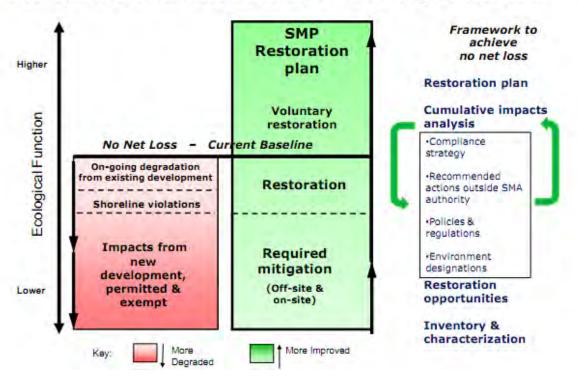
#### **1 INTRODUCTION**

This report has been generated to meet the requirements of Restoration Planning component of the City of Fife's (City's) Shoreline Master Program (SMP) update (Phase 4, Task 4.1). It builds upon other elements of the City's SMP update completed to date including the Shoreline Inventory and Characterization (Grette Associates 2010), and the Cumulative Impacts Analysis (Grette Associates 2011). The format of this report is based Ecology's guidance for Restoration Planning, based on WAC 173-26-201 (2) F, which is presented below in *italics* for reference:

Master program restoration plans shall consider and address the following subjects:

- (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;
- (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.

The development of a shoreline restoration plan is often considered to be one of the most important tasks of the Shoreline Master Program Update process. Although restoration is not a direct requirement for private development within the shoreline, it can and often is undertaken by local private and public interests to improve shoreline ecological function. In addition, local governments can also utilize restoration programs to meet the "no net loss" requirement of the Shoreline Master Program update process, as shown in the following figure:



SMP updates: Achieving no net loss of ecological function

Figure 1: Washington State Department of Ecology's achieving no net loss of ecological function chart.

As identified within the Cumulative Impacts Analysis, restoration actions are not necessarily required within the City to achieve the overarching goal of no-net-loss but could serve to address incremental and unanticipated impacts to shoreline function. Addressing incremental and unanticipated impacts to shoreline function is necessary because research of mitigation projects has demonstrated that even well-designed and implemented mitigation projects often have some degree of failure, e.g. plant mortality, unintended modifications to surface and subsurface hydrology, herbivory by animals. A restoration plan, therefore, can be used to offset the expected loss of function that is likely to occur from site-specific mitigation and other incremental impacts sustained over time.

#### 1.1 RESTORATION PLANNING AND THE BUILT ENVIRONMENT

It is important to approach SMP-mandated Restoration Planning using the definitions for restoration provided for that purpose in the WAC, as they are different from definitions that exist in other regulatory realms (e.g., critical areas regulations, federal Clean Water Act). WAC 173-026-020 (27) reads: "Restore," "restoration" or "ecological restoration" means 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.

Under this definition, restoration includes actions which improve degraded shoreline processes or functions, and does not require a complete reversal to pre-development conditions. This is important, particularly in urban environments such as the City of Fife where reestablishment of pre-development processes and functions may not be feasible or desirable. There are substantial constraints in terms of property ownership and development conditions for much of Fife's shorelines, particularly the levee associated with the Puyallup River shoreline. In this case, alternative restoration actions, such as the co-operative creation of off-channel habitat, should be considered.

The City has a demonstrated commitment to incorporating restoration into its public facilities. The prime example of this is the development of the Hylebos Creek Habitat area and the Milgard Habitat area which has dramatically improved habitat conditions and functions within the Hylebos Creek jurisdiction in the city.

The approach of this document is to consider all previously identified restoration opportunities within the context of both the built environment and the available science informing shoreline processes and functions, building directly on the Inventory and Characterization (Grette Associates 2010) and draft Cumulative Impacts Analysis (Grette Associates 2011) already prepared as part of this SMP update.

#### **1.2 REPORT ORGANIZATION**

This document is organized in such a format as to generally follow the requirements for Shoreline Restoration Plans as set forth by WAC 173-26-201 (2) F. Following this introductory section, a summary of existing shoreline function generated from the Inventory and Characterization and the Cumulative Impact Analysis documents is provided (Section 2). This section is followed by a discussion of the restoration goals, policies, and priorities for restoration (Section 3). Section 4 provides a detailed discussion of existing restoration activities that have already occurred within the City to improve shoreline function, and Section 5 identifies other areas that have the potential to provide future restoration opportunities that may be pursued by the City to improve shoreline function. A framework for the implementation of restoration programs is provided in Section 6. This document is concluded with a summary of the findings of the document (Section 7) and a list of references used to complete this document (Section 8). Maps that were generated to clarify the location of reaches and existing restoration areas are provided in the Appendix.

#### 2 SHORELINE INVENTORY AND CHARACTERIZATION SUMMARY

### 2.1 INTRODUCTION

The existing shoreline functions, including degraded areas, impaired ecological function and sites with potential for ecological restoration, within the City of Fife were identified in the Inventory and Characterization document (Grette Associates 2010) and the Cumulative Impacts Analysis (Grette Associates 2011). The remainder of this section is a summarization of the ecosystem and reach specific data included in those two documents.

# 2.2 SHORELINES WITHIN THE CITY OF FIFE

The shoreline jurisdiction within the City of Fife includes two separate riverine systems, the Puyallup River and Hylebos Creek. The existing conditions within the City of these two systems were initially described in the Shoreline Master Program Update: Inventory and Characterization document dated September 2010 (Grette Associates). That document included descriptions of the shoreline jurisdiction, the ecosystem context and watershed processes that serve to define the shoreline function within the City. The Inventory and Characterization document also provided reach specific analysis including data on current land use and shoreline function including hydrologic, vegetative and habitat function. A summary of the findings of that document, divided by riverine system, is provided in the remainder of this Chapter.

# 2.2.1 Puyallup River

The lower extent of the Puyallup River channel, including the portion of the river within the City, has been historically modified to reduce flooding impacts and allow development along the river. Modifications to the river primarily include levees, dikes and revetments. Within the City, a levee extends along the bank of the extent of the river. These modifications have resulted in the straightening and hardening of the channel and have subsequently reduced shoreline function, including hydrologic, vegetation, and habitat functions. For example, historic records of the Puyallup River indicate that the lower mainstem of the river was coniferous riparian habitat with associated side and off channel habitat. During the construction of the levee, the coniferous riparian habitat was removed and the majority of connectivity to side and off channel habitat was also disturbed. Continued maintenance of the levees often eliminates adjacent vegetation and eliminates sources of large woody debris (LWD). It is currently estimated that only 5% of the mainstem of the Puyallup contains high quality habitat (Kerwin 1999). During the inventory and characterization process, no designated high quality habitat areas were identified directly adjacent to the OHWM of the Puyallup River within the City.

Within the City of Fife, the Puyallup River shoreline jurisdiction was divided into three separate reaches. These reaches are described in the table as follows:

#### Table 1: City of Fife Puyallup River Shoreline Jurisdiction Reach Summary

		Shoreline Function		
Land Use Types <sup>1</sup>	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>
P1				
Approximate Length: 13,150 f	feet			
<b>Description:</b> I-5 Bridge (North	City Limit) upstream to the hydro	ological connection to the Oxbov	v wetland upstream of 54th Ave	
Total Acreage $-206.76$ Commercial/Service $-9.36$ acres (4.52%) Open Space/Recreation $-$ 0.06 acres (0.03%) Resource Land $-$ 34.62 acres (16.74%) Single Family Residential $-$ 20.34 acres (9.84%) Vacant $-136.68$ acres (66.11%) Water Body $-5.70$ acres (2.76%)	amounts of channel modification, including the	vegetation as well as the potential for future alteration.	Low: This reach has a minimal amount of mapped habitat. Existing shoreline habitat coincides with the levee and is subject to disturbance.	Low

		Shoreline Function		
Land Use Types <sup>1</sup>	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>
P2		•	•	
Approximate Length: not appli	cable - removed from the shoreli	ne		
Description: Oxbow wetland, hy	ydrological connection to Oxbow	wetland, Frank Albert Road we	tland	
Open Space/Recreation –	provides high levels of stormwater storage capacity for the City	contains two protected wetlands. Each wetland is	Medium – High: Both wetlands within this reach have been mapped as containing Priority Habitat.	Medium-high

	Shoreline Function					
Land Use Types <sup>1</sup>	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>		
Р3	•	•	•			
Approximate Length: 9,840 fe	et					
<b>Description:</b> Upstream edge of	the hydrological connection to th	e Oxbow wetland to Freeman Ro	d (southeast city limit)			
Total Acreage- 116.87 Commercial/Service –	Low: This reach contains high amounts of channel modification, including the	Low: This reach contains high amounts of alteration to the vegetation as well as the	Low: This reach has a minimal amount of mapped habitat. Existing shoreline habitat			
1.6 acres (1.37%) Industrial –	levee that extends along the entire length of the reach, as	potential for future alteration.	coincides with the levee and is subject to disturbance.			
16.39 acres (14.02%)	well as the impaired water		subject to disturbance.			
Open Space/Recreation –	quality evidenced by the 303(d)					
0.38 acres (0.34%)	listings.			Low		
Resource Land –						
52.44 acres (44.87%)						
Single-Family Residential –						
22.19 Acres (23.93%)						
Vacant – 13.94 acres (11.93%)						
Mobile Home Park – 8.20						
Acres (7.01%)	<u>j</u>					

<sup>1</sup> Data derived from Pierce County and City of Fife GIS data. Percentages may not equal 100% due to rounding.

### 2.2.2 Hylebos Creek

Similar to the lower extent of the Puyallup River, the Hylebos Creek has been altered, including channelization of the creek, residential development, and the modification and filling of adjacent wetlands. Historically, Hylebos Creek is thought to have been one of the most productive small stream systems in southern Puget Sound. However, Hylebos Creek is currently characterized as "one of the most heavily urbanized subbasins in the State" (Kerwin 1999). Due to the altered state of the creek, salmonid production is greatly reduced.

Within the City, most of the land along Hylebos Creek is developed for single family residential use or is vacant, undeveloped land. A small area on the south side of Pacific Highway within the shoreline jurisdiction is designated for high-density residential and commercial uses. The Hylebos creek system also contains two habitat areas, the Milgard and Hylebos Estuary.

The shoreline jurisdiction associated with Hylebos Creek within the City is also divided into three reaches. These reaches are summarized as follows:

Table 2: City	v of Fife Hvl	ebos Creek	Shoreline	Jurisdiction	<b>Reach Summary</b>
Table 2. Cit	y of Phe Hy		Shorenne	Jurisultion	Reach Summary

		Shoreline Function		
Land Use Types <sup>1</sup>	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>
H1			•	
Approximate Length: 1,650 fee				
<b>Description:</b> Fife City limit (nor	th, co-terminus of 57th and 55th	Ave E) upstream to 4th St E, bot	th banks	
Total Acreage – 23.31 Multi-Family Residential – 1.34 acres (5.76%) Residential Outbuildings – 0.22 acres (0.92%) Single Family Residential – 19.97 acres (88.58%) Vacant – 1.10 acres (4.73%) Mobile Home Park – 0.39 Acres (1.65%)	process. Shoreline also contains an undetermined amount of shoreline armoring.	Medium-low: Vegetation on both the right and left banks within this reach are modified as a result of residential development.	Medium-high: This segment contains a number of critical areas. However, existing impacts to hydrology and vegetation prevent a rating of "high".	Medium

		Shoreline Function		
Land Use Types <sup>1</sup>	Hydrologic	Vegetation	Habitat	Qualitative Summary Function Score <sup>1</sup>
H2			<u>.</u>	
Approximate Length: 3,335 fe	et			
<b>Description:</b> 4th St E upstream	to 12th St E; both banks			
Total Acreage – 30.36	Medium-High: Segment has relatively intact vegetation and	Medium-High: Shoreline vegetation within this	Medium-High: This segment contains a number	
Mobile Homes –	low amounts of impervious	reach is relatively intact,	of critical areas. However,	
1.37 acres (4.51%)	surfaces, based upon visual	when compared to	existing impacts to	
Open Space – 24.33 acres	estimation of aerial	adjacent segments.	hydrology and vegetation	Medium-
(80.15 %)	photographs. Shoreline also	Segment contains two	prevent a rating of "high".	
Single Family Residential –	contains an undetermined	restoration projects		High
0.38 acres (1.25 %)	amount of shoreline armoring.	(Milgard and Hylebos		
Transportation,		Estuary Nature Areas)		
Communication, Utility – 4.28				
acres (14.10 %)				

Land Use Types <sup>1</sup>	Shoreline Function					
	Hydrologic	Vegetation	Habitat	Summary Function Score <sup>1</sup>		
Н3		<u>.</u>	:			
Average Length: 4,380 feet						
<b>Description:</b> 12th St E upstream	n to 70th; both banks					
Total Acreage -2.03	Medium-Low: Review of aeria photographs indicates that	Medium-Low: The majority of the vegetation	Medium-Low: This segment contains a number			
Single Family Residential –	portions of the segment have	within this reach has been	of critical areas. However,			
2.03 acres (100.00%)	been channelized. Shoreline also contains an undetermined	disturbed by both residential and commercial	impacts to hydrology and vegetation function prevent			
	amount of shoreline armoring.	development. However, review of aerial	higher habitat functionality.	Medium- Lov		
Note: The urban growth area		photography indicates that				
associated with this reach is		central portions of the left				
primary commercial land use.		bank do contain tree				
		canopy that extends over				
		the Hylebos.				

<sup>1</sup> Data derived from Pierce County and City of Fife GIS data. Percentages may not equal 100% due to rounding.

### **3** RESTORATION POLICIES, GOALS AND PRIORITIES

The policies, goals and priorities for restoration as identified in this section have been generated based upon the framework established by the Shoreline Management Act [Chapter 90.58 RCW] and the Shoreline Master Program Guidelines [Chapter 173-26 WAC] as well as the understanding of shoreline processes and function both at a reach level and within the watershed context as generated during the Inventory and Characterization phase of the Shoreline Master Program update process.

# 3.1 POLICIES AND GOALS

# 3.1.1 Policies

One of the primary policies of the Shoreline Management Act [Chapter 90.58 RCW] is to protect shoreline natural resources including "...the land and its vegetation and wildlife, and the water of the state and their aquatic life..." against adverse effects. In order to address this policy as established by the SMA, the Shoreline Master Program Update Guidelines establishes a policy of "no net loss" of shoreline ecological functions as the means of implementing that framework through shoreline master programs. WAC 173-26-186(8) directs that master programs "include policies and regulations designed to achieve no net loss of those ecological functions." This is accomplished by requiring all allowed uses to mitigate adverse environmental impacts to the maximum extent feasible and preserve the natural character and aesthetics of the shoreline.

The Shoreline Master Program document establishes many polices that have been generated to promote the restoration of shoreline function within the City. These policies are as follows (Section 9 – Use Specific Regulations, (M) Restoration Plan, (2) Policies):

- a. Facilitate the projects described within the Shoreline Restoration Plan.
- b. Prioritize restoration and enhancement of public open space and parks within the City.
- c. Create incentives to promote the integration of shoreline restoration into development projects.
- d. Achieve restoration goals as identified in the restoration plan by addressing key environmental problems (e.g. flooding, shoreline and aquatic habitat degradation or loss, water quality issues).

# **3.1.2** Goals

The establishment of goals within the Shoreline Master Plan is not expressly required as part of the Shoreline Master Program update. However, it is beneficial in generating a restoration plan to identify goals that serve to guide the restoration process. Goals allow for the community to focus actions. Good restoration goals focus on improvement of degraded areas and impaired ecological function.

Based upon stakeholder feedback obtained during public comment meetings, the City of Fife has identified the following general restoration goals that are to be pursued within the City<sup>1</sup>:

<sup>&</sup>lt;sup>1</sup> These goals represent a general listing and have not been provided in order of priority.

- Reduce impacts of flooding events.
- Protect and improve water quality.
- Preserve existing nature areas and vegetation.
- Preserve and restore ecosystem processes and habitat function where feasible.
- Preserve and improve physical and visual public access to the shoreline.

#### **3.2 PRIORITIES FOR RESTORATION:**

In general, priority within the City of Fife should be given to restoration actions that:

- Restore connectivity between creek/river channels, flood plains and hyporheic zones, where feasible.
- Restore natural channel-forming geomorphologic processes.
- Assist in the mitigation of peak flows and associated impacts caused by stormwater runoff volume.
- Reduce sediment input to streams and rivers and associate impacts.
- Improve water quality.
- Create dynamic and sustainable ecosystems.
- Restore native vegetation and natural hydrologic functions of degraded and former wetlands.
- Replant native vegetation in riparian areas to restore shoreline function.
- Restore habitat, such as estuaries, that support salmon life cycles.
- Restoration actions in areas that have high potential for success. This can be accomplished by identifying those areas having moderate to high importance for ecosystem-wide processes and ecological functions and are not permanently impaired. Permanent impairment of ecological processes and functions occurs with paving and buildings and is typical of urban watersheds. Hylebos focus since improvement to the Puyallup is limited by the Levee and Levee Road.

#### 4 EXISTING RESTORATION ACTIVITIES AND RELATED PLANS AND PROGRAMS

#### 4.1 EXISTING RESTORATION ACTIVITIES

This section of the restoration plan identifies existing and ongoing restoration projects that have been implemented to contribute to local restoration goals.<sup>2</sup> Identified existing restoration projects include the Hylebos Creek Nature area, the Milgard Nature area and the Radiance Oxbow Nature Area. A map identifying these restoration areas is provided at the end of this document in the section entitled *Restoration Plan Exhibits* (Figure 14).

### 4.1.1 Hylebos Creek/ Milgard Nature Areas

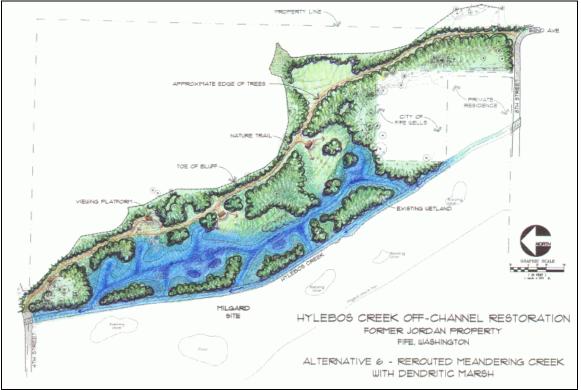


Figure 2: Hylebos Creek aspect of the Hylebos Creek/Milgard Nature Area

The Hylebos Creek/ Milgard Nature Area is a 24.3 acre habitat restoration site comprised of two separate but similar restoration activities designed to address the following major components:

- Create fish rearing and feeding habitat
- Create wildlife habitat for birds and small mammals in buffer areas
- Increase habitat complexity and diversity adjacent to Hylebos Creek (large woody debris, substrate, etc.)
- Preserve existing wetland areas to the extent possible
- Preserve larger trees
- Avoid impacts to adjacent residential properties
- Avoid impacts to the City of Fife water supply wells

<sup>&</sup>lt;sup>2</sup> The Shoreline Master Program guidelines also recommend that this section address proposed restoration projects or programs with a high likelihood of occurring, however, none were identified during the drafting of this document.

 Provide site access such as trails, walkways or overlooks for walkers and nature lovers

The Hylebos Nature area occupies 15.3 acres of the overall nature area and was constructed as a joint effort between the Commencement Bay Natural Resource Damage Assessment and Restoration Trustees, under the leadership of the National Oceanic and Atmospheric Administration (NOAA). This property was acquired and annexed by the City of Fife in 2003. The Milgard nature area occupies 9 acres of the overall nature area and was constructed as mitigation to address development by Milgard within the City of Fife on another site. Construction of both nature areas was completed by early 2007.

The City of Fife maintains both properties and utilizes volunteers to provide both trail maintenance and invasive plant species control. The City of Fife intends to utilize this nature area to provide further public access opportunities in the future.

# 4.1.2 Radiance Oxbow Green Space and Wetland Mitigation

The Radiance Oxbow Green space & Wetland Mitigation is 5.93 acres. It is comprised of numerous tracts of open spaces lying adjacent to property owned by Pierce County Public Works. These undeveloped parcels provide wildlife and wetland habitat and may also play an important role in future trail system development

# 4.2 RELATED PLANS AND PROGRAMS

The following subsections identify plans and programs that are being implemented or may be pursued within the City of Fife to improve shoreline habitat.

# 4.2.1 WRIA 10/12 Efforts for Salmon Restoration

Pierce County is the Lead Entity for Salmon Restoration Efforts with Water Resource Inventory Areas 10, the Puyallup River Watershed, and 12, the Chambers/Clover Creek Watershed. Pierce County works in conjunction with the Citizen Advisory Committee (CAC) towards a stated mission to "support the recovery of self-sustaining, harvestable salmon populations in Puget Sound by restoring and protecting the habitat." A technical advisory group provides scientific data to the Citizen Advisory committee. The scientific data is then used by the Citizen Advisory Committee to prioritize proposed salmon habitat protection and restoration projects.

No salmon restoration efforts within the City of Fife were identified as being pursued during the next three years as part of the project prioritization list. However, future plans may include the City of Fife. In addition, the shorelines within the City may benefit from the restoration actions completed in adjacent jurisdictions.

# 4.2.2 Flood Hazard Management Plan for the Puyallup River

In 1992, Pierce County adopted the Puyallup River Comprehensive Flood Control Management Plan for the Puyallup, Carbon and White rivers. Since 2009, Pierce County Public Works and Utilities Surface Water Management Division have worked with the public, stakeholders and experts to develop the Draft Flood Plan. The Draft Flood Plan details Pierce County's proposed approach to managing flooding and channel migration hazards on major rivers, large tributaries and associated floodplains over the next 20 years (2012-2032) and includes the Puyallup River from Commencement Bay (River Mile 0.0) to Champion Bridge (River Mile 28.9). The City of Fife is a part of this planning area.

The flood hazard plan contains several projects that may be pursued in the City of Fife including a proposal to setback the levee adjacent to Frank Albert Road so that it can safely convey the 100-year flood elevation plus 3 additional feet. Completion of this project would allow for reaccrediting by the US Army Corps of Engineers and the Federal Emergency Management Agency.

### 4.2.3 City of Fife Plans/Regulations

The following sub-sections identify existing City of Fife Plans and regulations that may also serve to improve shoreline habitat within the City.

# 4.2.3.1 Comprehensive Plan

The City of Fife Comprehensive Plan (City of Fife 2005) provides City decision makers with guidelines regarding issues effecting the future shape, character and form of the City. The Comprehensive Plan contains a Land Use element that identifies the following environmental goal for the city:

"Maintain land use policies and patterns that adequately protect and preserve environmental systems and amenities including wetlands, floodplain areas, shorelines, seismic hazard areas, and fish and wildlife habitats."

# 4.2.3.2 Critical Areas Regulations

The City of Fife Municipal Code includes critical area regulations (Title 17), which applies to areas outside of the shoreline jurisdiction. These regulations were generated based upon best available science and provide protection to the critical areas within the city, including frequently flooded areas, geologically hazardous areas, seismic hazard areas, fish and wildlife habitat conservation areas, and wetlands.

# 4.2.3.3 Stormwater Management

The City of Fife manages stormwater pursuant to a Phase II stormwater municipal permit issued by the Washington State Department of Ecology. The Permit allows municipalities to discharge stormwater runoff from municipal drainage systems into the State's waterbodies (e.g., streams, rivers, lakes, and wetlands) as long as municipalities implement programs to protect water quality by reducing discharges of "non-point source" pollutants to the "maximum extent practicable" through application of Permit-specified requirements. As part of obtaining the stormwater municipal permit, the City had to prepare a Comprehensive Stormwater Management Program. The program contains data on the following components:

- Public Education and Outreach
- Public Involvement
- Illicit Discharge Detection and Elimination
- Runoff Controls

- Pollution Prevention and Municipal Operations and Maintenance
- Monitoring

The Permit also requires the City to report annually on progress in Program implementation for the prior year as well as describe proposed Program activities for the coming year. As a result of this requirement, the City's Stormwater Management Program is modified annually to incorporate public, council and staff recommendations and input.

#### 4.2.3.4 Floodways and Floodplain Regulations

Development in areas prone to flooding outside of the shoreline jurisdiction is regulated within the Fife Municipal Code, Chapter 15.40 Flood Damage protection and Chapter 17.09 Frequently flooded areas. Development in areas prone to flooding inside the shoreline jurisdiction is regulated pursuant to the Shoreline Master Program, Appendix B, Chapter SMP17.09.

In addition to specific floodplain and floodway regulations, the City of Fife employs the following strategies to reduce flood risk:

- Low Impact Development Regulations
- Develop/refine Flood Warning Systems, Emergency Evacuation Plans, and Flood Preparedness
- Regular Public Outreach
- Urge Homeowners to Purchase Flood Insurance
- Require and Maintain Elevation Certificates on Properties Located within a Flood Plain
- Maintain Base Flood Elevation Benchmarks
- Maintain a Flood Hazard Mitigation Plan
- Require Compensatory Storage
- Drainage System Maintenance

#### 4.2.3.5 Sewer and Septic waste disposal

Pursuant to Fife Municipal Code Chapter 19.68.130, most lots requiring new sanitary waste facilities are required to hook up to public sewer prior to the issuance of occupancy.

# 5 FUTURE RESTORATION OPPORTUNITIES

In addition to identifying existing restoration areas, another aspect of the restoration plan is to identify future restoration opportunities. In order to identify possible restoration opportunities within the City, the following questions were used to guide the discussion:

- What kind of restoration would address environmental problems?
- Where should restoration actions occur to most effectively address environmental problems?
- Where are the "high priority" restoration areas within the City?
- What other projects and programs could be used to address impaired shoreline functions and provide ecological benefit to the shoreline?

Public responses received during Shoreline Master Program update meetings as well as the findings of the Inventory and Analysis (Grette Associates 2010) and draft Cumulative Impacts Analysis (Grette Associates 2011) were used to answer these questions. As noted in Section 1.1 of this document, it is more difficult to restore processes and functions in highly developed urban settings. Potential restoration sites within the City are generally identified as those that are less impaired, such as undeveloped lots, parks, riparian buffers or undeveloped sections of industrial sites.

# 5.1 GENERAL AND ECOSYSTEM SPECIFIC RESTORATION OPPORTUNITIES

The following are general and ecosystem specific restoration opportunities that may be addressed within the City:

#### General

- Ensure stormwater facilities and stormwater designs provide adequate water treatment before re-introduction to water bodies. Explore new stormwater technologies, including low impact development and water recycling.
- Carefully consider the impacts of uplands development upslope of shoreline areas, even outside of the shoreline jurisdiction.
- Conserve riparian vegetation within the shoreline areas, wherever possible, especially where there is opportunity for large woody debris (LWD) recruitment into the adjacent streams.
- Inform shoreline property owners about shoreline habitat and the special functions associated with shoreline areas. Promote restoration or re-vegetation of riparian areas through education or incentive programs.
- Coordinate with local jurisdictions, business, and citizen action groups on large scale habitat creation or restoration projects.

### Puyallup

• Work with the Corps of Engineers and the Pierce County River Improvement district to investigate means to provide increased shoreline function along the Puyallup River without compromising flood control capacity.

### Hylebos

- Conserve wetlands in the shoreline area through buffer maintenance. Consider offchannel habitat creation, enhancement or improvement projects for the Hylebos Creek, wherever possible.
- Work with shoreline property owners on pile removal, removal of hardened banks, and shoreline stabilization using vegetation and removal of remnant crossings.

# 5.2 REACH SPECIFIC RESTORATION OPPORTUNITIES

This table is organized geographically by shoreline reach. It also includes a column for special considerations, such as property ownership issues or that an area has been identified as high priority for restoration or conservation actions. Existing restoration projects are not included in this table unless future restoration activities are scheduled to occur for that particular site.

#### Table 3: Shoreline restoration opportunities in the City of Fife<sup>3,4</sup>

#### P1 Existing Condition

Existing land use within this reach is primarily vacant property, but also includes resource parcel, residential, and commercial parcel use.

Overall function is low. High amounts of modification to the natural shoreline in this reach as a result of the levee and the associate roadway which, in turn, has resulted in low hydrologic, vegetation, and habitat functionality. In addition, water quality and quantity are also likely to have been impacted by levee and associated roadway within this reach.

Many of the conditions in segment P1, particularly those related to salmonid habitat, are due to factors outside the jurisdiction of the City of Fife. These include upstream land use, major alterations in basin hydrology, and placement and maintenance of the levee. However, the City can identify areas for conservation and/or restoration within the shoreline area that would provide some habitat for non-aquatic species. In particular, as the City works with land owners to plan development downstream of Frank Albert Road, areas could be identified for open space corridors that connect upland and shoreline areas. Forested areas are strongly recommended for conservation, and could also be prioritized for connection to the shoreline areas by way of open space corridors. Additionally, where possible the City could collaborate with the Corps and Pierce County River Improvement District to develop vegetation plans for the levee that complement vegetation and open space across Levee Road as well as improve water quality, habitat, and vegetation functions.

					Anticipated	Improvement to degrae	Improvement to degraded condition/impaired	
Туре	Location	Specific Description	Special Considerations	<b>Restoration Opportunity</b> <sup>1</sup>	Timeline	Hydrologic	Vegetation	Habitat
General- Enhancement	Majority of shoreline.	Removal of Invasive Species from the Levee.	Property ownership. Re-vegetation options may be limited by levee function.	Improvement of habitat through the removal of invasive plant species.	Begin effort in the near term (next 1-3 years) based upon availability of volunteer staff. Maintain effort in the long term (5-10 years)	Potential for improvement to water quality exists if the invasive species removal is followed by the replanting of native species that improve water quality.	Yes	Yes (upland and nearshore)
General- Preservation and Enhancement	To be determined	The purchase of undeveloped parcels and creation of shoreline vegetation and flood storage areas.	Private property ownership limits non-voluntary actions. There may be opportunity to implement as mitigation for other projects.	Improvement of habitat through shoreline plantings and the creation of off-channel areas.	Long term effort (5- 10 years and beyond) as property and funding becomes available		Yes	Yes (off channel habitat for juvenile salmon species. May also provide habitat for local avian, vertabrate and invertebrate species)

#### **P2** Existing Condition

Existing development within this reach is primarily open space recreation, resource land, and vacant property.

Overall function is medium-high. This reach contains two protected off-channel habitat wetlands which provide for hydrologic, vegetation and habitat functionality.

The majority of this reach contains open space and resource land uses. It is highly recommended that zoning be modified to reflect the existing land use. In addition, land use in the immediately adjacent areas should be planned to minimize impacts. Areas of the wetlands or their buffers that may have been altered due to past development are recommended for enhancement actions, including invasive species removal and native vegetation planting. The Oxbow wetland represents the greatest potential for the City to enhance salmonid habitat on the Puyallup shoreline. Collaboration with the Puyallup Tribe, who own land in this reach and also control the associated floodgates, and Pierce County River Improvement District to restore salmonid access to the wetland would provide a large, highly functioning salmonid rearing habitat on a stretch of shoreline that currently has no off-channel habitat and is functioning at a substantially reduced level compared to historic conditions.

					Anticipated	Improvement to degraded condition/impaired function		paired function
Туре	Location	Specific Description	Special Considerations	<b>Restoration Opportunity</b> <sup>1</sup>	Timeline	Hydrologic	Vegetation	Habitat

<sup>&</sup>lt;sup>3</sup> Currently, there are no specific plans in place to fund or implement any of these activities. However, future implementation and funding of these actions may occur based upon the implementation measures described in Section 6.

<sup>&</sup>lt;sup>4</sup> This list should not be considered to represent all restoration potential within the City, but does reflect a thorough review of those documented opportunities gathered during the SMP process.

General-	Entire reach City and Tribe may work together to	Implemented as part of	Incremental improvements in	Variable timeline	Yes (water quality)	Yes	Yes
Restoration	identify restoration projects, including but	redevelopment rather than	upland areas may be achieved	based upon			
	not limited to the installation of native plants	individual projects or actions.	through reducing impervious	availability of			
	adjacent to the Oxbow wetland.		surfaces and utilizing other low	viable projects,			
			impact development standards as	short term (1-3			
			applicable as redevelopment	years) to long term			
			occurs.	(5-10 years) and			
				beyond			
				-			

#### P3 Existing Condition

Existing development within this reach is primarily resource land, residential and industrial.

Overall function is low. Reach contains high amounts of shoreline modification including the levee and as a result the hydrologic, vegetation and habitat functions within this reach are impacted.

As with segment P1, the City does not have jurisdiction over many of the factors influencing salmonid habitat function in this segment. Conservation of upland open space areas, particularly forested areas, is highly recommended, as is conservation and enhancement of wetland areas. Collaboration with the Pierce County River Improvement District to develop vegetation and habitat enhancement plans that complement each other on both sides of Levee Road also is recommended.

					Anticipated			npaired function
Туре	Location	Specific Description	Special Considerations	Restoration Opportunity <sup>1</sup>	Timeline	Hydrologic	Vegetation	Habitat
General- Enhancement	Majority of shoreline.	Removal of Invasive Species from the Levee.	Property ownership. Re-vegetation options may be limited by levee function.	Improvement of habitat through the removal of invasive plant species.	Begin effort in the near term (next 1-3 years) based upon availability of volunteer staff. Maintain effort in the long term (5-10 years)	Potential for improvement to water quality exists if the invasive species removal is followed by the replanting of native species that improve water quality.	Yes	Yes (upland and nearshore)
General – Preservation and Enhancement	To be determined	The purchase of undeveloped parcels and creation of shoreline vegetation and flood storage areas.	Private property ownership limits non-voluntary actions. There may be opportunity to implement as mitigation for other projects.	Improvement of habitat through shoreline plantings and the creation of off-channel areas.	Long term effort (5- 10 years and beyond) as property and funding becomes available		yes	Yes (off channel habitat for juvenile salmon species. May also provide habitat for local avian, vertabrate and invertebrate species)

#### H1 Existing Condition

Existing development for the majority of this reach is single family residential. However portions of the reach also includes multi-family residential development, and vacant property.

Overall function is medium. Reach has been modified as a result of residential development on both sides of Hylebos Creek including shoreline armoring and removal of native vegetation and habitat.

Because the entire segment is privately owned and occupied, there are essentially no opportunities for conservation and restoration without homeowner involvement or property acquisition. However, the City could explore developing an educational program to inform homeowners of actions they can take to minimize their impacts in-stream habitat or ways to enhance it with native landscaping and invasive species removal. Non-governmental organizations (such as Friends of the Hylebos, Citizens for a Healthy Bay) familiar with outreach programs in the watershed would be useful partners in such an effort.

					Anticipated	Improvement to degrae	ded condition/im	paired function
Туре	Location	Specific Description	Special Considerations	<b>Restoration Opportunity<sup>1</sup></b>	Timeline	Hydrologic	Vegetation	Habitat
General - Enhancement	Majority of shoreline.	Removal of Invasive Species from the shoreline.	Property ownership. Re-vegetation options may be limited by levee function.	Improvement of habitat through the removal of invasive plant species.	near term (next 1-3	followed by the replanting of native species that improve water quality.	Yes	Yes (upland and nearshore)

#### H2 Existing Condition

Existing development within this reach is primarily open space including the Milgard and Hylebos Creek Habitat areas.

Overall function is medium high. Vegetation, Habitat and Hydrology are relative intact for this reach as a result of undeveloped parcels and habitat areas including the Hylebos Creek and Milgard Habitat areas. However, impacts from developed areas within this reach including an unidentified amount of shoreline armoring prevent a overall function rating of high.

Restoration activities have been completed on both the right and left banks within the northern portion of this reach. The Milgard Nature area is located along the right bank and the Hylebos Estuary Nature area is located along the left bank. Conservation of the remaining undeveloped riparian areas on the left bank is strongly recommended. Additional property acquisition for conservation and restoration actions on the right bank to complement and enhance the riparian areas on the left bank also is recommended where possible, as is shoreline property owner outreach and education regarding actions they can take to minimize impacts and enhance habitat on their property. One opportunity for restoration is the left bank between 8th Street East and 62nd Avenue East, where a an undeveloped area dominated by reed canary grass with limited riparian vegetation could be cleared and replanted with native vegetation, or even graded down to create off-channel wetland habitat. Kerwin (1999) identified off-channel habitat as a limiting factor in Hylebos Creek. Off-channel habitat with a riparian community could provide input of nutrients and a forage base for coho salmon (as well as chinook). Another opportunity for restoration is the left bank immediately downstream of 12th Avenue East, where there is a large amount of debris and invasive vegetation in the shoreline area.

These opportunities are typical of those in the City shoreline area on Hylebos Creek in that they would require either significant property owner cooperation or property acquisition. The City also could develop guideline for building setbacks and riparian vegetation requirements for new residential development in this segment.

					Anticipated			paired function
Туре	Location	Specific Description	Special Considerations	Restoration Opportunity <sup>1</sup>	Timeline	Hydrologic	Vegetation	Habitat
Specific - Restoration	Growth Area	Work with Pierce County to identify restoration opportunities in the Urban Growth Area.	, i i	Incorporate invasive species removal and revegetation with native plant assemblage into trail and access improvement work, particularly along shoreline. Remove abandoned pilings.	based upon availability of	Yes (water quality)	Yes (remove invasives, plant native)	Yes (nearshore)

#### H3 Existing Condition

Existing development within the city's jurisdiction of this reach is single family residential. However, the portion of this reach within Pierce County includes primarily commercial and vacant properties.

Overall function is medium-low. High amounts of modification to the natural shoreline in this reach through commercial and residential development, including modification to the channel of Hylebos Creek and removal of native vegetation have resulted in impacts to hydrologic, vegetation, and habitat functionality.

It is strongly recommended that the City conserve remaining riparian vegetation in this segment. As with segments H1 and H2, opportunities for conservation and restoration are somewhat limited to options involving property owner involvement or property acquisition. Guidelines for building new residential development as vacant land is converted to residential areas could be used to enhance and conserve riparian areas. This is a likely scenario for the undeveloped and agricultural shoreline areas immediately upstream of 12th Avenue East. As these areas become developed, riparian areas could be conserved and vegetation restored, including removal of the large stand of Japanese knotweed (*Polygonum cuspidatum*) on the left bank and its replacement with native vegetation. The eventual extension of State Route 167 may present the greatest opportunity for habitat restoration and enhancement, as well as the greatest opportunity for partnership and coordination with stakeholders working upstream of the City.

Specific and general recommendations for habitat restoration are limited due to private property ownership of the single family residence within the city's jurisdiction. However, as noted in the inventory and characterization document (Grette Associates 2010), it is strongly recommended that the City conserve remaining riparian vegetation in this segment. This would need to be accomplished in cooperation with Pierce County.

For all reaches, work at or waterward of the OHWM requires permits or approvals from one or more of the following state and federal agencies: U.S. Army Corps of Engineers, Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, or Washington State Department of Ecology. Each of these regulatory agencies would apply shoreline mitigation requirements and design standards focused on minimizing adverse impacts and improving ecological function. In addition, development projects within the shoreline jurisdiction are also required to comply with the City of Fife's Stormwater Manual.

It is important to note that the draft Cumulative Impacts Analysis for the SMP identifies limited potential for reasonably foreseeable development within the shorelines, and concludes that no net-loss of function would result from SMP adoption. Because that conclusion is not dependent on the sum benefit of all of the restoration actions previously identified, it is recommended that the City use the information within this document to identify or prioritize restoration efforts as opportunities for funding arise. In some cases, the City may be able to achieve a restoration action by coordinating it as mitigation for another action. For example, suggesting removal of abandoned pilings in conjunction with an upland shoreline development project is one scenario in which this may be possible. This approach of coordinating restoration actions with development in other locations may be a good way for the City to accomplish some of these activities in a limited funding environment.

### 6 IMPLEMENTATION OF RESTORATION PROGRAM

#### 6.1 PARTNERSHIP OPPORTUNITIES

The following text has been generated to summarize potential partnership opportunities for restoration activities within the City. It is not intended to be an exhaustive list as new funding partnership opportunities may become available and previously existing partnership opportunities may be exhausted during the life of this document. It is recommended that the City work on coordinating restoration efforts with these groups and/or adjacent jurisdictions either through existing channels, such as the WRIA 10/12 restoration efforts, or consider creating a new group specifically focused on improvements in the inter-related shoreline jurisdiction.

#### 6.1.1 Friends of the Hylebos

Established in 1983, the Friends of the Hylebos is focused on protecting and restore streams, wetlands, forests and open space in the Hylebos watershed. The Friends of the Hylebos also works with Earth Corps, an organization focused on environmental restoration and community building.

More information regarding the Friends of the Hylebos is available on line at: http://hylebos.org/

### 6.1.2 Puget Sound Partnership

The Puget Sound Partnership was created in 2007 to be a collaborative effort, among citizens, governments, tribes, scientists and businesses, to restore and then protect the Puget Sound. The Partnership published an initial Puget Sound Action Agenda in December 2008. The 2008 Action Agenda includes strategies to protect intact ecosystem processes, structures, and functions that sustain Puget Sound and restore impacted processes, structures and functions; prevent water pollution at its source; create a coordinated system to ensure that activities and funding are focused on the most urgent and important problems facing the region; and build an implementation, monitoring, and accountability management system (PSP, 2008).

In the upcoming years the Puget Sound Partnership's focus, as defined by the Washington State Legislature, is to address the three following tasks:

- 1) Define a 2020 Action agenda. The action agenda will identify the work needed to protect and restore Puget Sound and is to be based on science and with clear and measurable goals for recovery.
- 2) Determine a system of accountability for achieving restoration results. The accountability system will include performance and effectiveness standards and shall also focus on efficient use of funding.
- 3) Promote public awareness and communication in order to build support for a long-term strategy to protect the Puget Sound.

More information regarding the Puget Sound Partnership is available on line at: http://www.psp.wa.gov/

#### 6.1.3 WRIA 10 Watershed Action Committee

The Puyallup River watershed and part of the White River watershed are located in Water Resource Inventory Area (WRIA) 10. This WRIA is further divided into Upper Puyallup and Lower Puyallup Watershed Committees. The focus of both of these committees is to address water quality issues. Given the City of Fife's location within WRIA 10, the city would most likely work with the Lower Puyallup Watershed committee. The current focus of the Lower Puyallup Watershed Committee, as noted in the associated action plan, is to improve public involvement in replanting efforts along riparian zones. In addition, the Lower Puyallup Restoration Committee plans to establish a Puyallup River Basin Council. This council would provide recommendations for priority restoration projects and consult with coordinating agencies for project implementation.

### 6.1.4 Puyallup River Watershed Council

Formed in 1996, the Puyallup River Watershed Council (PRWC) includes representatives of local governments, businesses, elected officials, environmental agencies, non-profit groups and private citizens and is supported by the Pierce County Public Works and Utilities department. The defining goals of the PRWC are related to clean water, healthy native fish and wildlife, sustainable land use, viable agriculture and forestry, quality outdoor recreation, natural flow patterns and groundwater recharge, vegetated corridors, management of solid waste, resident education, and sustainable communities

More information on the Puyallup River Watershed Council is available at: http://www.piercecountywa.org/pc/services/home/environ/water/ps/prwc/main.htm.

### 6.1.5 Puyallup Tribe

The Puyallup Tribe has tribal trust land that is surrounded by the City of Fife jurisdiction. In addition, all of the Puyallup associated reaches within the City of Fife are directly adjacent to and reliant upon land under tribal jurisdiction, such as the Puyallup River waterward of the ordinary high water mark, the Sha-Dadx wetland and the hydrologic connection between the Radiance Oxbow wetland and the Puyallup River.

More information on the Puyallup Tribe is available at: http://www.puyallup-tribe.com/

#### 6.1.6 Adjacent Jurisdictions

As a result of the Shoreline Master Program Update Process, adjacent jurisdictions including Pierce County, the City of Tacoma, and City of Milton may be available for partnership for restoration activities along the Hylebos (Pierce County, Tacoma, Milton) and the Puyallup River (Pierce County, City of Tacoma). In addition, the City may want to pursue joint efforts county wide for restoration of the Puyallup River with Pierce County and the cities of Puyallup, Orting and Sumner as well as other cities and towns adjacent to the Puyallup.

#### 6.2 POTENTIAL FUNDING RESOURCES

The following table has been generated to summarize potential funding resources for restoration activities within the City. It is not intended to be an exhaustive list as new funding sources may become available and previously available funding sources may be exhausted during the life of this document.

#### Table 4: Potential Funding Resources

Grant Name Allocating Entity Contact
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Grant Name	Allocating Entity	Contact
Aquatic Lands Enhancement Account	Washington State Recreation and Conservation Office	Kammi Bunes (RCO Conservation Grants for Fife area) Phone: (360) 902-3019 E-mail: <u>kammie.bunes@rco.wa.gov</u> Kim Sellers (RCO Conservation Grants for Fife area) Phone: (360) 902-3082 E-mail: <u>kim.sellers@rco.wa.gov</u>
Bring Back the Natives	National Fish and Wildlife Foundation	Krystyna Wolniakowski Phone: (503) 417-8700 E-mail: <u>Krystyna.Wolniakowski@nfwf.org</u>
Coastal and Estuarine Land Conservation Program	National Oceanic and Atmospheric Administration; local contacts at Ecology	Jeanne Koenings Phone: (360) 407-7258 E-mail: <u>jkoe461@ecy.wa.gov</u> Ms. Carrie Byron Phone: (360) 407-7509 E-mail: <u>cbyr461@ecy.wa.gov</u>
Estuarine and Salmon Restoration Program	Washington State Recreation and Conservation Office; Puget Sound Nearshore Partnership	Dave Caudill Phone: (360) 902-2649 Email: dave.caudill@rco.wa.gov
Five-Star Restoration Program	National Fish and Wildlife Foundation	Amanda Bassow Phone: (202) 857-0166 E-mail: <u>Amanda.Bassow@nfwf.org</u>
Land and Water Conservation Fund	Washington State Recreation and Conservation Office	Kammi Bunes (RCO Conservation Grants for Fife area) Phone: (360) 902-3019 E-mail: <u>kammie.bunes@rco.wa.gov</u> Kim Sellers (RCO Conservation Grants for Fife area) Phone: (360) 902-3082 E-mail: <u>kim.sellers@rco.wa.gov</u>
Salmon Recovery Funding Board	Washington State Recreation and Conservation Office	RCO Salmon Grants (Fife area) Dave Caudill E-mail: <u>Dave.Caudill@rco.wa.gov</u> (360) 902-2649
Salmon Recovery Funding Board Community Salmon Fund	National Fish and Wildlife Foundation	Cara Rose Phone: (503) 417-8700 E-mail: <u>Cara.Rose@nfwf.org</u>
Water Quality Grants and Loans	Washington Department of Ecology	Anne Dettelbach Phone: (425) 649-7093 E-mail: <u>adet461@ecy.wa.gov</u> Rachel McCrea, Phone: (425) 649-7223 E-mail <u>rmcc461@ecy.wa.gov</u>
Washington Wildlife and Recreation Program	Washington State Recreation and Conservation Office	RCO Recreation Grants (Fife area) Karl Jacobs Phone: (360) 902-3084 E-mail: karl.jacobs@rco.wa.gov

Grant Name	Allocating Entity	Contact		
Wildlife and Habitat Conservation Fund	National Fish and Wildlife Foundation	Krystyna Wolniakowski Phone: (503) 417-8700 E-mail: <u>Krystyna.Wolniakowski@nfwf.org</u>		
State Wildlife Action Project	National Wildlife Federation	Naomi Edelson Phone: (202) 797-6889 E-mail: edelsonn@nwf.org		

#### 6.3 MECHANISMS AND STRATEGIES FOR IMPLEMENTING A SUCCESSFUL RESTORATION PLAN

Although general restoration concepts have been identified for the City of Fife, no specific restoration projects and/or programs have been identified to the extent that specific implementation mechanisms can be planned nor can responsible parties be identified. However general implementation and evaluation techniques can be addressed and therefore these elements are described below:

- Project monitoring should generally a requirement for any mitigation action that addresses development impacts.
- For restoration project (i.e. those that do not have a mitigation component), appropriate monitoring be should conducted in order to demonstrate that the project has generated the desired result.
- In the case of ongoing invasive species removal and revegetation actions, continued coordination with volunteer groups can be invaluable and should be supplemented with regular documentation of both effort and outcome.

#### 6.3.1 Implementation

The following combination of non-regulatory measures and strategies are considered to be the most effective for implementing the restoration framework within the City:

- Creation of a stakeholder plan/group
- Volunteer Coordination
- Coordination with Parks development
- Generate incentives for developers to invest in shoreline restoration.

#### 6.4 TIMELINES AND BENCHMARKS

Restoration of shoreline function, both the planning processes and the implementation of a restoration plan, are necessary efforts that must be undertaken with thought to the long term, whether the project is completed in the short term or requires long term action. Due to the lack of specific restoration projects, limitations as a result of required levee maintenance and private property ownership as well as the need to ensure adaptive management can occur, it is difficult to establish concrete timelines and measurable benchmarks for this restoration plan which can be used to evaluate its effectiveness. General anticipated timelines for potential restoration projects are included in Table 3.

The City intends to use the next update process, which must be completed in 2021 [Engrossed Substitute House Bill (ESHB) 1478] to determine the level of progress the city has been able to achieve in meeting the identified restoration goals.

The exact structure of this review process has not been determined by City of Fife nor has guidance from the Department of Ecology been generated at this time. However, this review process may include the following elements:

- Identifying planning efforts and implementation of restoration projects undertaken within this Shoreline Master Program.
- Evaluating the identified restoration goals, policies and priorities and determining their effectiveness.
- Revising the goals, policies and priorities as needed to accomplish the restoration goals as identified during that update process.

#### 6.4.1 Evaluation of Restoration

The City of Fife intends to use the following methods to review of the effectiveness of projects and programs developed pursuant to this Shoreline Restoration Plan in meeting overall restoration goals:

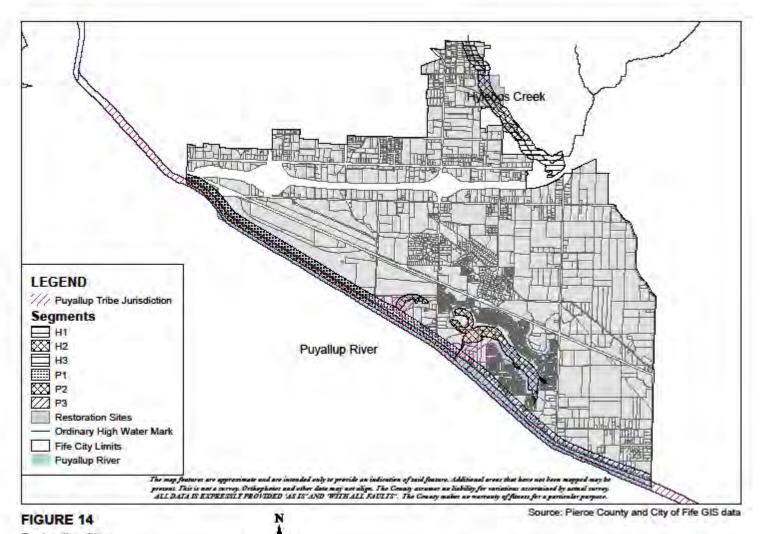
- Tracking no net loss indicators
- Collection of GIS data the collection and use of GIS data can provide users with easy access to information.

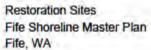
#### 7 REFERENCES

- Grette Associates. 2010a. City of Fife Shoreline Master Program Update: Inventory and Characterization. Prepared for the City of Fife. September 2010.
- Grette Associates. 2011. City of Fife Shoreline Master Program Update: Draft Cumulative Impacts Analysis. Prepared for the City of Fife. June 2011.
- Kerwin, J. Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Water Resource Inventory Area 10). Washington Conservation Commission, Olympia, Washington. 1999.

CITY OF FIFE SHORELINE MASTER PROGRAM UPDATE

**RESTORATION PLAN EXHIBITS** 





57-10 Community Development CUP OHMMI has not been precisely mapped